90-Day Protocol Survey Report For U.S. Fish And Wildlife Service Listed Vernal Pool Branchiopods, Thomas Juhasz, May 2010

90-DAY PROTOCOL SURVEY REPORT FOR U.S. FISH AND WILDLIFE SERVICE LISTED VERNAL POOL BRANCHIOPODS

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mit to

July 1, 2011

Prepared for:

Impact Sciences Inc. 234 East Colorado Blvd. Suite 205 Pasadena, CA 91101

Prepared by:

Thomas Juhasz P.O. Box 90036 Pasadena, California 91109 Phone (626) 755-5123

July 1, 2011

Daryl Koutnik Impact Sciences Inc. 234 East Colorado Blvd. Pasadena, CA 91101

Subject: 90-Day Protocol Survey Report for U.S. Fish and Wildlife Service Listed Vernal Pool Branchiopods Santa Clarita Vernal Pool Project Santa Clarita Valley, Los Angeles County, California

Dear Mr. Koutnik:

I have performed a Wet-Season Protocol Survey for U.S. Fish and Wildlife Service Listed Vernal Pool Branchiopods of the above referenced property (i.e., "the Site"). This report includes my findings, conclusions, recommendations, and supporting documentation. I appreciate the opportunity to be of service on this project. If you should have any questions regarding this report, or if I can be of further assistance, please contact me at (626) 755-5123.

Sincerely,

Thomas Juhasz

cc: Ms. Julie Vanderwier, Ventura office, *USFWS* Mr. Chris Dellith, Ventura office, *USFWS*

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1.0 INTRODUCTION

Thomas Juhasz conducted a wet season protocol survey for U.S. Fish and Wildlife Service (USFWS) Listed Vernal Pool Branchiopods (LVPB) for pools/basins within the Santa Clarita Project Area. The Santa Clarita Project is located east of Rainbow Glen Drive, west of Golden Valley Road, between the terminus of Robert C. Lee in the South and the terminus of Via Princessa in the North, within the City of Santa Clarita, Los Angeles County, California (Appendix A). Additionally, the Santa Clarita Project is located in south $\frac{1}{2}$ of the south $\frac{1}{2}$ of Section 19 and the north $\frac{1}{2}$ of Section 30, Township 4 North, and Range 15 West of the Mint Canyon U.S. Geological Survey 7.5 minute topographic quadrangle map (Center coordinates in North American Datum 1983 Universal Transverse Mercator [UTM] Zone10 North: UTM Northing 3816315.7 and UTM Easting 914236.0). The Site is bound by chaparral and Riversidean sage scrub slopes to the north, a high school to the south, suburban housing development down slope to the east down to Golden Valley Road and commercial development to the west, as shown in the Site/Pool Location Map, included as Appendix B.

Based on a preliminary biological assessment conducted within the project site by Impact Sciences, Inc., one pool/basin (potential listed vernal pool branchiopod habitat) was identified within the original project Site boundaries. Thomas Juhasz was retained by Impact Sciences, Inc. to conduct protocol surveys for LVPB at the original project Site, as no prior surveys have been conducted. Thomas Juhasz submitted a letter (via email) requesting authorization to conduct the wet season protocol survey within the original boundaries of the Santa Clarita Vernal Pool Project (1 pool/basin) to the USFWS, Ventura Fish and Wildlife office on April 29, 2010. On April 30, 2010, the USFWS provided the authorization to conduct the protocol surveys for the LVPB within the Site. During the wet season sampling period, Thomas Juhasz conducted an additional habitat assessment on January 23, 2011 within the project area in response to revisions in the impact footprint as requested by Impact Sciences, Inc. During the assessment, 3 additional pools/basins were identified. Thomas Juhasz subsequently requested and received authorization to enlarge the area of the protocol survey to include these additional areas on January 24, 2011 via phone. Written authorization was provided on January 25, 2011. This wet-season survey report includes the findings for all 4 pools/basins identified on the Santa Clarita Project Site.

2.0 SITE DESCRIPTION

The Site is undeveloped with Riversidean sage scrub and chaparral on slopes interspersed with annual grasslands on level areas. Several unimproved access roads traverse the eastern portion of the Site for electrical towers that run on the eastern and western peripheries of the Site. The on-Site elevations range from 1,687 to 1,735 feet above mean sea level (amsl), sloping gradually towards the northwest. One clay lined natural pool, one grass lined swale, and two road ruts are located within the Site study area. The pools/basins are underlain by Ojai loam or Saugus loam soils. Ojai soils consist of alluvium derived from sedimentary rock. Typically, the surface layer is loam about 25 inches thick underlain by a clay loam layer approximately 28 inches thick. Saugus soils consist of weakly consolidated alluvium with a surface later of loam/sandy loam about 42 inches thick underlain by weathered bedrock. According to the Hydric Soils List of California, Ojai and Saugus loam meet the criteria for hydric soils. Hydric soils are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part, and the identification of which is used as an indicator for determining wetland areas. The seasonal pools are discussed further in the table below.

Seasonal Pool	Habitat Description	Maximum Area of Pooled Water (m ²)	Maximum Depth of Water (cm)	Duration of Inundation During 2010- 2011 rain year (days)	Basin Soil Type
1	Natural Vernal Pool	246 m ²	42 cm-	At least 16	Ojai Loam
2	Road Rut 1	20 m ²	16 cm	At least 42	Ojai Loam
3	Road Rut 2	176 m ²	16 cm	At least 91	Ojai Loam
4	Grass Lined Depression	NA	NA	Never inundated	Ojai Loam

TABLE 1 – Seasonal Pool Description

3.0 LVPB DESCRIPTION, RANGE, AND HABITAT REQUIREMENTS

LVPB are federally listed freshwater invertebrates endemic to California vernal pools. Five of these species are in the aquatic crustacean Order Anostraca and includes the Conservancy fairy shrimp (*Branchinecta conservatio*), longhorn fairy shrimp (*Branchinecta longiantenna*), vernal pool fairy shrimp (*Branchinecta lynchi*), San Diego fairy shrimp (*Branchinecta sandiegoensis*), and Riverside fairy shrimp (*Streptocephalus woottoni*). The vernal pool tadpole shrimp (*Lepidurus packardi*) is in the aquatic crustacean Order Nostraca (USFWS 1993, 1994, and 1997). All LVPB are short lived (< 150 days) and fast reproducers (20-60 days), and can complete their life cycle in 20 days under optimal conditions to 40 days under less favorable conditions (depending on the species). During the dry season, LVPB embryos are contained in a protective impenetrable shell called a cyst. Cysts may remain viable in the soil for 15 years and often for much longer (Eriksen and Belk 1999). Following winter/spring rains that inundate suitable vernal depressions, embryos hatch from the cysts and enter the water column as naupili. Once mature LVPB deposit cysts within the substrate prior to the desiccation of the water column (Eriksen and Belk 1999).

LVPB are endemic to vernal pools in the Central Valley, northern and southern Coast Ranges, southwestern coastal California, extreme northwestern Baja California, and a limited number of sites in the Transverse Range and Santa Rosa Plateau of California (USFWS 1993, 1994, and 1997; Eriksen and Belk 1999; CNDDB 2008). Vernal pools are defined by Zedler and Keely (1998) as "precipitation-filled seasonal wetlands inundated during periods when temperature is sufficient for plant growth, followed by a brief waterlogged-terrestrial stage and culminating in extreme desiccating soil conditions of extended duration." Many LVPB are also found in sandstone or basalt-flow depression basins to small swale and earth slump, with a grassy or, occasionally, muddy bottom in grassland (Eriksen and Belk 1999). The Cruzan Mesa Vernal Pool Significant Ecological Area for the County of Los Angeles that is located north of the Site within the City of Santa Clarita provides habitat to the vernal pool fairy shrimp (PCR 2006). This species was the focus of the focused survey discussed below.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp is listed as a threatened species under the 1973 Endangered Species Act and have been observed in a variety of vernal pools from December to early May in central and southern Coast Ranges from Solano County to Ventura County, California (USFWS 1994). They are also found in disjunct populations in the South Coast Mountains Region in a wide variety of terrestrial habitats with suitable inundation levels. Habitats include type locality sandstone outcrops in Contra Costa and Santa Barbara counties, but the more typical habitat is small swales, earth slumps, or basalt-flow depression basins with a grassy or muddy bottom (Eriksen and Belk 1999). Vernal pool fairy shrimp inhabit vernal pools that vary in size from 0.56 m^2 (1.84 ft^2) to over 10 ha (24.71 acres) and have low to moderate total dissolved solids (TDS) and alkalinity, and neutral pH. Vernal pool fairy shrimp mature rapidly and can reach reproductive age in 18 days under optimal conditions, however, 41 days is more common. Vernal pool fairy shrimp are the shortest lived fairy shrimp, with a maximum lifespan of 139 days (mean = 90 days) (Eriksen and Belk 1999).

4.0 SURVEY METHODOLOGY

Survey methods followed the USFWS protocols guidelines for LVPB (USFWS 1996). Thomas Juhasz conducted the wet-season surveys and Dr. Brent Helm of Helm Biological Consulting conducted the dry season analysis to determine presence or absence of LVPB. The methods for the wet and dry season survey are discussed below.

Wet Season Protocol Survey

Thomas Juhasz conducted USFWS protocol wet season surveys for the LVPB at the Site during the winter and spring of 2010-2011. Mr. Juhasz is Federal authorized under USFWS permit TE-209807-0 to conduct protocol surveys for LVPB through the state of California. Based on preliminary biological assessments conducted within the project Site by Impact Sciences, Inc, one pool (potential listed vernal pool branchiopod habitat) was identified within the original project Site boundaries. Thomas Juhasz submitted notification (via email) requesting authorization to conduct the wet season protocol survey within the boundaries of the Santa Clarita Vernal Pool Project (1 pool) to the USFWS, Ventura Fish and Wildlife office on April 29, 2010. On April 30, 2010, the USFWS provided the authorization to conduct the protocol surveys for the LVPB within the Site boundaries. During the completion of the initial wet season survey of the identified pool, 3 additional basins were identified to be within the proposed impact area. Thomas Juhasz subsequently requested and received authorization to include the additional three pools/basins identified within the Site boundaries as part of the protocol survey on January 24, 2011 via phone. Written authorization was provided on January 25, 2011. Copies of the USFWS authorizations are included as Appendix C.

A USFWS protocol wet season surveys for LVPB requires a series of surveys to be performed once pools are inundated with at least 3.0 centimeters (cm) of water within 24 hours of a storm event. The primary pool was first inundated the week of December 26, 2010. Wet season surveys for LVPB were conducted every two weeks throughout the rainy season (up to 120 days) following initial inundation of the pools to satisfy protocol requirements. When seasonal pools experienced desiccation and the pool became subsequently inundated following sufficient amounts of rainfall, wet season surveys continued as specified in the guidelines. The surveys included visually inspecting the pools for fairy shrimp and dipping a 4.0 inch wide fine mesh net into the pool at a series of locations and moving it through the entire water column to collect suspended vernal pool fauna. Contents of the net were placed into a Petri dish partially filled with water and inspected for fairy shrimp and other vernal pool fauna. Following inspection of all vernal pool fauna, contents were placed back into the pool. Genera of observed vernal pool fauna was recorded on USFWS LVPB protocol wet season survey data sheets (Appendix D). All areas of the pools were thoroughly sampled for the presence of LVPB.

Physical data was also collected during each survey effort and recorded onto the USFWS wet season survey data sheets. Each pool location was mapped using a hand-held Global Positioning System (GPS) unit. Surface area measurements were performed by counting the paces it took to walk around each pool and multiplying by a mean pace length to obtain an approximate surface area for the pools and/or approximating the proportion of the maximum surface area filled during the survey. Water and air temperature were measured using a digital field thermometer and maximum pool depth was measured with a metric

ruler. In addition, geographic information, land use, habitat type and other aquatic fauna were recorded. Select photographs of the pools are included as Appendix E.

Dry Season Protocol Survey

Dr. Brent Helm (Helm Biological Consulting, USFWS Permit # TE-795930-6) collected soil samples from the main natural vernal pool in July 2010 after authorization on April 30, 2010. Methods generally followed USFWS's Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods (1996). Mr. Juhasz conducted subsequent dry-season sampling for road rut 1, road rut on May 7, 2011 under permit TE-208907-0 of Section 10 (a)(1)(A) of the federal Endangered Species Act, 16 U.S.C. 1531 et seq., and its implementing regulations as authorized by U.S. Fish and Wildlife Service (Appendix A). The collected soil was then transported to Helm Biological Consulting's laboratory for processing and analysis. The methods and results of the dry season survey analysis were submitted to the USFWS in July 2010 and in a subsequent addendum in June 2011. Both dry-season reports prepared by Helm Biological Consulting will be submitted to the USFWS under separate cover. However, the results of the dry season sampling and analysis were reviewed by Thomas Juhasz are included in pertinent sections of this wet-season protocol survey report and were also used to assist in drawing conclusions and making recommendations regarding the potential presence of LVPB at the Site.

5.0 RESULTS

One species of LVPB were observed during the 2010-2011 wet season protocol survey (see Table 2). The Federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*) was observed in the Main Natural Vernal Pool. One non-listed species of fairy shrimp, versatile fairy shrimp (*Branchinecta lindahl*), was observed within Road Rut 1 and Road Rut 2. No other observations of aquatic invertebrates were made during protocol surveys. Three of the four pools/basins (Main Natural Vernal Pool, Road Rut 1, and Road Rut 2) were inundated for a period of at least 16 days during the survey. The remaining one basin subject of this survey_(grass lined swale) did not become inundated with at least 3.0 cm as required by the USFWS guidelines to initiate wet season surveys. No cysts were found in the soil obtained from the grass lined depression. Cysts were detected in all three inundated features during dry season surveys. For additional data including invertebrate fauna and other wildlife observed during surveys efforts please refer to the attached USFWS LVPB protocol wet season data sheets, the dry season reports and Table 2 below.

Survey Date	Surface Area (m ²)	Pool Depth (cm)	Days Since Inundated	Water Temp (°C)/ Air Temp. (°C)	Fairy Shrimp Species Observed ^{*1}	<i>Branchinecta</i> <i>sp.</i> Cysts	
		MAI	N NATURAL VE	RNAL POOL			
12/26/2010	10	13	1	18/10	0 Fairy Shrimp		
01/09/2011	16	17	14	20/21	Branchinecta sp.*(10's)		
01/23/2011	NA	NA	Dry	NA/16	NA		
02/06/2011	NA	NA	Dry	NA/22	NA	>1,000	
02/20/2011	2	15	1	21/10	0 Fairy Shrimp	>1,000	
03/06/2011	NA	NA	Dry	NA/13	NA		
03/20/2011	4.5	8	1	7/9	0 Fairy Shrimp		
04/03/2011	246	42	14	20/21	Branchinecta Iynchi (1,000's)		
		1	ROAD RUT	1			
1/24/2011	5	7	1	9/17	Branchinecta lindahli (10's)		
2/06/2011	NA	NA	Dry	NA/22	NA		
2/20/2011	20	9	1	20/10	0 Fairy Shrimp	2	
3/06/2011	12	11	14	21/13	Branchinecta lindahli (10's)	2	
3/20/2011	20	16	28	7/9	0 Fairy Shrimp		
4/03/2011	NA	NA	Dry	NA	NA		
		1	ROAD RU1	2			
1/24/2011	16	12	1	9/17	Branchinecta lindahli (100's)		
2/06/2011	176	16	14	14/22	Branchinecta lindahli (100's)	100	
2/20/2011	26	16	28	18/10	0 Fairy Shrimp		
3/06/2011	18	15	42	21/13	Branchinecta sp.* (100's)		

TABLE 2 - Survey Dates and Findings

Survey Date	Surface Area (m ²)	Pool Depth (cm)	Days Since Inundated	Water Temp (°C)/ Air Temp. (°C)	Fairy Shrimp Species Observed ^{*1}	<i>Branchinecta</i> <i>sp.</i> Cysts			
3/20/2011	16	14	56	7/9	Branchinecta lindahli (10's)				
4/03/2011	5	3	70	21/22	Branchinecta lindahli (10's)				
4/17/2011	NA	NA	Dry	NA	NA				
			GRASS LINED	SWALE					
1/24/2011	NA	NA	Dry	NM	NA				
2/06/2011	NA	NA	Dry	NM	NA				
2/20/2011	NA	NA	Dry	NM	NA				
3/06/2011	NA	NA	Dry	NM	NA	0			
3/20/2011	NA	NA	Dry	NM	NA				
4/03/2011	NA	NA	Dry	NM	NA				
4/17/2011	4/17/2011 NA NA Dry NM NA								
NM: Not m	NA: Not Applicable due to dry conditions NM: Not measured *: Too immature to properly identify species								

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of this 2010-2011 wet-season survey and a review of the dry season sampling and analysis (to be provided under separate cover), it is my professional opinion that only the main natural vernal pool supports populations of LVPB. Further justification of this opinion is as follows:

- MAIN NATURAL POOL: Became inundated with at least 3.0 cm as required by the USFWS guidelines to initiate wet season surveys on March 20, 2011. *Branchinecta* cysts were found in the soil obtained from these pool/basins under analysis by Brent Helm. The Federally threatened vernal pool fairy shrimp were identified after a protocol site visit on April 03, 2011.
- ROAD RUT 1: Inundation occurred in this pool with at least 3.0 cm twice during the survey period. Versatile fairy shrimp were identified to inhabit the inundated feature within the utility access road during two inundation periods. The road rut is identified as having *Branchinecta* cysts after an analysis by Brent Helm.
- ROAD RUT 2: Inundation occurred within this pool with at least 3.0 cm through the survey period. Versatile fairy shrimp were identified during through the inundation period. *Branchinecta* cysts were identified by Brent Helm.
- GRASS LINED SWALE: Inundation did not occur during the wet season surveys. No cysts were identified during analysis by Brent Helm.

Based on the analysis it is my opinion that the results of the survey for all pools are conclusive. The main natural vernal pool is habitat for the federal threatened vernal pool fairy shrimp as was identified during protocol wet season surveys. When inundated, Road Rut 1 and 2 provided habitat for the common versatile fairy shrimp; *Branchinecta* cysts were found in June 2011 dry season surveys. The grass lined depression never inundated during wet season surveys; no cysts were identified during June 2011 dry season surveys. Along with the vernal pool fairy shrimp, the main natural pool contains a large breeding population of western spadefoot toads (*Spea hammondii*). This vernal pool dependent species has been nearly eliminated from the Los Angeles coastal plain through the loss of suitable breeding habitat and friable upland soils (Calherps 2011).

The Ventura Branch of the United States Fish and Wildlife Office is responsible for Listed Vernal Pool Branchiopod issues in the western and desert portions of Los Angeles County. Their address is: Ventura Fish and Wildlife Office, Ventura Branch, 2493 Portola Road, Suite B, Ventura, CA 93003. USFWS recovery permit coordinator Julie Vanderwier is the contact for this project and can be reached by telephone at (805) 644-1766 ext. 222 or by email at Julie_Vanderwier@fws.gov. As per USFWS permit requirements, a copy of this report has been forwarded to Ms. Vanderwier and Mr. Dellith.

7.0 CERTIFICATION STATEMENT

"I certify that the information in this survey report and attached exhibits fully and accurately represents my work."

Thomas Juhasz_ ____ Date_07-01-2011_____ TE208907-0

8.0 REFERENCES

California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) and RAREFIND3 Software;

CaliforniaHerps 2011. Spea hammondii- Western Spadefoot. Available on line at: http://www.californiaherps.com/frogs/pages/s.hammondii.html. Accessed June 29, 2011.

Eriksen, C. H. and D. Belk. 1999. *Fairy Shrimps of California's Puddles, Pools, and Playas.* Mad River Press, Inc., Eureka, CA.

Helm Biological Consulting, *Dry-Season Sampling for Federally-Listed Large Branchiopods at the Santa Clarita Project*, dated July 2010;

Helm Biological Consulting, *Dry-Season Sampling for Federally-Listed Large Branchiopods at the Santa Clarita Project*, dated June 2011;

Keeley, J.E. and P.H. Zedler. *Characterization and Global Distribution of Vernal Pools*. Pp 1-14 *in:* C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren Jr., and R. Ornduff (Editors). Ecology, Conservation, Management of Vernal Pool Ecosystems – Proceedings from a 1996 Conference. California Native Plant Society, Sacramento, CA, 1998.

PCR Services Corporation 2006. Cruzan Mesa Vernal Pools Significant Ecological Area: Available online at: <u>http://planning.lacounty.gov/assets/upl/project/sea_cruzan-mesa.pdf_Accessed_June</u> 29, 2011.

U.S. Fish and Wildlife Service. 1994. *Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Conservancy Fairy Shrimp, Longhorn Fairy Shrimp, and the Vernal Pool Tadpole Shrimp; and Threatened Status for the Vernal Pool Fairy Shrimp.* Federal Register 59 (180): 48136-48152.

U.S. Fish and Wildlife Service. 1996. Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods.

United States Department of Agriculture (USDA) - Natural Resource Conservation Service (NRCS) online database;

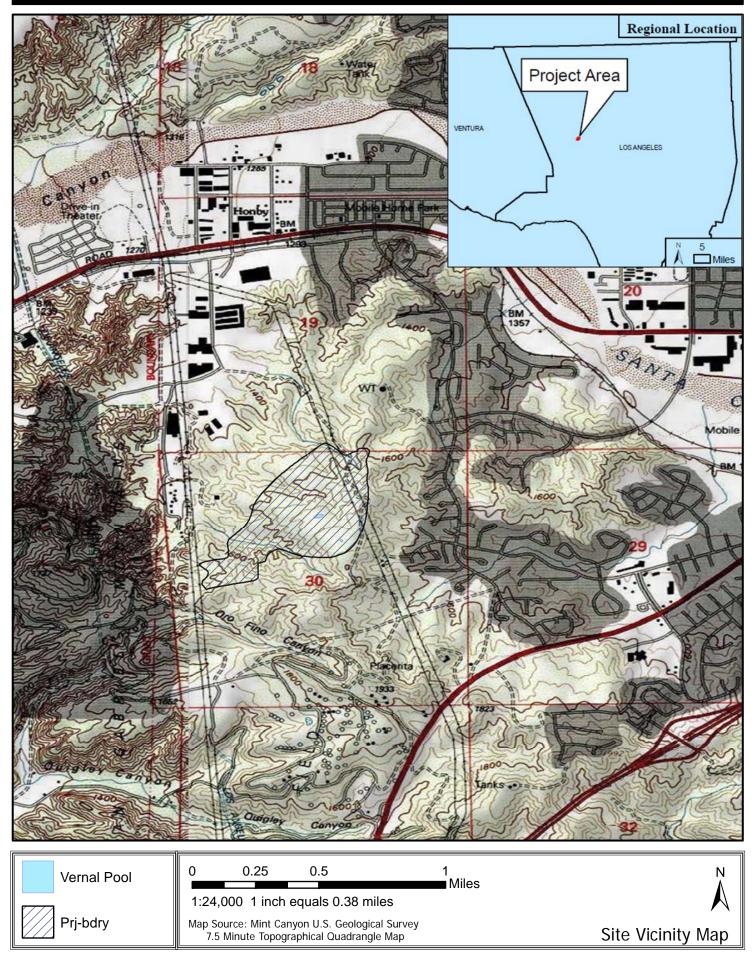
United States Geologic Survey (USGS) 7.5 minute topographic map, Santa Clarita Valley, California Quadrangle (1966) and 7.5 minute topographic map, La Panza NE, Mint Canyon Quadrangle (1973);

Persons Contacted:

Chris Dellith, Ventura Fish and Wildlife Service Office Julie Vanderwier, Ventura Fish and Wildlife Service

APPENDIX A VICINITY MAP

Santa Clarita Vernal Pool Project 2010-2011



APPENDIX B SITE/POOL LOCATION MAP

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Santa Clarita Vernal Pool Project 2010-2011



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Vernal Pool	Aerial Sou	urce: Bi	ing Maps 2011			Pool Location Map

APPENDIX C USFWS AUTHORIZATION

Gmail - City of Santa Clarita project -- request to modify survey guidance for LVPB spec... Page 1 of 2



Thomas Juhasz <thomas.juhasz@gmail.com>

City of Santa Clarita project -- request to modify survey guidance for LVPB species

Julie_Vanderwier@fws.gov <Julie_Vanderwier@fws.gov> To: thomas.juhasz@gmail.com Cc: Chris_Dellith@fws.gov, Chris_Kofron@fws.gov Tue, Jan 25, 2011 at 4:19 PM

Your request is a bit more complicated than it appeared initially so please bear with me as work through some concerns.

For reference purposes, the project site is located at the termination of Robert C. Lee Road that extends north from Golden Valley Road in the City of Santa Clarita, Los Angeles County. It is our understanding that you have been retained by the City of Santa Clarita to conduct the listed vernal pool branchiopod survey portion of the biological assessment at the site as no such surveys have been conducted to date. Surveys will be performed by you under the authority of recovery permit TE-208907-0.

Since the likely target LVPB species are, for the most part, cool weather hatchers (e.g. branchinectids), cysts in the road-rut ponded areas could have hatched at any time when water temperatures were in the low 40s (F). This could mean as early as late December 2010. Air temperatures (for lack of other data used herein as a surrogate for water temperatures) measured at Van Nuys Airport (less than 20 miles due south of Santa Clarita) show that from the end of December 2010 until approximately January 12, 2011 temperatures ranged from the mid-50s to mid- to high 60s (F). As such, it is probable that cysts hatched during this timeframe. Those that did would have likely experienced a slow growth rate due to the (presumably) cooler water temperatures; however, the onset of unseasonably warm weather between January 13 and 21 (upper 70s to mid-upper 80s; high of 88 on the 17th) would have accelerated that growth rate such that any larvae present could have reached maturity by now. This is somewhat problematic. The road-rut features, being substantially smaller, would likely have been subject to accelerated rising of water temperature resulting in their being further along in development that those observed in the main pool. While it is most likely that you did not miss detection of individuals altogether, we cannot be certain of this as the surveys were not conducted in accordance with our 1996 survey guidance for LVPB.

Certainly we would concur that the road-rut ponded areas and a depression to the south of the main pool are part of a complex that includes the main pool you have been sampling. Although your client indicated that there would be no direct impacts to these features (and the depressional area) in the original design, we typically ask that all suitable habitat within a project area be surveyed. This is because there can be indirect effects and, more importantly, because changes in project design are more common than not due to the alternatives analyses that are required as part of compliance with CEQA and NEPA. To not possess this information results in delays, increased costs (e.g., the delays and the addition surveys), and a general unhappiness on the part of your client when the Service asks for "new" information. The proximity of these potential habitat areas to the larger, main pool should have dictated that you request authorization to revise your sampling program as soon as you determined that they held water for the requisite amount of time in order to comply with the two-week timeframe.

Another issue relates to the dry season sampling. Forgive me if I have forgotten, but I don't recall seeing an authorization for this effort. Typically, the Ventura Fish and Wildlife Office requests that the dry season sampling be conducted after a wet season effort. In any case, Dr. Helm's September 8, 2010 report on the dry season sampling effort revealed >1000 branchinectid cysts in the single feature he sampled (i.e., the large ponded area). Obviously, he did not sample the road-rut areas. In order to conform to our 1996 survey guidance, an additional wet season survey or a dry season survey will be needed for these features.

Because you are only a little more than week over the two-week timeframe and will complete the two-part

survey guidance, we hereby approve your request modify the survey methodology to allow sampling of the two road-rut features to commence at a time period that exceeds that indicated in our survey guidance. We also authorize sampling of the depressional area to the south of the main pool to commence no later than two weeks post-inundation. This area will also need to be followed-up with another wet season survey or dry season sampling to comply with our guidance. Could you please send us an updated map the clearly identifies all of the features you will be sampling? In addition, we would appreciate being notified when you recommence surveys in the larger ponded area and when the depressional area becomes inundated.

If you have any questions, please feel free to give me a call.

julie m. vanderwier senior fish & wildlife biologist u.s. fish & wildlife service ventura fish & wildlife office 2493 portola road, suite b ventura, ca 93003 desk: <u>805.644.1766, ext. 222</u> facsimile: <u>805.644.3958</u>



Thomas Juhasz <thomas.juhasz@gmail.com>

City of Santa Clarita Project Site TE-208907-0 Amendment

Thomas Juhasz <thomas.juhasz@gmail.com> To: Julie_Vanderwier@fws.gov Cc: Chris_Dellith@fws.gov Tue, Jan 25, 2011 at 10:26 AM

Hi Julie,

Per our conversation yesterday afternoon, I am requesting a variation in the wet season survey protocol for the Santa Clarita vernal pool project due to a recent change in project design which now potentially impacts two road ruts along the utility access roads to the main pool as well as a grass filled depression to the south of the main pool. The road ruts are currently inundated and have been since the original inundation occured on the main vernal pool on December 26. The grass filled depression is not currently inundated.

Low average temperatures (below 60 degrees Fahrenheit) have been constant through the survey period until last week. The high temperatures to date have caused the main natural pool to dry out for this past protocol visit, before the fairy shrimp within were large enough to identify to species level. The ruts and depression are within close proximity to the main pool and would consistute a complex with the main natural pool. Including these features within the survey for the main natural pool would be consistent with survey standards for vernal pool branchiopods.

Thanks very much for the consideration and please let me know if further information is required.

Best regards,

Thomas Juhasz

On Mon, Jan 24, 2011 at 1:46 PM, <<u>Chris_Dellith@fws.gov</u>> wrote:

Hi Thomas,

If you are starting sampling within 2 weeks of inundation, we are okay with you including this new area in the study.

Sincerely, Chris

Chris Dellith Senior Fish & Wildlife Biologist U.S. Fish & Wildlife Service Ventura Fish and Wildlife Office 2493 Portola Road, Suite B Ventura, CA 93003 (805) 644-1766, ext. 227 chris_dellith@fws.gov Thomas Juhasz <<u>thomas.juhasz@gmail.com</u>>

To <u>Chris_Dellith@fws.gov</u> cc Subject : City of Santa Clarita Project Site TE-208907-0 Amendment

01/24/2011 09:13 AM

Hi Chris,

Due to a change in design, the Santa Clarita Project is requesting an amendment to the vernal pool branchiopod study to include two road ruts along the utility access roads to the main pool and a grass filled depression to the south of the main pool. The road ruts are currently inundated. I have attached a revised site map to indicate the location of the pools.

Thanks very much for the consideration and please let me know if further information is required.

Best regards,

Thomas Juhasz

------ Forwarded message ------From: Thomas Juhasz <<u>uscjuhasz04@hotmail.com</u>> Date: Sun, Jan 2, 2011 at 5:34 PM Subject: FW: City of Santa Clarita Project Site TE-208907-0 To: <u>thomas.juhasz@gmail.com</u>

Subject: Re: City of Santa Clarita Project Site TE-208907-0 To: <u>uscjuhasz04@hotmail.com</u> From: <u>Chris_Dellith@fws.gov</u> Date: Fri, 30 Apr 2010 07:15:38 -0700

Hi Thomas,

This electronic mail correspondence serves as your authorization to commence listed vernal pool branchiopod surveys at the site described below in your email. In the event that you detect other federally-listed species at this site, you should provide us with this information as well. We look forward to seeing your results.

Sincerely, Chris

Chris Dellith Senior Fish & Wildlife Biologist U.S. Fish & Wildlife Service Ventura Fish and Wildlife Office 2493 Portola Road, Suite B Ventura, CA 93003 (805) 644-1766, ext. 227 chris_dellith@fws.gov

Thomas Juhasz <<u>uscjuhasz04@hotmail.com</u>>

Thomas Juhasz <uscjuhasz04@hotmail.com>

04/29/2010 05:00 PM

<chris_dellith@fws.gov>

То

сс

City of Santa Clarita Project Site TE-208907-0 Subject

Dear. Mr. Dellith,

I am requesting authorization to conduct a U.S. Fish and Wildlife Service (USFWS) protocol wet season and subsequent dry season surveys for listed vernal pool branchiopods at a City of Santa Clarita vernal pool project site.

The site is generally located at the termination of Robert C. Lee road which extends north from Golden Valley Road in the City of Santa Clarita, Los Angeles County (See attached Vicinity Map). The site itself is undeveloped but is enclosed by development on all sides, with Via Princessa to the northnortheast, Hope Canyon Road to the west, and Rainbow Glen Drive to the east. Based on prior reconnaissance-level biological assessments conducted within the project site, one (1) vernal pool has been identified at the northwest periphery of the parcel under evaluation. The City of Santa Clarita wishes to conduct the listed vernal pool branchiopod survey portion of the assessment at the project site, as no such surveys have been conducted to date.

Due to the surface topography known to be on site, the low permiability of the mud deposits, as well as a clear delineation between vernal pool associated

flora (*Juncus bufonius, Psilocarphus brevissimus, Gnaphalium palustre, Navarretia sp.*) within the depression from upland annual grassland, potential habit for the threatened vernal pool fairy shrimp (*Branchinecta lynchi*) has been identified on site.

I am proposing to perform the wet season surveys at the project site during the 2010/2011 rain season with dry season survey and cyst analysis during the summer of 2010. If authorized, the wet season surveys will be conducted by Thomas Juhasz (TE-208907-0) and the USFWS protocol dry season surveys will be conducted by Dr. Brent Helm (USFWS Recovery Permit # TE-795930) with project oversight by Thomas Juhasz. Surveys will follow all terms and conditions as specified in the permit and the 1996 USFWS protocol survey guidelines for listed vernal pool branchiopods.

Thank you for your consideration of this request. Please email at this address or call me at (626) 755-5123 if you have any questions or need additional information to complete the authorization process.

Best regards,

Thomas Juhasz

The New Busy is not the old busy. Search, chat and e-mail from your inbox. <u>Get started</u>. (See attached file: Vicinity Map_Santa Clarita CA...pdf) [attachment "Vicinity Map_Santa Clarita CA._01_24_2011.pdf" deleted by Chris Dellith/VFWO/R1/FWS/DOI]

APPENDIX D WET SEASON DATA SHEETS

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

516pool 3

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no yes
Required color slides and/or photographs for the project site are included: no yes
Date: 12 126 12010 Time: 1400 County: Los Angeles Quad: MINT CAMON
Collector(s): <u>THOMAS JUHASZ</u> Permit #: <u>TE 208907-0</u>
Site/Project Name: SANTA CLARITA VERNAL POR PROJECT POOL #: MANN MATURAL VERNAL POOL
Township: Range: Section: latlong//8 [.] 4635857 34. 4052/5 Temperature: Water: oC Air: oC
Pool Depth: Surface Area:
at time of sampling: <u>10</u> cm at time of sampling: <u>2</u> m x <u>1</u> m
estimated maximum:m xm
Habitat Condition: (circle where appropriate)
- undisturbed disturbed: tire tracks garbage discing/plowing - ungrazed grazed: cattle horses sheep other light moderate heavy
light moderate heavy - land use of habitat: المتسمية ديمي المعنية المعنية المعنية المعنية المعنية المعنية المعنية المعنية المعنية ال
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l pH: Turbidity: (secchi disc depth)cm or: clear to bottom Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm
Notes: Freshly Inn NDATED from Weeks kanna.

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	60		Insects: (adult or larvae)		5
Conchostracans:	yes	no		Anisoptera:	yes	no
Copepods:	yes	no		Zygoptera:	yes	no
Ostracods	yes	no		Hydrophilidae:	yes	no
Fish	yes	no	21	Dytiscidae:	yes	no
Frogs	yes	no		Corixidae:	yes	no
Salamanders	yes	no		Notonectidae:	yes	no
Waterfowl	yes	no		Belostomatidae:	yes	loo/
Other (specify)		V	_	Other (specify)		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Subpool 2

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no yes
Required color slides and/or photographs for the project site are included: no 📝 yes
Date: 1212612010 Time: 1400 County: Los Ingeling Quad: must conyon
Collector(s): <u>THOMAS JUHASZ</u> Permit #: <u>TE - 208907-0</u>
Site/Project Name: SANTA CLARITA VERNAL POOL DIARCOT Pool #: MAN NATURAL VERNAL POOL
Township: Range: Section: latlong1/8.4535555
Temperature: Water: 18° oC Air: 10° oC
Pool Depth: Surface Area:
at time of sampling: <u>12</u> cm at time of sampling: <u>2</u> m x <u>7</u> m
estimated maximum: <u>1</u> cm estimated maximum: <u>3</u> m x <u>1</u> m
Habitat Condition: (circle where appropriate)
disturbed: tire tracks garbage discing/plowing
- ungrazed grazed: cattle horses sheep other
- land use of habitat: Martinede Char Char Polane Polane Polane
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO
Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l
pH: cm or: clear to bottom
Salinity :ppm Total Dissolved Solids (TDS):ppm
Notes: Pool Freshly winning From weeks' kaing.

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	10	Insects: (adult or larvae)		0
Conchostracans:	yes	0	Anisoptera:	yes	no
Copepods:	yes	69	Zygoptera:	yes	po
Ostracods	yes	(FO	Hydrophilidae:	yes	MOS
Fish	yes	60	Dytiscidae:	yes	TO
Frogs	yes	(no)	Corixidae:	yes	no
Salamanders	yes	6	Notonectidae:	yes	0
Waterfowl	yes	(19)	Belostomatidae:	yes	(no)
Other (specify)		<u> </u>	Other (specify)		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required info	ormation completely for each site vis	sit.								
This form is being submitted to serve as part of	the 90-day report: no ye	S								
Required color slides and/or photographs for the project site are included: no/ yes										
Date: 12 / 26/2010 Time: 1400 County	1: Los Angeley Quad:	INT CAMOR								
Collector(s): THOMAS TUHASZ	Permit #: +& 208	907-0								
Site/Project Name: <u>SAMTA CLARITA V</u>	SPUAL POR PROJECT Pool #: _	MAIN AMATGOAL VORAML POR								
Township: Range: S	ection:lat	long118.493585,								
Temperature: Water:/6 ° oC Air:/0	oC									
Pool Depth: Surface Area:										
at time of sampling:cm at time of sampli	ng: <u>5</u> m x <u>2</u> m									
estimated maximum: <u>14</u> cm estimated maxi	mum: <u>6 m x 3</u> m									
Habitat Condition: (circle where appropriate)										
-undisturbed disturbed: tire tracks	garbage discing/plowing									
ungrazed grazed: cattle		other								
- land use of habitat: NATURAL CLAY	LINED VERNAL poor/.	heavy								
(Optional) Water Chemistry Data		4								
Alkalinity (total):ppm or mg/l	Conductivity:uMHO									
Dissolved NH4:ppt or ppm	Dissolved Oxygen:ppm or r	-								
pH: Salinity :ppt or ppm	Turbidity: (secchi disc depth) Total Dissolved Solids (TDS):									
Notes: Poor freshly mundated										

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no	Insects: (adult or larvae)	6
Conchostracans:	yes no	Anisoptera:	yes no
Copepods:	yes no	Zygoptera:	yes no
Ostracods	yes no	Hydrophilidae:	yes no
Fish	yes no	Dytiscidae:	yes no
Frogs	yes no	Corixidae:	yes no
Salamanders	yes no	Notonectidae:	yes no
Waterfowl	yes no	Belostomatidae:	yes(no)
Other (specify)		Other (specify)	<u> </u>

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

SUBPOR 2/3

Note: Please fill out the required information completely for each site visit.					
This form is being submitted to serve as part of the 90-day report: no⁄ yes					
Required color slides and/or photographs for the project site are included: no \swarrow yes					
Date: 01 /09/2011 Time: 1500 County: Los Angeles Quad: Mint Compon					
Collector(s): Thomas JUHAS 2 Permit #: _7 208907-0					
Site/Project Name: _ SANTA CLARTHA VGROAL POST PROJECT POOL #: MAIN NATHRAL VERNAL					
Township: Range: Section: Iat. Iong. -118.4535851 34.405215 34.405215 34.405215 34.405215 34.405215					
Temperature: Water: oC Air: oC 34. 405215-					
Pool Depth: Surface Area: Dou					
at time of sampling:A cm at time of sampling:A m xA m					
estimated maximum:A_m xm					
Habitat Condition: (circle where appropriate)					
- land use of habitat: - undisturbed: tire tracks garbage discing/plowing grazed: cattle horses sheep other light moderate heavy					
(Optional) Water Chemistry Data					
Alkalinity (total):ppm or mg/l Conductivity:uMHO Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l pH: Turbidity: (secchi disc depth)cm or: clear to bottom Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm					
Notes: SUBPORT COMP in MAIN NATURAL ICANAL POSE HAVE DRIED					

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species	Observations:	14				
Cladocerans:	yes 🔟		Insects: (adult or larvae)		0	
Conchostracans:	yes no		Anisoptera:	yes	no	
Copepods:	yes 🔟		Zygoptera:	yes	no	
Ostracods	yes 🔞		Hydrophilidae:	yes	60	
Fish	yes no		Dytiscidae:	yes	no	
Frogs	yes no		Corixidae:	yes	60	
Salamanders	yes no		Notonectidae:	yes	no	
Waterfowl	yes no		Belostomatidae:	yes	no	
Other (specify)	~		Other (specify)			

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

SUBROOL I

Note: Please fill out the required information completely for each site visit.					
This form is being submitted to serve as part of the 90-day report: noyes					
Required color slides and/or photographs for the project site are included: no yes					
Date: 01 / 09/2011 Time: 1500 County: Los Angeley Quad: Must Compare					
Collector(s):					
Site/Project Name: SANTA CLARITA VERNAL POOL PROJECT Pool #: MAIN NAMERAL POOL					
Township: Range: Section: latlong118, 4935 85,					
Temperature: Water: oC Air: oC 34.405215					
Pool Depth: Surface Area:					
at time of sampling: <u>17</u> cm at time of sampling: <u>4</u> m x <u>4</u> m 16 sg m					
at time of sampling: <u>17</u> cm at time of sampling: <u>4</u> m x <u>1</u> m <u>16</u> Sg m - estimated maximum: <u>5</u> m x <u>4</u> m <u>20</u> Sg m -					
Habitat Condition: (circle where appropriate)					
undisturbed disturbed: tire tracks garbage discing/plowing					
-ungrazed grazed: cattle horses sheep other light moderate heavy					
- land use of habitat: NATURAL VERNAL POSC (CLAY)					
·					
(Optional) Water Chemistry Data					
Alkalinity (total):ppm or mg/l Conductivity:uMHO Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l					
pH: Cm or: clear to bottom Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm					

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Anostracans: (note reproductive status) Immarine BRANCHINE CTA Sp.

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no			Insects: (adult or larvae)	\sim
Conchostracans:	yes no			Anisoptera:	yes (no)
Copepods:	yes no			Zygoptera:	yes no
Ostracods	yes no			Hydrophilidae:	yes no
Fish	yes no		÷.	Dytiscidae:	yes no
Frogs	yes no			Corixidae:	yes (ho)
Salamanders	yes no			Notonectidae:	yes no
Waterfowl	yes (no)			Belostomatidae:	yes (no)
Other (specify)	\bigcirc	_		Other (specify)	

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Note: Please fill out the required information completely for each site visit.						
This form is being submitted to serve as part of the 90-day report: no yes						
Required color slides and/or photographs for the project site are included: noyes						
Date: 0/123/2011 Time: 1500 County: Los Angeley Quad: Mut Chuyon						
Collector(s):						
Site/Project Name: Sword CLARINA VERNAL POR PROJECT Pool #: MAYN NATHORE WARN POOL						
Township: Range: Section:latlong//8.453585						
Temperature: Water: oC Air: oC						
Pool Depth: Surface Area:						
at time of sampling:cm at time of sampling://A_m x//A_m						
estimated maximum: //Am x //Am						
Habitat Condition: (circle where appropriate)						
undisturbeddisturbed:tire tracksgarbagediscing/plowingungrazedgrazed:cattlehorsessheepother						
- land use of habitat: NATURAL CLAY LINES VERMAL pool.						
(Optional) Water Chemistry Data						
Alkalinity (total):ppm or mg/l Conductivity:uMHO Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l pH: Turbidity: (secchi disc depth)cm or: clear to bottom Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm						

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

NA DRY

Notostracans: (note reproductive status)

£

(Optional) Species Observations:

Cladocerans:	yes	no	Insects: (adult or larvae)		6
Conchostracans:	yes	ho	Anisoptera:	yes	ho
Copepods:	yes	ho	Zygoptera:	yes	no
Ostracods	yes	ro	Hydrophilidae:	yes	no
Fish	yes	ro	Dytiscidae:	yes	no
Frogs	yes	ho	Corixidae:	yes	no
Salamanders	yes	ho	Notonectidae:	yes	\no/
Waterfowl	yes	no	Belostomatidae:	yes	no
Other (specify)		V	Other (specify)		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

<u># Individuals</u>

Accession/Catalog #

Note: Please fill out the required inf	nformation completely for each site visit.
This form is being submitted to serve as part of	of the 90-day report: no yes
Required color slides and/or photographs for th	he project site are included: no yes
Date: 01/24/2011 Time: 1600 Count	nty: Los Angeley Quad: MINT CANYON_
Collector(s): THOMAS JUHASZ	
Site/Project Name: SANTA CHARITA	VERNAL POOL PROJ POOL #: ROAD Port 1 -118 491013
Township: Range: S	Section:latlong118, 431017 34.409-209
Temperature: Water: oC Air:	7 oC
Pool Depth: Surface Area:	e di serie d
at time of sampling:cm at time of sampl	oling:m xm
estimated maximum:cm estimated max	ximum: <u>6</u> m x <u>/</u> m
Habitat Condition: (circle where appropriate)	
- undisturbed disturbed: tire tracks	garbage discing/plowing
- ungrazed grazed: cattle	horses sheep other
- land use of habitat: UTILITY ACCES	light moderate heavy
(Optional) Water Chemistry Data	
Alkalinity (total):ppm or mg/l	Conductivity:uMHO
Dissolved NH4:ppt or ppm pH:	Dissolved Oxygen:ppm or mg/l
Salinity :ppt or ppm	Turbidity: (secchi disc depth)cm or: clear to bottom Total Dissolved Solids (TDS):ppm
Notes:	

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status) Berevelingers LINDAHLI (matrices)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no	Insects: (adult or larvae)		\sim
Conchostracans:	yes	no	Anisoptera:	yes	no
Copepods:	yes	10)	Zygoptera:	yes	no
Ostracods	yes	no	Hydrophilidae:	yes	no
Fish	yes	no	Dytiscidae:	yes	no
Frogs	yes	no	Corixidae:	yes	no
Salamanders	yes	ing	Notonectidae:	yes	no
Waterfowl	yes	no	Belostomatidae:	yes	no
Other (specify)			Other (specify)		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Note: Please fill out the required information completely for each site visit.						
This form is being submitted to serve as part of	the 90-day re	port: no/ y	es			
Required color slides and/or photographs for the	e project site a	are included: no	p_∠_yes			
Date: 01/24/2011 Time: 1600 County						
Collector(s): THOMAS JUHAS2		Permit #: <u> </u>	8907-0			
Site/Project Name: SANTA CLARITA VI	ERNAL P	ton PRO Pool #:	RGAD RIT 2			
Township: Range: S	Section:	lat	long118.450 928			
Temperature: Water: oC Air:/7_			94 . 10 1. 10			
Pool Depth: Surface Area:						
at time of sampling: <u> 2</u> cm at time of sampli	ing: <u>2</u> r	n x <u> 8 </u> m				
estimated maximum: <u>14</u> cm estimated maxi	imum: <u>3</u>	_m x <u>&</u> m				
Habitat Condition: (circle where appropriate)						
- undisturbed disturbed; tire tracks - ungrazed grazed: cattle	garbage horses	discing/plowing sheep	other			
- land use of habitat:	light	moderate	heavy			
(Optional) Water Chemistry Data						
Alkalinity (total):ppm or mg/l Dissolved NH4:ppt or ppm pH:	Dissolved O Turbidity: (se		cm or: clear to bottom			
Salinity :ppt or ppm Notes: UTILITY Access ROAT	i otal Dissolv	ved Solids (TDS):	ppm			

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status) BRANCHINECTA UNDAHLI. (MAJURE)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no		Insects: (adult or larvae)		0
Conchostracans:	yes no	×	Anisoptera:	yes	no
Copepods:	yes no		Zygoptera:	yes	no
Ostracods	yes no		Hydrophilidae:	yes	6
Fish	yes no		Dytiscidae:	yes	ng
Frogs	yes no		Corixidae:	yes	60
Salamanders	yes 🔊		Notonectidae:	yes	62
Waterfowl	yes no		Belostomatidae:	yes	60
Other (specify)			Other (specify)		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Note: Please fill out the required info	rmation completely for each site visit.				
This form is being submitted to serve as part of the 90-day report: noyes					
Required color slides and/or photographs for the	project site are included: no yes				
Date: <u>01 24 2011</u> Time: <u>1600</u> County:	_105 Angoley Quad: _MINT CANyon				
Collector(s): THOMAS JUHASZ	Permit #:				
Site/Project Name: Sanna CLANCIA	UEMAL POOL PRAY POOL #: GRASS LINED SULALE				
Township: Range: Se	ction:latlong118, 452182,				
Temperature: Water:/A oC Air:/7					
Pool Depth: Surface Area:					
at time of sampling:cm at time of sampling	g: <i>JfA</i> _m x _ <i>/_A_</i> m				
estimated maximum:cm estimated maxim	num: <u>N/A_</u> m x_ <u>N/A_</u> m				
Habitat Condition: (circle where appropriate)					
ungrazed grazed: cattle	garbage discing/plowing horses sheep other light moderate heavy				
- land use of habitat: 62455 Lines Horedoceong + Hiesch feldiz	Depression commated by Bronnes				
(Optional) Water Chemistry Data					
	Conductivity:uMHO				
Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l pH: Turbidity: (secchi disc depth) cm or: clear to bottom					
	Furbidity: (secchi disc depth)cm or: clear to bottom Fotal Dissolved Solids (TDS):ppm				

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

NIN PP

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes 60	Insects: (adult or larvae)	
Conchostracans:	yes ng	Anisoptera:	yes no
Copepods:	yes ho	Zygoptera:	yes no
Ostracods	yes no	Hydrophilidae:	yes ガ
Fish	yes no	Dytiscidae:	yes (no)
Frogs	yes no	Corixidae:	yes no
Salamanders	yes no	Notonectidae:	yes to
Waterfowl	yes no	Belostomatidae:	yes to
Other (specify)	<u> </u>	Other (specify)	-

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no/ yes
Required color slides and/or photographs for the project site are included: no _/_ yes
Date: 02 106 12011 Time: 1630 County: 675 Angeley Quad: Mint Compon
Collector(s): <u>THOMAS JUHASZ</u> Permit #: <u>TE 208907-0</u>
Site/Project Name: <u>SANTA CLARITA VERMAL POOL Project</u> . Pool #: <u>MANN NATURAL FOOL</u> Township: Range: Section: lat long118.4935-855
Township: Range: Section: lat long1/8.4935-855
Temperature: Water: $\frac{N/A}{2}$ oC Air: $\frac{Z^2}{2}$ oC $\frac{34,405215}{34,405215}$
Pool Depth: Surface Area:
at time of sampling: <u>/A</u> cm at time of sampling: <u>//A</u> m x <u>/A</u> m
estimated maximum: <u>N/A_</u> cm estimated maximum: <u>N/A_</u> m x <u>/A_</u> m
Habitat Condition: (circle where appropriate)
- undisturbed disturbed: tire tracks garbage discing/plowing
-ungrazed grazed: cattle horses sheep other
light moderate heavy
- land use of habitat; CLAY UNED NOTWOOL VERNAL POR
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO
Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l

pH:_____ Salinity :_____ppt or ppm Dissolved Oxygen:_____ppm or mg/l Turbidity: (secchi disc depth)____cm or: clear to bottom _____ Total Dissolved Solids (TDS):_____ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

NA DON

Notostracans: (note reproductive status)

(Optional) Species Observations:

yes	no	Insects: (adult or larvae)		1
yes	ng	Anisoptera:	yes	69
yes	no)	Zygoptera:	yes	ng
yes	(no)	Hydrophilidae:	yes	00
yes	no	Dytiscidae:	yes	no
yes	no	Corixidae:	yes	(no)
yes	no	Notonectidae:	yes	no
yes	no	Belostomatidae:	yes	no
	U	Other (specify)		<u> </u>
	yes yes yes yes yes yes	yes no yes no yes no yes no yes no yes no	yesnoAnisoptera:yesnoZygoptera:yesnoHydrophilidae:yesnoDytiscidae:yesnoCorixidae:yesnoNotonectidae:yesnoBelostomatidae:	yesnoAnisoptera:yesyesnoZygoptera:yesyesnoHydrophilidae:yesyesnoDytiscidae:yesyesnoCorixidae:yesyesnoNotonectidae:yesyesnoBelostomatidae:yes

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Note: Please fill out the required in	formation co	mpletely for each site	e visit.	
This form is being submitted to serve as part o	f the 90-day r	report: no/	yes	
Required color slides and/or photographs for th	ne project site	are included:	no yes	
Date: 02 /06 /3011 Time: 16:30 Coun	ty: Los	Angeley Quad: 1	Mint Conyon	
Collector(s): THOMAS JUHASZ		_Permit #:	208907-0	
Site/Project Name: Santa Clarita	VORNAL FO	Regent Pool #	Rut I	
Township: Range:	Section:	lat	long118.491014	
Temperature: Water: oC Air:	2°_0C		34.404209	
Pool Depth: Surface Area: Day.			strate of the later	
at time of sampling: <u>N/A</u> cm at time of samp	ling: <u>/_A</u>	_m xm		
estimated maximum:Acm estimated max	kimum: NA	mx //A m		
Habitat Condition: (circle where appropriate)				
- undisturbed disturbed tire tracks	garbage	discing/plowing		
- ungrazed grazed: cattle	horses light	sheep moderate	other heavy	
- land use of habitat: util ITY acces	SS Roa		neavy	
l	*			
(Optional) Water Chemistry Data				
Alkalinity (total):ppm or mg/l	Conductivit	y:uMHO		
Dissolved NH4:ppt or ppm		Dxygen:ppm @	or ma/l	
pH:			cm or: clear to bottom	
Salinity :ppt or ppm	Total Dissolved Solids (TDS):ppm			

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

N/A DRY

Notostracans: (note reproductive status)

In ANG XIT

(Optional) Species Observations:

Cladocerans:	yes (no)	
Conchostracans:	yes no	
Copepods:	yes no	
Ostracods	yes no	
Fish	yes no	
Frogs	yes no	
Salamanders	yes no	
Waterfowl	yes no	
Other (specify)	<u> </u>	

Insects: (adult or larvae)		
Anisoptera:	yes	6
Zygoptera:	yes	0
Hydrophilidae:	yes	no
Dytiscidae:	yes	0
Corixidae:	yes	(10)
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify)		\sim

Star is the two in the backwork Aller. Bed thread to be a

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no yes
Required color slides and/or photographs for the project site are included: no yes
Date: 02/06/2011 Time: 16:30 County: 69 Angeley Quad: Mint Compon
Collector(s): <u>THOMAS JUHASZ</u> Permit #: <u>TE 208907-0</u>
Site/Project Name: SAWA CLARITA VERNAL ROL POLOPOOL #: ROAD RUT 2
Township: Range: Section: lat long118. 490928,
Temperature: Water: 5120 OC Air: 22 oC 39.404962
Pool Depth: Surface Area:
at time of sampling: 16 cm at time of sampling: 144 m x 4 m 176 sq m
at time of sampling: <u>16</u> cm at time of sampling: <u>144</u> m x <u>4</u> m 176 sq m estimated maximum: <u>17</u> cm estimated maximum: <u>46</u> m x <u>4</u> m 184 sq m
Habitat Condition: (circle where appropriate)
- undisturbed disturbed; tire tracks garbage discing/plowing - ungrazed grazed: cattle horses sheep other light moderate heavy
- land use of habitat: UTILITY ACCESS ROAT
(Optional) Water Chemistry Data

Alkalinity (total):ppm or mg/l	Conductivity:uMHO
Dissolved NH4:ppt or ppm	Dissolved Oxygen:ppm or mg/l
pH:	Turbidity: (secchi disc depth)cm or: clear to bottom
Salinity :ppt or ppm	Total Dissolved Solids (TDS):ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status) BRANCH WEETA LINDHALI (MATURE)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes (no	Insects: (adult or larvae)	
Conchostracans:	yes no	Anisoptera:	
Copepods:	yes no	Zygoptera:	
Ostracods	yes (no)	Hydrophilidae:	
Fish	yes no	Dytiscidae:	
Frogs	yes no	Corixidae:	
Salamanders	yes no	Notonectidae:	
Waterfowl	yes no	Belostomatidae:	
Other (specify)		Other (specify)	

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Species

Individuals

Accession/Catalog #

yes

yes

(no) yes no yes no yes no yes

no

no yes no

Note: Please fill out the required int	formation cor	npletely for each site	visit.
This form is being submitted to serve as part of	the 90-day r	eport: no	yes
Required color slides and/or photographs for th	e project site	are included;	no <u>v</u> yes
Date: 02 106 12011 Time: 1640 Count	y: <u>Loz A</u>	rgely_Quad:_	MINT CANYON
Collector(s): THomas Julias2	40 10	_Permit #: <u></u>	08907-0
Site/Project Name: SANTA CLARETTA	Verenaz 7	Pong Proj. Pool #	BRASS LINED SWALE
Township:	Section:	lat	long118,452.182_ 34,408767
Pool Depth: Surface Area:			
at time of sampling: <u>A</u> cm at time of sampl	ing: <u>//A</u>	_m x_ <u>/A_</u> m	
estimated maximum: MA_cm estimated max	imum:	<u>4 m x N/4 m</u>	
Habitat Condition: (circle where appropriate)			
-undisturbed disturbed: tire tracks	garbage	discing/plowing	
- ungrazed grazed: cattle	horses	sheep	other
- land use of habitat: Grease filles dep	light <i>Reg</i> zion_	moderate	heavy
= ⁻⁵			
(Optional) Water Chemistry Data			
Alkalinity (total):ppm or mg/l Dissolved NH4:ppt or ppm pH: Salinity :ppt or ppm	Dissolved C Turbidity: (s	y:uMHO Dxygen:ppm secchi disc depth) Ived Solids (TDS):	or mg/l cm or: clear to bottom ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

N/A DOM

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no	Insects: (adult or larvae)	
Conchostracans:	yes no	Anisoptera: yes	no
Copepods:	yes no	Zygoptera: yes	no
Ostracods	yes no	Hydrophilidae: yes	no
Fish	yes no	Dytiscidae: yes	no
Frogs	yes no	Corixidae: yes	no
Salamanders	yes no	Notonectidae: yes	no
Waterfowl	yes no	Belostomatidae: yes	no
Other (specify)	<u> </u>	Other (specify)	

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Subpool 1

Note: Please fill out the required information completely for each site visit.			
This form is being submitted to serve as part of the 90-day report: no 🗹 yes			
Required color slides and/or photographs for the project site are included: noyes			
Date: 02/20/2011 Time: 1400 County: Log Angelet Quad: Mint Compon			
Collector(s): Permit #: Permit #:			
Site/Project Name: SANTA CLARITA VERNAL POOL PROJECT Pool #: Mahuro // MUN VERNAL BOIL			
Site/Project Name: <u>SANTA CLAPITA VERNAL POOL PROJECT</u> Pool #: <u>Mahwolf MMIN</u> verenal Rol- Township: Range: Section: latlong118.493585,			
Temperature: Water: 21 oC Air: 10 oC			
Pool Depth: Surface Area:			
at time of sampling: <u>15</u> cm at time of sampling: <u>2</u> m x <u>1</u> m 2 2 50 m			
at time of sampling: $\frac{7.5}{15}$ cm at time of sampling: $\frac{2}{3}$ m x $\frac{1}{m}$ $\frac{2}{3}$ $\frac{5}{3}$ m m $\frac{1}{3}$ estimated maximum: $\frac{3}{3}$ m x $\frac{1}{m}$ $\frac{3}{3}$ $\frac{3}{3}$ $\frac{3}{3}$ $\frac{3}{3}$ m $\frac{1}{3}$			
Habitat Condition: (circle where appropriate)			
undisturbed disturbed: tire tracks garbage discing/plowing			
ungrazed grazed: cattle horses sheep other			
light moderate heavy			
(Optional) Water Chemistry Data			
Alkalinity (total):ppm or mg/l Conductivity:uMHO			
Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/I			
pH: Turbidity: (secchi disc depth)cm or: clear to bottom Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm			
Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm			

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes 🔞	Insects: (adult or larvae)	
Conchostracans:	yes 🔞	Anisoptera:	yes
Copepods:	yes (no)	Zygoptera:	yes
Ostracods	yes to	Hydrophilidae:	yes
Fish	yes to	Dytiscidae:	yes
Frogs	yes 🔞	Corixidae:	yes
Salamanders	yes 🔞	Notonectidae:	yes
Waterfowl	yes (no)	Belostomatidae:	yes
Other (specify)		Other (specify)	

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

no

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no

Pool #

* Freshly INMNDATED from RAINS 02/17 - 02/19.

Note: Please fill out the required info	formation completely for each site visit.		
This form is being submitted to serve as part of t	f the 90-day report: no/ yes		
Required color slides and/or photographs for the	ne project site are included: no⁄_yes		
Date: 02 / 20 / 20// Time: /400 County	ty: 105 Angeley Quad: MintComyon		
	Permit #: <u> 208907-0</u>		
Site/Project Name: SANTA CLARITA VER	KML POOL PROJECT POOL #: MAIN NATURAL POOL		
Township: Range: Se	Section: latlong118_4935'85,		
Temperature: Water: oC Air:0	74 405 11		
Pool Depth: Surface Area:			
at time of sampling:cm at time of sampling	ling: 0.5 m x 0.15 m 0.25 Sq m		
at time of sampling: <u>7</u> cm at time of sampling: <u>0.5</u> m x <u>0.5</u> m 0.25 Sg m estimated maximum: <u>8</u> cm estimated maximum: <u>0.5</u> m x <u>0.5</u> m 0.25 Sg m			
Habitat Condition: (circle where appropriate)			
- land use of habitat: - land use of habitat: - land use of habitat:	garbage discing/plowing horses sheep other light moderate heavy Y VERMIL POOL		
(Optional) Water Chemistry Data			
Dissolved NH4:ppt or ppm	Conductivity:uMHO Dissolved Oxygen:ppm or mg/l Turbidity: (secchi disc depth)cm or: clear to bottom		
Salinity :ppt or ppm	Total Dissolved Solids (TDS):ppm		
Mataa			

Notes:

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U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no	Insects: (adult or larvae)	
Conchostracans:	yes no	Anisoptera:	yes 向
Copepods:	yes no	Zygoptera:	yes no
Ostracods	yes no	Hydrophilidae:	yes no
Fish	yes 🔞	Dytiscidae:	yes no
Frogs	yes no	Corixidae:	yes no
Salamanders	yes no	Notonectidae:	yes no
Waterfowl	yes no	Belostomatidae:	yes no
Other (specify)		Other (specify)	

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

02/17-02/19.

* FRESHLY INUNDATED FROM PAIDS

Subpool 3

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required inf	ormation com	pletely for each sit	e visit.
This form is being submitted to serve as part of	the 90-day re	port: no⁄	yes
Required color slides and/or photographs for th	e project site a	are included:	no 🗹 yes
Date: <u>02/20/2011</u> Time: <u>/400</u> Count	y: <u>Los An</u>	queley Quad:	Mint Conyon
Collector(s): THOMAY JUHAS 2		Permit #: <u> </u>	208907-0
Site/Project Name: SANTA CLARITA V	BRNAL PO	n Peopert Pool	#: NATURAL VERMAL POOL
Township: Range: S	Section:	lat	long. ~118.493585,
Temperature: Water:oC Air:/C	oC oC		39.405-215
Pool Depth: Surface Area:			
at time of sampling:cm at time of sampl	ing: <u>0.3</u> r	n x <u>0.3 </u> m	0.5 5gm
at time of sampling: <u></u> cm at time of sampl estimated maximum: <u></u> cm estimated max	imum:5	<u>mx 0.5</u> m (7.15 Sq. m-
Habitat Condition: (circle where appropriate)			0
undisturbed disturbed: tire tracks	garbage	discing/plowing	
-ungrazed grazed: cattle	horses light	sheep moderate	other heavy
- land use of habitat: NATURA - CLAY	-		
	Service -		7 K- 21
(Optional) Water Chemistry Data			
Alkalinity (total):ppm or mg/l	Conductivity	uMHO	
Dissolved NH4:ppt or ppm	Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l		
DH:Crm or: clear to bottom			
Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm			

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	10
Conchostracans:	yes	0
Copepods:	yes	60
Ostracods	yes	60
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	\odot
Other (specify)		

yes 🔟
yes 🔟
yes 🔟
yes no
yes 向
yes 🔞
yes no

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

* FRESHLY MUNDATED FROM RAINS 02/17-02/19.

Note: Please fill out the required inf	ormation completely for each site visit.
This form is being submitted to serve as part of	the 90-day report: no⁄ yes
Required color slides and/or photographs for the	e project site are included: no _/_ yes
Date: <u>02 / 20 / 20 / 1</u> Time: <u>1400</u> Count	y: Los Angeles Quad: Mint Conyon
	Permit #: <u>TE 208907</u> -0
Site/Project Name: SANTA CLARITA VE	ERNAL POOL PRULEO POOL #: RUAD PUT 1
Township: Range: S	Section:latlong118.491013, 34.404209
Temperature: Water: oC Air:	<u>0</u> oC
Pool Depth: Surface Area:	
at time of sampling: $\underline{\mathcal{G}}_{cm}$ cm at time of sampl	ing: <u>10 mx 2 m 20 89 m</u>
estimated maximum: <u>15</u> cm estimated max	ing: <u>10 mx 2 m</u> 20 5gm imum: <u>10 mx 3 m</u> 30 5gm
Habitat Condition: (circle where appropriate)	0
- undisturbed (disturbed:) (tire tracks)	garbage discing/plowing
- ungrazed grazed: cattle	horses sheep other
- land use of habitat: UTILITY ACCE	light moderate heavy
(Optional) Water Chemistry Data	
•	
Alkalinity (total):ppm or mg/l	Conductivity:uMHO
Dissolved NH4:ppt or ppm	Dissolved Oxygen:ppm or mg/l
pH:	Turbidity: (secchi disc depth)cm or: clear to bottom
Salinity :ppt or ppm	Total Dissolved Solids (TDS):
Notes:	

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

15

(Optional) Species Observations:

Cladocerans:	yes no	Insects: (adult or larvae)	34	
Conchostracans:	yes no	Anisoptera:	yes	0
Copepods:	yes no	Zygoptera:	yes	6
Ostracods	yes no	Hydrophilidae:	yes	no
Fish	yes no	Dytiscidae:	yes	no
Frogs	yes no	Corixidae:	yes	no
Salamanders	yes no	Notonectidae:	yes	6
Waterfowl	yes no	Belostomatidae:	yes	no
Other (specify)	0	Other (specify)		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

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<u># Individuals</u>

Accession/Catalog #

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no yes
Required color slides and/or photographs for the project site are included: no $_\checkmark$ yes
Date: 02 / 201 Time: 1400 County: 1-05 Angeley Quad: Mint Compon
Collector(s): THOMAY JUHACZ Permit #: TEZO8907-D
Site/Project Name: SANTA CLARITA VERNAL POST PAULECTPOOL #: ROAD RUT 2
Township: Range: Section: latlong118.490928, 34.404962
Temperature: Water: 180 oC Air: 100 oC
Pool Depth: Surface Area:
at time of sampling: <u>16</u> cm at time of sampling: <u>2</u> m x <u>13</u> m <u>4</u> 26 Sg m
at time of sampling: <u>16</u> cm at time of sampling: <u>2 m x 13 m</u> <u>126</u> (Sg m estimated maximum: <u>25</u> cm estimated maximum: <u>3 m x 13 m</u> <u>439</u> Sg m
Habitat Condition: (circle where appropriate)
- undisturbed disturbed tire tracks garbage discing/plowing
- ungrazed grazed: cattle horses sheep other
light moderate heavy - land use of habitat: المتاد محمد المحمد
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l pH: Turbidity: (secchi disc depth)cm or: clear to bottom Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no
Conchostracans:	yes no
Copepods:	yes no
Ostracods	yes no
Fish	yes no
Frogs	yes no
Salamanders	yes no
Waterfowl	yes no
Other (specify)	

Insects: (adult or larvae)	5
Anisoptera:	yes no
Zygoptera:	yes no
Hydrophilidae:	yes no
Dytiscidae:	yes 🔟
Corixidae:	yes 🔟
Notonectidae:	yes 🔞
Belostomatidae:	yes no
Other (specify)	

31.57

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

E ghar

Species

Individuals

Accession/Catalog #

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Note: Please fill out the required in	formation cor	mpletely for each site	visit.	
This form is being submitted to serve as part of	f the 90-day r	eport: no 🗹	yes	
Required color slides and/or photographs for th	Required color slides and/or photographs for the project site are included: no yes			
Date: <u>021 Z01 Zal</u> Time: <u>1400</u> Coun	ty: Los A	ngelely Quad: Y	Mint Canyon	and the second designed to be a second designed as a second designed as a second designed as a second designed
Collector(s): THOMAS JUHASZ		,		
Site/Project Name: SANTA CLARITH				quale
Township: Range:	Section:	lat	long118.4	52182,
Temperature: Water://A oC Air:/C	20 oC		34.4	03767.
Pool Depth: Surface Area: Day				
at time of sampling: <u>//</u> cm at time of samp	ling: <u>JA</u>	_m x <u> </u>		
estimated maximum: <u></u> cm estimated max		a_mx_d/A_m		
Habitat Condition: (circle where appropriate)				
undisturbed disturbed: (tire tracks	garbage	discing/plowing		
- ungrazed grazed: cattle	horses light	sheep moderate	other	- J.
- land use of habitat:	light	moderate	heavy	
GRASS LINGT SWALE	in the			mail in age
(Optional) Water Chemistry Data				
Alkalinity (total):ppm or mg/l		y:uMHO		
Dissolved NH4:ppt or ppm		Dxygen:ppm (•	- 11
pH: Salinity :ppt or ppm		secchi disc depth) lved Solids (TDS):	cm or: clear to be ppm	ottom

Notes: Day. Soil Saturated But no inundation.

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no	Insects: (adult or larvae)		
Conchostracans:	yes 🔞	Anisoptera:	yes	0
Copepods:	yes no	Zygoptera:	yes	(TO)
Ostracods	yes no	Hydrophilidae:	yes	60
Fish	yes no	Dytiscidae:	yes	no
Frogs	yes no	Corixidae:	yes	00
Salamanders	yes no	Notonectidae:	yes	no
Waterfowl	yes no	Belostomatidae:	yes	no
Other (specify)		Other (specify)		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

2

 In the inferior sector sector is a sector sector.
Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no yes
Required color slides and/or photographs for the project site are included: no yes
Date: 03 106 12011 Time: 1400 County: Log Angeles Quad: Mint Compon
Collector(s):Permit #:
Site/Project Name: SANTA CLARITA VERNAL POR PROJECT Pool #: MAIN MATURAL VERNAL POST
Township: Range: Section: latlong1/8.493585, 34.405215
Temperature: Water:OC Air:OC
Pool Depth: Surface Area: Day
at time of sampling: <u>A</u> cm at time of sampling: <u>A</u> m x <u></u> m x
estimated maximum:A_m xA_m
Habitat Condition: (circle where appropriate)
- undisturbed disturbed: tire tracks garbage discing/plowing
- ungrazed grazed: cattle horses sheep other
- land use of habitat: MAIN NATURAL CLAY VERNAL PORT
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO
Dissolved NH4: ppt or ppm Dissolved Oxygen: ppm or mg/l

pH:_____ppt or ppm Salinity :_____ppt or ppm Dissolved Oxygen:_____ppm or mg/l Turbidity: (secchi disc depth)____cm or: clear to bottom _____ Total Dissolved Solids (TDS):_____ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

NA PRM

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no
Conchostracans:	yes no
Copepods:	yes no
Östracods	yes no
Fish	yes no
Frogs	yes no
Salamanders	yes no
Waterfowl	yes no
Other (specify)	

Insects: (adult or larvae)		
Anisoptera:	yes	no
Zygoptera:	yes	ng
Hydrophilidae:	yes	no
Dytiscidae:	yes	6
Corixidae:	yes	ho)
Notonectidae:	yes	no
Belostomatidae:	yes	no.
Other (specify)		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report; no yes
Required color slides and/or photographs for the project site are included: no yes
Date: 03 106 12011 Time: 1400 County: Los Angeles Quad: Mint Compose
Collector(s): THOMAS JUHASZ Permit #: 19 208507-0
Site/Project Name: SANTA CLARITA VERNAL POR POULOT POOL #: ROSD RUT 1
Township: Range: Section: latlong118-491013,34.40420
Temperature: Water: oC Air: oC
Pool Depth: Surface Area:
at time of sampling:cm at time of sampling: $6 \text{ m x} 2 \text{ m} 12 \text{ sg m}$ estimated maximum: $6 \text{ m x} 2^{\prime} \text{ m} 12 \text{ sg m}$
estimated maximum: <u>6</u> m x <u>2</u> m 12 g m
Habitat Condition: (circle where appropriate)
- undisturbed disturbed: tire tracks garbage discing/plowing - ungrazed grazed: cattle horses sheep other
- land use of habitat: UTTLITY ACCESS POAT
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l
pH: Turbidity: (secchi disc depth)cm or: clear to bottom Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

Notostracans: (note reproductive status) BRANCHINECTA LINDALHI (MATURE)

(Optional) Species Observations:

Cladocerans:	yes (no)	Insects: (a
Conchostracans:	yes no	Anisoptera
Copepods:	yes no	Zygoptera
Ostracods	yes no	Hydrophilid
Fish	yes no	Dytiscidae
Frogs	yes no	Corixidae:
Salamanders	yes no	Notonectio
Waterfowl	yes (no)	Belostoma
Other (specify)		Other (spe

 $\mathcal{L}_{\mathcal{L}}$

nsects: (adult or larvae)	
Anisoptera:	yes no
Zygoptera:	yes no
-lydrophilidae:	yes no
Dytiscidae:	yes no
Corixidae:	yes no
Notonectidae:	yes no
Belostomatidae:	yes no
Other (specify)	\cup

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Note: Please fill out the required infor	rmation completely for each site visit.
This form is being submitted to serve as part of th	ne 90-day report: no 📝 yes
Required color slides and/or photographs for the	project site are included: no yes
Date: <u>03 106 12011</u> Time: <u>1400</u> County:	Los Angeley Quad: Mint Comyon
	Permit #: <u>TE 208907</u> -0
Site/Project Name: SANTA Clavita Ver	RUAL Rol Project Pool #: RAD RUN 2
Township: Range: See	ection:latlong118.490928, 34.404962
Temperature: Water:oC Air:3	oC
Pool Depth: Surface Area:	
at time of sampling:cm at time of sampling	g: <u>9 mx 2 m 18 sgm</u>
estimated maximum: 20_cm estimated maxim	g: <u>9 mx 2 m</u> 18 sg m num: <u>10 mx 3 m</u> 30 sg m
Habitat Condition: (circle where appropriate)	
- ungrazed grazed: cattle	garbage discing/plowing horses sheep other light moderate heavy
- land use of habitat: UTILITY ACCESS ZOAD.	
(Optional) Water Chemistry Data	
Dissolved NH4:ppt or ppm E pH:	Conductivity:uMHO Dissolved Oxygen:ppm or mg/l Turbidity: (secchi disc depth)cm or: clear to bottom Total Dissolved Solids (TDS):ppm
Notes:	

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Anostracans: (note reproductive status)

Notostracans: (note reproductive status) BRANCHINS CTA SP (IMMATURE)

(Optional) Species Observations:

Cladocerans:	yes no	-Ro ^{+A} - 6 22	Insects: (adult or larvae)	~
Conchostracans:	yes no		Anisoptera:	yes (no)
Copepods:	yes no		Zygoptera:	yes no
Ostracods	yes no	a since the	Hydrophilidae:	yes 向
Fish	yes no	** · · ·	Dytiscidae:	yes 👩
Frogs	yes no		Corixidae:	yes 🔞
Salamanders	yes no	0	Notonectidae:	yes 向
Waterfowl	yes no		Belostomatidae:	yes no
Other (specify)	<u> </u>		Other (specify)	\sim

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: noyes
Required color slides and/or photographs for the project site are included: noyes
Date: 03 10612011 Time: 1900 County: Los Angeleg Quad: MINT CANYON
Collector(s):
Site/Project Name: SANTA CLARITA VENENAL POR PROPERTY Pool #: GRASS LINEY SUMLE
Township: Range: Section: latlong.
Temperature: Water: oC Air: oC
Pool Depth: Surface Area: Dey
at time of sampling:m xm
estimated maximum: <u>MA</u> cm estimated maximum: <u>MA</u> m x <u>J/A</u> m
Habitat Condition: (circle where appropriate)
- undisturbed disturbed: tire tracks garbage discing/plowing
- ungrazed grazed: cattle horses sheep other
- land use of habitat: GRASS LIDED SWALE
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO Dissolved NH4:ppt or ppmDissolved Oxygentppm or mg/l
yganphilot ing/
Alkalinity (total):ppm or mg/l Conductivity:uMHO Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l

Salinity :_____ppt or ppm

Total Dissolved Solids (TDS):____ ____ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

NAOR

Notostracans: (note reproductive status)

í.

(Optional) Species Observations:

1.0 200

Cladocerans:	yes	no	
Conchostracans:	yes	10	
Copepods:	yes	90	
Ostracods	yes	no	
Fish	yes	10	
Frogs	yes	no	
Salamanders	yes	no	
Waterfowl	yes	no	
Other (specify)		~~~	

insects: (adult or larvae)	1.2	
Anisoptera:	yes	0)
Zygoptera:	yes	10
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	ho
Notonectidae:	yes	(10)
Belostomatidae:	yes	10
Other (specify)	· · · · ·	

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Individuals Accession/Catalog # **Species** Pool

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Note: Please fill out the required information completely for each site visit.
This form is being submitted to some so part of the 00 days must be
This form is being submitted to serve as part of the 90-day report: no yes
Required color slides and/or photographs for the project site are included: no yes
Date: 03/20/20/Time: 1400 County: 105 angelely Quad: MINT CANYON
Collector(s):Permit #:
Site/Project Name: SANTA CLARTTA VERNAL POR PROTOPOOL #: MAIN NATURAL VERNE POOL
Township: Range: Section: lat long118. 493585, 34.405 213
Temperature: Water: 49° oC Air: 49° oC RAINING, GUSTS of WIND
Pool Depth: Surface Area:
at time of sampling: <u>8</u> cm at time of sampling: <u>3</u> m x <u>1.5</u> m <u>4.5</u> SGm
estimated maximum:m xm 6 sg m
Habitat Condition: (circle where appropriate)
-undisturbed disturbed: tire tracks garbage discing/plowing
ungrazed grazed: cattle horses sheep other
light moderate heavy
- land use of habitat: CLAY BASED MATURAL VERNAL POSL
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO
Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l
pH: cm or: clear to bottom
Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm
Notes: FRESHLY WANDATED FROM PRECIPITATION ON THE FAST 3 DAYS.

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no	Insects: (adult or larvae)	
Conchostracans:	yes no	Anisoptera:	yes fo
Copepods:	yes no	Zygoptera:	yes no
Ostracods	yes no	Hydrophilidae:	yes no
Fish	yes no	Dytiscidae:	yes no
Frogs	yes no	Corixidae:	yes no
Salamanders	yes no	Notonectidae:	yes no
Waterfowl	yes no	Belostomatidae:	yes no
Other (specify)		Other (specify)	

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Species

Individuals

Accession/Catalog #

Pool #

Note: Please fill out the required inf	nformation completely for each site visit.
This form is being submitted to serve as part of	of the 90-day report: noY yes
Required color slides and/or photographs for the	he project site are included: no yes
Date: 03 1 20 1 2011 Time: 1400 Count	nty: wy nefeling Quad: MINT CANYON
Collector(s):	Permit #: <u>FE 208907-0</u>
Site/Project Name: SANTA CLARTA VI	IERMAL POR PROJECT Pool #: POAD RAT 1
Township: Range: S	Section: latlong. ~118.491013, 34.404209
Temperature: Water: oC Air:9	<u>7°</u> oC
Pool Depth: Surface Area:	
at time of sampling: _//cm at time of sampli	oling: <u>2</u> m x <u>10</u> m 20 58 m
estimated maximum: <u>17</u> cm estimated maxi	ximum: <u>3</u> m x <u>10</u> m 30 sg m
Habitat Condition: (circle where appropriate)	enconvert 1
- undisturbed disturbed ure tracks - ungrazed grazed: cattle	garbage discing/plowing horses sheep other
- land use of habitat: UTTLITY Acces	light moderate heavy
(Optional) Water Chemistry Data	
Alkalinity (total):ppm or mg/l Dissolved NH4:ppt or ppm pH: Salinity :ppt or ppm	Conductivity:uMHO Dissolved Oxygen:ppm or mg/l Turbidity: (secchi disc depth)cm or: clear to bottom Total Dissolved Solids (TDS):ppm
Notes: RCINUMDATED FROM	previong percion.

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes (ng	Insects: (adult or larvae)
Conchostracans:	yes no	Anisoptera:
Copepods:	yes ng	Zygoptera:
Ostracods	yes no	Hydrophilidae:
Fish	yes no	Dytiscidae:
Frogs	yes no	Corixidae:
Salamanders	yes no	Notonectidae:
Waterfowl	yes ng	Belostomatidae:
Other (specify)		Other (specify)

303

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

yes (no)

yes

yes

yes yes

yes (no no

yes

no

no no

no

Pool #

Note: Please fill out the required inf	ormation com	pletely for each site v	visit.	
This form is being submitted to serve as part of	the 90-day re	port:no/ ye	es	
Required color slides and/or photographs for the	e project site	are included: no	yes	
Date: 03 1 20 1 2011 Time: 1400 Count	: Log MA	eley_Quad: M	UNT CANYON	
Collector(s): THOMAS TUHASZ	V		1	
Site/Project Name: Sawra CLARITA				
Township: Range: s				
Temperature: Water: 79 oC Air: -9				
Pool Depth: Surface Area:				
at time of sampling: <u>/4</u> cm at time of sampli	ng: <u>2</u> r	mx <u>8</u> m 16	sg m	
estimated maximum: <u>15</u> cm estimated maxi				
Habitat Condition: (circle where appropriate)				
- undisturbed disturbed: tire tracks	garbage	discing/plowing		e e
- ungrazed grazed: cattle	horses light	sheep moderate	other heavy	
- land use of habitat: UTILITY ACCCS	ROAD	moderate	neavy	(x)-
· / /				
(Optional) Water Chemistry Data				
Alkalinity (total):ppm or mg/l		uMHO		
Dissolved NH4:ppt or ppm pH:		xygen:ppm or		
Salinity :ppt or ppm	Total Dissolv	ecchi disc depth) ved Solids (TDS):	on or, clear to bo	

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's) 100's, 1000's)

Anostracans: (note reproductive status) BRANCHINECTA LINDALHI (MATURE

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans	yes no	Insects: (adult or larvae)	
Conchostracans:	yes no	Anisoptera:	yes 👧
Copepods:	yes no	Zygoptera:	yes 🕠
Ostracods	yes no	Hydrophilidae:	yes 🝈
Fish	yes no	Dytiscidae:	yes no
Frogs	yes no	Corixidae:	yes no
Salamanders	yes no	Notonectidae:	yes no
Waterfowl	yes no	Belostomatidae:	yes no
Other (specify)	<u> </u>	Other (specify)	

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Species # Individuals Accession/Catalog # Pool #

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no yes
Required color slides and/or photographs for the project site are included: no yes
Date: 03 120 13011 Time: 1400 County: Los Angeley Quad: MINT CANYON
Collector(s): THOMAS JUHAST Permit #: 18 208907-0
Site/Project Name: SALEMA CLARINA 18600 Por Mageor Pool #: CRASS UNED SWAR
Township: Range: Section:latlong118. 492182, 34.403765
Temperature: Water:
Pool Depth: Surface Area: N/A Dry
at time of sampling:/A_m x//A_m
estimated maximum:Am xAm
Habitat Condition: (circle where appropriate)
- undisturbed disturbed: tire tracks garbage discing/plowing
- ungrazed grazed: cattle horses sheep other
- land use of habitat: Grass units Surver - Has ust INNOSTUD
- TOWNDITED
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO
Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l
pH: cm or: clear to bottom
Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

NHA DRY.

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no
Conchostracans:	yes no
Copepods:	yes 🔟
Ostracods	yes no
Fish	yes be
Frogs	yes no
Salamanders	yes no
Waterfowl	yes 😡
Other (specify)	

Insects: (adult or larvae)		
Anisoptera:	yes	ne
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	19
Corixidae:	yes	00
Notonectidae:	yes	he
Belostomatidae:	yes	ho
Other (specify)		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species # Individuals Accession/Catalog # Pool #

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no $$ yes
Required color slides and/or photographs for the project site are included: no/ yes
Date: 04 103 12011 Time: 1400 County: Log Angeley Quad: MINT CANYON
Collector(s):
Site/Project Name: And CLARITA VERNAL ProL PROJECT Pool #: MAN MARIAR VERNAL POOL
Township: Range: Section: lat long//8.993585-34.4052/5
Temperature: Water: _20° oc Air: 21° oc Overcost, chuce of showers
Pool Depth: Surface Area:
at time of sampling: <u>42</u> cm at time of sampling: <u>41</u> m x <u>6</u> m 246 Sg m
estimated maximum: <u>50</u> cm estimated maximum: <u>43</u> m x <u>85</u> m 344 Sg m
Habitat Condition: (circle where appropriate)
- undisturbed disturbed: tire tracks garbage discing/plowing - ungrazed grazed: cattle horses sheep other light moderate heavy
- land use of habitat: NAMMERL CLAY VERDAL POOL

(Optional) Water Chemistry Data

Alkalinity (total):_____ppm or mg/l Dissolved NH4:____ppt or ppm pH:_____ Salinity :_____ppt or ppm

Conductivity:_____uMHO Dissolved Oxygen:_____ppm or mg/l Turbidity: (secchi disc depth)____cm or: clear to bottom ____ Total Dissolved Solids (TDS):____ppm

cone the

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none_or_estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, (1000's)

Anostracans: (note reproductive status) Boom chinecta op. MATNER TO BE ID.

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	(00)
Copepods:	yes	O
Ostracods	yes	50
Fish	yes (60
Frogs	(yes)	no
Salamanders	yes	00
Waterfowl	yes (m
Other (specify)		~

Insects: (adult or larvae) Anisoptera: yes no Zygoptera: yes no Hydrophilidae: yes no no Dytiscidae: yes Corixidae: yes (no Notonectidae: no yes Belostomatidae: yes no Other (specify)

Hommonipil

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Species # Individuals BRANCHINECTA LYNCHI/ A. VENENAL POEL FAIRY SHENMP.

Accession/Catalog #

Pool #

LA NATURAL HISTORY MUSERM MAIN NATURAL VERMAL POOL

Note: Please fill out the required info	ormation completely for each site visit.
This form is being submitted to serve as part of	the 90-day report: no⁄ yes
Required color slides and/or photographs for the	e project site are included: noyes
Date: 04 1 03 1 2011 Time: 14:30 County	: LOG ANGENER Quad: MINT CANYON
	Permit #: 208907-0
And there a	VERMAL POOL HUPPPOOL #: ROAT PRUT ONE
	ection:latlong. -118.491013, 34.404209
Temperature: Water: <u>J/A</u> oC Air: <u>22</u>	oC -118.471013, 34.404209
Pool Depth: Surface Area:	
at time of sampling:cm at time of sampli	ng: <u>// m x N/A</u> m
estimated maximum: <u>////A</u> cm estimated maxi	mum: <u>N/A</u> mx <u>N/A</u> m
Habitat Condition: (circle where appropriate)	
- undisturbed ungrazed grazed: tire tracks grazed: cattle	garbage discing/plowing horses sheep other light moderate heavy
(Optional) Water Chemistry Data	
Alkalinity (total):ppm or mg/l Dissolved NH4:ppt or ppm pH:	Conductivity:uMHO Dissolved Oxygen:ppm or mg/l Turbidity: (secchi disc depth)cm or: clear to bottom _

Salinity :___ ____ppt or ppm Total Dissolved Solids (TDS):____ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	fio
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	ho
Frogs	yes	no /
Salamanders	yes	no /
Waterfowl	yes	np/
Other (specify)		V

Insects: (adult or larvae)	00
Anisoptera:	yes	no
Zygoptera;	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	nø
Other (specify)		V

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species # Individuals Accession/Catalog # Pool #

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Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no yes
Required color slides and/or photographs for the project site are included: noyes
Date: 04 103 12011 Time: 14:30 County: Log Americaly Quad: MINT Conjon
Collector(s): <u>THOMAG JUHAG</u> Permit #: <u>T2 208907-0</u>
Site/Project Name: SANTA CLARITA UGRANAL PORL PROJECT Pool #: 2000 PMT 2
Township:
remperature: water: oC Air: oC
Pool Depth: Surface Area:
at time of sampling: 3_cm at time of sampling: 5_m x 1_m 5 58 M.
estimated maximum:m xm 556 m
Habitat Condition: (circle where appropriate)
- undisturbed disturbed tire tracks garbage discing/plowing - ungrazed grazed: cattle horses sheep other light moderate heavy
- land use of habitat: UTILITY ACCEST ROAD
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/l Conductivity:uMHO Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l pH: Turbidity: (secchi disc depth)cm or: clear to bottom Salinity :ppt or ppm Total Dissolved Solids (TDS):ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's) 100's, 1000's)

Anostracans: (note reproductive status) BRANGHINE COTA LIND A2HI (MATURE)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes (no)
Conchostracans:	yes no
Copepods:	yes no
Ostracods	yes 😡
Fish	yes no
Frogs	yes no
Salamanders	yes (no)
Waterfowl	yes no
Other (specify)	\sim

Insects: (adult or larvae)
Anisoptera:
Zygoptera:
Hydrophilidae:
Dytiscidae:
Corixidae:
Notonectidae:
Belostomatidae:
Other (specify)

yes (nd) yes (no yes (no) yes no yes no yes no yes no

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Species # Individuals Accession/Catalog # Pool # 1. .

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Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: noyes
Required color slides and/or photographs for the project site are included: noyes
Date: 041071 201/Time: 14:30 County: 63 Angelag Quad: MINT Compose
Collector(s): THOMAS JUHAS2 Permit #: 12 208307-0
Site/Project Name: SANTA CLARITA VERME POT project Pool #67859 UNED SWALL
Township: Range: Section: lat. long.
Temperature: Water:
Pool Depth: Surface Area: Dm
at time of sampling: <u>MA</u> cm at time of sampling: <u>JA</u> m x <u>MA</u> m
estimated maximum: <u>N/A</u> cm estimated maximum: <u>N/A</u> m x <u>N/A</u> m
Habitat Condition: (circle where appropriate)
undisturbed disturbed: tire tracks garbage discing/plowing
- ungrazed grazed: cattle horses sheep other light moderate heavy
- land use of habitat: Grang UNCD Swarz,
*

(Optional) Water Chemistry Data

Alkalinity (total):ppm or mg/l	Conductivity:uMHO
Dissolved NH4:ppt or ppm	Dissolved Oxygen:ppm or mg/l
рН:	Turbidity: (secchi disc depth)cm or: clear to bottom
Salinity :ppt or ppm	Total Dissolved Solids (TDS):ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

NA DAY

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	(no)		
Conchostracans:	yes	00		
Copepods:	yes	no		
Ostracods	yes	6		
Fish	yes	10		
Frogs	yes	no		
Salamanders	yes	no		
Waterfowl	yes	(10)		
Other (specify)		<u> </u>	-	

nsects: (adult or larvae	e)	
Anisoptera:	yes	(10)
Zygoptera:	yes	pog
-lydrophilidae:	yes	mos
Dytiscidae:	yes	PO)
Corixidae:	yes	nor
Notonectidae:	yes	THE
3elostomatidae:	yes	3
Other (specify)	8 N. 19	

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Species	# Individuals	Accession/Catalog # Pool #
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		a na h

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restriction of the contract manufacture of the sector of t

Note: Please fill out the required information completely for each site visit.
This form is being submitted to serve as part of the 90-day report: no/ yes
Required color slides and/or photographs for the project site are included: no $\underline{1}$ yes
Date: 04/17/2011 Time: 1400 County: 055 Angelog Quad: mist chyon
Collector(s): THOMAS JUHASZ Permit #: TE 208907-0
Site/Project Name: Storm CLARITA VERMAL ROL MAL Pool #: GRAGE Lined SWALE
Township: Range: Section: latlong118.492182, 34
Temperature: Water: oC Air: oC
Pool Depth: Surface Area:
at time of sampling:k cm at time of sampling:k m xk m
estimated maximum: <u></u> cm estimated maximum: <u></u> m x <u></u> m
Habitat Condition: (circle where appropriate)
undisturbed disturbed: tire tracks garbage discing/plowing
-ungrazed grazed: cattle horses sheep other
light moderate heavy
- land use of habitat: GRASS LINES Depression
·
(Optional) Water Chemistry Data
Alkalinity (total):ppm or mg/I Conductivity:uMHO
Dissolved NH4:ppt or ppm Dissolved Oxygen:ppm or mg/l

pH:_____ Salinity :_____ppt or ppm Dissolved Oxygen:____ppm or mg/l Turbidity: (secchi disc depth)____cm or: clear to bottom _____ Total Dissolved Solids (TDS):____ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

N/A DRY

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Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes no	Insects: (adult or larvae)	12 12
Conchostracans:	yes no	Anisoptera:	yes no
Copepods:	yes no	Zygoptera:	yes no
Ostracods	yes no	Hydrophilidae:	yes no
Fish	yes no	Dytiscidae:	yes no
Frogs	yes no	Corixidae:	yes no
Salamanders	yes no	Notonectidae:	yes no
Waterfowl	yes no	Belostomatidae:	yes (no)
Other (specify)		Other (specify)	\bigcirc

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

<u># Individuals</u>

Accession/Catalog #

Pool #

Note: Please fill out the required info	ormation com	pletely for each site	visit.
This form is being submitted to serve as part of	the 90-day re	port: noy	/es
Required color slides and/or photographs for the	e project site a	are included: n	o_vyes
Date: 04/17/1/ Time: 400 County			
Collector(s): THOMAY JUHASZ			
Site/Project Name: SANTA CLARENTA			
Township: Range: S	ection:	lat	long.
Temperature: Water: oC Air:2	1° oC	-118. 49092	8, 94.404962
Pool Depth: Surface Area:			
at time of sampling:cm at time of sampli	ng:r	n x <u>N/A</u> m	
estimated maximum: <u>///</u> cm estimated maxi	an an Spans	an negative weather a	ann Saddin Saddin - Saddin - Sa
Habitat Condition: (circle where appropriate)	1. Sectors	lit.	Pilens .
- undisturbed - ungrazed grazed: cattle	garbage horses light	discing/plowing sheep moderate	other
- land use of habitat:	ngnt	moderate	heavy
UTILITY ACCORS ROAT			
(Optional) Water Chemistry Data			
Alkalinity (total):ppm or mg/l Dissolved NH4:ppt or ppm pH:	Dissolved O:	:uMHO xygen:ppm oi ecchi disc depth)	r mg/l cm or: clear to bottom

Salinity :____ppt or ppm

Total Dissolved Solids (TDS):_____ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

NIA DA

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	(no)
Fish	yes	Ind
Frogs	yes	10
Salamanders	yes	no
Waterfowl	yes	10)
Other (specify)		U

m	
yes no	
yes (10)	
yes 😡	
yes (no)	
yes oo	
yes no	
yes no	
	yes to yes no yes no yes no yes no

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species	<u># Individuals</u>	Accession/Catalog #	Pool #
		Support of Secondary High Stitute allow Gerste proceeding	
		Kafelia - manintera 🥌 🐔	
			1

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APPENDIX E SITE PHOTOGRAPHS



04_30_2010 **Main Natural Vernal Pool**: View of pool from the center of the dried vernal pool to the east.



04_30_2010 **Main Natural Vernal Pool**: View of vernal pool flora wooly marbles (*Psilocarphus brevissimus*), toad rush (*Juncus bufonius*), and *Navarretia* sp.



04_03_2011 Main Natural Vernal Pool: View of inundated pool to the northwest.



04_03_2011 **Main Natural Vernal Pool:** View from the center of inundated pool to the west. Emergent rush (*Juncus* sp.) is in the foreground.



04_03_2011 **Main Natural Vernal Pool**: View from eastern edge of the vernal pool to the west.



04_03_2011 Main Natural Vernal Pool: View of mature *Branchinecta* sampled from the inundated pool.



03_06_2011 $Road \ Rut \ 1:$ View of inundated pool within the utility access road to the south



03_06_2011 **Road Rut 2**: View of inundated feature within utility access road to the north. .



04_03_2011 **Grass Lined Depression**: View south of grass lined swale. Dominant grass is soft brome (*Bromus hordaceous*).



03_06_2011 **Grass Lined Swale**: View of inundated feature to the north.