



September 29, 2015

Ms. Stacey Love
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

RE: FOCUSED, PROTOCOL-LEVEL WET SEASON FAIRY SHRIMP SURVEY SUMMARY REPORT FOR THE LA MEDIA ROAD IMPROVEMENTS PROJECT, CITY OF SAN DIEGO, SAN DIEGO COUNTY, CALIFORNIA

Ms. Love:

This letter report summarizes the results of the 2014/2015 focused, protocol-level wet season fairy shrimp surveys conducted by Busby Biological Services, Inc. (BBS) for Rick Engineering Company (Rick Engineering) on behalf of the City of San Diego (City) for the proposed La Media Road Improvements Project (project), located in Otay Mesa, City of San Diego, San Diego County, California (Attachment 1: Figures 1, 2, and 3). The approximately 39.64-acre project site, which is composed of the project footprint and a 100-foot buffer, is located along La Media Road, between State Route (SR) 905 and Siempre Viva Road, and along portions of Airway Road and Siempre Viva Road where they intersect La Media Road. The project is located within the U.S. Geological Survey (USGS) Otay Mesa quadrangle 7.5-Minute Topographic Map (USGS 1955; Attachment 1: Figures 2 and 3). A portion of the proposed project, including the unnamed drainage and the land immediately adjacent to the drainage southwest of the intersection of La Media Road and Airway Road, is located within the City's Multi-Habitat Planning Area (MHPA) boundary of the Multiple Species Conservation Program (MSCP) Subarea Plan (SAP). In addition, several parcels of land west of La Media Road between the La Media Road/SR-905 off ramp and Siempre Viva Road are included in the Preliminary Draft City of San Diego Vernal Pool Habitat Conservation Plan (VPHCP; City 2015).

The following report provides a summary of the proposed project description and background, a brief description of the fairy shrimp species that have a potential to occur within the vicinity of the proposed project, the survey methods, and the results of the 2014/2015 focused wet season fairy shrimp surveys.

1.0 PROPOSED PROJECT DESCRIPTION AND BACKGROUND

The proposed project site runs north-south along La Media Road for approximately 3,700 feet, east-west along Airway Road for approximately 1,000 feet, and east-west along Siempre Viva Road for approximately 700 feet. The portion of La Media Road within the proposed project site is part of the Otay Mesa Southbound Truck Route, which is heavily used by both commercial and private vehicles to access the United States/Mexico border crossing. All commercial trucks entering Mexico are required to enter via La Media Road south of the proposed project site. The

City plans to improve the road, including widening, to provide better access, to increase the capacity of vehicles accessing the border crossing, and to address significant flooding issues which sometimes make La Media Road and Airway Road impassible.

The proposed project site is dominated by existing paved roads (i.e., La Media Road, Airway Road, Siempre Viva Road) surrounded by a combination of commercial and industrial development and undeveloped, open fields. Vegetation communities within the open fields consist of grassland, disturbed land, and an unnamed drainage supporting relatively undisturbed fresh emergent wetland and riparian habitats. The proposed project is situated at an elevation of approximately 470 feet above mean sea level (amsl) and contains relatively flat topography with the exception of historical mima mounds southwest of the intersection of Airway Road and La Media Road. The proposed project site shows signs of human disturbance including off-road vehicle activity and illegal dumping. Two soil types occur within the proposed project site, including Huerhuero loam, 2 to 9 percent slopes, which dominates the majority of the proposed project, and Stockpen gravelly clay loam, 2 to 5 percent slopes, which occurs in the extreme northwestern portion of the project (USDA NRCS 2015).

A portion of the proposed project, including the unnamed drainage and the land immediately adjacent to the drainage southwest of the intersection of La Media Road and Airway Road, is located within the City's MHPA boundary. In addition, the parcels of land (i.e., Empire Center, La Media Swale North) west of La Media Road between the La Media Road/SR-905 off ramp and Siempre Viva Road contain vernal pools that are included in the Preliminary Draft City VPHCP (City 2015). The VPHCP is anticipated to expand the City's existing MHPA boundary to conserve additional lands with vernal pools and vernal pool species that do not currently have federal coverage under the City's MSCP SAP. The VPHCP proposes to cover vernal pools and seven threatened and endangered species, including Otay Mesa mint (*Pogogyne nudiuscula*), San Diego Mesa mint (*Pogogyne abramsii*), spreading navarretia (*Navarretia fossalis*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), California Orcutt grass (*Orcuttia californica*), Riverside fairy shrimp (*Streptocephalus woottoni*), and San Diego fairy shrimp (*Branchinecta sandiegonensis*).

The proposed project site is located in a busy commercial and industrial area that is subject to a high frequency and volume of activity associated with these uses. In particular, construction projects; sewer and road maintenance and upgrades; and various forms of commercial, industrial, and private vehicular traffic are the types of activities that appear to have the highest frequency and volume of use within the proposed project site. Because of the high frequency and volume of activity within and immediately adjacent to the roads within the proposed project site, the conditions within the proposed project site are highly disturbed and constantly changing, creating a dynamic environment for potential fairy shrimp habitat. For example, because the majority of the basins/features surveyed for fairy shrimp within the proposed project site occur within urban areas (e.g., road sides, dirt lots, driveways) that are frequently disturbed by vehicle traffic (e.g., cars, construction equipment, maintenance vehicles, other commercial, industrial, private vehicles), the elimination of basins/features, formation of new basins/features, and/or reconfiguration of existing basins/features occurs frequently. Changes to the basins/features are particularly pronounced following rain events during the wet season since the substrate supporting these basins/features is more prone to disturbance when saturated. With these unpredictable influences, the proposed project site has the potential to change unexpectedly, both from a short-term perspective, as described above, and from a long-term perspective (i.e., from season to season).

2.0 FAIRY SHRIMP NATURAL HISTORY

The proposed project site contains habitat that has the potential to support fairy shrimp; therefore, focused fairy shrimp surveys are required. In addition to the common, non-sensitive versatile fairy shrimp (*Branchinecta lindahl*), two federally listed fairy shrimp species have a potential to occur within the vicinity of the proposed project site, including San Diego fairy shrimp and Riverside fairy shrimp.

The San Diego fairy shrimp was federally listed as endangered in February 1997 (USFWS 1997). On December 12, 2007, U.S. Fish and Wildlife Service (USFWS) published a Final Rule revising the critical habitat for the San Diego fairy shrimp that became effective on January 11, 2008 (USFWS 2007). This revised Final Rule designated critical habitat for the San Diego fairy shrimp to include approximately 3,082 acres of habitat in five units, with a total of 29 subunits throughout Orange and San Diego counties, California. No critical habitat for San Diego fairy shrimp occurs within the proposed project site in the revised Final Rule.

The Riverside fairy shrimp was federally listed as endangered in August 1993 (USFWS 1993). On December 4, 2012, USFWS published a Final Rule revising the critical habitat for the Riverside fairy shrimp that became effective on January 3, 2013 (USFWS 2012). The previous critical habitat consisted of land in four units in Ventura, Orange, and San Diego counties, California. The revised critical habitat now includes land in three units in Ventura, Orange, and San Diego counties, California, for a total of approximately 1,724 acres. No critical habitat for Riverside fairy shrimp occurs within the proposed project site in both the original Final Rule and revised Final Rule.

3.0 SURVEY METHODS

The focused 2014/2015 wet season fairy shrimp surveys were conducted in accordance with the USFWS survey protocol, titled *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* and dated April 19, 1996. The detailed methods for the basin/feature identification, numbering, and sampling are discussed below.

Following the first substantial rain of the 2014/2015 rainy season, BBS initiated the first protocol-level wet season survey along the entire proposed project alignment. During the first sampling visit, BBS recorded the location of each sampled basin/feature using a hand held Global Positioning System (GPS) unit and by hand onto aerial field maps of the proposed project survey area. In addition, BBS assessed the entire proposed project site during each of the first several visits to locate newly inundated basins/features that required sampling.

The basins/features were numbered using a number. In areas where additional basins/features were identified within the vicinity of a previously-labeled basin/feature or if a previously numbered basin/feature separated into multiple basins/features upon drying, letter suffixes (e.g., a, b, c) were assigned to each separate basin/feature so that the data for each individual basin/feature could be collected and presented separately for the 2014/2015 wet season surveys.

During each survey, BBS biologists recorded information about each basin/feature, such as estimated and actual maximum depth, length, and width; air and water temperature; habitat condition; disturbance level; and disturbance type. The maximum dimensions of each

basin/feature were estimated during the first sampling of that basin/feature, based on the observed conditions onsite. The dimensions, air temperature, and water temperature of each inundated basin/feature were measured and recorded during each successive sampling visit.

Using the classification provided in the USFWS survey protocol and classifications that BBS created because some of the classifications in the USFWS protocol did not adequately described the basins/features within the proposed project site, the habitat condition and disturbance type, amount, and level for each basin/feature was recorded. BBS classified each basin/feature as a road rut, a roadside ditch, a manmade depression/ditch, or a natural depression/ditch. A basin/feature was classified as a road rut if it was a depression caused by vehicular activity along a road way or in a high traffic area with a dirt substrate. A basin/feature was classified as a roadside ditch if it was a depression, usually linear, adjacent to an earthen berm that ponded because the area had been graded or contoured, and the basin/feature was not caused by vehicular activity. A basin/feature was classified as a manmade depression/ditch if it was not immediately adjacent to a roadway and if it ponded because of grading, contouring, or other human activity but was not caused by vehicular traffic. A basin/feature was classified as a natural depression/ditch if it appeared not to have been artificially formed and was associated with a mima mound complex or natural drainage.

BBS sampled each inundated basin/feature by sweeping a hand-held net through the water and examining the net contents. For each basin/feature that was surveyed, BBS recorded the basin/feature number, survey date, and air temperature, as well as the maximum depth, width, and length of the basin/feature at the time of that sampling event. BBS also recorded the aquatic species observed in each basin/feature. For fairy shrimp observed, BBS noted the reproductive status and approximate numbers of fairy shrimp in each basin/feature and, when possible, identified which species were present.

4.0 RESULTS AND DISCUSSION

This section provides a summary of the sampling effort, including the survey schedule (Table 1) and the basin/feature sampling results. Focused, protocol-level 2014/2015 wet season surveys were conducted by USFWS-permitted biologists Darin Busby (TE-115373-3), Brian Lohstroh (TE-063608-5), and Travis Cooper (TE-170389-5), and assisted by Laurie Gorman. On March 20, 2015, Laurie Gorman was authorized by USFWS to independently conduct protocol-level fairy shrimp surveys under the permit of Darin Busby; therefore, Ms. Gorman conducted five surveys independently in March, April, May, and June. Table 1 provides a summary of survey type, survey dates, surveyors, and assistants.

Table 1: Survey Type, Date, and Surveyors

Survey Type	Date	Permitted Surveyor	Assistant
Protocol Survey	12/18/14	D. Busby	L. Gorman
Protocol Survey	12/19/14	B. Lohstroh	L. Gorman
Protocol Survey	12/31/14	B. Lohstroh	L. Gorman
Protocol Survey	1/03/15	D. Busby	L. Gorman
Protocol Survey	1/15/15	D. Busby	L. Gorman
Protocol Survey	1/16/15	D. Busby	L. Gorman
Protocol Survey	1/30/15	D. Busby	L. Gorman
Protocol Survey	2/05/15	D. Busby	L. Gorman

Protocol Survey	2/12/15	D. Busby	--
Basin Check	2/19/15	D. Busby	--
Protocol Survey	2/26/15	D. Busby	L. Gorman
Protocol Survey	3/02/15	B. Lohstroh	L. Gorman
Protocol Survey	3/10/15	B. Lohstroh	L. Gorman
Protocol Survey	3/17/15	B. Lohstroh	L. Gorman
Protocol Survey	3/25/15	B. Lohstroh	--
Protocol Survey	3/30/15	L. Gorman	--
Protocol Survey	4/08/15	L. Gorman	--
Protocol Survey	4/15/15	L. Gorman	--
Protocol Survey	4/20/15	L. Gorman	--
Protocol Survey	5/13/15	L. Gorman/T. Cooper	--
Protocol Survey	5/20/15	D. Busby	--
Protocol Survey	5/28/15	D. Busby	--
Protocol Survey	6/03/15	L. Gorman	--

4.1 Survey Schedule

BBS monitored the rain events for the 2014/2015 rainy season using rainfall data from the National Oceanic and Atmospheric Administration (NOAA 2015) to determine when to initiate surveys and to determine an appropriate sampling schedule. The first significant rain event in the region during the 2014/2015 season occurred between December 1 and 4, 2014, when approximately 1 inch of rain fell. Therefore, BBS initiated the first protocol-level wet season surveys within the entire proposed project site on December 18 and 19, 2014, within approximately 2 weeks after this rain event. The first few surveys included a thorough survey of the entire proposed project to identify all inundated basins/features. In addition, BBS assessed the entire proposed project site during each of the first several visits to locate newly inundated basins/features that required sampling, as the ground became increasingly saturated.

A total of approximately 3 inches of rain fell during December 2014. During and following this period, BBS conducted surveys within the proposed project site approximately every 2 weeks in December 2014 and January 2015.

The region experienced dry and warm weather conditions in January and February 2015, when approximately 0.33 inch of rain fell during each of these months. A 2-day rain occurred during the first 2 days of March 2015, totaling approximately 1.5 inches, but the region received no more rain in March. Warm dry conditions continued through April 2015, when approximately 0.25 inch fell. As the basins/features began to inundate and dry at different frequencies from fewer rain events resulting in less rainfall, BBS surveyed all or portions of the proposed project site approximately every 1 to 2 weeks between February and April 2015 to satisfy survey protocol guidelines.

An increase in rainfall occurred in the region in May 2015, when approximately 1.25 inches of rain fell. In response to this rain, BBS surveyed all or portions of the proposed project site approximately every week during May 2015.

With only 0.01 inch of rainfall in June 2015 and increasingly warm temperatures, the 2014/2015 wet season fairy shrimp surveys were officially discontinued. BBS conducted the final two surveys within the proposed project on May 28 and June 3, 2015.

4.2 Survey Results & Discussion

BBS sampled a total of 89 features within the proposed project site during the 2014/2015 wet season fairy shrimp survey. Following the first substantial rain of the 2014/2015 rainy season between December 1 and 4, 2014, BBS initiated the first protocol-level wet season survey along the entire proposed project site on December 18, 2014. During this first survey, BBS sampled 88 features. Soon after the first protocol-level survey was conducted and before the second protocol-level survey was initiated, the proposed project site boundary was reduced, resulting in a reduced survey area. The reduction in survey area resulted in an exclusion of 15 basins that were sampled during the first protocol-level survey, including Basins 27 through 38, 45, and 50, and Drainage 2. A total of 74 basins/features were sampled during the remaining 2014/2015 wet season fairy shrimp survey.

Figure 4 in Attachment 1 contains a map of the locations of the sampled and excluded basins/features. Attachment 2 contains the Survey Tracking Table, which provides an overall summary of the results of each basin/feature per survey. Attachment 3, Basin Conditions by Survey Table, provides a summary for each basin/feature by date and includes information only for dates that the specific basin/feature was sampled. If the basin/feature was dry or not sampled for another reason, the information is included in the Survey Tracking Table (Attachment 2) but not in the Basin Conditions by Survey Table (Attachment 3). Once surveys were completed, BBS compiled the data for each of the basins/features and prepared the Basin Conditions Summary Table (Attachment 4). This table provides the basin/feature number, actual maximum depth, estimated maximum depth, actual maximum surface area, and estimated maximum surface area. The table also summarizes the habitat condition, disturbance type, and disturbance level and provides the GPS coordinates for each basin/feature. Attachment 5 provides example photographs of several basins/features within the proposed project site. Copies of the original field datasheets are provided in Attachment 6.

Basins/features sampled within the proposed project site during the 2014/2014 survey season included basins, drainages, ditches, and detention basins that became inundated at some point during the season. The features within the proposed project site were sampled between one and ten times during the season. The majority of the features (i.e., 50 of the 74 features) did not inundate frequently and were sampled only one or two times during the season. This may be directly associated with the below average rainfall and/or unsuitable substrates present to capture and hold water for long durations. The majority of the basins/features that were sampled the most frequently (i.e., between 7 and 10 samples) were either within or adjacent to and directly influenced by a drainage or ditch that received more frequent water flows and were able to capture water and remain saturated and inundated for longer durations. As described below, of the 74 basins/features sampled within the proposed project site during the 2014/2015 survey season, fairy shrimp were detected in three basins, including Basins 8a, 10, and 81. In addition, a general description of the habitat surveyed is included below, as well as a more detailed description of the basins that contained fairy shrimp.

On December 31, 2014, Brian Lohstroh and Laurie Gorman detected hundreds of adult and immature, federally endangered San Diego fairy shrimp in Basin 81, southwest of the intersection of La Media Road and State Route 905 off ramp. Laurie Gorman provided Stacey

Love (Permit Coordinator at Carlsbad FWS) with an email summarizing this detection on January 9, 2015. In addition, Darin Busby (TE-115373-3) and Laurie Gorman detected hundreds of immature fairy shrimp, likely San Diego fairy shrimp, in Basin 81 on January 15, 2015. Basin 81 appears to be either a natural or restored vernal pool that is relatively undisturbed and is dominated by mule fat (*Baccharis salicifolia*) and southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*).

It should be noted that the federally endangered San Diego button-celery (*Eryngium aristulatum* var. *parishii*) was detected in several locations adjacent to Basin 81 as well as within and adjacent to Basins 79, 80, and other depressions that never inundated during the 2014/2015 wet season. Basins 79, 80, 81, and the other adjacent depressions appear to be within a natural and/or restored vernal pool complex and occur within a parcel west of La Media Road between the La Media Road/SR-905 off ramp and Airway Road (i.e., Empire Center) that is included in the City's Preliminary Draft VPHCP (City 2015). This vernal pool complex contains low to moderate levels of disturbance from non-native plant species, such as filaree (*Erodium* spp.), various nonnative grasses (*Avena* sp., *Bromus* spp., *Festuca* spp.), tumbleweed (*Salsola tragus*), black mustard (*Brassica nigra*), and sweet fennel (*Foeniculum vulgare*).

On May 20 and 28, 2015, Darin Busby and Laurie Gorman detected hundreds of immature and adult common, non-sensitive versatile fairy shrimp in Basin 10, northeast of the intersection of Airway Road and La Media Road. In addition, Darin Busby and Laurie Gorman detected one, unidentifiable female fairy shrimp in Basin 8a, approximately 50 feet north of Basin 10, on January 3, 2015. Because Basin 8a and 10 are heavily disturbed, receive frequent traffic from cars and trucks along the adjacent La Media Road, and are in close proximity to each other, this unidentified fairy shrimp in Basin 8a is likely the common, non-listed versatile fairy shrimp.

As noted previously, the proposed project site is located in a busy commercial and industrial area that is subject to a high frequency and volume of activity associated with these uses resulting in a highly disturbed and dynamic environment for potential fairy shrimp habitat. The elimination of basins/features, formation of new basins/features, and/or reconfiguration of existing basins/features within the proposed project site occur frequently and unexpectedly. The majority of the basins/features along the eastern perimeter of La Media Road occur within road sides, dirt lots, and driveways dominated by bare ground and/or disturbed land. The majority of the basins/features along the western perimeter of La Media Road occur within undeveloped open space dominated by non-native grassland, disturbed land, and fresh emergent wetland. The parcel of land north of Airway Road and west of La Media Road (i.e., Empire Center), as previously described above, is included in the City's Preliminary Draft VPHCP (City 2015). A portion of the parcels centered around the unnamed drainage west of La Media Road between Airway Road and Siempre Viva Road (i.e., La Media Swale North), contain a historical mima mound complex and documented vernal pools or depressions that occur within the City's MHPA and the City's Preliminary Draft VPHCP (City 2015). This mima mound complex contains low to moderate levels of disturbance from illegal dumping and non-native plant species, such as filaree, various non-native grasses, tumbleweed, black mustard, and sweet fennel. No fairy shrimp were detected within this historical mima mound complex or within any other portion of the proposed project site not previously described above during the 2014/2015 wet season survey.

Representative aquatic organisms present within several of the basins/features include dragonfly/damselfly larva (Order Odonata), oar-feet (Class Copepoda), mayfly larvae (Order Ephemeroptera), mosquito larvae (Order Diptera), scud (Order Amphipoda), seed shrimp (Class


Ostracoda), water boatman (Family Corixidae), water flea (Order Cladocera), crayfish (Order Decapoda), aquatic snail (Class Gastropoda), water beetle (Order Coleoptera), and Baja California treefrog (*Pseudacris hypochondriaca hypochondriaca*). Attachment 3, Basin Conditions by Survey Table, provides a summary of organisms detected within each basin/feature.

5.0 Survey Summary

Of the 74 basins/features sampled within the proposed project site during the 2014/2015 survey season, fairy shrimp were detected in three basins, including Basins 8a, 10, and 81. The federally endangered San Diego fairy shrimp was detected in Basin 81; the common, non-sensitive versatile fairy shrimp was detected in Basin 10; and an unidentifiable female fairy shrimp was detected in Basin 8a and was likely versatile fairy shrimp based on the disturbance in the area and the close proximity to Basin 10. In addition, the federally endangered San Diego button-celery was detected in several locations in the vicinity of Basins 79, 80, 81, and the other adjacent depressions that never inundated during the 2014/2015 wet season, which appear to be within a natural and/or restored vernal pool complex (i.e, Empire Center) that is included in the City's Preliminary Draft VPHCP (City 2015).

Please do not hesitate to contact me at darin@busbybiological.com or 858.334.9508 if you have any questions.

Sincerely,



Darin Busby
Owner/Principal Biologist
Busby Biological Services, Inc.

cc: Brad Johnson, City of San Diego
David Li, City of San Diego
John Goddard, Rick Engineering

REFERENCES

City of San Diego

- 2015 Preliminary Draft City of San Diego Vernal Pool Habitat Conservation Plan (VPHCP). March.

National Oceanic and Atmospheric Administration (NOAA)

- 2015 National Weather Service Forecast Office, San Diego Weather. <http://www.nws.noaa.gov/climate/index.php?wfo=sgx>.

United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS)

- 2015 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions [Online WWW]. Available at: <http://soils.usda.gov/technical/classification/osd/index.html>.

U.S. Fish and Wildlife Service (USFWS)

- 1996 Interim Survey Guidelines to Permittees for Recovery Permits under Section under 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Brachiopods.
- 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): 42136–48153. Washington, D.C.: USFWS.
- 1997 Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the San Diego Fairy Shrimp. 50 CFR Part 17. February 3, 1997.
- 2005 Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Final Rule. *Federal Register* 70(154): 46923–46999. Washington, D.C.: USFWS.
- 2007 Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the San Diego Fairy Shrimp (*Branchinecta sandiegonensis*). 50 CFR Part 17.
- 2012 Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Riverside Fairy Shrimp; Final Rule. *Federal Register* 77(233): 72070–72140. Washington, D.C.: USFWS.

U.S. Geological Survey (USGS)

- 1955a *Otay Mesa Quadrangle 7.5-Minute Topographic Map* (Photinspected 1975).

Surveyors' Certification

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



Darin Busby
Owner/Principal Biologist
Busby Biological Services, Inc.
USFWS Permit Number TE-115373-3



Laurie Gorman
Senior Biologist/Project Manager
Busby Biological Services, Inc.
USFWS Permit Number TE-233367-3 (under the Permit of Darin Busby)



Brian Lohstroh
Owner/Principal Biologist
Lohstroh Biological Consulting
USFWS Permit Number TE-063608-5



Travis Cooper
Principal Biologist / Owner
Cooper Biological Services
ESA Permit Number TE-170389-5

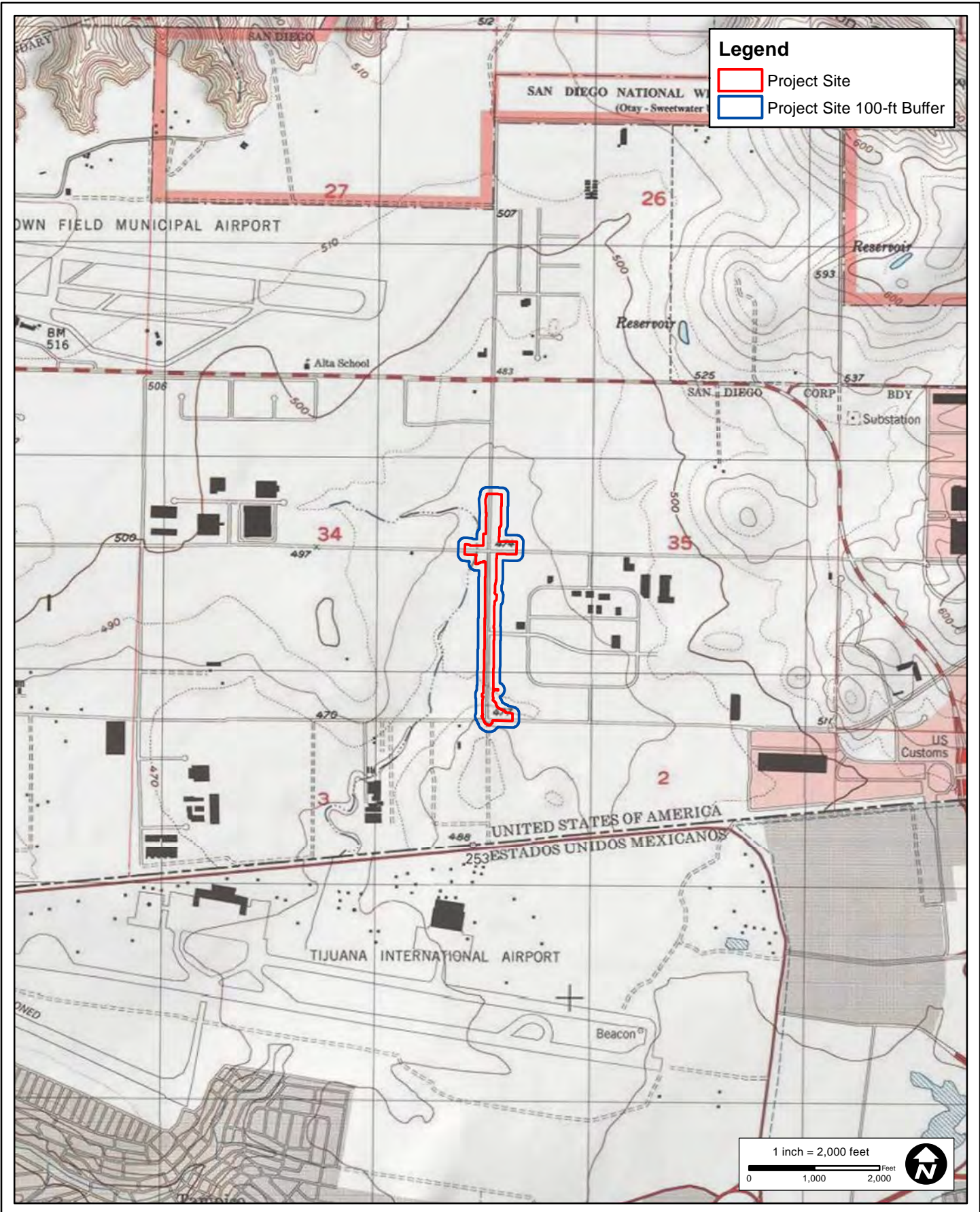
ATTACHMENT 1 – Figures



Project Site Vicinity Map
La Media Road Improvements Project
San Diego County, California

FIGURE
1



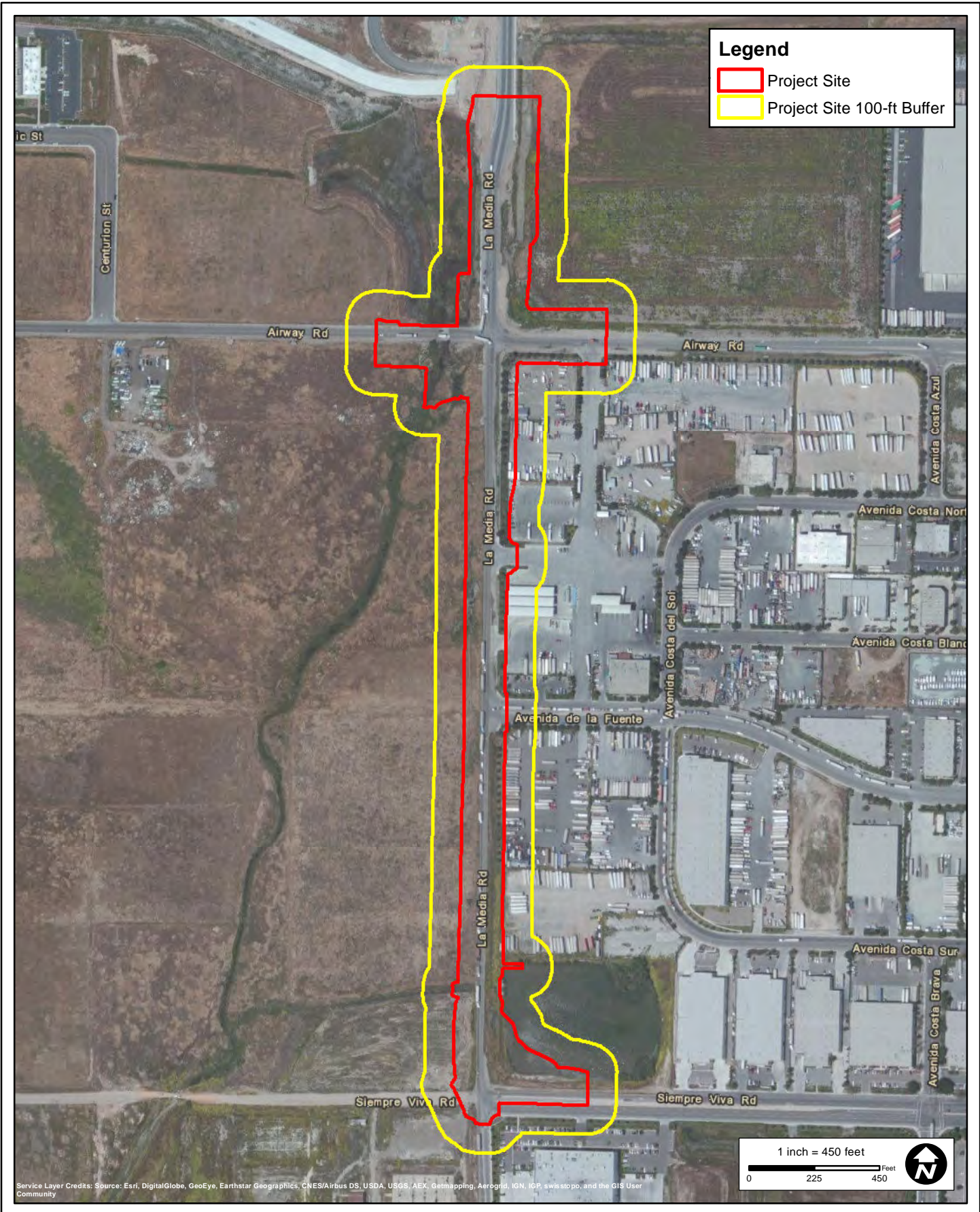


Project Vicinity USGS Map
La Media Road Improvements Project
San Diego County, California

FIGURE

2

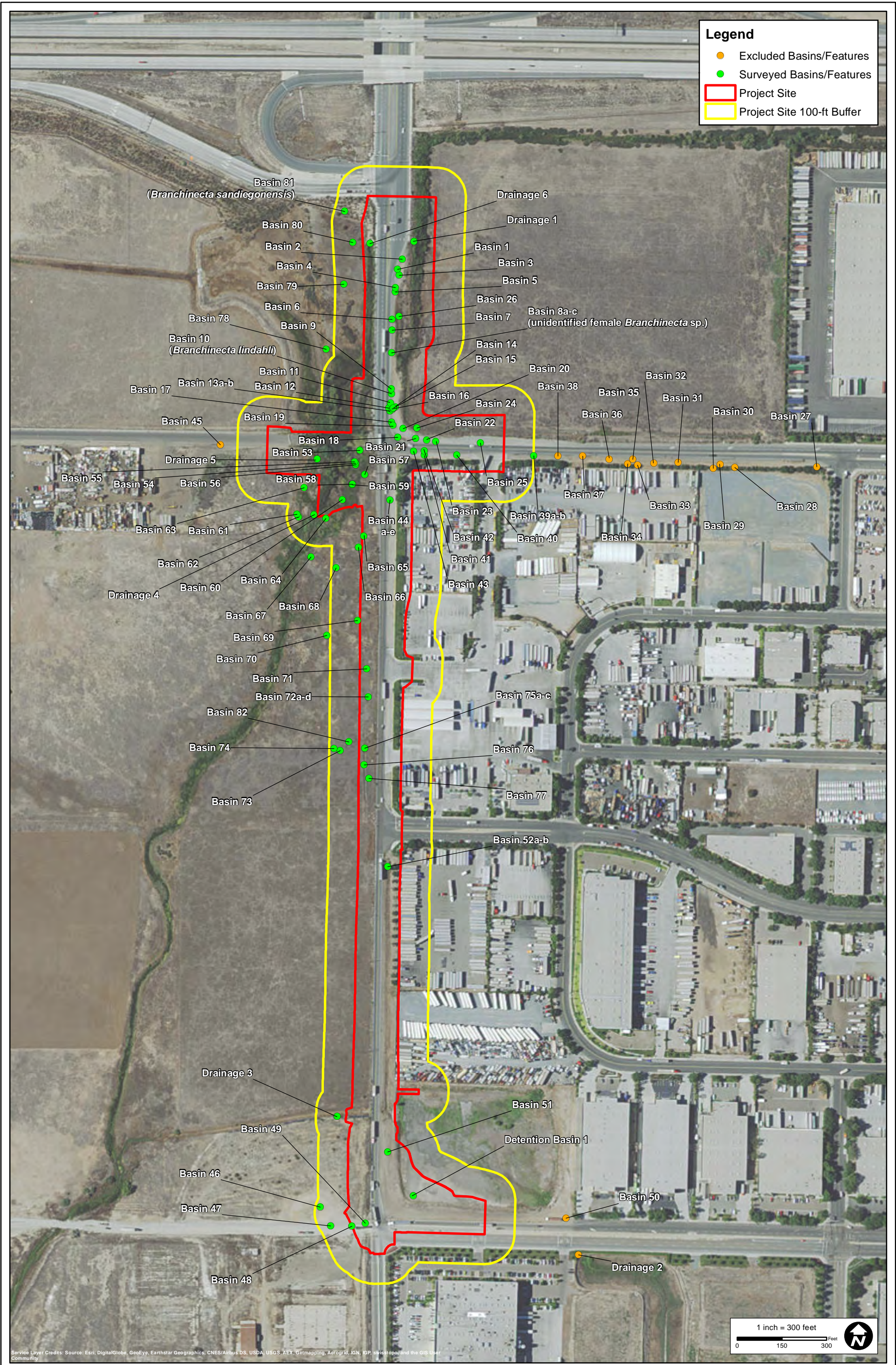




Project Survey Area Map
La Media Road Improvements Project
San Diego County, California

FIGURE

3



Project Survey Results Map
La Media Road Improvements Project
San Diego County, California

FIGURE



ATTACHMENT 2 – Survey Tracking Table

ATTACHMENT 2: SURVEY TRACKING TABLE

Basin/ Feature Number	Number of Samples	12/18/14 (Survey 1a)	12/19/14 (Survey 1b)	12/31/2014 (Survey 2a)	01/03/15 (Survey 2b)	01/15/15 (Survey 3a)	1/16/15 (Survey 3b)	01/30/15 (Survey 4a)	2/5/2015 (Survey 4b)	2/12/2015 (Survey 5a)	2/19/15 (Survey 5b)	2/26/2015 (Survey 6a)	3/2/15 (Survey 6b)	3/10/15 (Survey 7a)	3/17/15 (Survey 7b)	3/25/15 (Survey 8a)	3/30/15 (Survey 8b)	4/8/15 (Survey 9a)	4/15/2015 (Survey 9b)	4/20/2015 (Survey 10)	5/13/2015 (Survey 11a)	5/20/15 (Survey 11b)	5/28/15 (Survey 12a)	6/3/15 (Survey 12b)	Fairy Shrimp	Notes	
1	6	⊙	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	⊙	SNN	D	D	D	D	D	D	D	⊙	SNN	⊙	D	None	
2	1	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
3	3	⊙	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
4	2	⊙	SNN	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
5	4	⊙	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	⊙	SNN	D	None		
6	2	⊙	SNN	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
7	3	⊙	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
8a-c (connected)	2	⊙	SNN	SNN	N/A	SNN	N/A	N/A	SNN	D	D	D	⊙	SNN	D	D	D	D	D	D	D	N/A	SNN	D	None		
8a	3	N/A	SNN	SNN	A	SNN	⊙	⊙	SNN	D	D	D	N/A	SNN	D	D	D	D	D	D	D	D	SNN	D	Unk (A)	Unidentified <i>Branchinecta</i> female	
8b	3	N/A	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	N/A	SNN	D	D	D	D	D	D	D	⊙	SNN	D	None		
8c	2	N/A	SNN	SNN	⊙	SNN	D	D	D	D	D	D	N/A	SNN	D	D	D	D	D	D	D	⊙	SNN	D	None		
9	3	⊙	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
10	8	⊙	SNN	SNN	⊙	SNN	⊙	⊙	SNN	D	D	D	⊙	SNN	⊙	SNN	D	D	D	D	D	I	A	D	VFS (I, A)		
11	1	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
12	3	⊙	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
13a-b (connected)	2	⊙	SNN	SNN	N/A	SNN	N/A	D	D	D	D	D	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	None	
13a	2	N/A	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	N/A	SNN	D	D	D	D	D	D	D	D	D	D	D	None	
13b	2	N/A	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	N/A	SNN	D	D	D	D	D	D	D	D	D	D	D	None	
14	1	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
15	2	⊙	SNN	D	D	D	D	D	D	D	D	D	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	None	
16	1	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
17	1	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
18	5	⊙	SNN	SNN	⊙	SNN	⊙	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	⊙	SNN	D	None		
19	2	⊙	SNN	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	Covered by construction fill on 1/16/15.
20	4	⊙	SNN	SNN	⊙	SNN	⊙	D	D	D	D	D	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	None	
21	1	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
22	1	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
23	1	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
24	9	⊙	SNN	SNN	⊙	SNN	⊙	⊙	SNN	D	D	D	⊙	SNN	D	D	D	D	D	D	⊙	⊙	⊙	⊙	None		
25	1	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
26	5	⊙	SNN	SNN	⊙	SNN	⊙	⊙	SNN	D	D	D	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	None	
27	1	⊙	SNN	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	None	Basin no longer within Project site.
28	1	⊙	SNN	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	None	Basin no longer within Project site.
29	1	⊙	SNN	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	None	Basin no longer within Project site.
30	1	⊙	SNN	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	None	Basin no longer within Project site.
31	1	⊙	SNN	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	None	Basin no longer within Project site.
32	1	⊙	SNN	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	None	Basin no longer within Project site.
33	1	⊙	SNN	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	None	Basin no longer within Project site.
34	1	⊙	SNN	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	None	Basin no longer within Project site.

ATTACHMENT 2: SURVEY TRACKING TABLE

62	4	SNN	⊙	⊙	SNN	⊙	SNN	D	D	D	D	D	⊙	SNN	D	D	D	D	D	D	D	D	D	D	None		
63	6	SNN	⊙	⊙	SNN	⊙	SNN	D	D	D	D	D	⊙	SNN	D	D	D	D	D	D	⊙	SNN	⊙	SNN	None		
64	7	SNN	⊙	⊙	SNN	⊙	SNN	D	⊙	SNN	D	D	⊙	SNN	D	D	D	D	D	D	D	⊙	SNN	⊙	None		
65	4	SNN	⊙	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	⊙	SNN	D	None	
66	3	SNN	⊙	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	⊙	SNN	D	None	
67	4	SNN	⊙	⊙	SNN	D	D	D	D	D	D	D	D	⊙	D	D	D	D	D	D	D	D	⊙	SNN	D	None	
68	1	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
69	1	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
70	3	SNN	⊙	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	⊙	D	None	
71	1	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
72a-d (connected)	1	SNN	⊙	N/A	SNN	D	D	D	D	D	D	D	D	N/A	N/A	N/A	D	D	D	D	D	D	D	N/A	None		
72a	2	SNN	N/A	⊙	SNN	D	D	D	D	D	D	D	D	⊙	D	D	D	D	D	D	D	D	D	D	D	None	
72b	2	SNN	N/A	⊙	SNN	D	D	D	D	D	D	D	D	⊙	D	D	D	D	D	D	D	D	D	D	D	None	
72c	4	SNN	N/A	⊙	SNN	D	D	D	D	D	D	D	D	⊙	SNN	⊙	D	D	D	D	D	D	D	⊙	None		
72d	1	SNN	N/A	⊙	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
73	1	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
74	1	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	
75a-c (connected)	2	SNN	⊙	N/A	SNN	N/A	N/A	N/A	N/A	D	D	D	D	N/A	D	D	D	D	D	D	D	⊙	D	D	None		
75a	2	SNN	N/A	⊙	SNN	D	D	D	D	D	D	D	D	⊙	D	D	D	D	D	D	D	N/A	D	D	None		
75b	2	SNN	N/A	⊙	SNN	D	D	D	D	D	D	D	D	⊙	D	D	D	D	D	D	D	N/A	D	D	None		
75c	4	SNN	N/A	⊙	SNN	⊙	SNN	⊙	SNN	D	D	D	D	⊙	D	D	D	D	D	D	D	N/A	D	D	None		
76	2	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	⊙	SNN	D	None		
77	3	SNN	⊙	⊙	SNN	D	D	D	D	D	D	D	D	⊙	D	D	D	D	D	D	D	D	D	D	D	None	
78	5	SNN	⊙	⊙	SNN	⊙	SNN	D	D	D	D	D	D	⊙	D	D	D	D	D	D	D	D	⊙	D	None		
79	1	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	Basin appears to be restored.
80	1	SNN	⊙	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	None	Basin appears to be restored.
81	3	SNN	⊙	I, A	SNN	I	SNN	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	SDFS (I, A)	Basin appears to be restored.
82	1	D	D	D	D	D	D	D	D	D	D	D	D	⊙	D	D	D	D	D	D	D	D	D	D	D	None	
Drainage1	8	⊙	SNN	SNN	⊙	SNN	⊙	⊙	SNN	⊙	SNN	⊙	SNN	⊙	SNN	D	D	D	D	D	D	⊙	SNN	D	None		
Drainage2	1	⊙	SNN	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	None	Basin no longer within Project site.
Drainage3	8	⊙	SNN	SNN	⊙	⊙	SNN	⊙	SNN	D	D	D	⊙	SNN	⊙	D	D	D	D	D	⊙	SNN	⊙	SNN	None		
Drainage4	7	SNN	⊙	⊙	SNN	⊙	SNN	⊙	SNN	D	D	D	⊙	SNN	D	D	D	D	D	D	⊙	SNN	⊙	SNN	None	Basins 57, 58, 59, and 60 connected to Drainage 4 as one large flooded area on 5/13/15.	
Drainage5	7	SNN	⊙	⊙	SNN	⊙	SNN	⊙	SNN	D	D	D	⊙	SNN	D	D	D	D	D	D	⊙	SNN	⊙	D	None		
Drainage6	10	SNN	⊙	⊙	SNN	⊙	SNN	⊙	SNN	⊙	SNN	⊙	SNN	⊙	SNN	⊙	SNN	⊙	SNN	⊙	SNN	SNN	SNN	SNN	None		
Detention Basin1	10	⊙	SNN	SNN	⊙	⊙	SNN	⊙	SNN	⊙	SNN	⊙	SNN	⊙	⊙	SNN	⊙	SNN	⊙	SNN	SNN	SNN	SNN	SNN	None		

KEY

A = Adult
D = Dry

E = Excluded
I = Immature

N/A = Not Applicable
SNN = Survey Not Necessary

VFS = Versatile Fairy Shrimp (*Branchinecta lindahli*)
SDFS = San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)

⊙ = Surveyed but no fairy shrimp detected

ATTACHMENT 3 – Basin Conditions By Survey Table

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

Basin/Feature Number	Survey Date	Air Temp (°F)	Basin Conditions					Fairy Shrimp			Other Species
			Water Temp (°F)	Max Depth (in.)	Max Width (ft.)	Max Length (ft.)	Max Surface Area (sq. ft.)	Species	Reproductive Status	Number	
1	12/18/14	54	52	4	9	69	540	N/A	N/A	N/A	None
	1/3/15	45	44	5	8	52	350	N/A	N/A	N/A	None
	1/16/15	61	48	4	7.5	51.5	350	N/A	N/A	N/A	CO
	3/2/15	55	61	3.5	9	56	440	N/A	N/A	N/A	None
	5/13/15	71	76	2.5	6	40	190	N/A	N/A	N/A	None
	5/28/15	65	63	3	4	36	135	N/A	N/A	N/A	SS, CO
2	12/18/14	54	51	1.5	4	14	45	N/A	N/A	N/A	None
3	12/18/14	54	51	4	8	13	85	N/A	N/A	N/A	None
	1/3/15	45	44	2	5.5	9.5	40	N/A	N/A	N/A	None
	1/16/15	61	48	2.75	3.5	4	10	N/A	N/A	N/A	CO
4	12/18/14	54	51	2	8	30	225	N/A	N/A	N/A	Unk worm
	1/3/15	45	43	1.5	5	5	25	N/A	N/A	N/A	None
5	12/18/14	54	51	4	5	7	35	N/A	N/A	N/A	Unk worm
	1/3/15	45	44	4	5	7	35	N/A	N/A	N/A	None
	1/16/15	61	46	3	2	5	10	N/A	N/A	N/A	CO
	5/20/15	60	58	1	1	2	2	N/A	N/A	N/A	None
6	12/18/14	56	54	2	3.5	13	35	N/A	N/A	N/A	None
	1/3/15	45	44	0.5	1	5	5	N/A	N/A	N/A	None
7	12/18/14	56	53	4	5	60	290	N/A	N/A	N/A	None
	1/3/15	47	46	3	6	27	155	N/A	N/A	N/A	None
	1/16/15	61	50	3	5.5	24	115	N/A	N/A	N/A	Unk worm
8a-c (connected)	12/18/14	58	53	5	13	103	1,325	N/A	N/A	N/A	None
	3/2/15	55	58	7	10.5	104	1,000	N/A	N/A	N/A	None
8a	1/3/15	47	47	3	10	24	230	Unk	A	1	AB, CO
	1/16/15	61	50	5	11	27	260	N/A	N/A	N/A	CO
	1/30/15	58	56	1.5	6	13	70	N/A	N/A	N/A	CO
8b	1/3/15	48	52	2.5	8	14	100	N/A	N/A	N/A	CO
	1/16/15	61	52	3	8	13	100	N/A	N/A	N/A	None

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

	5/20/15	60	58	2.5	7	21	140	N/A	N/A	N/A	None
8c	1/3/15	50	52	0.5	2	3	6	N/A	N/A	N/A	None
	5/20/15	60	58	2.5	5	18	75	N/A	N/A	N/A	None
9	12/18/14	58	55	3	6.5	12	65	N/A	N/A	N/A	None
	1/3/15	50	51	2.5	6.5	9	45	N/A	N/A	N/A	CO
	1/16/15	63	58	2	4	4	15	N/A	N/A	N/A	CO
10	12/18/14	58	55	6	12	44	480	N/A	N/A	N/A	None
	1/3/15	50	49	5	10	28	250	N/A	N/A	N/A	SS, CO
	1/16/15	63	52	6	12	40	450	N/A	N/A	N/A	CO
	1/30/15	59	57	5	9	25	205	N/A	N/A	N/A	CO, WB
	3/2/15	55	58	6	12	44	480	N/A	N/A	N/A	None
	3/17/15	81	87	2	9	18.5	160	N/A	N/A	N/A	SS
	5/20/15	61	60	5	12	25	275	Unk	I	10's	WB
	5/28/15	65	63	3	8	18	125	VFS	A	100's	WB, SS
11	12/18/14	58	56	2	4	5	20	N/A	N/A	N/A	None
12	12/18/14	58	55	3	8	8	60	N/A	N/A	N/A	None
	1/3/15	53	58	2	3.5	6	18	N/A	N/A	N/A	None
	1/16/15	63	54	2	4	5.5	20	N/A	N/A	N/A	None
13a-b (connected)	12/18/14	58	55	4	8	24	180	N/A	N/A	N/A	None
	3/2/15	55	58	3	6.5	26	145	N/A	N/A	N/A	None
13a	1/3/15	55	58	2	4.5	7	28	N/A	N/A	N/A	None
	1/16/15	63	55	2	4	7	28	N/A	N/A	N/A	None
13b	1/3/15	55	58	2	5	6	30	N/A	N/A	N/A	None
	1/16/15	63	55	2	5.5	6	30	N/A	N/A	N/A	None
14	12/18/14	58	56	1	4	5	20	N/A	N/A	N/A	None
15	12/18/14	58	56	1.5	3.5	4	12	N/A	N/A	N/A	None
	3/2/15	55	57	2	5.5	6	30	N/A	N/A	N/A	None
16	12/18/14	59	56	2	6	8.5	45	N/A	N/A	N/A	None
17	12/18/14	60	58	2	2	3	6	N/A	N/A	N/A	None
18	12/18/14	60	55	10	20	60	1,160	N/A	N/A	N/A	None
	1/3/15	60	51	8	16	57	880	N/A	N/A	N/A	None
	1/16/15	63	53	7	15	33	450	N/A	N/A	N/A	None
	1/30/15	60	58	4	7	22	140	N/A	N/A	N/A	CO, unk beetle, unk worm

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

	5/20/15	62	60	2	4	10	40	N/A	N/A	N/A	WB
19	12/18/14	60	56	6	14.5	17.5	220	N/A	N/A	N/A	None
	1/3/15	60	58	3.5	11.5	12	120	N/A	N/A	N/A	CO
20	12/18/14	60	56	10	16	48	690	N/A	N/A	N/A	None
	1/3/15	60	51	9	11	35	375	N/A	N/A	N/A	CO
	1/16/15	65	55	3	6	23	120	N/A	N/A	N/A	CO
	3/2/15	55	57	3	17	19	300	N/A	N/A	N/A	None
21	12/18/14	60	58	2.25	4.5	27	100	N/A	N/A	N/A	Unk worm
22	12/18/14	60	56	3.25	0.9	10	10	N/A	N/A	N/A	Unk worm
23	12/18/14	60	56	7	6.5	20	80	N/A	N/A	N/A	None
24	12/18/14	60	55	6	11	500	5,000	N/A	N/A	N/A	C
	1/3/15	60	53	8	13	500	6,000	N/A	N/A	N/A	AS, SS, CO
	1/16/15	65	50	8	18	500	7,500	N/A	N/A	N/A	C
	1/30/15	58	57	8	6	500	3,500	N/A	N/A	N/A	C
	3/2/15	55	57	8	14	500	6,000	N/A	N/A	N/A	None
	5/13/15	75	67	5	8	36	280	N/A	N/A	N/A	CO
	5/20/15	63	60	5	8	45	345	N/A	N/A	N/A	C, Unk larvae
	5/28/15	67	64	5	8	45	345	N/A	N/A	N/A	C
6/3/15	75	86	3	4	8	30	N/A	N/A	N/A	ML, C	
25	12/18/14	60	59	1.5	2	8	15	N/A	N/A	N/A	None
26	12/18/14	56	59	7.5	7	150	1,035	N/A	N/A	N/A	None
	1/3/15	45	42	6	5	48	225	N/A	N/A	N/A	None
	1/16/15	61	47	5	5	47	225	N/A	N/A	N/A	C, CO
	1/30/15	59	57	8	3	75	220	N/A	N/A	N/A	C
	3/2/15	55	56	10	7	200	1,360	N/A	N/A	N/A	None
27	12/18/14	56	56	1.25	5.5	5.5	25	N/A	N/A	N/A	None
28	12/18/14	56	58	4	7	55	370	N/A	N/A	N/A	None
29	12/18/14	56	56	2	7	14	90	N/A	N/A	N/A	None
30	12/18/14	56	56	3	10	27	250	N/A	N/A	N/A	None
31	12/18/14	64	62	1.5	5	50	240	N/A	N/A	N/A	None
32	12/18/14	64	62	1.5	4	26	100	N/A	N/A	N/A	None
33	12/18/14	64	58	3	6	33	180	N/A	N/A	N/A	None
34	12/18/14	64	61	1.5	5	8	35	N/A	N/A	N/A	None

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

35	12/18/14	64	61	1.5	7.5	22	145	N/A	N/A	N/A	None
36	12/18/14	64	60	6	23.5	79	1,770	N/A	N/A	N/A	None
37	12/18/14	64	61	12	9.5	53.5	450	N/A	N/A	N/A	None
38	12/18/14	64	55	6	10	25	230	N/A	N/A	N/A	None
39a-b (connected)	12/18/14	64	55	7	15	96	1,400	N/A	N/A	N/A	None
	1/3/15	61	44	7	14	72	980	N/A	N/A	N/A	None
	1/16/15	68	45	6	15	70.5	1,020	N/A	N/A	N/A	SS
39a	1/30/15	60	56	2.5	9	9	72	N/A	N/A	N/A	CO, SS
	2/12/15	86	60	1.25	1.5	6	6	N/A	N/A	N/A	CO, SS
	2/26/15	62	55	3	6.5	20	115	N/A	N/A	N/A	None
	3/10/15	74	72	2	7	12	70	N/A	N/A	N/A	WF
	5/20/15	65	60	1	1	3	3	N/A	N/A	N/A	CO
39b	1/30/15	60	56	6	12	17	180	N/A	N/A	N/A	CO, SS
	2/12/15	86	60	4	10	12	110	N/A	N/A	N/A	CO, SS
	2/26/15	62	54	8	13.5	16.5	195	N/A	N/A	N/A	CO, SS
	3/10/15	74	62	4	13	17	195	N/A	N/A	N/A	WF, SS
	3/25/15	75	60	3	9	12	100	N/A	N/A	N/A	SS, Unk larvae, Unk worm
	5/20/15	65	60	5	10	12	110	N/A	N/A	N/A	None
40	12/18/14	64	60	2	15	25	345	N/A	N/A	N/A	None
	1/3/15	62	52	1	5.5	16.5	75	N/A	N/A	N/A	None
	3/2/15	55	58	2	11	24	240	N/A	N/A	N/A	None
41	12/18/14	64	62	1.25	11	34	330	N/A	N/A	N/A	None
42	12/18/14	62	62	4.5	6	27.5	150	N/A	N/A	N/A	None
	1/3/15	63	52	2	3.5	11	30	N/A	N/A	N/A	None
43	12/18/14	62	62	4	4	12	45	N/A	N/A	N/A	None
	1/3/15	63	52	2	3	8	24	N/A	N/A	N/A	None
	3/10/15	74	63	4	3.5	52	150	N/A	N/A	N/A	None
	4/8/15	68	67	3.5	5	60	290	N/A	N/A	N/A	SS, CO
	5/13/15	71	74	3	5	48	225	N/A	N/A	N/A	None
	5/28/15	65	63	4	6	50	285	N/A	N/A	N/A	None
44a-e (connected)	12/18/14	62	64	6	19	950	17,860	N/A	N/A	N/A	None
	1/3/15	63	64	4	13	61	765	N/A	N/A	N/A	SS, CO

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

44a	1/16/15	70	45	4	6	65	375	N/A	N/A	N/A	CO
	2/5/15	80	80	2.5	11	41	430	N/A	N/A	N/A	SS, CO
	3/2/15	55	57	5	12	950	11,375	N/A	N/A	N/A	MayL
	5/13/15	71	74	3	4.5	17	60	N/A	N/A	N/A	CO
	5/28/15	65	64	3	3	75	220	N/A	N/A	N/A	CO, S
44b	1/3/15	63	59	5	20	350	6,900	N/A	N/A	N/A	None
	1/16/15	70	56	3	18	300	5,220	N/A	N/A	N/A	Unk worm, SS, CO
44c	1/3/15	63	66	2.5	3	90	265	N/A	N/A	N/A	None
	1/16/15	70	68	2	2	38.5	70	N/A	N/A	N/A	CO
44d	1/3/15	63	60	4.5	8	75	585	N/A	N/A	N/A	None
	1/16/15	70	61	4	5.5	20.5	90	N/A	N/A	N/A	CO
44e	1/3/15	63	65	3	8	135	1,065	N/A	N/A	N/A	None
	1/16/15	70	65	4	7.5	120	84	N/A	N/A	N/A	CO
45	12/18/14	63	64	3	3	13.5	35	N/A	N/A	N/A	None
46	12/18/14	63	64	1.5	6.5	7.5	40	N/A	N/A	N/A	None
47	12/18/14	63	64	2	7.5	7.5	45	N/A	N/A	N/A	None
	1/3/15	67	64	2.25	7	8	50	N/A	N/A	N/A	None
48	12/18/14	63	64	2	8	9.5	70	N/A	N/A	N/A	None
	1/3/15	67	60	2.25	7	7	45	N/A	N/A	N/A	None
49	12/18/14	63	64	2.25	6	10.5	55	N/A	N/A	N/A	None
50	12/18/14	63	63	3.5	10	29.5	280	N/A	N/A	N/A	None
51	12/18/14	62	64	4	6	32	180	N/A	N/A	N/A	None
52a-b (connected)	12/18/14	62	64	10	6	850	5,080	N/A	N/A	N/A	None
	3/2/15	55	62	9	5	850	4,240	N/A	N/A	N/A	None
	5/13/15	70	67	7.5	5	42	200	N/A	N/A	N/A	Unk worm
	5/28/15	67	64	6	4	35	130	N/A	N/A	N/A	None
52a	1/3/15	63	55	7	6.5	270	1,600	N/A	N/A	N/A	None
	1/15/15	68	55	7	6.5	75	435	N/A	N/A	N/A	AS, CO
52b	1/3/15	63	63	4	5.5	90	440	N/A	N/A	N/A	None
	1/15/15	68	57	3	3.5	55	155	N/A	N/A	N/A	CO
53	12/19/14	53	49	3	4	2	8	N/A	N/A	N/A	None
	12/31/14	45	46	7	7	13	80	N/A	N/A	N/A	None
	3/2/15	55	59	4	3	8	20	N/A	N/A	N/A	None

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54	12/19/14	53	54	18	6	8	45	N/A	N/A	N/A	C
	12/31/14	45	48	8	4	5	20	N/A	N/A	N/A	C
	1/15/15	62	51	14	7	8	55	N/A	N/A	N/A	CO, SS
	2/5/15	80	61	20	8.5	9	70	N/A	N/A	N/A	C
	3/2/15	55	58	4	5	8	45	N/A	N/A	N/A	None
	5/13/15	75	64	>12	9	13	100	N/A	N/A	N/A	None
	5/28/15	65	62	24	30	220	6,450	N/A	N/A	N/A	None
55	12/19/14	54	52	10	12	12	130	N/A	N/A	N/A	C
	12/31/14	45	47	12.5	14	14	165	N/A	N/A	N/A	C
	1/15/15	62	50	11	11	16	165	N/A	N/A	N/A	AS
	2/5/15	80	65	10	9	12	100	N/A	N/A	N/A	CO
	3/2/15	55	58	36	8	10	80	N/A	N/A	N/A	C, DL, mosquitofish
	5/13/15	75	66	>12	12	14	145	N/A	N/A	N/A	None
	5/28/15	65	62	24	30	220	6,450	N/A	N/A	N/A	None
56	12/19/14	54	51	4.5	7	9.5	55	N/A	N/A	N/A	None
	12/31/14	45	48	3	4	9	35	N/A	N/A	N/A	C, AS
	1/15/15	62	49	4	4	7	25	N/A	N/A	N/A	Col
	2/5/15	80	75	6	4	7.5	25	N/A	N/A	N/A	CO
	3/2/15	55	58	13	19	25	435	N/A	N/A	N/A	None
	5/13/15	75	68	5	5	22	100	N/A	N/A	N/A	C
	5/28/15	65	62	24	30	220	6,450	N/A	N/A	N/A	None
57	12/19/14	54	50	3	1.5	2.5	3	N/A	N/A	N/A	None
	12/31/14	45	46	5	7	23	155	N/A	N/A	N/A	C
	3/2/15	55	58	6	4	6	20	N/A	N/A	N/A	None
	5/13/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Basin 57 combined with D4. See D4 conditions and notes.
	5/28/15	65	62	24	30	220	6,450	N/A	N/A	N/A	None
58	12/19/14	54	51	3	3.5	11	30	N/A	N/A	N/A	C
	12/31/14	45	45	5	19	23	400	N/A	N/A	N/A	C
	1/15/15	62	48	4	7	11	70	N/A	N/A	N/A	CO, C, AS
	2/5/15	80	60	4.5	3	9.5	25	N/A	N/A	N/A	CO
	3/2/15	55	58	7	40	42	1,600	N/A	N/A	N/A	None

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

	5/13/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Basin 58 combined with D4. See D4 conditions and notes.
	5/28/15	65	62	24	30	220	4,300	N/A	N/A	N/A	None
59	12/19/14	54	49	4	18	42	720	N/A	N/A	N/A	C
	12/31/14	45	46	8	30	50	1,440	N/A	N/A	N/A	C, AS
	1/15/15	62	49	7	20	31	600	N/A	N/A	N/A	C, CO
	2/5/15	80	65	5	22	38	770	N/A	N/A	N/A	CO
	3/2/15	55	58	12	32	36	1,120	N/A	N/A	N/A	C
	5/13/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Basin 59 combined with D4. See D4 conditions and notes.
	5/28/15	65	62	24	30	220	6,450	N/A	N/A	N/A	None
60	12/19/14	55	51	6	5.5	11	50	N/A	N/A	N/A	AS, C
	12/31/14	45	47	7	42	58	2,310	N/A	N/A	N/A	None
	1/15/15	62	49	2	16	20	285	N/A	N/A	N/A	C, CO
	2/5/15	80	60	1.5	9.5	14	105	N/A	N/A	N/A	None
	3/2/15	55	58	10	40	80	3,000	N/A	N/A	N/A	None
	5/13/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Basin 60 combined with D4. See D4 conditions and notes.
	5/28/15	65	62	24	30	220	6,450	N/A	N/A	N/A	None
61	12/19/14	56	51	3.5	7	30	195	N/A	N/A	N/A	None
	12/31/14	43	49	8	13	200	2,530	N/A	N/A	N/A	SS
	3/2/15	55	58	6	13	200	2,530	N/A	N/A	N/A	None
62	12/19/14	58	52	6	19	40	665	N/A	N/A	N/A	AS
	12/31/14	43	49	8	13	200	2,535	N/A	N/A	N/A	SS
	1/15/15	68	55	5	6.5	16	90	N/A	N/A	N/A	CO, AS
	3/2/15	55	58	15	20	30	560	N/A	N/A	N/A	AS
63	12/19/14	60	52	10	6	54	310	N/A	N/A	N/A	AS, C
	12/31/14	43	49	8	13	200	2,535	N/A	N/A	N/A	SS
	1/15/15	68	55	11	13	200	2,535	N/A	N/A	N/A	AS, CO
	3/2/15	55	58	7	13	200	2,535	N/A	N/A	N/A	None
	5/13/15	75	70	9	16	50	765	N/A	N/A	N/A	None
	5/28/15	67	62	6	20	150	2,960	N/A	N/A	N/A	None
	12/19/14	64	52	5	20	38	700	N/A	N/A	N/A	AS, C

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

64	12/31/14	45	44	9	32	38	1,120	N/A	N/A	N/A	AS, C
	1/15/15	62	49	6	27	35	890	N/A	N/A	N/A	AS, SS, CO, C
	2/5/15	80	63	7	22	34	705	N/A	N/A	N/A	CO
	3/2/15	55	58	7.5	22	34	705	N/A	N/A	N/A	None
	5/20/15	66	60	3	8	10	65	N/A	N/A	N/A	None
	6/3/15	80	4	13	20	260	5,160	N/A	N/A	N/A	AS, C
65	12/19/14	64	55	8	27.5	31	780	N/A	N/A	N/A	None
	12/31/14	45	51	2	6	9	50	N/A	N/A	N/A	None
	5/20/15	66	60	4	10	15	140	N/A	N/A	N/A	CO, WB
	6/3/15	75	80	4	13	20	230	N/A	N/A	N/A	AS, Unk larvae, C
66	12/19/14	65	55	6	38	51	1,860	N/A	N/A	N/A	C
	12/31/14	45	50	2	6	20	105	N/A	N/A	N/A	CO
	5/20/15	66	60	4	15	25	345	N/A	N/A	N/A	CO, WB
67	12/19/14	65	56	7	15	60	870	N/A	N/A	N/A	None
	12/31/14	45	50	2	11	24	250	N/A	N/A	N/A	C
	3/10/15	76	70	5.5	15	78	1,125	N/A	N/A	N/A	C, SS, CO
	5/20/15	66	60	6	15	100	1,480	N/A	N/A	N/A	CO, WB
68	12/19/14	65	54	1.5	9	13	100	N/A	N/A	N/A	None
69	12/19/14	65	63	1.5	7.5	16	105	N/A	N/A	N/A	None
70	12/19/14	66	57	4	20	90	1,740	N/A	N/A	N/A	None
	12/31/14	45	49	1	1	4	4	N/A	N/A	N/A	SS, C, AS, CO
	5/28/15	68	64	1	30	75	2,190	N/A	N/A	N/A	Unk larvae
71	12/19/14	66	59	7	9	24	200	N/A	N/A	N/A	None
72a-d (connected)	12/19/14	68	60	12	100	250	24,800	N/A	N/A	N/A	None
72a	12/31/14	45	52	2.5	29	90	2,550	N/A	N/A	N/A	SS
	3/10/15	75	66	4	24.5	120	2,830	N/A	N/A	N/A	SS, CO
72b	12/31/14	45	49	3.5	14	34	460	N/A	N/A	N/A	SS, CO
	3/10/15	75	66	2.5	11	13	130	N/A	N/A	N/A	SS, CO
72c	12/31/14	45	50	11	26	49	1,245	N/A	N/A	N/A	SS
	3/10/15	75	65	12	20.5	47	920	N/A	N/A	N/A	CO, SS, Pacific chorus frog tadpoles

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

72c	3/25/15	75	68	3.5	7	15	90	N/A	N/A	N/A	Pacific chorus frog tadpoles, SS, CO, beetle larvae
	6/3/15	75	82	3	4	9	75	N/A	N/A	N/A	CO, Unk larvae
72d	12/31/14	45	52	2	7	8	55	N/A	N/A	N/A	SS, CO
73	12/19/14	70	63	4	9	20	160	N/A	N/A	N/A	None
74	12/19/14	70	62	3	39	115	4,365	N/A	N/A	N/A	None
75a-c (connected)	12/19/14	71	63	6	4.5	62	240	N/A	N/A	N/A	None
	5/20/15	68	60	10	20	45	860	N/A	N/A	N/A	CO, WB
75a	12/31/14	45	50	4	6	9	50	N/A	N/A	N/A	CO
	3/10/15	76	55	3	6.5	9.5	55	N/A	N/A	N/A	SS, CO
75b	12/31/14	45	50	3.75	3.5	20	55	N/A	N/A	N/A	SS, CO
	3/10/15	76	52	3.5	3.5	16	35	N/A	N/A	N/A	SS, CO
75c	12/31/14	45	50	2.5	3.5	14	35	N/A	N/A	N/A	SS, AS, CO
	1/15/15	68	53	10	21	27	545	N/A	N/A	N/A	SS, CO, unk tadpoles, frog eggs
	1/30/15	60	56	2	2	5	10	N/A	N/A	N/A	SS, CO, unk tadpoles
	3/10/15	76	55	3	3	21.5	60	N/A	N/A	N/A	SS, CO
76	12/19/14	71	61	4	3.5	35	100	N/A	N/A	N/A	None
	5/20/15	68	60	3	2	30	55	N/A	N/A	N/A	CO
77	12/19/14	68	68	5	3.5	85	250	N/A	N/A	N/A	None
	12/31/14	45	49	2	1.5	25	25	N/A	N/A	N/A	SS, CO
	3/10/15	76	56	3	2.5	120	235	N/A	N/A	N/A	SS, CO
78	12/19/14	64	56	4	10	150	1,480	N/A	N/A	N/A	C
	12/31/14	43	49	5	10	130	1,280	N/A	N/A	N/A	AS, C
	1/15/15	68	68	4	9	135	1,200	N/A	N/A	N/A	SS, C
	3/10/15	76	80	2.5	7.5	31	210	N/A	N/A	N/A	SS, CO
	5/28/15	68	65	4	6	150	885	N/A	N/A	N/A	None
79	12/19/14	64	72	4	42	51	2,100	N/A	N/A	N/A	None
80	12/19/14	64	71	2.5	37	41	1,440	N/A	N/A	N/A	None
81	12/19/14	64	66	4.5	75	105	7,500	N/A	N/A	N/A	None
	12/31/14	43	50	3	12	40	455	SDFS	I, A	100's	SS, CO
	1/15/15	68	71	2.5	11.5	38	405	Unk	I	100's	SS
82	3/10/15	76	62	3.2	11	22	230	N/A	N/A	N/A	None

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

Drainage 1	12/18/14	56	54	>12	700	30	19,600	N/A	N/A	N/A	AS, C
	1/3/15	45	44	6	700	30	19,600	N/A	N/A	N/A	AS, C
	1/16/15	68	50	6	700	30	19,600	N/A	N/A	N/A	None
	1/30/15	61	58	>12	700	30	19,600	N/A	N/A	N/A	CO, C
	2/12/15	86	60	>24	700	30	19,600	N/A	N/A	N/A	CO, C
	2/26/15	64	53	4	700	30	19,600	N/A	N/A	N/A	CO, C
	3/10/15	74	59	1.25	700	30	19,600	N/A	N/A	N/A	None
	5/20/15	60	58	2	700	30	19,600	N/A	N/A	N/A	C
Drainage 2	12/18/14	63	59	>24	50	>50	>2,500	N/A	N/A	N/A	Unk worm
Drainage 3	12/18/14	62	60	10	10	150	1,480	N/A	N/A	N/A	WF, Unk worm
	1/3/15	67	54	24	13	150	1,920	N/A	N/A	N/A	WF
	1/15/15	68	58	>24	13	150	1,920	N/A	N/A	N/A	C
	1/30/15	61	58	9	8	16	120	N/A	N/A	N/A	C, CO, SS
	3/2/15	55	62	>24	11	150	1,625	N/A	N/A	N/A	WF
	3/17/15	81	79	9	8	19.5	145	N/A	N/A	N/A	WF
	5/13/15	70	64	12	11	21	220	N/A	N/A	N/A	ML, WB
	5/28/15	68	64	10	10	15	140	N/A	N/A	N/A	WB
Drainage 4	12/19/14	55	54	6	8	100	790	N/A	N/A	N/A	None
	12/31/14	45	46	12	7	100	690	N/A	N/A	N/A	C
	1/15/15	62	49	6	27	100	2,645	N/A	N/A	N/A	None
	1/30/15	61	59	5	6	100	585	N/A	N/A	N/A	C, Unk beetle, CO
	3/2/15	55	57	24	36	100	3,525	N/A	N/A	N/A	None
	5/13/15	75	74	2.5	3	100	295	N/A	N/A	N/A	None
	5/28/15	66	63	6	10	100	980	N/A	N/A	N/A	C
Drainage 5	12/19/14	61	55	6	21	105	2,160	N/A	N/A	N/A	C
	12/31/14	43	48	3	43	105	4,430	N/A	N/A	N/A	AS
	1/15/15	68	64	4	24	105	2,470	N/A	N/A	N/A	None
	1/30/15	61	60	5	6	105	615	N/A	N/A	N/A	None
	3/2/15	55	57	4	6	105	615	N/A	N/A	N/A	C
	5/13/15	75	68	2.5	3	5	15	N/A	N/A	N/A	Unk worm
	5/28/15	66	62	6	20	150	2,960	N/A	N/A	N/A	None
	12/19/14	64	59	>24	13	650	8,420	N/A	N/A	N/A	None
	12/31/14	43	53	>24	13	650	8,420	N/A	N/A	N/A	MayL

ATTACHMENT 3: BASIN CONDITIONS BY SURVEY TABLE

Drainage 6	1/15/15	68	59	>24	13	650	8,420	N/A	N/A	N/A	C, CO
	1/30/15	61	58	>24	14	650	8,420	N/A	N/A	N/A	None
	2/12/15	86	60	12	13	650	8,420	N/A	N/A	N/A	CO
	2/26/15	64	58	>24	13	650	8,420	N/A	N/A	N/A	CO
	3/10/15	76	64	>24	13	650	8,420	N/A	N/A	N/A	None
	3/25/15	75	63	>24	13	650	8,420	N/A	N/A	N/A	None
	4/8/15	68	67	>24	13	650	8,420	N/A	N/A	N/A	None
	4/20/15	76	58	>25	14	650	8,420	N/A	N/A	N/A	None
Detention Basin1	12/18/14	62	60	>24	400	450	176,000	N/A	N/A	N/A	WF, WB, AS, Unk worm
	1/3/15	65	53	>24	400	450	176,000	N/A	N/A	N/A	AS, WF, Unk larvae, Unk worm
	1/15/15	68	61	>24	400	450	176,000	N/A	N/A	N/A	WF, Unk larvae
	1/30/15	60	61	>24	400	450	176,000	N/A	N/A	N/A	CO, SS
	2/12/15	86	63	>24	400	450	176,000	N/A	N/A	N/A	CO, SS
	2/26/15	64	65	>24	400	450	176,000	N/A	N/A	N/A	SS, WF, CO
	3/10/15	75	69	>24	400	450	176,000	N/A	N/A	N/A	WF, BW
	3/17/15	81	75	>24	400	450	176,000	N/A	N/A	N/A	WB, Unk worm, Col, WF
	3/30/15	79	73	>24	400	450	176,000	N/A	N/A	N/A	WB, WF, CO, SS
4/15/15	76	72	>24	400	450	176,000	N/A	N/A	N/A	SS, CO, WF	

Key

A = Adult	N/A = Not Applicable
DL = Dragonfly/Damselfly Larva (Order Odonata)	S = Scud (Order Amphipoda)
°F = degrees Fahrenheit	SS = Seed Shrimp (Class Ostracoda)
FE = Frog Egg	sq. ft. = square feet
ft. = feet	Unk = Unknown Species
I = Immature	VFS = Versatile Fairy Shrimp (<i>Branchinecta lindahli</i>)
in. = inches	WB = Water Boatman (Family Corixidae)
N = Nauplii	WF = Water Flea (Order Cladocera)
B = Blood worm	C = Crayfish
CO= Copepod	AS = Aquatic Snail
MayL = Mayfly larvae	Col = Coleoptera
ML = Mosquito Larvae	

ATTACHMENT 4 – Basin Conditions Summary Table

ATTACHMENT 4: BASIN CONDITIONS SUMMARY TABLE

Basin/Feature Number	Basin Dimensions				Basin Conditions			GPS Coordinate
	Actual Maximum Depth (in.)	Estimated Maximum Depth (in.)	Actual Maximum Surface Area (sq. ft.)	Estimated Maximum Surface Area (sq. ft.)	Habitat Condition	Disturbance Type	Disturbance Level	
1	5	8	540	4350	D	RR	H	N32.56219° W116.96234°
2	1.5	3	45	4350	D	RR	H	N32.56229° W116.96229°
3	4	6	85	4350	D	RR	H	N32.56214° W116.96232°
4	2	4	225	4350	D	RR	H	N32.56202° W116.96236°
5	4	6	35	4350	D	RR	H	N32.56198° W116.96236°
6	2	5	35	150	D	RR	H	N32.56173° W116.96240°
7	4	6	290	650	D	RR	H	N32.56158° W116.96239
8a-c (connected)	7	10	1325	3200	D	RR	H	N32.56124° W116.96239°
8a	5	5	260	3200	D	RR	H	N32.56124° W116.96239°
8b	3	3	140	3200	D	RR	H	N32.56124° W116.96239°
8c	2.5	3	75	3200	D	RR	H	N32.56124° W116.96239°
9	3	5	65	3200	D	RR	H	N32.56109° W116.96240°
10	6	8	480	3200	D	RR	H	N32.56105° W116.96240°
11	2	4	20	3200	D	RR	H	N32.56096° W116.96241°
12	3	5	60	3200	D	RR	H	N32.56092° W116.96243°
13a-b (connected)	4	6	180	3200	D	RR	H	N32.56089° W116.96241°
13a	2	2	28	28	D	RR	H	N32.56089° W116.96241°
13b	2	2	30	30	D	RR	H	N32.56089° W116.96241°
14	1	4	20	30	D	RR	H	N32.56093° W116.96235°
15	2	3	30	30	D	RR	H	N32.56092° W116.96238°
16	2	4	45	120	D	RR	H	N32.56090° W116.96239°
17	2	4	6	8	D	RR	H	N32.56079° W116.96239°
18	10	14	1160	2100	D	RR	H	N32.56065° W116.96233°
19	6	10	220	2800	D	RR	H	N32.56075° W116.96236°
20	10	14	690	2800	D	RR	H	N32.56073° W116.96227°
21	2.25	5	100	2800	D	RR	H	N32.56064° W116.96213°

ATTACHMENT 4: BASIN CONDITIONS SUMMARY TABLE

22	3.25	7	10	30	D	RR	H	N32.56063° W116.96201°
23	7	10	80	350	D	RR	H	N32.56061° W116.96191°
24	8	12	7500	7500	D	RD	H	N32.56073° W116.96212°
25	1.5	3	15	70	D	RR	H	N32.56060° W116.96143°
26	10	24	1360	1600	D	RR	H	N32.56176° W116.96232°
27	1.25	2	25	225	D	RR	H	N32.56040° W116.95776°
28	4	8	370	1140	D	RR	H	N32.56039° W116.95865°
29	2	5	90	260	D	RR	H	N32.56042° W116.95882°
30	3	7	250	450	D	RR	H	N32.56038° W116.95889°
31	1.5	5	240	540	D	RR	H	N32.56043° W116.95927°
32	1.5	4	100	270	D	RR	H	N32.56042° W116.95954°
33	3	6	180	340	D	RR	H	N32.56041° W116.95971°
34	1.5	3	35	375	D	RR	H	N32.56042° W116.95982°
35	1.5	4	145	275	D	RR	H	N32.56046° W116.95977°
36	6	9	1770	2320	D	RR	H	N32.56046° W116.96002°
37	12	15	450	870	D	RR	H	N32.56049° W116.96031°
38	6	8	230	275	D	RR	H	N32.56048° W116.96058°
39a-b (connected)	7	10	1400	1980	D	RR	H	N32.56048° W116.96085°
39a	3	3	115	115	D	RR	H	N32.56048° W116.96085°
39b	8	8	195	195	D	RR	H	N32.56048° W116.96085°
40	2	3	345	600	D	RR	H	N32.56048° W116.96168°
41	1.25	3	330	770	D	RR	H	N32.56048° W116.96204°
42	4.5	6	150	190	D	RR	H	N32.56053° W116.96204°
43	4	10	290	65	D	RR	H	N32.56052° W116.96215°
44a-e (connected)	6	8	17860	22500	D	RR	H	N32.56007° W116.96241°
44a	5	6	11375	11375	D	RR	H	N32.56007° W116.96241°
44b	5	6	6900	6900	D	RR	H	N32.56007° W116.96241°
44c	2.5	3	265	265	D	RR	H	N32.56007° W116.96241°
44d	4.5	5	585	585	D	RR	H	N32.56007° W116.96241°
44e	4	4	1065	1065	D	RR	H	N32.56007° W116.96241°
45	3	5	35	60	D	RR	H	N32.56057° W116.96426°

ATTACHMENT 4: BASIN CONDITIONS SUMMARY TABLE

46	1.5	4	40	90	D	RR	H	N32.55355° W116.96311°
47	2.25	6	50	130	D	RR	H	N32.55338° W116.96300°
48	2.25	8	70	130	D	RR	H	N32.55338° W116.96277°
49	2.25	6	55	95	D	RR	H	N32.55341° W116.96262°
50	3.5	6	280	560	D	RR	H	N32.55346° W116.96044°
51	4	8	180	685	D	RR	H	N32.55407° W116.96238°
52a-b (connected)	10	36	5080	8000	D	RD	H	N32.55669° W116.96240°
52a	7	8	1600	1600	D	RD	H	N32.55669° W116.96240°
52b	4	6	440	440	D	RD	H	N32.55669° W116.96240°
53	7	5	80	80	D	MD	H	N32.56052° W116.96274°
54	24	25	6450	6500	D	MD	H	N32.56041° W116.96278°
55	36	16	6450	6500	D	MD	H	N32.56042° W116.96279°
56	24	10	6450	6500	D	MD	H	N32.56039° W116.96278°
57	24	30	6450	6500	D	MD	H	N32.56030° W116.96268°
58	24	5	6450	6500	D	ND	L	N32.56021° W116.96282°
59	24	12	6450	6500	D	ND	L	N32.56021° W116.96282°
60	24	12	6450	6500	D	ND	L	N32.56007° W116.96292°
61	8	20	2530	4860	D	ND	M	N32.55993° W116.96342°
62	15	20	2535	3200	D	ND	M	N32.55991° W116.96340°
63	11	20	2960	3000	D	ND	M	N32.56018° W116.96334°
64	13	10	5160	5200	D	ND	L	N32.55989° W116.96310°
65	8	12	780	2300	D	ND	M	N32.55973° W116.96269°
66	6	12	1860	4160	D	ND	M	N32.55963° W116.96275°
67	7	13	1480	1700	D	ND	L	N32.55954° W116.96326°
68	1.5	4	100	270	D	ND	L	N32.55944° W116.96299°
69	1.5	4.5	105	2800	D	ND	M	N32.55896° W116.96275°
70	4	7	2190	4000	D	ND	M	N32.55882° W116.96308°
71	7	16	200	250	D	MD	H	N32.55851° W116.96265°
72a-d (connected)	12	16	24800	25000	D	ND	M	N32.55825° W116.96263°
72a	4	4	2830	2830	D	ND	M	N32.55825° W116.96263°
72b	3.5	4	460	460	D	ND	M	N32.55825° W116.96263°

ATTACHMENT 4: BASIN CONDITIONS SUMMARY TABLE

72c	12	12	1245	1245	D	ND	M	N32.55825° W116.96263°
72d	2	2	55	55	D	ND	M	N32.55825° W116.96263°
73	4	9	160	180	D	MD	H	N32.55776° W116.96293°
74	3	8	4365	1875	D	ND	M	N32.55778° W116.96300°
75a-c (connected)	10	20	860	900	D	MD	M	N32.55778° W116.96266°
75a	4	4	55	55	D	MD	M	N32.55778° W116.96266°
75b	3.75	4	55	55	D	MD	M	N32.55778° W116.96266°
75c	10	10	545	545	D	MD	M	N32.55778° W116.96266°
76	4	24	100	280	D	MD	M	N32.55763° W116.96267°
77	5	30	250	1000	D	MD	H	N32.55750° W116.96262°
78	5	8	1480	1200	D	ND	M	N32.56145° W116.96311°
79	4	7	2100	4400	D	ND	L	N32.56205° W116.96293°
80	2.5	5	1440	2600	D	MD	L	N32.56244° W116.96283°
81	4.5	10	7500	9900	D	MD	L	N32.56272° W116.96292°
82	3.2	6	230	2100	D	ND	L	N32.55784° W116.96284°
Drainage 1	24	>24	19600	19800	D	ND	M	N32.56245° W116.96217°
Drainage 2	24	>24	2500	2500	D	MD	H	N32.55313° W116.96030°
Drainage 3	24	24	1920	2000	D	MD	H	N32.55439° W116.96293°
Drainage 4	24	24	3525	3600	D	ND	L	N32.55993° W116.96323°
Drainage 5	6	6	4430	4500	D	ND	M	N32.56044° W116.96320°
Drainage 6	24	>24	8420	8500	D	MD	H	N32.56243° W116.96264°
Detention Basin1	>24	>24	176000	176000	D	MD	H	N32.55366° W116.96210°

Key

D = Disturbed
H = High
in. = inches
L = Low

M = Moderate
MD = Manmade Depression/Ditch
ND = Natural Depression/Ditch
RD = Roadside Ditch

RR = Road Rut
sq. ft. = square feet

ATTACHMENT 5 – Project Site Photographs



Photograph 1. View of road rut Basins 8a-c northeast of intersection of Airway Road and La Media Road (facing south; taken December 18, 2014). One unidentified, female *Branchinecta* fairy shrimp was detected within Basin 8a on January 3, 2015.



Photograph 2. View of road rut Basin 10 northeast of intersection of Airway Road and La Media Road (facing south; taken December 18, 2014). Several mature and immature versatile fairy shrimp (*Branchinecta lindahli*) were detected within Basin 10 on May 20 and 28, 2015.



Photograph 3. View of road rut Basins 44a-e southeast of intersection of Airway Road and La Media Road (facing south; taken December 18, 2014). Basin 44a in foreground was partially filled by adjacent irrigation runoff throughout wet season survey.



Photograph 4. View of natural depression Basin 72, south of Airway Road and west of and adjacent to La Media Road (facing south; taken December 18, 2014).



Photograph 5. View of vernal pool Basin 81 southwest of intersection of La Media Road and State Route 905 off ramp (facing north; taken December 19, 2014). Several mature and immature San Diego fairy shrimp (*Branchinecta sandiegonensis*) were detected within Basin 81 on December 31, 2014 and January 15, 2015.



Photograph 6. View of Detention Basin 1 northeast of intersection of La Media Road and Siempre Viva Road (facing north; taken December 18, 2014).

ATTACHMENT 6 – Survey Data Sheets

Date: 12-18-14

Surveyors:

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)
 Devin Busby, Laurie E. Gorman

Survey #: 1

Page 1 of 1
 Date 1/1/15

Basin #	Temperature (F)		Depth (in)	Est.	Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water			Act.	Est.	Act.	Est.					
1	54	52	4	8	9	30	69	150	D	RR	N/A	H	Basin 1.5 partially rained into 1 basin after heavy rain event on asphalt.
2	54	51	1.5	3	4	30	14	150	D	RR	N/A	H	
3	54	51	4	6	8	30	13	150	D	RR	N/A	H	Basin 1.5 partially rained into 1 basin after heavy rain event on asphalt.
4	54	51	2	4	8	30	30	150	D	RR	N/A	H	
5	54	51	4	6	5	30	7	150	D	RR	N/A	H	
DIST	56	54	>12	>12					UD	N/A	N/A	L	
6	56	54	2	5	3.5	5	13	30	D	RR	N/A	H	Basin 8-13 partially rained into 1 basin after heavy rain event on asphalt.
7	56	53	4	6	5	10	60	65	D	RR	N/A	H	
8	58	53	5	10	13	16	103	210	L	RR	N/A	H	Basin 8-13 partially rained into 1 basin after heavy rain event on asphalt.
9	58	55	3	5	6.5	16	12	210	D	RR	N/A	H	
10	58	55	6	8	12	16	44	210	D	RR	N/A	H	
11	58	56	2	4	4	16	5	210	L	RR	N/A	H	Basin 8-13 partially rained into 1 basin after heavy rain event on asphalt.
12	58	55	3	5	8	16	8	210	L	RR	N/A	H	
13	58	55	4	6	8	16	24	210	L	RR	N/A	H	Basin 8-13 partially rained into 1 basin after heavy rain event on asphalt.
14	58	56	1	4	4	5	5	210	L	RR	N/A	H	
15	58	56	1.5	3	3.5	4.5	4	210	L	RR	N/A	H	
16	59	56	2	4	6	12	8	210	L	RR	N/A	H	Partially on asphalt partially on asphalt Basin 8-21
17	60	58	2	4	2	2.5	3	210	L	RR	N/A	H	
18	60	55	10	14	20	30	60	75	L	RR	N/A	H	Partially on asphalt partially on asphalt Basin 8-21
19	60	56	6	10	14.5	40	17.5	75	L	RR	N/A	H	
20	60	56	10	14	16	40	48	75	L	RR	N/A	H	Partially on asphalt partially on asphalt Basin 8-21
21	60	58	2.25	5	4.5	40	7	75	L	RR	N/A	H	
22	60	56	3.25	7	9.9	2	10	75	L	RR	N/A	H	Partially on asphalt partially on asphalt Basin 8-21
23	60	56	7	10	6.5	14	20	75	L	RR	N/A	H	
24	60	55	6	11	11	16	8	120	L	RR	N/A	H	Partially on asphalt partially on asphalt Basin 8-21
25	60	59	1.5	3	2	7	8	120	L	RR	N/A	H	
26	60	59	7.5	24	7	10	150	55	D	RR	N/A	H	Partially on asphalt partially on asphalt Basin 8-21
27	60	56	1.25	2	5.5	9	5.5	37	D	RR	N/A	H	
28	60	58	4	8	7	19	55	63	D	RR	N/A	H	Partially on asphalt partially on asphalt Basin 8-21
29	60	56	2	5	7	10.5	14	27	D	RR	N/A	H	
30	60	56	3	7	10	13	27	31	D	RR	N/A	H	

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: DMV; Garbage (Gar); Ploving (P); Road Rut (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)
 Fairway X, Sample point X

Date: 12-18-14

Surveyor:

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)
Dana Busby + Laurie Gorman

Survey #:

Page 1 of 1
Day 1

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
31	64	62	1.5	5	5	8	50	70	D	RR	N/A	H	
32	64	62	1.5	4	4	8	26	36	D	RR	N/A	H	
33	64	58	3	6	6	9	33	40	D	RR	N/A	H	
34	64	61	1.5	3	5	8	40.5	49	D	RR	N/A	H	
35	64	61	1.5	4	7.5	11.5	22	27	D	RR	N/A	H	
36	64	60	6	9	23.5	28	79	85	D	RR	N/A	H	
37	64	61	12	15	9.5	13	53.5	70	D	RR	N/A	H	
38	64	55	6	8	10	11.5	25	27	D	RR	N/A	H	
39	64	55	7	10	15	18	96	115	D	RR	N/A	H	
40	64	60	2	3	15	20.5	25	32	D	RR	N/A	H	
41	64	62	1.25	3	11	14	84	56	D	RR	N/A	H	
42	62	62	4.5	6	6	7	27.5	29	D	RR	N/A	H	
43	62	62	4	10	4	5	12	15	D	RR	N/A	H	
44	62	64	6	8	19	25	950	1990	D	RR	N/A	H	
45	63	64	3	5	3	4	13.5	17.5	D	RR	N/A	H	
46	63	64	1.5	4	6.5	7.5	7.5	12	D	RR	N/A	H	
47	63	64	2	6	7.5	10	7.5	14	D	RR	N/A	H	
48	63	64	2	8	9	12.5	9.5	12	D	RR	N/A	H	
49	63	64	2.25	6	6	9	15.5	15	D	RR	N/A	H	
50	63	63	3.5	6	10	14.5	20	21	D	RR	N/A	H	
52	63	59	2.24	2.24	~50	~90	~100	~100	D	RR	N/A	H	
51	62	64	4	8	~100	~120	~150	~150	D	RR	N/A	M	
52	62	64	10	36	6	10	250	330	D	RR	N/A	H	
D3	62	60	10	24	10	10	150	150	D	RR	N/A	M	

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: DMV: Garbage (Gar); plowing (P); Road Run (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)
 ** DB = Detention Basin

along edge of pavement
 Edge is along gravel
 Constructed down our
 side
 mud puddle formed
 same night as 48
 natural water drainage leading
 to
 some
 water
 under
 road

Date: 12-18-14

Surveyors: Dan Bushy, Laurie Corman

p. 4 of 4

SPRINGFIELD (Sheet 2)

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
D2	no shrimp				unidentified white worm	
DB1	no shrimp				unidentified aquatic snail, WF	
					unidentified white worm, ball	
					green weed	
D3	no shrimp				white worms, WF	

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nauplii
 N/A = Not Applicable
 S = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Ostracoda)
 VFS = Versatile Fairy Shrimp (B. tridactyl)
 WB = Water Boatman (Family Corixidae)
 WP = Water Flea (Order Cladocera)
 Unk = Unknown Species

Date: 12-19-14

Surveyors: FAIRY SHRIMP DATASHEET - BASIN CONDITIONS (Sheet 1)
 Brian Lohstroh, Laurie Garman

Survey #: 1 (Dart 2)
 page 1 of 2

Basin #	Temperature (F)		Depth (In)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
53	53	49	3	5	4	6	2	9	D	Root rot	N/A	H	in a meadow area, fed by runoff from flooded road. Wetland veg.
54	53	54	12	25	6	7.5	8	12	D	rodent	N/A	H	
55	54	52	10	16	12	14	12	17	D	rodent	N/A	H	
56	54	51	4.5	10	7	8	9.5	12	D	"	N/A	H	
57	54	50	3	30	1.5	4	2.2	6	D	"	N/A	H	
58	54	51	3	5	3.5	13	11	2.2	D	"	N/A	H	
59	54	49	4	12	18	29	42	57	D	"	N/A	H	
60	55	51	6	12	5.5	11	80	96	D	"	N/A	H	
61	55	54	6	11	8	2.3	100	110	D	"	N/A	H	
62	58	52	3.5	20	7	5.4	30	96	D	"	N/A	H	
63	60	52	6	20	19	3.2	40	110	D	"	N/A	H	
65	61	55	6	20	6	13	54	110	D	"	N/A	H	
64	64	52	5	10	21	8.3	10.5	1.5	D	"	N/A	H	
65	64	55	8	12	20	4.2	3.8	6.0	D	"	N/A	H	
66	65	55	6	12	38	5.2	51	8.5	D	"	N/A	M	
67	65	56	7	13	15	2.0	60	90	D	"	N/A	M	
68	65	54	1.5	4	9	1.9	13	12	D	"	N/A	L	
69	65	63	1.5	4.5	7.5	3.0	1.6	1.6	D	"	N/A	M	
70	66	57	4	7	20	3.6	9.6	50.4	D	"	N/A	M	
71	66	59	7	16	9	31	7.8	3.6	D	"	N/A	M	
72	68	60	12	16	160	11.3	25.6	2.9	D	"	N/A	M	
73	70	63	4	9	9	9	20	21	D	"	N/A	H	
74	70	62	3	8	7.6	5.2	11.5	12	D	"	N/A	M/H	
75	71	63	6	20	4.5	8	6.2	12	D	"	N/A	M/H	
76	71	61	4	24	3.5	7.5	2.5	9.2	D	"	N/A	M/H	
77	68	60	5	30	3.5	7.5	8.5	15.0	D	"	N/A	H	
78	64	56	4	8	10	1.5	16.7	16.7	D	"	N/A	M	
79	64	72	4	7	9.2	5.2	5.1	2.4	D	"	N/A	M	
80	64	71	2.5	5	3.7	4.6	4.1	2.2	D	"	N/A	M	
81	64	66	4.5	10	1.5	9.1	10.5	11.5	D	"	N/A	M	
82	64	59	2.4	2.4	1.3	1.5	10.50	10.50	D	"	N/A	M	

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OMV; Garbage (GAR); plowing (P); Road Rut (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Black-tailed jack rabbit, observed in PNC
 Bay California at 15 frog

pool in grassland, grass bottom pool in grassland, on edge of better for his petechial to fall in towards the west, runs in grassland, created by tires

in wetland off cattail area, quantity needed are...
 Wetland area with cattail and pond

leading fence next to Fairy offroad p. Sours to creating Fairy

Date: 12-19-14

Surveyors:

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)
Brian Lohstroh, Laurie Gorman

Survey #:

(Page 2)
p 2 of 2

Basin #	Species	Fairy Shrimp Detected			Notes
		Reproductive Status	Numbers	Accessioned (#/Type)	
54					
55					
58					
59					
60					
63					
65					
64					
66					
78					
* D1	(Drawing) (Preparation) (Preparation)				

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg

I = Immature
 N = Nuphil
 N/A = Not Applicable

S = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Ostracoda)
 VFS = Variable Fairy Shrimp (B. lindahli)

Wg = Water Boatman (Family Corixidae)
 Wf = Water Flea (Order Cladocera)
 Unk = Unknown Species

Date: 12-31-14

Surveyors: FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Survey #: 2

Brian Lehstrom, Laurie Gorman

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
53	45	46	7		7		13		D	See survey #1	N/A	H	private property, duckling from road
54	45	48	8		4		3		D				
55	45	47	12.5		14		14		D				
56	45	48	3		4		9		D				
57	45	46	5		7		23		D				
58	45	45	5		19		23		D				
59	45	46	8		30		50		D				
60	45	47	7		42		58		D				
64	45	46	12		7		100		D				
67	45	44	9		32		38						
68	45	50	2		11		24						vernal pool
66	45	50	2		6		20						
65	45	51	2		6		9						
69	45	49	1		1		4						
70	45	49	1		1		4						
71	45	52	2.5		29		90						72 separated into 4 pools
72a	45	49	3.5		14		34						
72b	45	49	11		26		44						
72c	45	50	4		6		9						
75a	45	50	3.75		7		20						
75b	45	52	2		3.5		8						
72d	45	50	2.5		3.5		14						
75c	45	50											
73	45												
74	45												
76	45	49	2		1.5		25						
77	45	49	2		1.5		25						
61	43	49	8		13		200						61 + 62 + 63
62	43	49	8		13		200						longer & deeper
63	43	49	8		13		200						longer & deeper
65	43	48	3		43		105						

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: CHV; Garbage (Gar); Ploving (Pl); Road Run (RR); Roadside Ditch (RD); Mammal Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 12-31-14

Surveyors: FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)
 Brian Johnston, Laurie Coorman

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Number	Accessioned (#/Type)		
54	---					
55	---				Crayfish	
56	---				Crayfish	
57	---				Crayfish, AS	
58	---				C	
59	---				C, AS	
D1	---				C	
64	---				AS, C	
67	---				C	
66	---				Copepod	
70	---				Copepod	
72a	---				SS	
72b	---				Copepod, SS	
72c	---				SS	
75a	---				Copepod	
72d	---				SS, copepod	
75b	---				Over all (C, S) Copepod	
75c	---				SS, copepod, aquatic beetle	
77	---				SS, SS, copepod	
61-63	---				SS, SS	
D5	---				AS	

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nauplii
 N/A = Not Applicable
 SS = Seed Shrimp (Class Ostracoda)
 VFS = Versatile Fairy Shrimp (B. lindahli)
 AS = Aquatic Beetle
 WB = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 Unkn = Unknown Species
 C = Crayfish

Date: 12-31-14

Surveyors: B. Lohstroh, L. Gorman

Survey #: 2

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
78	43	49	5		10		130						
79	DRY												
80	DRY												
81	43	50	3		12		40						
Dh	43	53	224		13		-650						

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)

Disturbance Type: OHV; Garbage (GAR); Pilewng (P); Road Ruc (RR); Roadside Ditch (RD); Mannside Depression (MD)

Grazed Type: Cattle (C); Horse (H)

Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 12-31-14

Surveyors: B. Bohnschuh, L. Gorman

Survey #: 2

Fairy Shrimp Detected

Basin #	Species	Reproductive Status	Number	Accessioned (#/Type)
78	N/A	N/A	N/A	N/A
81	B. sandiegonsis	E/A	100's	4/3/23
D6	N/A	N/A	N/A	N/A

Other Species Detected

Notes

AS, C
 Reprods, SS
 mayfly larvae

Fairy shrimp B. sandiegonsis
 collected from GPS
 32.96275 N
 -116.96301 W
 478 ft elev.
 from Basin 81 by
 Bohnschuh. He will provide
 USFWS w/ notification
 species identified w/USFWS

A =Adult
 Dt =Dragonfly/Damselfly Larva (Order Odonata)
 FG =Frog Egg
 1 =Immature
 N = Nauplii
 N/A =Not Applicable
 S =Scud (Order Amphipoda)
 SS =Seed Shrimp (Class Ostracoda)
 VFS =Versatile Fairy Shrimp (B. lindahli)
 WB =Water Boatman (Family Corixidae)
 WF =Water Flea (Order Cladocera)
 Unk =Unknown Species

Date: 1-3-14

Surveyors: Dawn Busby, Laurie Gorman

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Survey #: 2

Basin #	Temperature (F)		Depth (in)	Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water		Act.	Est.	Act.	Est.					
D1	45	44	8.6									
1	43	44	5			8						
2	Dry											
3	45	44	2			5.5						
4	45	43	1.5			5						
5	45	44	4			5						
6	45	44	0.5			1						
26	45	42	6			5						
7	47	46	3			6						
8a	47	47	3			10						
8b	48	52	2.5			8						
9a	50	52	0.5			2						
9b	50	51	2.5			6.5						
10	50	49	5			10						
11	Dry											
12	53	58	2			3.5						
13a	55	58	2			4.5						
14	Dry											
13b	55	58	2			5						
15	Dry											
16	Dry											
17	Dry											
18	60	51	9			16						
19	60	58	3.5			11.5						
20	60	51	9			11						
24	60	53	8			13						
21	Dry											
22a	Dry											
22b	Dry											
39	61	52	7			14						
40	62	52	1			5.5						
41	Dry											
42	63	52	2			3.5						

See Survey #1

21-25 dry due to burn moving/grading sites.

37-38

Basins outside of NWS project boundary + buffer.

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; Garbage (Gar); Plowing (P); Road Rut (RR); Roadside Ditch (RD); Mainstem Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 1-3-14

Surveyors: D. Busby, L. Gorman

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Survey #: 2

Fairy Shrimp Detected

Basin #	Species	Reproductive Status	Numbers	Accessioned (#/Type)	Other Species Detected	Notes
D1					C, AS	
26					C	
8a	unk	A (under)	1		Copepods, aquatic beetle	♀ unk adult fairy shrimp w/ full egg. Sac egg sac appears flint but appears to have 2 rows of dorsal-lateral processes
8b					Copepods	
89					Copepods	
10					CS Copepods	
18 (new)						
19					Copepods	
20					Copepods	
24					AS, SS, Copepods	

A=Adult
 DL=Dragonfly/Damselfly Larva (Order Odonata)
 FE=Frog Egg
 I=Immature
 N=Nauplii
 N/A=Not Applicable
 SS=Seed (Order Amphipoda)
 SS=Seed Shrimp (Class Ostracoda)
 VS=Versatile Fairy Shrimp (B. lindahli)
 WB=Water Boatman (Family Corixidae)
 WF=Water Flea (Order Cladocera)
 Unk=Unknown Species

Date: 1-3-14

Surveyors: D. Busby, L. Gorman

Survey #: 2

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
43	63	52	2		3		8		See survey #1	}	}		
44a	63	64	4		13		61						
44b	63	59	5		20		350						
44c	63	66	2.5		3		90						
44d	63	60	4.5		8		75						
44e	63	65	3		8		135						
52a	63	55	7		6.5		270						
52b	63	63	4		5.5		90						
D81	65	53	2.25										
47	67	64	2.25		7		8						
48	67	60	2.25		7		7						
49	muddy/in surveyable				Dry								
D3	67	54	2.25		13		450						
46	Dry Dg												
51	Dry Dg												

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)

Disturbance Type: OHV; Garbage (Gar); Ploving (P); Road Run (RR); Roadside Ditch (RD); Manmade Depression (MD)

Grazed Type: Cattle (C); Horse (H)

Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Basin 50
 ↓ Drainage of new
 on outside of new
 moat/buffer boundary.

46g

Very muddy
 Very muddy

5

Date: 1-3-14

Surveyors: D. Busby, L. Gorman
FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Survey #:

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
44A	N/A				SS, core pods	
P81	N/A				AS, WF, unk larvae, red worm	
P3	N/A				WF	

A=Adult I=Immature S=Seed (Order Amphipoda) WB=Water Boatman (Family Corixidae)
DL=Dragonfly/Damselfly Larva (Order Odonata) N=Nauplii SS=Seed Shrimp (Class Ostracoda) WF=Water Flea (Order Cladocera)
FE=Frog Egg N/A=Not Applicable VFS=Versatile Fairy Shrimp (G. lindahli) Unk=Unknown S1-5

Basin #	Temperature (F)		Depth (In)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
53	62	Dry	14		7		8			see survey #1			
54	62	51	14		7		8						
55	62	50	11		11		14						
56	62	49	4		4		14						
57	Dry		4		7		11						
58	62	48	7		20		31						
59		49	6		5.5		35						
64		49	6		27		35						
60		49	2		14		20						
65-68	Dry												
69-74	Dry												
75a	68	Dry											
75b	68	Dry											
75c	68	53	10		21		27						
76	Dry												
77	Dry												
92a	68	55	7		6.5		7.5						
92b	68	57	3		3.5		5.5						
D81	68	61	24										
51	Dry												
D3	68	58	24		13								
46-49	Dry												
63	68	54	11		13		20.5						
D5	68	64	4		24		8						
61	Dry												
62	68	55	5		6.5		11						
68	68	68	4		9		12.5						
D6	68	59	24		see survey #1		see survey #1						
75a	Dry												
61	68	71	2.5		11.5		3.9						

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; garbage (gar); mowing (P); Road Run (RR); Roadside Ditch (RD); Mammal Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)
 1. ... the water ...
 2. ... the water ...
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 92. ... the water ...
 93. ... the water ...
 94. ... the water ...
 95. ... the water ...
 96. ... the water ...
 97. ... the water ...
 98. ... the water ...
 99. ... the water ...
 100. ... the water ...

Date:

1-15-15

Surveyors:

Darin Busby / Laurie Gorman

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Survey #:

3

Basin #	Species	Fairy Shrimp Detected			Accessioned (#/Type)	Other Species Detected	Notes
		Reproductive Status	Numbers				
54					COSS		
55					AS		
56					Living beetle		
58					C, CO, AS		
59					C, CO		
64					SS, AS, CD, C		
60					C, CO		
75c					SS, CO, tadpoles, frog eggs, snails		
52a					AS, CO		
52b					CO		
D61					LVF, live larvae		
D3					C		
63					AS, CO		
62					CO, AS		
78					SS, C		
D6					C, CO, C		
81	Unknown Fairy Shrimp	I	100's		SS		

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nauplii
 N/A = Not Applicable
 S = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Copepoda)
 VFS = Versatile Fairy Shrimp (B. lindahli)
 W = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 Unknown Species

Date: 1-16-15

Surveyors: Darrin Busby / Laurie Gorman

Survey #: 3

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Basin #	Temperature (F)		Depth (in)	Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water		Act.	Est.	Act.	Est.					
1	61	48	4	7.5	51.5			Sod survey				
2	Dry	48	2.75	3.5	4							
3	Dry											
4	Dry											
5	61	46	3	2	5							
26	61	47	5	5	47							
7	Dry											
8a	61	50	3	5.5	24							
8b	61	50	5	11	27							
9	63	58	2	9	13							
9c	Dry											
10	63	52	6	12	46							
11	Dry											
12	63	54	2	4	5.5							
12a	63	55	2	4	7							
13b	43	55	2	5.5	7							
14-17	Dry											
18	63	53	7	15	31							
19	Dry (see notes)											19 has been covered by farm fill to create pool eye
20	65	55	3	6	23							
24	65	50	8	18	28							
21-23	on A25	Dry										
39	68	45	60	15	70.5							
40	43	Dry	43 too shallow to survey									
44a	70	45	7	6	63							
44b	70	65	3	18	30							
44c	70	68	7	2	38.5							
44d	70	61	4	5.5	10.5							
44e	76	65	4	7.5	120							
D1	68	50	6	9.5	120							

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)

Disturbance Type: OHV; garbage (Gar); plowing (P); Road Run (RR); Roadside Ditch (RD); Mainmade Depression (MD)

Grazed Type: Cattle (C); Horse (H)

Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Drawn 2
Basin 21-38 Excluded/outside
of revised project
boundary + buffer

farm fill to create pool eye

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
1	N/A				CO	
3					CO	
5					CO	
26					C, CO white worm (unknown)	
7					CO	
8a					CO	
9					CO	
10					CO	
20					CO	
24					C	
39					SS	
44a					CO	
44b					known white worm, SS, CO	
44c					CC	
44d					CO	
44e					CC	

A=Adult
 DL=Dragonfly/Damselfly Larva (Order Odonata)
 FE=Frog Egg
 I=Immature
 N=Neuphil
 N/A=Not Applicable
 S=Scud (Order Amphipoda)
 SS=Seed Shrimp (Class Ostracoda)
 VFS=Variable Fairy Shrimp (B. Indehii)
 W=Water Boatman (Family Corixidae)
 WF=Water Flea (Order Cladocera)
 Unk=Unknown Species

Date: 1/30/15

Surveyors: FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)
Darin Busby, Laurie Gorman

Survey #: 4

Basin #	Temperature (F)		Depth (in)	Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water		Act.	Est.	Act.	Est.					
8a	58	56	1.5		6		13	See survey #1				
24	58	57	8		6		13	See survey #1				
26	59	57	8		3		75	See survey #1				
10	59	57	8.5		7		25					
18	60	58	4		7		22					
39a		56	2.5		9		9					39 split into a & b. a is more west than b
39b		56	6		12		17					75 a & b are south of c. facing south. c is narrowest.
75a		56	2		2		5					
D81		61	224		See survey #1		See survey #1					
D3	61	58	9		8		16					
D5		60	5		6		105					
D4		59	5		6		See survey #1					
D6		58	224		13		650					
D1		58	>12		See survey #1		See survey #1					
All other basins were as per above.												

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; Garbage (Gar); Ploving (P); Road Rut (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 1/30/15

Surveyor: FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)
 Darin Busby, Laurie Gorman

Survey #: 4

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
8a	N/A	N/A	1	1	Copepods (CO) Crayfish (C)	
24			1	1	CO WB	
26			1	1	CO, 1 int beetle, 4 int worm	
10			1	1	CO, SS	
18			1	1	CO, SS	
39a			1	1	CO, SS	
39b			1	1	CO, SS tadpoles/water	
40a	75C		1	1	CO, SS	
40b	D&I		1	1	C, CO, SS	
40c	D&I		1	1	C, int beetle, CO	
40d	D&I		1	1	C, C	
D4			1	1		
D1			1	1		

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nuphil
 N/A = Not Applicable
 S = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Ostracoda)
 VFS = Versatile Fairy Shrimp (B. lindahli)
 WB = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 Unk = Unknown Species

Date: 2-5-15

Surveyors:

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)
 Darin Busby, Laurie Gorman

Survey #: 4 (6) were dry on Jan 16
 30 but are now full

Basin #	Temperature (F)		Depth (in)	Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water		Act.	Est.	Act.	Est.					
44a	80	80	2.5			41						
44b	80	80	1.25			13						
54	80	61	20			8.5						
55	80	65	10			9						
56	80	75	6			4						
58	80	60	4.5			3						
59	80	65	5			22						
60	80	60	1.5			9.5						
64	80	63	7			22						

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)

Disturbance Type: DNV; garbage (Gar); Ploving (P); Road Run (RR); Roadside Ditch (RD); Mainroad Depression (MD)

Grazed Type: Cattle (C); Horse (H)

Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 2-5-15

Surveyors: Devin Busby, Lauren Gorman

Survey #: 4 (6)

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
44A	N/A					
44B	N/A				SS + CO	
54	N/A				CO	
55	N/A				CO	
56	N/A				CO	
58	N/A				CO	
59	N/A				CO	
60	N/A	no species	skinned			
64	N/A					

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nauplii
 N/A = Not Applicable
 SS = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Cystacea)
 VRS = Versatile Fairy Shrimp (B. lindahli)
 WB = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 Unk = Unknown Species

Date: 12/12/15

Surveyors:

FAIRY SHRIMP DATA SHEET BASIN CONDITIONS (Sheet 1)

Survey #:

LA MEAD ESD 5a

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
10	56F	56F	30"	26 1/2"	15 ft		4 ft						
317	60F	41"			10 ft		12 ft						
318	60F	32 1/2"			13 ft		6.5 ft						
319	60F	22 1/2"											
320	60F	12"											
321	60F	12"											
322	60F	12"											
323	60F	12"											
324	60F	12"											
325	60F	12"											
326	60F	12"											
327	60F	12"											
328	60F	12"											
329	60F	12"											
330	60F	12"											
331	60F	12"											
332	60F	12"											
333	60F	12"											
334	60F	12"											
335	60F	12"											
336	60F	12"											
337	60F	12"											
338	60F	12"											
339	60F	12"											
340	60F	12"											
341	60F	12"											
342	60F	12"											
343	60F	12"											
344	60F	12"											
345	60F	12"											
346	60F	12"											
347	60F	12"											
348	60F	12"											
349	60F	12"											
350	60F	12"											
351	60F	12"											
352	60F	12"											
353	60F	12"											
354	60F	12"											
355	60F	12"											
356	60F	12"											
357	60F	12"											
358	60F	12"											
359	60F	12"											
360	60F	12"											
361	60F	12"											
362	60F	12"											
363	60F	12"											
364	60F	12"											
365	60F	12"											
366	60F	12"											
367	60F	12"											
368	60F	12"											
369	60F	12"											
370	60F	12"											
371	60F	12"											
372	60F	12"											
373	60F	12"											
374	60F	12"											
375	60F	12"											
376	60F	12"											
377	60F	12"											
378	60F	12"											
379	60F	12"											
380	60F	12"											
381	60F	12"											
382	60F	12"											
383	60F	12"											
384	60F	12"											
385	60F	12"											
386	60F	12"											
387	60F	12"											
388	60F	12"											
389	60F	12"											
390	60F	12"											
391	60F	12"											
392	60F	12"											
393	60F	12"											
394	60F	12"											
395	60F	12"											
396	60F	12"											
397	60F	12"											
398	60F	12"											
399	60F	12"											
400	60F	12"											

10
18 } All Dry
14
26
-126

Habitat Conditions: Undisturbed (UD), Disturbed (D), Ungrazed (UG), Grazed (G)
 Disturbance Type: DHI, Garbage (Gar), Plowing (Pl), Road Rut (RR), Roadside Ditch (RD), Mound Depression (MD)
 Grazed Type: Cattle (C), Horse (H)
 Disturbance Amount: Light (L), Moderate (M), Heavy (H)

D. B. b. v. ~~XXXXXXXXXX~~

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
246-bsp/1	-	-	-	-	CO SS	
247-1	-	-	-	-	CO SS	
247-2	-	-	-	-	CO SS	
247-3	-	-	-	-	CO SS	
247-4	-	-	-	-	CO SS	
247-5	-	-	-	-	CO SS	
247-6	-	-	-	-	CO SS	
247-7	-	-	-	-	CO SS	
247-8	-	-	-	-	CO SS	
247-9	-	-	-	-	CO SS	
247-10	-	-	-	-	CO SS	
247-11	-	-	-	-	CO SS	
247-12	-	-	-	-	CO SS	
247-13	-	-	-	-	CO SS	
247-14	-	-	-	-	CO SS	
247-15	-	-	-	-	CO SS	
247-16	-	-	-	-	CO SS	
247-17	-	-	-	-	CO SS	
247-18	-	-	-	-	CO SS	
247-19	-	-	-	-	CO SS	
247-20	-	-	-	-	CO SS	
247-21	-	-	-	-	CO SS	
247-22	-	-	-	-	CO SS	
247-23	-	-	-	-	CO SS	
247-24	-	-	-	-	CO SS	
247-25	-	-	-	-	CO SS	
247-26	-	-	-	-	CO SS	
247-27	-	-	-	-	CO SS	
247-28	-	-	-	-	CO SS	
247-29	-	-	-	-	CO SS	
247-30	-	-	-	-	CO SS	
247-31	-	-	-	-	CO SS	
247-32	-	-	-	-	CO SS	
247-33	-	-	-	-	CO SS	
247-34	-	-	-	-	CO SS	
247-35	-	-	-	-	CO SS	
247-36	-	-	-	-	CO SS	
247-37	-	-	-	-	CO SS	
247-38	-	-	-	-	CO SS	
247-39	-	-	-	-	CO SS	
247-40	-	-	-	-	CO SS	
247-41	-	-	-	-	CO SS	
247-42	-	-	-	-	CO SS	
247-43	-	-	-	-	CO SS	
247-44	-	-	-	-	CO SS	
247-45	-	-	-	-	CO SS	
247-46	-	-	-	-	CO SS	
247-47	-	-	-	-	CO SS	
247-48	-	-	-	-	CO SS	
247-49	-	-	-	-	CO SS	
247-50	-	-	-	-	CO SS	
247-51	-	-	-	-	CO SS	
247-52	-	-	-	-	CO SS	
247-53	-	-	-	-	CO SS	
247-54	-	-	-	-	CO SS	
247-55	-	-	-	-	CO SS	
247-56	-	-	-	-	CO SS	
247-57	-	-	-	-	CO SS	
247-58	-	-	-	-	CO SS	
247-59	-	-	-	-	CO SS	
247-60	-	-	-	-	CO SS	

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nauplii
 N/A = Not Applicable
 S = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Ostracoda)
 VS = Versatile Fairy Shrimp (B. hindahii)
 WB = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 U = Unknown Species

Date: 2-26-15

Surveyors: FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Survey #: 60A

Darin Busby, Laura E. Gorman

Survey nr. 60A
Area near town
on 2/2/15

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
39a	62	55	3		6.5		10						
39b	62	54	8		13.5		10.5						
D1	64	53	4		24								
D6	64	58	224										
D61	64	63											

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: DMV; Garbage (Gar); plowing (P); Road Run (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 2-26-15

Surveyor: FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)
 Davis Bushy, Laurie Gorman

Survey #: 62

Basin #	Fairy Shrimp Detected				Other Species Detected	Notes
	Species	Reproductive Status	Numbers	Accessioned (#/Type)		
39b	N/A				SS, CO	
D1	N/A				C, CO	
D6	N/A				CO	
D61	N/A				SS, WF, CO	

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nauplii
 N/A = Not Applicable
 SS = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Ostracoda)
 VFS = Versatile Fairy Shrimp (B. Inshahi)
 WG = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 UNP = Unknown Species

Date: 3-2-15

Surveyors: Brian Lohstosh, Laurie Gorman

Survey #: 66

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
1	55	61	3.5		9		56						
8		57.5	7		10.5		109						
10	7	57.5	6		12		44						
13		58	3		6.5		26						
15		57	2		5.5		6						
20		57	3		17		19						
24		57	8		14		See survey #1						
26		55.7	10		7		200						
40		57.5	2		11		24						converts to DI today
44		57.4	<		12		~950						
52		62	9		5		~850						
53		59	4		3		8						
54		59	4		3		8						
55		57.5	30 in		4		10						
56		58	13		9		29						
57		57.8	6		4		42						
58		58	7		40		42						
59		58	12		32		36						
60		58	10		N 40		~80						
64		57	24		30 in (30 in)		See survey #1						
62		58	15		~20		~30						
61		58	6		See previous		See survey #1						
63		58	7		See previous		See survey #1						
65		57	4		See survey #1		See survey #1						
64		58	7.5		See previous		See survey #1						
63		61.5	>24		See previous		See survey #1						

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; Garbage (GAR); Ploving (P); Road Rut (RR); Roadside Ditch (RD); Mammal Depression (MD)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)
 Grazed Type: Cattle (C); Horse (H)

Centrines southward + water is being pumped from driveway & towards all these pools + the water is running between them all. Basics are all larger but convert to see other.

converts to DI today

66

Date: 3-2-15

Surveyor: Brian Lohstroh, Laurie Gorman

Survey #: 66

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
8						
10						
13						
15						
20						
24						
26						
40						
44						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
D3						
D4						
D5						

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nuplii
 N/A when Applicable
 S = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Ostracoda)
 VFS = Vernal Fairy Shrimp (B. lindahli)
 WB = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 U = Unknown Species
 R = 79-38 notes of an 1-day 1m 45 SD + drainage 2

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes	
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.						
D04	2-7	9	11	12	14	16-19	21-23	25	41	42	46-49	51, 65, 66, 68-71, 73	74, 76, 79, 80	note: 81 had fairy shrimp in tail, oods
No flyer part of project: 27-38, 45, 50, D2														
39A	74	72	2			7		12						
39b	74	62	4			13		17						
4#3	74	63	4			3.5		52						
D81	75	69	224			see survey # 1		41						
72c	75	65	12			20.5		120						
72a	75	66	4			14.5		13						
72d	75	66	2.5			11		78						
67	76	70	3.5			15		31						
78	76	80	2.5			7.5								
D1	76	59	1.25			25		see survey # 1						
D6	76	64	224			see previous survey		7.5						
759	76	55	3			6.5		16						
75b	76	52	3.5			3.5		22						
82	76	62	3.5			11		120						
77	76	56	3			2.5		21.5						
75c	76	55	3			3								

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; Garbage (Gar); Plowing (P); Road Rut (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)
 82 = new pool

new pool this survey

Date: 3-10-15

Surveyor: Brian Kohsthal

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)
Brian Kohsthal
Gorman

Survey #: 79

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
39a					WF	
39b					WF, SS	
D81					WF, blood worm	
72c					CO, SS, p.c. Cerat. frog tadpoles	
72a					CO, SS	
72b					CO, S, S	
67					C, CO, SS	
78					SS, CO	
75a					CO, SS	
75b					CO, SS	
75c					CO, SS	
77					CO, SS	

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Neupill
 N/A = Not Applicable
 S = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Ostracoda)
 VFS = Versatile Fairy Shrimp (B. lindahli)
 WF = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 Unk = Unknown Species

Date: 3-17-15

Surveyor: Brian Lakethrak, Kaverie Gorman

Fairy Shrimp Data Sheet - Basin Conditions (Sheet 1) Survey #: 76

Basin #	Temperature (F)		Depth (In)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
DB3	81	79	9		8		19.5						
DB1	81	75	>24		9		18.5						
DB0	81	87	2		9		17.5						

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV: Garbage (G): Plopping (P); Road Run (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)
 (Surveying pools invaded that weren't surveyed on 3-10-15. Pools also included today that were surveyed 3-10-15 include D1, D6, D3, D2, 4, 7, 7-

Date: 3-17-15

Surveyors: Brian Lehstrom, Larrie Cornden

Survey #: 76

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Basin #	Species	Fairy Shrimp Detected		Other Species Detected	Notes
		Reproductive Status	Numbers		
B26	N/A	N/A	N/A	WF	
D0	N/A	N/A	N/A	SS	
D01	~	~	~	WP, WNK, worm, aquatic beetle, WF	
D3	~	~	~	WF	

A = Adult
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nauplii
 N/A = Not Applicable
 S = Scaud (Order Amphipoda)
 SS = Sead Shrimp (Class Ostracoda)
 VFS = Versatile Fairy Shrimp (B. Indahii)
 WB = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 WNK = Unknounr Species

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
D1	75												1 Day
D2		63	24 1/2			10'							1 Day Concrete made around 5:30 ft
H3													1 Day
J2													1 Day
J16		60	3		9		12						1 Day
J17													
J18													
J19													
J20													
J21													
J22													
J23													
J24													
J25													
J26													
J27													
J28													
J29													
J30													
J31													
J32													
J33													
J34													
J35													
J36													
J37													
J38													
J39													
J40													
J41													
J42													
J43													
J44													
J45													
J46													
J47													
J48													
J49													
J50													

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: DMV; Garbage (Gar); PLOWING (P); Road Rut (RR); Roadside Ditch (RD); Manmade Disturbance (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date:

Surveyors:

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Survey #:

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
D16	ovata				None	
396	leake				SS, Boettie larvae, Red worms	
729	leake				Red worms, SS, water bugs, Boettie larvae	Shrimping earlier than brownish leaf beetles

A=adult
 DL=Dragonfly/Damselfly Larva (Order Odonata)
 FE=Frog Egg

I=Immature
 N=Nauplii
 N/A=Not Applicable

S=Scud (Order Anypidipoda)
 SS=Seed Shrimp (Class Ostracoda)
 VFC=Versatile Fairy Shrimp (B. lindahli)

WB=Water Boatman (Family Corixidae)
 WF=Water Flea (Order Cladocera)
 Unk=Unknown Species

Date: 3-30-15

Surveyors: Laurie Gorman

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Survey #: 8#6

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
10	Dry												
D3	Dry												
D&I 78.5		73	224		see survey #1		see survey #1		see survey #1		see survey #1 / notes		<p>Notes for Survey #6:</p> <p>Basin 72c, 39b are now dry. D6 still inundated.</p> <p>see survey #1</p> <p>see survey #1</p> <p>see survey #1</p> <p>see survey #1</p> <p>see survey #1</p> <p>see survey #1</p>

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; Garbage (Gar); Plowing (P); Road Run (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 3-30-15

Surveyors: Laurie Gorman

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Survey #: 806

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
D81	None				WR, WF, CO, SS	

A = Adults
 DL = Dragonfly/Damselfly Larva (Order Odonata)
 FE = Frog Egg
 I = Immature
 N = Nauplii
 N/A = Not Applicable
 S = Scud (Order Amphipoda)
 SS = Scud Shrimp (Class Ostracoda)
 VFS = Variable Fairy Shrimp (G. lindahli)
 WG = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 Unk = Unknown Species

Date: 4-8-15

Surveyors: Laurie Gorman

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Survey #: 9a

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
43	68.3	67	3.5		5								
D6	68.3	67	224		see survey #1		see survey #1		see survey #1				

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: DRY; Garbage (GR); Pounding (P); Road Run (RR); Roadside Ditch (RD); Menmade Depression (MD)
 Grazed Type: Cattle (C); Horses (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 4-8-15

Surveyors: Laurie Gorman

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Survey #: 2099a

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
43	N/A				NO SS	
D6	N/A				none	

A=Adult I=Immature S=Scud (Order Amphipoda) WB=Water Boatman (Family Corixidae)
 DL=Dragonfly/Damselfly Larva (Order Odonata) N=Nauplii SS=Scud Shrimp (Class Ostracoda) WF=Water Flea (Order Cladocera)
 FE=Frog Egg N/A=Not Applicable VFS=Versatile Fairy Shrimp (B. Indehis)

Date: 4-15-15

Surveyor:

Laurie Gorman

Fairy Shrimp Data Sheet - Basin Conditions (Sheet 1)
Survey #: 96

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
DB1	75.8	72	72		See Survey #1		See Survey #1						

Still Inundated.
DB1, Dia, Basin 43

Habitat Conditions: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; Garbage (Gar); Plowing (P); Road Run (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horses (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 4-15-15 Surveyors: Laurie Gorman FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

SURVEY #: 96

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Nickel
		Reproductive Status	Numbers	Accessioned (#/Type)		
D81	N/A	—	—	—	SS, CO, WF	

A=Adult I=Immature S=Scud (Order Amphipoda) Wg=Water boatman (Family Corixidae)
 DL=Dragonfly/Damselfly Larva (Order Odonata) N=Naiplill SS=Seed Shrimp (Class Ostracoda) Wf=Water Flea (Order Cladocera)
 FE=Frog Egg N/A=Not Applicable VFS=Versatile Fairy shrimp (B. Inadahl)

Date: 4-20-15

Surveyor: Laurie Gorman

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Survey #: 10

10

Basin #	Temperature (F)		Depth (In)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
D6	76	58	>24		See Survey # 1								

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; Garbage (Gar); Mowing (M); Road Run (RR); Roadside Ditch (RD); Mammal Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 4-20-15 Surveyor: Laurie Gorman FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

SURVEY #: 10

Basin #	Species	Fairy Shrimp Detected			Other Species Detected	Notes
		Reproductive Status	Numbers	Accessioned (#/Type)		
DLA	N/A				None	

A = Adult I = Immature S = Scud (Order Amphipoda) W/B = Water Boatman (Family Corixidae)
 DL = Dragonfly/Damselfly Larva (Order Odonata) N = Nauplii SS = Seed Shrimp (Class Ostracoda) WF = Water Flea (Order Cladocera)
 FE = Frog Egg N/A = Not Applicable VS = Versatile Fairy Shrimp (B. lindahli) Unk = Unknown Species

Date: 5-13-15

Surveyors: Travis Cooper, Laurie Gorman

Survey #: 11a

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
D3	70	64	12	12	11	11	21	21	Sca Survey	}	}	}	
52	70	67	7.5	8	5	8	42	42					
44	71	74	3	3	4.5	3	17	17	}	}	}	}	
43	71	74	3	3	5	3	48	48					
1	71	74	2.5	3	6	3	40	40	}	}	}	}	
D5	75	68	2.5	3	3	3	5	5					
63	75	70	9	16	16	16	50	50	}	}	}	}	
D4	75	74	2.5	3	3	3	13	13					
54	75	64	212	9	9	9	13	13	}	}	}	}	
55	75	66	>12	12	12	12	14	14					
56	75	68	5	5	5	5	22	22	}	}	}	}	
24	75	67	5	8	8	8	36	36					

Habitat Conditions: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: DIV; Garbage (Gr); Ploving (P); Road Rut (RR); Roadside Ditch (RD); Manned Depression (MD)
 Grazed Type: Catle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date: 5-13-15

Surveyors: Travis Cooper, Laurie Gorman

Survey #: 11a

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)

Basin #	Fairy Shrimp Detected				Other Species Detected	Notes
	Species	Reproductive Status	Numbers	Accessioned (#/Type)		
D3	N/A (none)	N/A	N/A	N/A	Mosquito larvae, WB	
S2					Wt red worm	
44					CO	
43					none	
1					none	
D5					Wt white worm	
63					none	
D4					none	
54					none	
55					none	
56					C	
24					CO	

Basins 57, 58, 59, + 61
 were combined, with
 D4 in one bin flooded
 area, downstream of
 Arroyo Rd which is
 flooded.
 Basin 56 had a slow
 water flow through it.

A - Adult
 DL - Dragonfly/Damselfly Larva (Order Odonata)
 FE - Frog Egg
 I - Immature
 N - Nauplii
 N/A - Not Applicable
 S - Suid (Order Amphipoda)
 SS - Seed Shrimp (Class Ostracoda)
 VFS - Versatile Fairy Shrimp (B. Lindahli)
 WB - Water Boatman (Family Corixidae)
 WF - Water Flea (Order Cladocera)
 Unk - Unknown Species
 C - C. m. arch

Date: 5/20/11

Surveyors:

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)
S. J. H. S. G.

Survey #:

11

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
1	60.1	58.1	1		1		2						
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
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96													
97													
98													
99													
100													

Habitat Condition: Undisturbed (UD), Disturbed (D), Ungrazed (UG), Grazed (G)

Disturbance Type: DMV: Garbage (Gar); Prowling (P); Road Rut (RR); Roadside Ditch (RD); Mammal Depression (MD)

Grazed Type: Cattle (C); Horse (H)

Disturbance Amount: Light (L); Moderate (M); Heavy (H)

75 g. s. v. north

Fairy Shrimp Data Sheet - Species Present (Sheet 2)

Survey #: 113

Surveyors:

Date: 10/15

Basin #	Fairy Shrimp Detected			Other Species Detected	Notes
	Species	Reproductive Status	Numbers		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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97					
98					
99					
100					

A = Adult
 D1 = Dragonfly/Damselfly Larva (Drom. Dobsonata)
 FE = Frog Egg
 I = Immature
 N = Nauplii
 N/A = Not Applicable
 S = Scud (Order Amphipoda)
 SS = Seed Shrimp (Class Ostracoda)
 VFS = Versatile Fairy Shrimp (B. Inidabii)
 WB = Water Boatman (Family Corixidae)
 WF = Water Flea (Order Cladocera)
 Unk = Unknown Species

Date: 5/25/15

Surveyors: D. Busby

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)

Survey #: 129

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
13	65.1	63.1	3		8		18						
14	62.1	62	4		6		50						
14	61	61	3		3		75						
54	62		11		30		220						Vertical Scale for all Centimeter
55													Blue to red penicillin water
54													100 P 102
55													
56													
56													
57													
58													
59													
60													
61													
62													
63													
64													
65													
66													
67													
68													
69													
70													
71													
72													

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; Garbage (Gar); Plowing (P); Road rut (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Date:

5/28/19

Surveyors:

FAIRY SHRIMP DATA SHEET - SPECIES PRESENT (Sheet 2)
12, 13, 14, 16

Survey #:

12 a

Basin #	Species	Fairy Shrimp Detected		Accessioned (#/Type)	Other Species Detected	Notes
		Reproductive Status	Numbers			
10	FS	✓	105 ♀ + ♂		10 = S SS (copied)	
1					Crayfish	
211					None	
51					SPIDER S	
70					SPIDER SPIDER	
111					None	
85						
92						
97						
98						
10						
DU					Crayfish	
65					None	
75					1	
211					Crayfish	
52					A A	
93					211	
70					Shoreline house	

A - Adult

I - Immature

S - Scud (Order Amphipoda)

WB - Water Boatman (Family Corixidae)

DL - Dragonfly/Damselfly Larva (Order Odonata)

N - Nauplii

SS - Seed Shrimp (Class Ostracoda)

WF - Water Flea (Order Cladocera)

FE - Frog Egg

N/A - Not Applicable

VFS - Versatile Fairy Shrimp (B. lindahli)

Unk - Unknown Species

Date: 6-3-12

Surveyors:

FAIRY SHRIMP DATA SHEET - BASIN CONDITIONS (Sheet 1)
 Laurie Gorman

Survey #:

126

Basin #	Temperature (F)		Depth (in)		Width (ft)		Length (ft)		Habitat Condition	Disturbance Type	Grazed Type	Disturbance Amount	Notes
	Air	Water	Act.	Est.	Act.	Est.	Act.	Est.					
D1	DRY												
5	DRY												
8b	DRY												
8c	DRY												
10	DRY												
18	DRY												
24	75	86	3		4		8						
39a	DRY												
39b	DRY												
64	75	80	4		13		20						
65	DRY												
66	DRY												
67	DRY												
75	DRY												
76	DRY												
72c	75	82	3		4		9						

double-check w/
 survey 11b - was
 72 surveyed or
 75? 75 is dry
 that could

Habitat Condition: Undisturbed (UD); Disturbed (D); Ungrazed (UG); Grazed (G)
 Disturbance Type: OHV; Garbage (Gar); Plowing (P); Road Run (RR); Roadside Ditch (RD); Manmade Depression (MD)
 Grazed Type: Cattle (C); Horse (H)
 Disturbance Amount: Light (L); Moderate (M); Heavy (H)

Fairy Shrimp Detected

Basin #	Species	Fairy Shrimp Detected		Other Species Detected	Notes
		Reproductive Status	Numbers		
24	NONE				
64	NONE				
72c	NONE			Morgan to larvae (Crustfish) AS, link larvae + crayfish CO link larvae	

A = adult (Immature) N = Nauplii N/A = Not Applicable
 DI = Dragonfly/Damselfly Larva (Order Odonata) SS = Seed Shrimp (Class Ostracoda) WB = Water Boatman (Family Corixidae)
 FE = Frog Egg VFS = Versatile Fairy Shrimp (B. Lindahl) WF = Water Flea (Order Cladocera)
 Unknown Species