

Appendix F

Vernal Pool and Listed Fairy Shrimp Avoidance Discussion Memo

To: Vanessa Shoblock
Environmental Specialist
SDG&E Environmental Services
8315 Century Park Court, CP21E
San Diego, CA 92123

From: Chambers Group, Inc.

Date: 04/02/18

RE: Tie-Line 649 Vernal Pool and Listed Fairy Shrimp Avoidance Discussion Memo

Tie-Line 649 Vernal Pool and Listed Fairy Shrimp Avoidance Discussion Memo

VERNAL POOLS AND LISTED FAIRYSHRIMP FOUND WITHIN THE TIE LINE 649 STUDY AREA

The analysis summarized herein is based on the Biological Technical Report (BTR) prepared by Chambers Group, Inc. (Chambers Group, 2015a), Jurisdictional Delineation Report (Chambers Group, 2015b), and focused surveys and assessments for fairy shrimp species (Chambers Group, 2016a, 2016b, 2017a, 2017b) for San Diego Gas & Electric's (SDG&E) Tie Line 649 Wood to Steel Pole Replacement Project, located San Diego and Chula Vista, San Diego County, California (Proposed Project). Chambers Group identified biological resources including listed fairy shrimp and associated habitat including vernal pools that could be impacted by the Proposed Project and conducted general and focused biological resource surveys for the preparation of the BTR, which was submitted as an attachment to the Proponents Environmental Assessment (PEA) to the California Public Utilities Commission (CPUC) for compliance with the California Environmental Quality Act (CEQA) on August 10, 2015. Vernal pools and listed fairy shrimp identified within the Proposed Project survey area are described below.

Vernal Pools

Vernal pools are defined in the Arid Supplement as "small, temporarily and seasonally ponded depressions found in a variety of landscapes where they are usually underlain by an impermeable layer such as a hardpan, claypan, or basalt. Vernal pools often fill and empty several times during the rainy season."

Surveys assessing potential vernal pools located within the dirt access road associated with TL649 were initially conducted by Scott McMillan with AECOM in 2009 and were recorded in the 2009 Vernal Pool Data Accuracy Assessment Report. The 2009 effort included a detailed assessment of vernal pool resources within and adjacent to SDG&E access roads (see Chambers Group, 2015b). Follow-up surveys using the same protocol were conducted by AECOM and Chambers in 2010 and 2011. The data from these surveys, 2009-2011, was used as a baseline for assessing vernal pools in the 2014 and 2015 vernal pool surveys.

Due to the location of most baseline pools within existing utility service roads, some baseline pools (2009-2011) were observed to have shifted or expanded, likely due to vehicular disturbance. Where known

vernal pools were observed to have shifted or expanded, the limits of the baseline pools were updated to reflect the current extent of the jurisdictional area based on endemic floral species and hydrological indicators such as surface soil crack, ponding, or saturation. The previously described limits of 2009-2011 baseline vernal pools were not reduced in size during the 2014 and 2015 field surveys (Chambers Group, 2015b).

Several pole locations were identified near vernal pools. Pole location Loc-69 is located along an access road near vernal pool 7 (VP-07). Overland travel south of VP-07 will be utilized to avoid impacts to this vernal pool, or the location will be accessed during the dry season. The following pole locations are also adjacent to vernal pools, and impacts can be avoided by accessing the pole locations during the dry season when no ponding is present and the soil is completely dry: Loc-72, and Loc-84 through Loc-96. For details on location, please see Attachment 1 - JD Resources and Fairy Shrimp Impacts Map.

Riverside and San Diego Fairy Shrimp

The Riverside and San Diego fairy shrimp are federally listed endangered, and SDG&E Low-Effect Habitat Conservation Plan (LE HCP) covered species. The fairy shrimp is a vernal pool habitat specialist found in small, shallow vernal pools, and has been recorded in degraded habitats such as ditches and road ruts. The cysts sink to the bottom of the pool environment, where they can withstand temperature extremes or pool drying and hatch in the future when conditions are more favorable. United States Fish and Wildlife Service (USFWS) Critical Habitat for the Riverside fairy shrimp is located more than 1,000 feet from the Proposed Project survey area boundaries, while Critical Habitat for the San Diego fairy shrimp is located within the Proposed Project survey area along the eastern portion of the Proposed Project, near the Donovan State Prison. Protocol level surveys for fairy shrimp were conducted in the 2015 and 2016 (Chambers Group, 2016a, 2016b, 2017a) and included two rounds of dry and wet season surveys to determine the presence/absence and potential locations of sensitive fairy shrimp species occurring within the survey area. San Diego fairy shrimp was confirmed present within RR-93 (near Loc-78) and RR-85 (near Loc-76 and SS 21) during the 2015/2016 wet season survey efforts, and in VP-02 (near Loc-60) during the 2016 dry season analysis.

San Diego and Riverside fairy shrimp may be present within the vernal pools adjacent to Donovan State Prison work locations: Loc-84 through Loc-96. These locations are within critical habitat for San Diego fairy shrimp; therefore, protocol-level surveys (wet and dry season surveys) were not conducted and Riverside and San Diego fairy shrimp are presumed present in these locations. However, a fairy shrimp species assessment was conducted in 2017 in these locations during the wet season (Chambers Group, 2017b). San Diego fairy shrimp were identified in 21 vernal pools/basins along access roads during the assessment: VP-18, 19, 20, 25, 28, 30, 31, 33, 34, 37, 38, 39, 42, 43, 45, 46, 47, and 50 and B-02. These vernal pools/basins are located near pole locations Loc-85, Loc-86, Loc-90, Loc-91, Loc-92, Loc-93, Loc-94, and Loc-95.

Avoidance of Vernal Pools and Listed Fairy Shrimp

The Proposed Project has been designed to avoid impacts to fairy shrimp habitat including vernal pools. No impacts, including pole replacements, are anticipated to occur within a drainage or vernal pool, and existing access roads will be used to the greatest extent possible. Vehicular disturbance within the survey

area of the Proposed Project area occurs year-round from non-SDG&E uses. Existing dirt access roads are heavily utilized and maintained by different municipalities, including the County of San Diego, The Department of Homeland Security (Border Patrol), sewer and water line maintenance and access, and Donovan State Prison Vehicles. Staging areas, laydown areas, and guard structures have all been located outside of aquatic resources. Ponded areas that may host fairy shrimp species have been identified for avoidance. Based on the results of the surveys, occupied fairy shrimp habitats will be avoided during construction when ponded water is present or soil is wet. Therefore, proposed construction activities are not expected to impact fairy shrimp habitats. No habitat modification will occur.

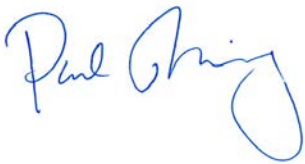
With implementation of the following Project Design Features and Ordinary Construction/Operating Restrictions, impacts to vernal pools, Riverside and San Diego fairy shrimp is not anticipated.

- In order to ensure that habitats are not inadvertently impacted, the Environmental Surveyor will determine the extent of habitat and flag boundaries of habitats which must be avoided. When necessary, the Environmental Surveyor may also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment such as cranes, bucket trucks, augers, etc. When appropriate, the Environmental Surveyor will make office and/or field presentations to field staff to review and become familiar with natural resources to be protected on a project specific basis.
- For all construction activities occurring adjacent to vernal pools, SDG&E will work with a qualified biologist having local experience with vernal pool resources in a manner that avoids potential impacts to vernal pools. All vernal pools adjacent to existing Proposed Project access roads, plus a five-foot buffer (where feasible and not including those located within Project-related access roads), shall be fenced with orange safety fencing to ensure no people or equipment impact the vernal pools during construction activities. A silt fence shall be installed along the base of the roadway to prevent increased erosion or sedimentation during construction in vernal pool areas. Gravel bags shall be placed along the bottom of the fence to minimize erosion or sedimentation into vernal pools, and removed upon completion of construction.
- Vernal pools will be avoided by Proposed Project-related activities, with the exception of driving through dry vernal pools located within existing dirt access roads. Steel plates may be placed to span over vernal pools to allow Proposed Project related activities, where feasible.
- Proposed Project-related activities will avoid suitable habitat for San Diego and/or Riverside fairy shrimp when water is ponded and/or soils are wet as determined by the aquatic or biological monitor.
- The Environmental Surveyor will conduct monitoring during construction in areas containing vernal pools. The Environmental Surveyor will check to verify compliance, including observing that flagged areas have been avoided and that reclamation has been properly implemented. Also at completion of work, the Environmental Surveyor is responsible for removing all habitat flagging from the construction site.
- Large amounts of fugitive dust could interfere with photosynthesis. Fugitive dust created during clearing, grading, earth-moving, excavation or other construction activities will be controlled by regular watering. At all times, fugitive dust emissions will be controlled by limiting on-site vehicle speed to 15 miles per hour.
- During work on facilities, all trucks, tools, and equipment should be kept on existing access roads or cleared areas, to the extent possible.

- Vehicles must be kept on access roads, to the extent feasible (with the exception of overland travel to avoid vernal pools. Vehicles must be turned around in established or designated areas only.

If you have any questions regarding this internal memo, please feel free to contact me at (949) 261-5414 extension 7288 or at pmorrissey@chambersgroupinc.com.

Respectfully submitted,



Paul Morrissey
Director of Biology
Chambers Group, Inc.

REFERENCES

Chambers Group, Inc.

- 2015a Biological Technical Report for the Tie Line 649 Wood to Steel Pole Replacement Project, San Diego and Chula Vista, San Diego County, California.
- 2015b Jurisdictional Delineation Report for the Tie Line 649 Wood to Steel Pole Replacement Project, San Diego and Chula Vista, San Diego County, California.
- 2016a Survey Summary Report for the 2015/2016 Protocol-Level, Wet Season Fairy Shrimp Survey for the Tie Line 649 Wood to Steel Pole Replacement Project, San Diego and Chula Vista, San Diego County, California.
- 2016b Survey Summary Report for the 2015 Protocol-Level, Dry Season Fairy Shrimp Survey for the Tie Line 649 Wood to Steel Pole Replacement Project, San Diego and Chula Vista, San Diego County, California.
- 2017a Survey Summary Report for the 2016 Protocol-Level, Dry Season Fairy Shrimp Survey for the Tie Line 649 Wood to Steel Pole Replacement Project, San Diego and Chula Vista, San Diego County, California.
- 2017b Survey Summary Letter Report of the January 2017 Wet Season Fairy Shrimp Basin Checks for the Tie Line 649 Wood to Steel Pole Replacement Project, San Diego and Chula Vista, San Diego County, California.

ATTACHMENTS

Attachment 1 – JD Resources and Fairy Shrimp Impacts Map

TL-649 JD Resources

0 100 200 Feet Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

Legend

- Staging Yard
- Survey Corridor
- Project Impacts

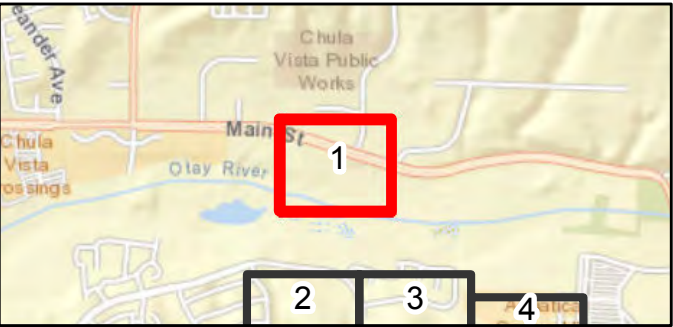
Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only



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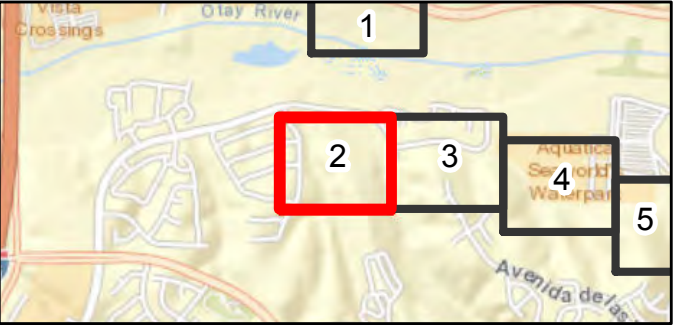
- Project Pole
- - - Access Road
- String Site
- Turnaround Area
- Survey Corridor
- Project Impacts

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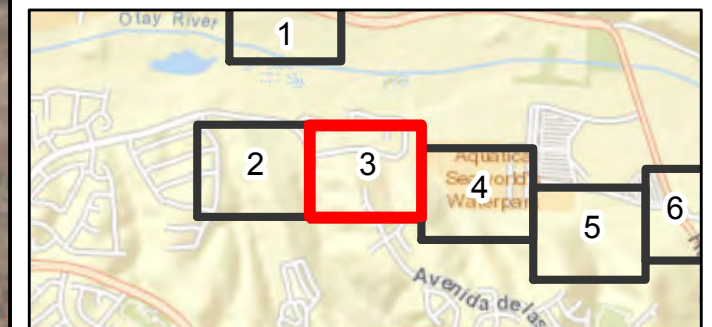
- Project Pole
- Existing Non-TCM Access Road
- Access Road
- Turnaround Area
- Survey Corridor
- Project Impacts

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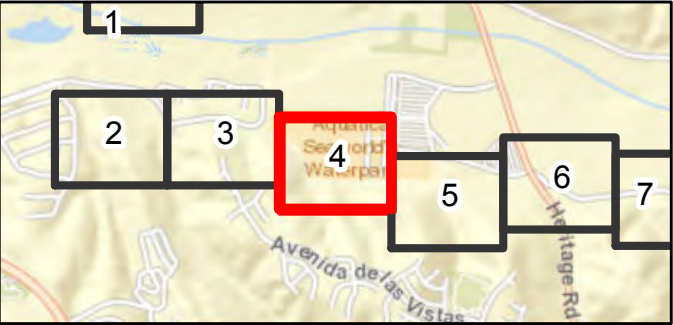
- Project Pole
- Existing Non-TCM Access Road
- - Access Road
- ▨ String Site
- ▨ Survey Corridor
- ▨ Project Impacts

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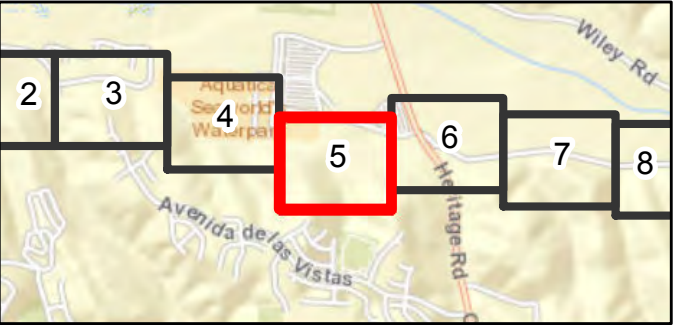
- Project Pole
- Existing Non-TCM Access Road
- - - Access Road
- - - Survey Corridor
- ▤ Project Impacts
- ▲ Culvert

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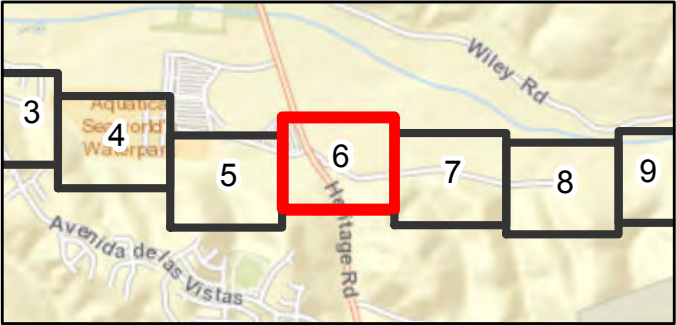
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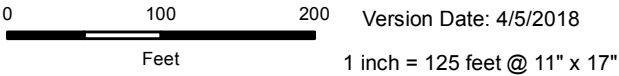
Legend

- Project Pole
- TT Guard Structure
- - - Existing Non-TCM Access Road
- - - Access Road
- String Site
- Turnaround Area
- Survey Corridor
- Project Impacts
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TL-649 JD Resources



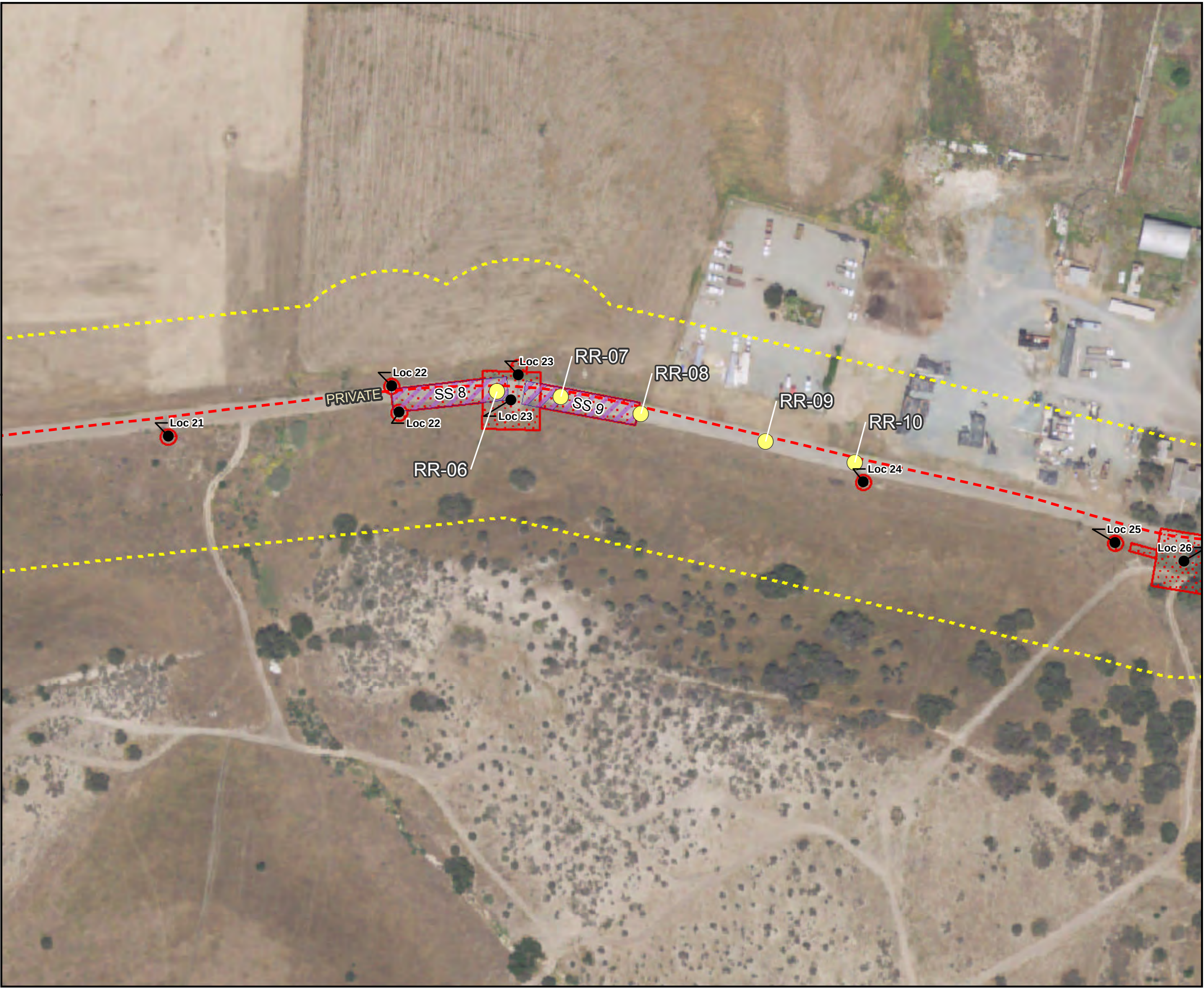
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- Project Pole
- - - Access Road
- ▨ String Site
- ▨ Survey Corridor
- ▨ Project Impacts

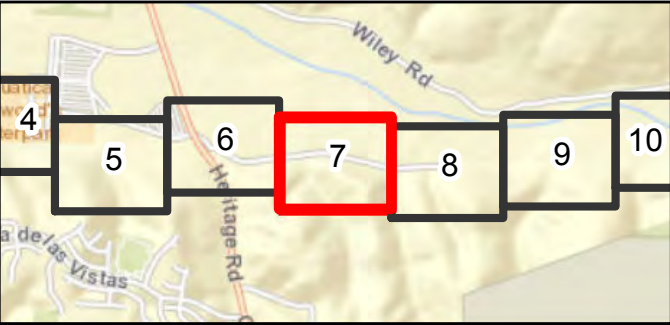
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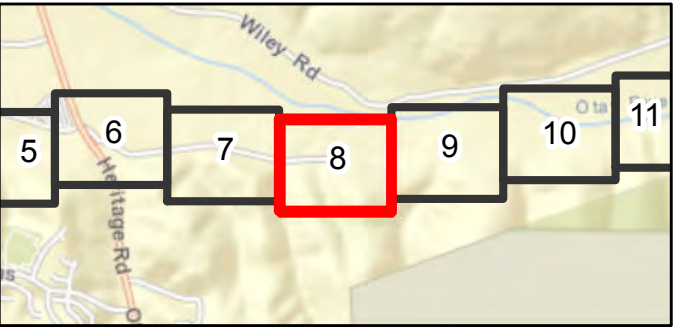
- Project Pole
- Existing Non-TCM Access
- - - Access Road
- ▨ String Site
- Turnaround Area
- ▨ Survey Corridor
- ▨ Project Impacts
- Soil Pit

Aquatic Constraint

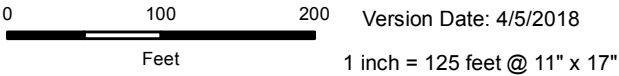
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TL-649 JD Resources



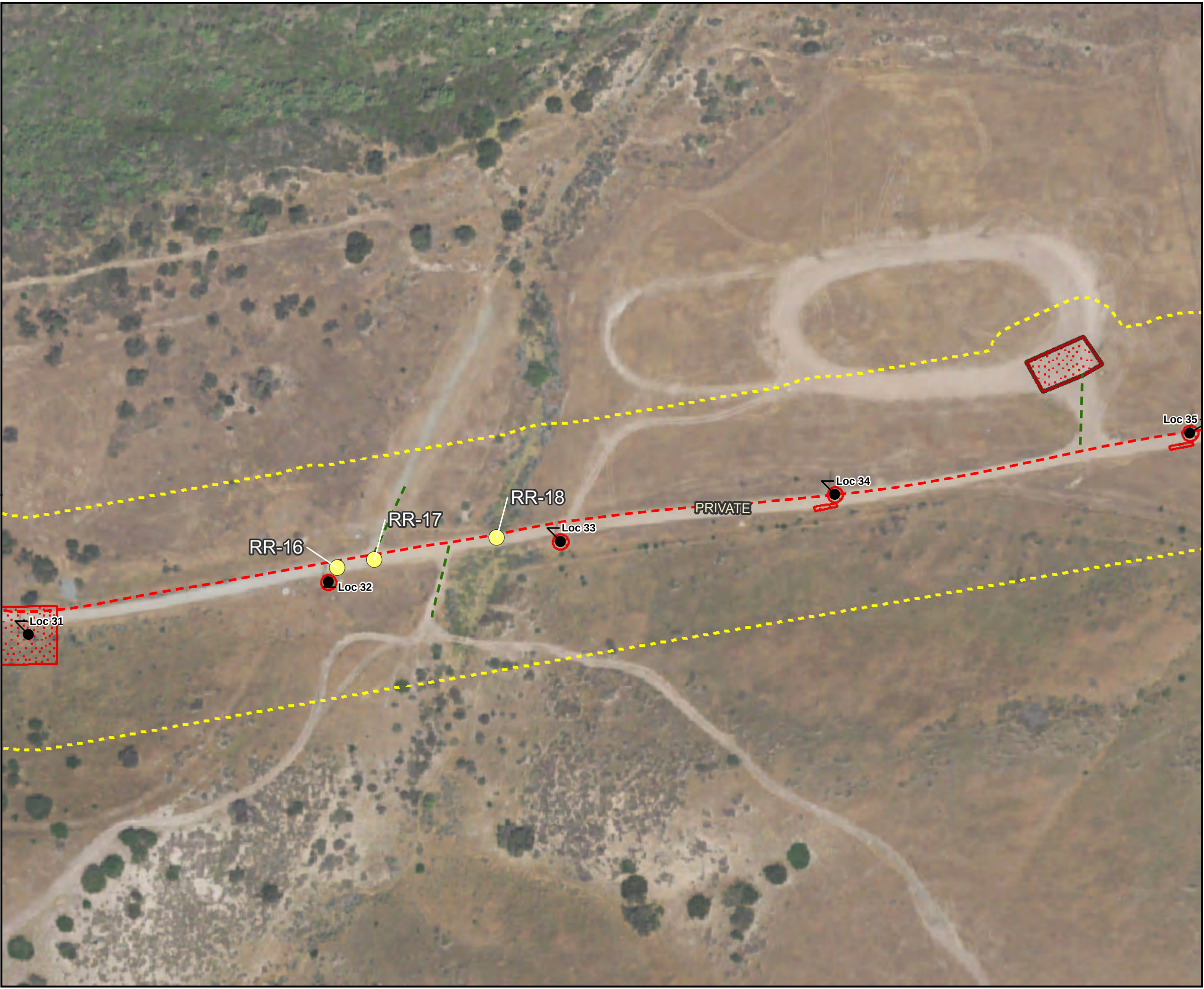
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- Project Pole
- - - Existing Non-TCM Access
- - - Access Road
- Turnaround Area
- Survey Corridor
- Project Impacts

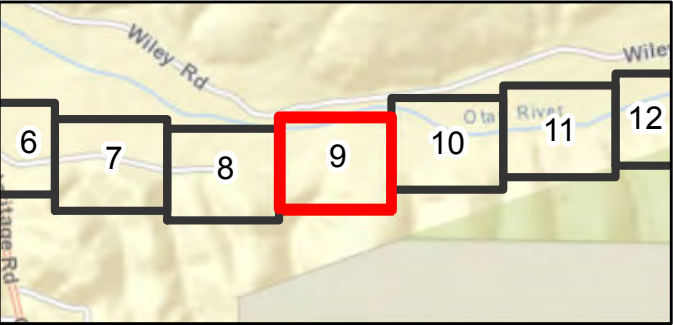
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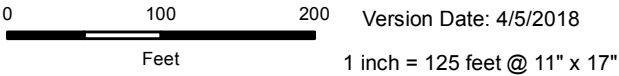
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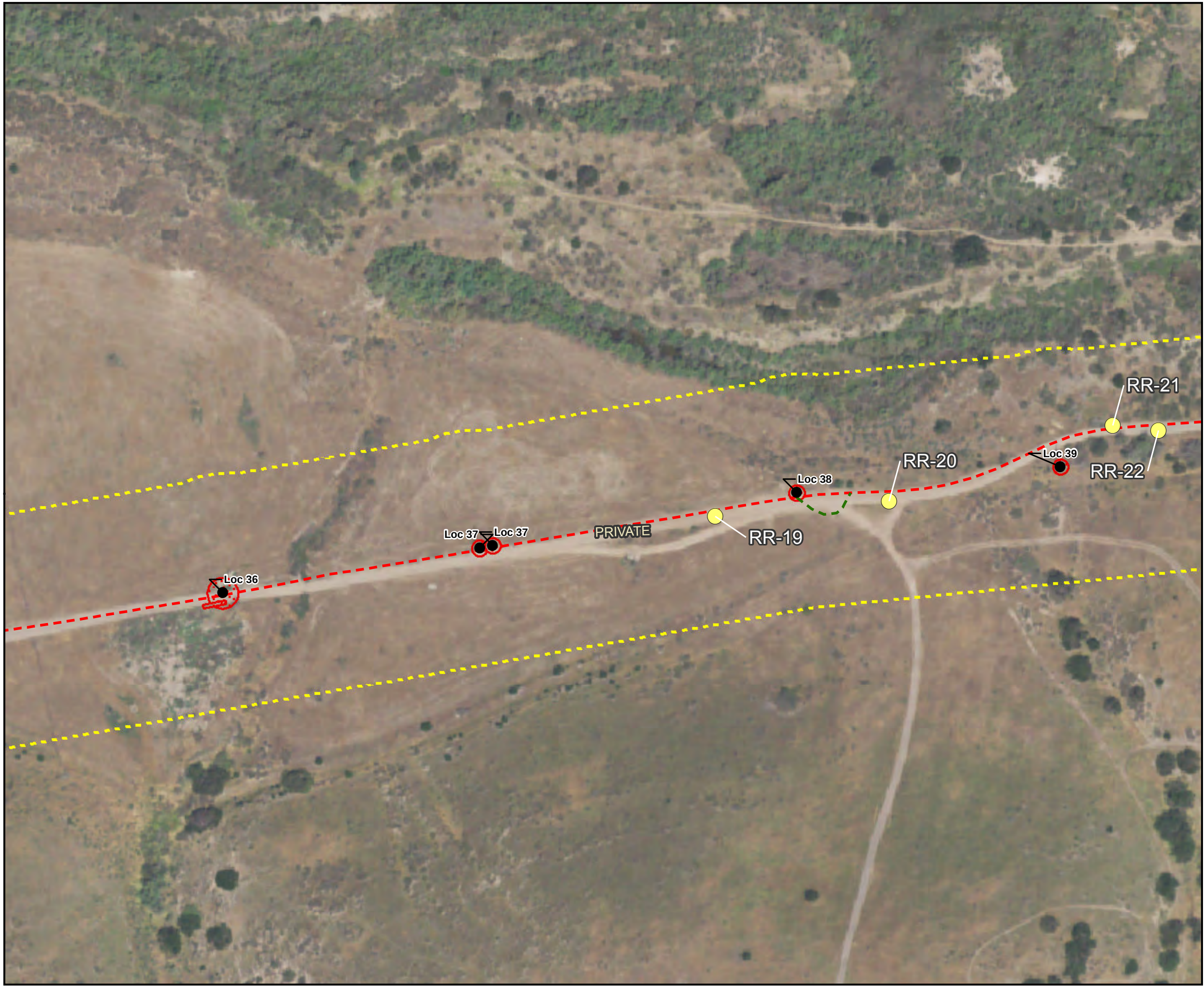


TL-649 JD Resources

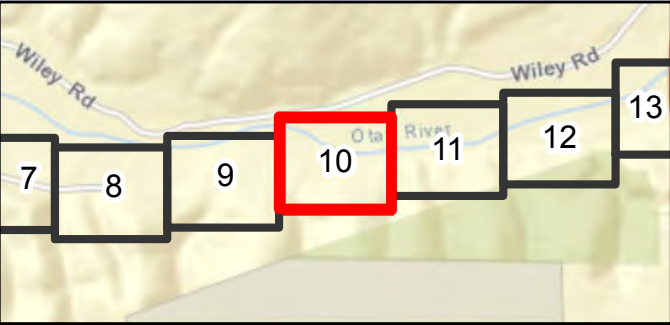


Legend

- Project Pole
- Existing Non-TCM Access Road
- - - Access Road
- Survey Corridor
- Project Impacts
- Aquatic Constraint**
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TL-649 JD Resources



Legend

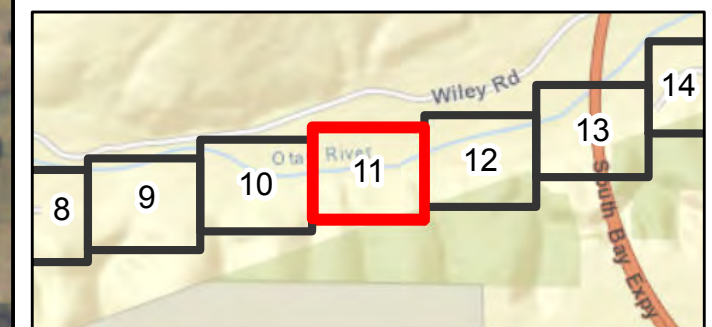
- Project Pole
- Existing Non-TCM Access
- - Access Road
- Survey Corridor
- Project Impacts

Aquatic Constraint

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TL-649 JD Resources

0 100 200
Feet
Version Date: 4/5/2018
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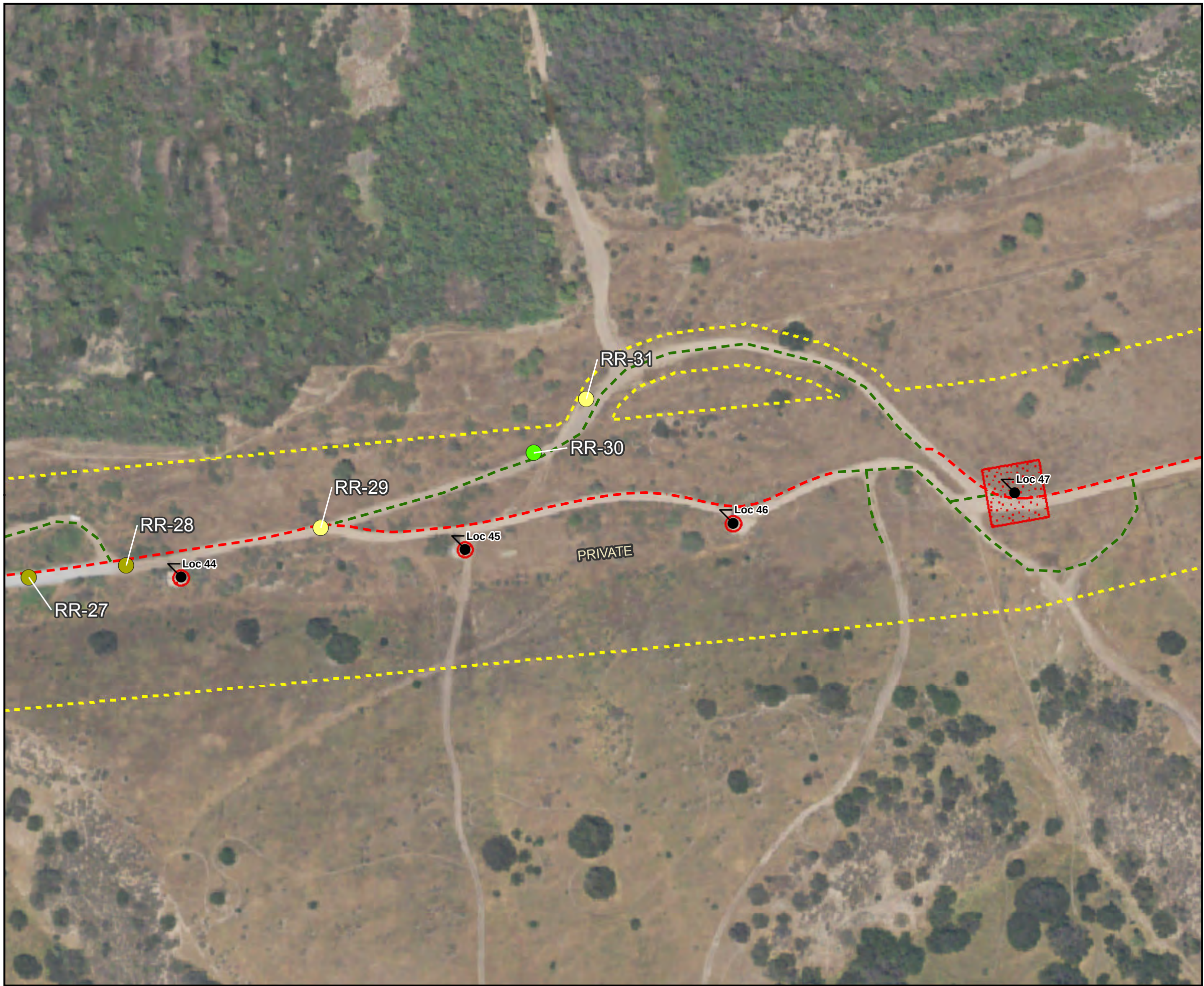
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- Project Pole
- - - Existing Non-TCM Access
- - - Access Road
- - - Survey Corridor
- Project Impacts

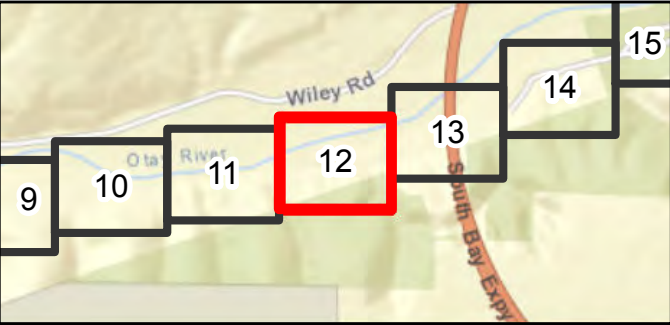
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TL-649 JD Resources

0 100 200 Feet Version Date: 4/5/2018
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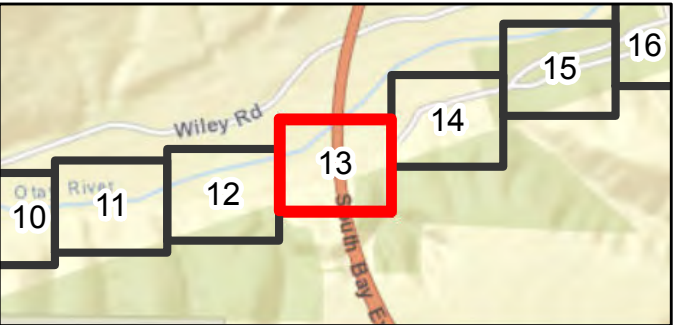
- Project Pole
- Existing Non-TCM Access
- - - Access Road
- Overland Travel
- ▨ String Site
- ▭ Turnaround Area
- ▭ Survey Corridor
- ▨ Project Impacts

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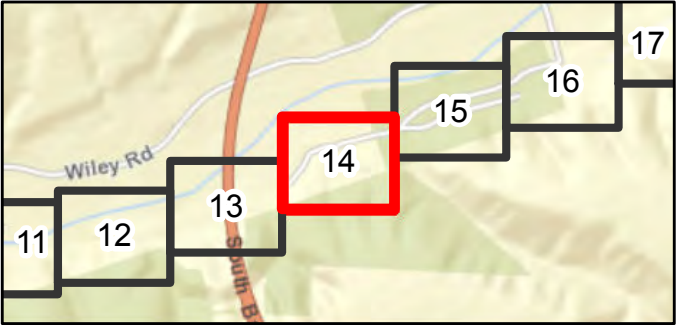
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- Soil Pit

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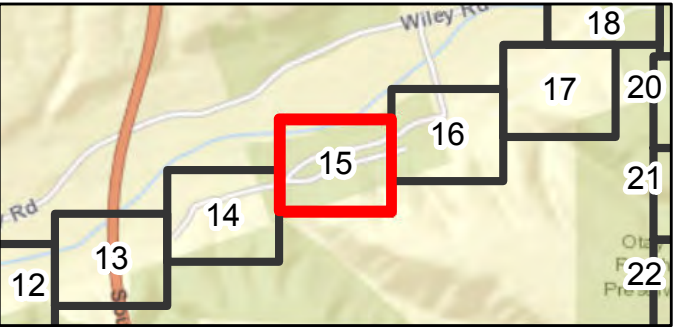
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DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

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TL-649 JD Resources

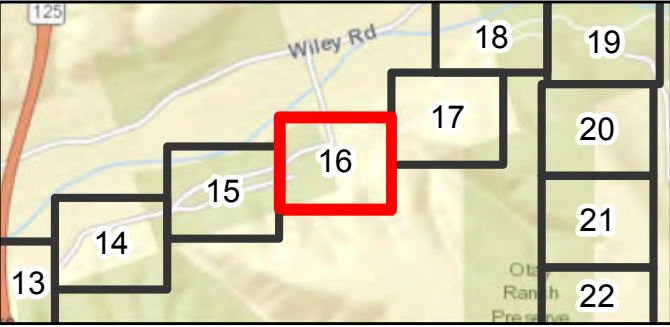
0 100 200
Feet
Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

Legend

- Project Pole
- - - Existing Non-TCM Access
- - - Access Road
- Survey Corridor
- ▤ Project Impacts
- Aquatic Constraint**
DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool
- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only



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TL-649 JD Resources

0 100 200
Feet
Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

Legend

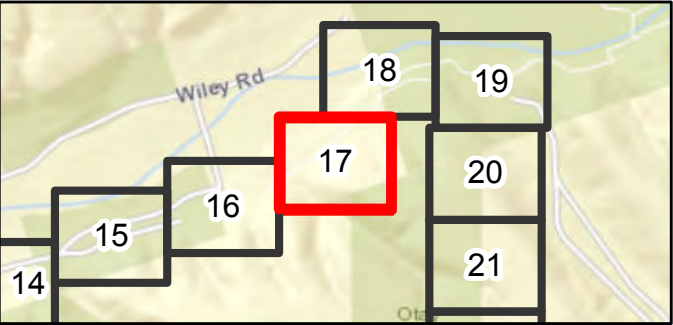
- Project Pole
- Existing Non-TCM Access
- - - Access Road
- Overland Travel
- - - Survey Corridor
- ▤ Project Impacts
- Soil Pit

Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

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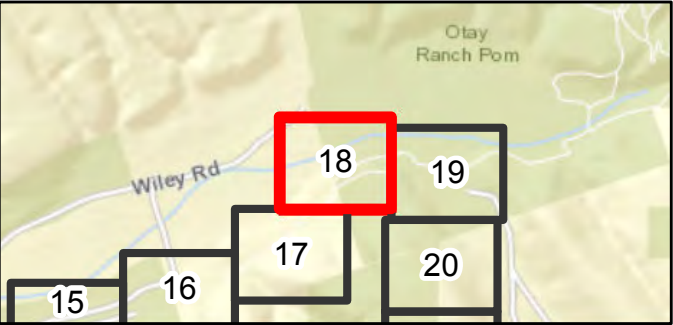
TL-649 JD Resources

0 100 200 Feet Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

Legend

- Project Pole
 - Existing Non-TCM Access Road
 - - - Access Road
 - ▨ String Site
 - ▨ Survey Corridor
 - ▨ Project Impacts
 - Soil Pit
 - Soil Pit
- Aquatic Constraint**
DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool
- Juris/ESA species present
 - Juris/Non-ESA species
 - Juris/Unk sp
 - Juris only
 - NON-Juris/RR /Non-ESA species
 - NON-Juris/RR/ESA species present
 - NON-Juris/RR /Unk sp
 - NON-Juris/RR only

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TL-649 JD Resources

0 100 200
Feet
Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

Legend

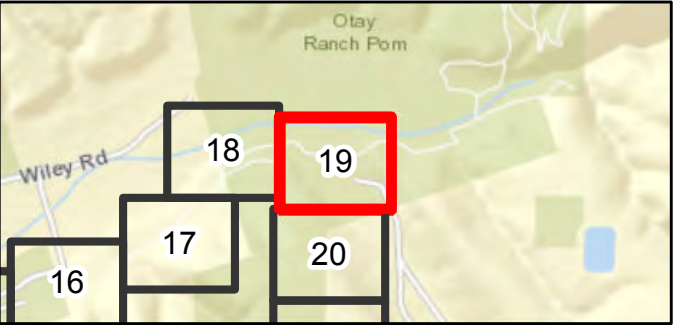
- Project Pole
- Existing Non-TCM Access
- - - Access Road
- ▨ String Site
- Turnaround Area
- ▨ Survey Corridor
- ▨ Project Impacts
- Soil Pit

Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

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TL-649 JD Resources

0 100 200 Feet
Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

Legend

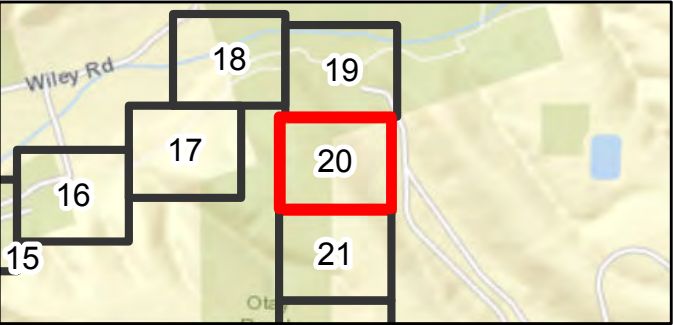
- Project Pole
- Existing Non-TCM Access
- - - Access Road
- Overland Travel
- Survey Corridor
- Project Impacts

Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

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TL-649 JD Resources

0 100 200
Feet
Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

Legend

- Project Pole
- Existing Non-TCM Access Road
- - - Access Road
- Overland Travel
- Survey Corridor
- Project Impacts
- Soil Pit
- Soil Pit

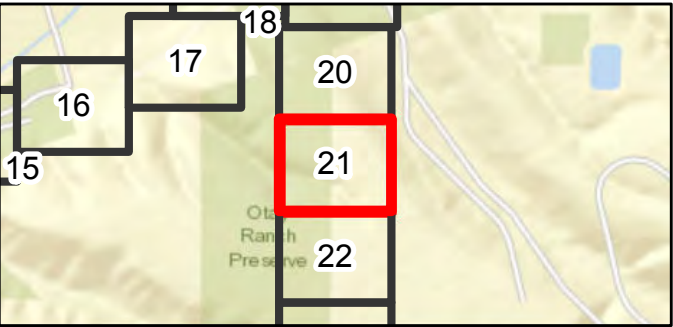
Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

Vernal pools, basins, and road ruts between Loc 84 and Loc 96 only received one survey visit in 2017 to determine the presence and species of any present fairy shrimp. SDG&E assumes that all ponding features in between these locations have listed fairy shrimp present.

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TL-649 JD Resources



Legend

- Project Pole
- Existing Non-TCM Access
- - - Access Road
- Overland Travel
- Survey Corridor
- Project Impacts
- ▲ Culvert
- Soil Pit

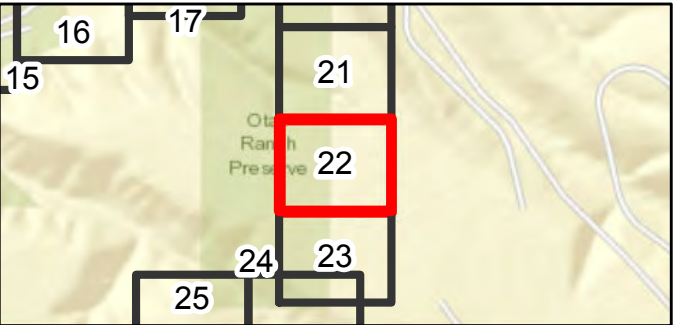
Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

Vernal pools, basins, and road ruts between Loc 84 and Loc 96 only received one survey visit in 2017 to determine the presence and species of any present fairy shrimp. SDG&E assumes that all ponding features in between these locations have listed fairy shrimp present.

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TL-649 JD Resources

0 100 200 Feet Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

Legend

- Project Pole
- Existing Non-TCM Access
- - - Access Road
- Overland Travel
- ▨ String Site
- ▨ Survey Corridor
- ▨ Project Impacts
- Soil Pit

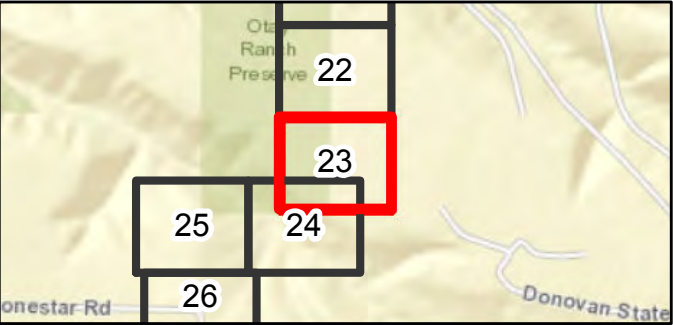
Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

Vernal pools, basins, and road ruts between Loc 84 and Loc 96 only received one survey visit in 2017 to determine the presence and species of any present fairy shrimp. SDG&E assumes that all ponding features in between these locations have listed fairy shrimp present.

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TL-649 JD Resources

0 100 200 Feet Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

Legend

- Project Pole
- Existing Non-TCM Access
- - - Access Road
- Overland Travel
- ▨ String Site
- ▭ Survey Corridor
- ▭ Project Impacts
- ▲ Culvert
- Soil Pit

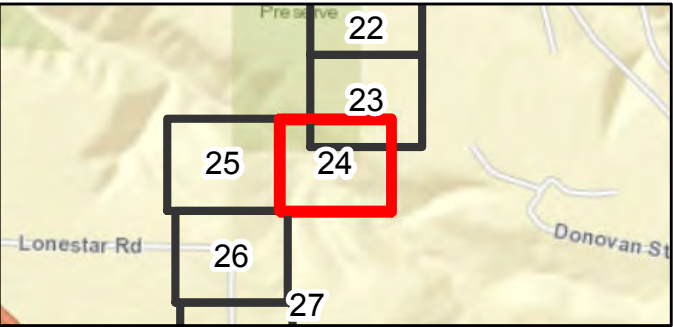
Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

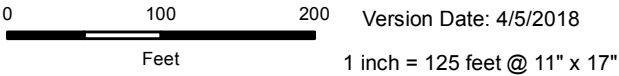
- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

Vernal pools, basins, and road ruts between Loc 84 and Loc 96 only received one survey visit in 2017 to determine the presence and species of any present fairy shrimp. SDG&E assumes that all ponding features in between these locations have listed fairy shrimp present.

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TL-649 JD Resources

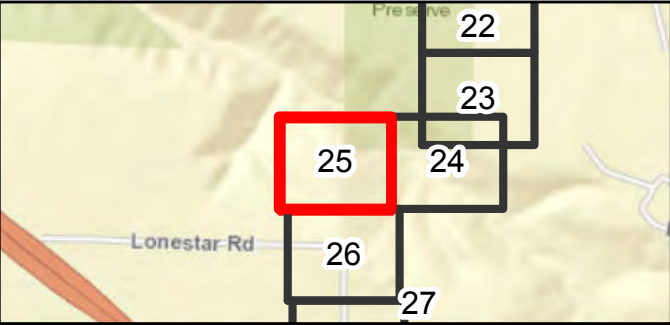


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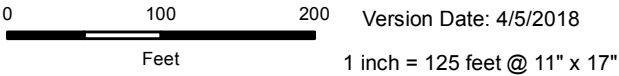
- Project Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ▨ String Site
- - - Survey Corridor
- ▤ Project Impacts
- Aquatic Constraint**
DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool
- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only



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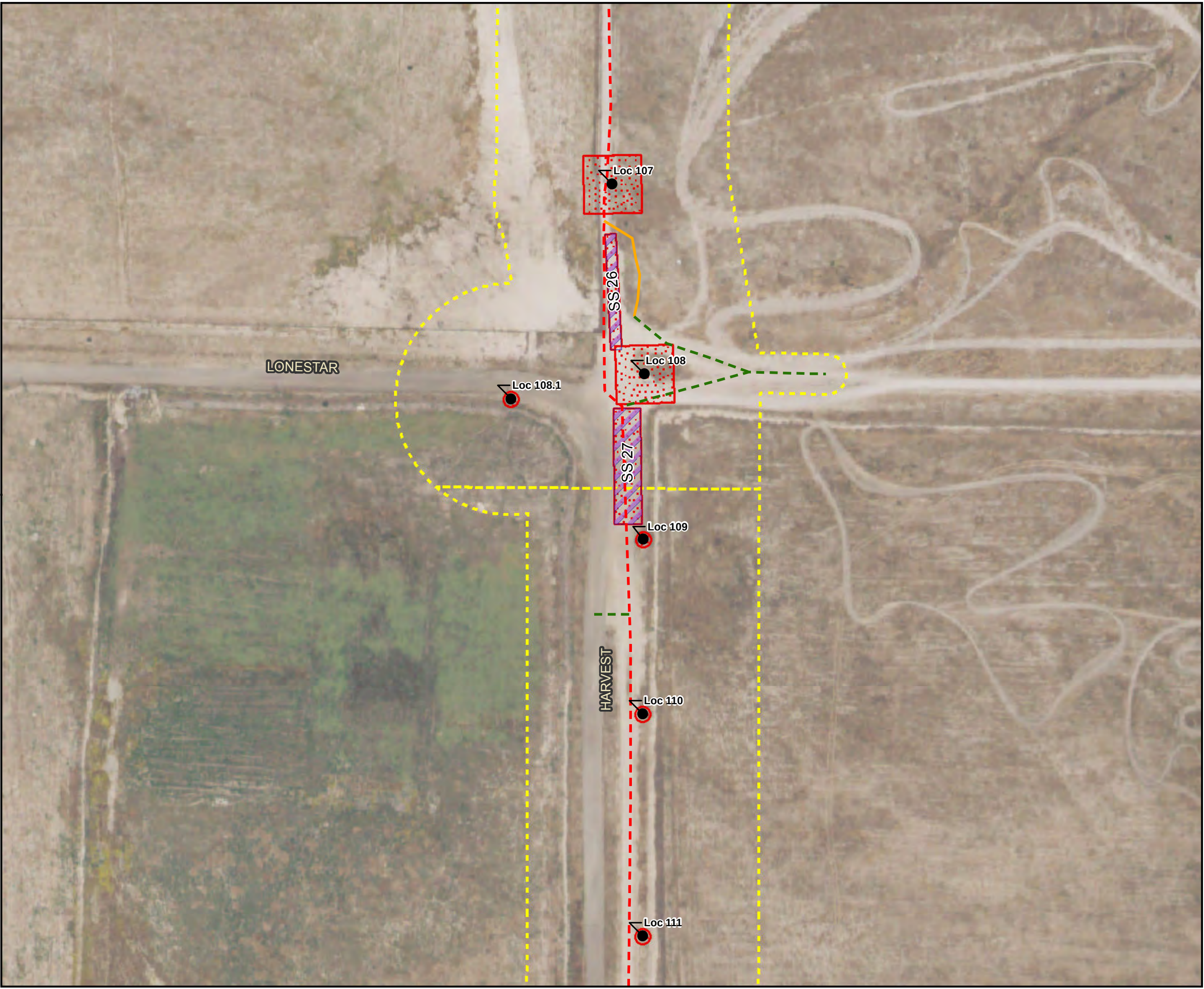


TL-649 JD Resources

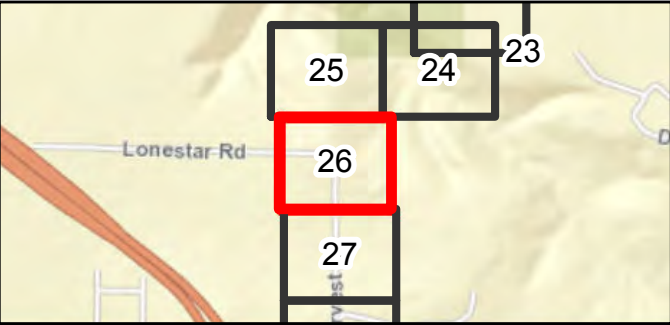


Legend

- Project Pole
 - - - Existing Non-TCM Access Road
 - - - Access Road
 - Overland Travel
 - ▨ String Site
 - ▨ Survey Corridor
 - ▨ Project Impacts
- Aquatic Constraint**
DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool
- Juris/ESA species present
 - Juris/Non-ESA species
 - Juris/Unk sp
 - Juris only
 - NON-Juris/RR /Non-ESA species
 - NON-Juris/RR/ESA species present
 - NON-Juris/RR /Unk sp
 - NON-Juris/RR only



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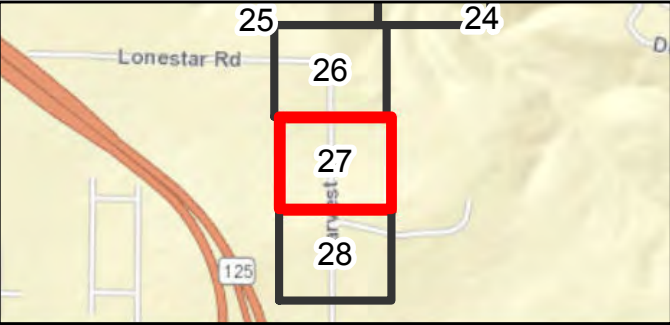
TL-649 JD Resources

0 100 200 Feet Version Date: 4/5/2018
1 inch = 125 feet @ 11" x 17"

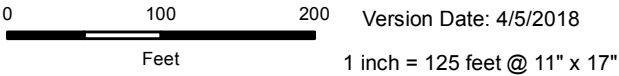
Legend

- Project Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- - - Survey Corridor
- ▤ Project Impacts
- Aquatic Constraint**
DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool
- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

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TL-649 JD Resources



Legend

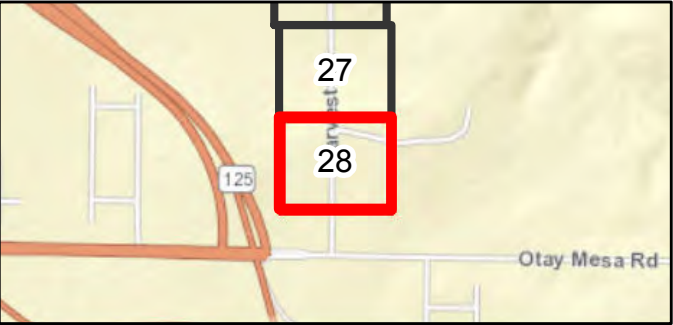
- Project Pole
- - - Existing Non-TCM Access
- - - Access Road
- ▨ String Site
- ▨ Survey Corridor
- ▨ Project Impacts

Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

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TL-649 JD Resources

0 100 200
Feet
Version Date: 4/5/2018
1 inch = 133 feet @ 11" x 17"

Legend

- Staging Yard
- Survey Corridor
- Project Impacts

Aquatic Constraint

DB=Debris Basin, RR=Road Rut, B=Basin, VP=Vernal Pool

- Juris/ESA species present
- Juris/Non-ESA species
- Juris/Unk sp
- Juris only
- NON-Juris/RR /Non-ESA species
- NON-Juris/RR/ESA species present
- NON-Juris/RR /Unk sp
- NON-Juris/RR only

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Appendix G

Survey Summary Report for the 2015/2016 Protocol-Level, Wet Season Fairy Shrimp Survey or the Proposed San Diego Gas and Electric Tie Line 649 Wood-to-Steel Replacement Project



August 1, 2016
(20775)

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

SUBJECT: SURVEY SUMMARY REPORT FOR THE 2015/2016 PROTOCOL-LEVEL, WET SEASON FAIRY SHRIMP SURVEY FOR THE PROPOSED SAN DIEGO GAS AND ELECTRIC TIELINE 649 WOOD TO STEEL POLE REPLACEMENT PROJECT IN SOUTHERN SAN DIEGO COUNTY, CALIFORNIA

Dear Ms. Love,

This letter report provides a summary of the 2015/2016 U.S. Fish and Wildlife Service (USFWS) protocol-level, wet season survey for federally listed fairy shrimp species conducted by Busby Biological Services, Inc. (BBS) for Chambers Group, Inc. (Chambers Group) on behalf of San Diego Gas & Electric (SDG&E) for the proposed Tie-line (TL) 649 Wood to Steel Pole Replacement Project (Proposed Project; Attachment 1: Figures 1 through 4). BBS conducted surveys within the survey area provided by Chambers Group for the Proposed Project alignment. Attachment 1: Figures 2 through 4 depict the portions of the alignment that were included within the survey area as well as the portions of the alignment that were excluded from the survey area because federally listed fairy shrimp were presumed present based on historical information for the region.

A total of 118 basins within the designated survey area were considered potentially suitable fairy shrimp habitat (Attachment 1: Figure 4). Prior to the 2015/2016 wet season survey, BBS conducted a protocol-level dry season survey during August 2015 within 42 of these 118 basins that had been either previously identified or that were evident during the dry season soil sample collection. However, during the 2015/2016 wet season survey, an additional 76 basins were identified that have the potential to provide habitat for fairy shrimp. Therefore, the 118 basins sampled during the 2015/2016 wet season survey included the 42 previously identified basins and the additional 76 basins identified during the wet season survey.

The following report provides a summary of the Proposed Project description and location, 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 2015/2016 focused wet season fairy shrimp survey. For a summary of the 2015 dry season survey, please refer to the dry season survey summary report, titled Survey Summary Report for the 2015 Protocol-Level, Dry Season Fairy Shrimp Survey for the Proposed San Diego Gas & Electric Tie-line 649 Wood to Steel Project in Southern San Diego County, California, and dated July 8, 2016.

This wet season fairy shrimp survey satisfies a portion of the current USFWS survey guidelines, titled Survey Guidelines for the Listed Large Branchiopods and dated May 31, 2015, which requires one complete dry season survey and one complete wet season survey within a three-year period.

PROPOSED PROJECT DESCRIPTION AND LOCATION

The Proposed Project includes replacing wood poles with steel poles along approximately 7.3 miles of existing 69-kilovolt (kV) single-circuit transmission line to fire-harden these existing facilities. Installation of steel poles will minimize damages to utilities in the event of a fire, thereby increasing system reliability, decreasing routine maintenance needs, and increasing the life span of both the poles and the entire power line.

The Proposed Project is located approximately 2 miles north of the United States/Mexico border in United States (U.S.) Geological Survey (USGS) *Otay Mesa* and *Imperial Beach* quadrangles, with portions of the alignment located in the City of Chula Vista, City of San Diego, and County of San Diego in southern San Diego County, California (USGS 1975a, 1975b; Attachment 1: Figures 1 through 3). The approximate route of the Proposed Project spans from the western terminus near the intersection of Dennery Road and Black Coral Way just east of Interstate 805 (I-805), travels east within Otay Canyon adjacent to the south bank of the Otay River, angles south at O'Neil Canyon, travels south over the mesa just west of Donovan State Penitentiary, angles west and then south again at Johnson Canyon, terminating near the intersection of I-905 and Harvest Road. Two staging yards are included as part of the Proposed Project, including one on the south side of Main Street at its intersection with Maxwell Road just east of I-805 and one on the north side of Otay Mesa Road at its intersection with Enrico Fermi Drive approximately 1 mile northeast of I-905.

The majority of the Proposed Project alignment is undeveloped land with small portions of developed land. The undeveloped land includes vegetation communities such as Diegan coastal sage scrub, native and non-native grassland, riparian scrub, vernal pools, and disturbed land. The developed land includes roads and construction yards. The topography within the Proposed Project alignment varies from relatively flat to undulating topography within canyon bottoms and mesa tops to relatively steep-sloped topography along canyon slopes. Land uses within the Proposed Project alignment and vicinity include a mix of industrial and commercial development, illegal off-road vehicle activity, illegal dumping, U.S. Border Patrol traffic, and protected preserve land.

The majority of the basins are within existing dirt access roads that are heavily disturbed by off-road vehicle activity, including (but not limited to) recreational uses, U.S. Border Patrol traffic, and road maintenance. The majority of these basins appear to be filled by direct rainfall and surrounding surface flows. One basin (Basin VP12) appears to be naturally occurring, has not been impacted by off-road vehicle activity, and is not located within or immediately adjacent to a dirt access road. The majority of these basins are either devoid of vegetation or contain non-native grasses and forbs.

FAIRY SHRIMP NATURAL HISTORY

The Proposed Project alignment contains habitat (e.g., vernal pools, road ruts, other wet depressions) that has the potential to support fairy shrimp species; therefore, focused fairy shrimp surveys are required. In addition to the common, non-sensitive versatile fairy shrimp (*Branchinecta lindahli*), two federally listed fairy shrimp species have a potential to occur within the vicinity of the Proposed Project alignment, including San Diego fairy shrimp (*Branchinecta sandiegonensis*) and Riverside fairy shrimp (*Streptocephalus woottoni*).

The San Diego fairy shrimp was federally listed as endangered in February 1997 (USFWS 1997). On December 12, 2007, 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. Critical habitat for the San Diego fairy shrimp occurs within a portion of the Proposed Project alignment that runs north-south within the Otay Ranch Preserve, between Proposed Project pole locations Z31729 and Z31734 (Attachment 1: Figures 1 through 4).

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. The revised critical habitat now includes land in three units in Ventura, Orange, and San Diego counties, for a total of approximately 1,724 acres. No critical habitat for Riverside fairy shrimp occurs within the Proposed Project alignment in the revised Final Rule.

SURVEY METHODS

The focused 2015/2016 wet season fairy shrimp survey was conducted in accordance with the current USFWS survey guidelines, titled Survey Guidelines for the Listed Large Branchiopods and dated May 31, 2015, which defines a complete large branchiopod survey as a complete wet season survey and a complete dry season survey that are conducted within a three-year period.

Following approval from USFWS to initiate surveys and following the first substantial rain event of the 2015/2016 rainy season, BBS initiated the first protocol-level wet season survey along the entire Proposed Project alignment. During each sampling visit, BBS recorded the location of each new basin using a hand-held Global Positioning System (GPS) unit. In addition, BBS assessed the entire Proposed Project alignment during each of the first several visits and following all heavy rain events throughout the 2015/2016 rainy season to locate newly inundated basins that required sampling.

During each sampling visit, BBS biologists recorded information about each basin, 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 were estimated during the first sampling of that basin, based on the observed conditions on site. The dimensions, air temperature, and water temperature of each inundated basin were measured and recorded during each successive sampling visit.

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

RESULTS

The 2015/2016 wet season survey consisted of a total of 33 surveys conducted by USFWS-permitted biologists Darin Busby (TE-115373-3), Travis Cooper (TE-170389-5), Melissa Busby (TE-080779-2), and Erik LaCoste (working under permit TE-115373-3) and assisted by several non-permitted biologists, including Corinne Klein, Ryan Hutcheson, Minh Dao, Christine Congedo, Laurie Gorman, and Andrew Kork. Surveys were conducted between September 20, 2015, and June 1, 2016. Table 1, below, provides a summary of the 2015/2016 wet season survey effort.

Table 1: Summary of 2015/2016 Wet Season Survey Effort

Survey Round	Date	Surveyor	Assistant	Areas Surveyed	FS Species Detected*
1	9/20/15	Darin Busby	Corinne Klein	Entire alignment	BRLLI
2	9/28/15	D. Busby	C. Klein	Entire alignment	BRLLI
3	10/12/15	D. Busby	C. Klein	Entire alignment	BRLLI
4	10/20/15	Travis Cooper	C. Klein	Entire alignment	none
5	11/9/15	D. Busby	C. Klein	Entire alignment	Unknown (immature)
6	11/16/15	D. Busby	C. Klein	Entire alignment	BRLLI
7	11/22/15	D. Busby	N/A	Entire alignment	BRLLI
8	11/30/15	D. Busby	N/A	Entire alignment	BRLLI
9	12/7/15	D. Busby	N/A	Entire alignment	BRLLI
10	12/15/15	D. Busby	N/A	Entire alignment	BRLLI
11	12/21/15	D. Busby	Ryan Hutcheson	Western portion	Unknown (immature)
	12/21/15	Melissa Busby	Minh Dao	Eastern portion	Unknown (immature)
	12/22/15	D. Busby	C. Klein	Center portion	Unknown (immature)
12	12/28/15	D. Busby	N/A	Western portion	BRLLI, BRSA
	12/29/15	D. Busby	N/A	Eastern portion	BRLLI
13	1/3/16	D. Busby	N/A	Western portion	BRLLI
	1/4/16	D. Busby	N/A	Eastern portion	BRLLI
14	1/11/16	D. Busby	Christina Congedo	Western portion	BRLLI
	1/12/16	D. Busby	C. Klein	Eastern portion	BRLLI
15	1/19/16	D. Busby	Laurie Gorman	Western portion	BRLLI
	1/20/16	D. Busby	C. Klein	Eastern portion	BRLLI, BRSA
16	1/25/16	D. Busby	N/A	Entire alignment	BRLLI
17	2/1/16	D. Busby	N/A	Entire alignment	BRLLI
18	2/8/16	D. Busby	N/A	Entire alignment	BRLLI
19	2/15/16	D. Busby	N/A	Entire alignment	BRLLI
20	2/22/16	D. Busby	E. LaCoste	Entire alignment	BRLLI
21	2/29/16	D. Busby	N/A	Entire alignment	none
22	3/6/16	D. Busby	N/A	Entire alignment	none
23	3/14/16	D. Busby	N/A	Entire alignment	Unknown (immature)

Table 1: Summary of 2015/2016 Wet Season Survey Effort

Survey Round	Date	Surveyor	Assistant	Areas Surveyed	FS Species Detected*
24	3/21/16	D. Busby	C. Congedo	Entire alignment	BRLI
25	3/28/16	D. Busby	N/A	Entire alignment	BRLI
26	4/4/16	D. Busby	N/A	Entire alignment	BRLI
27	4/11/16	Erik LaCoste	N/A	Entire alignment	Unknown (immature)
28	4/18/16	D. Busby	N/A	Entire alignment	BRLI, unknown (immature)
29	2/25/16	D. Busby	N/A	Entire alignment	none
30	5/2/16	D. Busby	N/A	Entire alignment	none
31	5/10/16	E. LaCoste	N/A	Entire alignment	Unknown (immature)
32	5/17/16	M. Busby	Andrew Kork	Entire alignment	BRLI, unknown (immature)
33	5/24/16	D. Busby	N/A	Entire alignment	BRLI
	6/1/16	D. Busby	N/A	All basins dry	

*BRLI = *Branchinecta lindahli*, BRSA = *Branchinecta sandiegonensis*

BBS monitored the rain events for the 2015/2016 rainy season using rainfall data from the National Oceanic and Atmospheric Administration website (NOAA 2015, 2016) to determine when to initiate surveys. The first significant rain event in the region during the 2015/2016 season occurred on September 15 and 16, 2015, when approximately 0.49 inch of rain fell in Otay Mesa. Table 2, below, provides a summary of the rainfall for the 2015/2016 survey season.

Table 2: Summary of 2015/2016 Rainfall for Otay Mesa, California

Month	Rainfall Total
September 2015	0.49 inch
October 2015	0.25 inch
November 2015	0.54 inch
December 2015	0.42 inch
January 2016	1.00 inch
February 2016	0.03 inch
March 2016	0.91 inch
April 2016	0.51 inch
May 2016	0.77 inch
June 2016	0.00 inch

BBS initiated the first wet season survey within the entire Proposed Project alignment on September 20, 2015, to comply with the protocol requirement to initiate surveys within seven days of inundation. During each survey, the entire Proposed Project alignment was assessed to identify all inundated basins; and all

inundated basins were sampled following the methods outlined in the Survey Guidelines for the Listed Large Branchiopods (USFWS 2015). Rainfall remained relatively consistent throughout the 2015/2016 wet season, with the exception of February 2016, which had a drop in rainfall compared to the other months; however, the basins along the Proposed Project alignment remained inundated, and weekly wet season surveys were conducted throughout the 2015/2016 wet season. The last significant rainfall of the 2015/2016 wet season fell during the first week of May 2016 with a couple of light showers following later in the month that did not bring enough rainfall to keep the basins inundated. BBS's last survey was conducted on June 1, 2016; and all basins were dry. No additional rainfall occurred after this date.

Attachment 1: Figure 4 contains a map of the locations of the sampled basins. Attachment 2, Basin Conditions by Survey, provides a summary for each basin by date and includes information only for dates that the specific basin was sampled. Once surveys were completed, BBS compiled the data for each of the basins. Attachment 3, Basin Conditions Summary Table, provides the basin 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. Attachment 4 provides example photographs of several basins within the Proposed Project alignment. Copies of the original field datasheets are provided in Attachment 5.

BBS conducted surveys within the survey area provided by Chambers Group for the Proposed Project alignment. Attachment 1: Figures 2 through 4 depict the portions of the alignment that were included within the survey area as well as the portions of the alignment that were excluded from the survey area because federally listed fairy shrimp were presumed present based on historical information for the region. BBS surveyed a total of 118 basins within the Proposed Project alignment during the 2015/2016 wet season surveys. Basins surveyed included road ruts, ditches, detention basins, and vernal pools that became inundated at some point during the season. Some of these basins were rarely inundated and, thus, were sampled only once or twice; while others stayed inundated for the majority of the wet season and, thus, were sampled up to 28 or 29 times. Three of the 118 basins were never inundated. Approximately 40 percent of the basins were rarely inundated and were sampled fewer than 5 times; approximately 30 percent of the basins were occasionally inundated and were sampled between 5 and 15 times; and approximately 30 percent of the basins were inundated frequently and were sampled between 15 and 29 times.

As described below, of the 118 basins sampled within the Proposed Project alignment during the 2015/2016 survey season, fairy shrimp were detected in 56 basins. Both the federally endangered San Diego fairy shrimp and the common versatile fairy shrimp were detected in Basin RR New 50 and Basin RR New 24. The common versatile fairy shrimp was detected in 49 other basins. In addition, five basins contained unknown, immature fairy shrimp that never reached maturity so a positive identification could not be confirmed. The federally listed endangered Riverside fairy shrimp was not detected during these surveys.

On December 28, 2015, and January 4, 2016, Darin Busby detected between 10 and 20 adult individuals of both San Diego fairy shrimp and versatile fairy shrimp in Basin RR New 24, a road rut with a high level of disturbance and little to no vegetation. This basin is within the USGS *Otay Mesa* quadrangle, approximately 400 feet south of the Otay River, approximately 4,200 feet southwest of the Lower Otay Reservoir, and at the following GPS coordinates: 32.59820, -116.93793. Mr. Busby collected voucher specimens of the following individuals on December 28, 2015: two male San Diego fairy shrimp, one male versatile fairy

shrimp, and two unidentified female *Branchinecta* sp. Mr. Busby provided Stacey Love (Permit Coordinator at Carlsbad USFWS) with an email summarizing this detection on January 5, 2015.

On January 21, 2015, Darin Busby detected approximately five individual adult San Diego fairy shrimp and versatile fairy shrimp in Basin RR New 50, a road rut with a high level of disturbance and little to no vegetation. This basin is approximately 600 feet south of road rut basin RR New 24 where San Diego fairy shrimp were detected. Basin RR New 50 is situated within a dirt access road within the USGS *Otay Mesa* quadrangle, approximately 1,000 feet south of the Otay River, approximately 5,000 feet southwest of the Lower Otay Reservoir, and at the following GPS coordinates: 32.59700, -116.93836. Mr. Busby collected voucher specimens of the following individuals on January 21, 2015: one male San Diego fairy shrimp and one male versatile fairy shrimp. Mr. Busby provided Stacey Love (Permit Coordinator at Carlsbad FWS) with an email summarizing this detection on February 4, 2016.

As noted previously, the Proposed Project alignment is located mainly in undeveloped land, with small portions of developed land. One basin (Basin VP12) appears to be naturally occurring, has not been impacted by off-road vehicle activity, and is not located within or immediately adjacent to a dirt access road; however, the majority of the basins are within existing dirt access roads that are heavily disturbed by off-road vehicle activity, including (but not limited to) recreational uses, U.S. Border Patrol traffic, and road maintenance. Therefore, the elimination of basins, formation of new basins, and/or reconfiguration of existing basins within the Proposed Project alignment occur frequently and unexpectedly, creating a dynamic environment for fairy shrimp. In addition, many of the basins are road ruts that are susceptible to alterations in their dimensions from vehicle activity, particularly after rain events when the ground is saturated and muddy.

Representative aquatic organisms present within several of the basins include water boatmen (Order Hemiptera), mosquito larvae (Order Diptera), seed shrimp (Class Ostracoda), water boatman (Family Corixidae), water flea (Order Cladocera), oar-feet (Class Copepoda), water beetle (Order Coleoptera), and tadpoles (Order Anura). Attachment 2, Basin Conditions Per Survey, provides a summary of organisms detected within each basin.

SUMMARY

Of the 118 basins sampled within the Proposed Project alignment during the 2015/2016 survey season, fairy shrimp were detected in 56 basins. The federally listed endangered San Diego fairy shrimp was detected in Basin RR New 50, which also contained the common versatile fairy shrimp, and Basin RR New 24. The common versatile fairy shrimp was detected in 49 other basins. Five basins contained unknown, immature fairy shrimp that never reached maturity so a positive identification could not be confirmed. The federally listed endangered Riverside fairy shrimp was not detected during these surveys.

No sensitive fairy shrimp species were detected during the 2015 dry season survey. For a summary of the 2015 dry season survey, please refer to the dry season survey summary report, titled Survey Summary Report for the 2015 Protocol-Level, Dry Season Fairy Shrimp Survey for the Proposed San Diego Gas & Electric Tie-line 649 Wood to Steel Project in Southern San Diego County, California, and dated July 8, 2016.

Please contact me on by phone at 949-261-5414 ext. 7288, or by email at pmorrissey@chambersgroupinc.com to discuss if you have any questions or concerns.



Sincerely,

CHAMBERS GROUP, INC.



Paul Morrissey
Director of Biology

ATTACHMENT 1: FIGURES

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

ATTACHMENT 3: BASIN CONDITIONS SUMMARY TABLE

ATTACHMENT 4: PHOTOGRAPHS

ATTACHMENT 5: SURVEY DATASHEETS

REFERENCES

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>.
- 2016 National Weather Service Forecast Office, San Diego Weather.
<http://www.nws.noaa.gov/climate/index.php?wfo=sgx>.

U.S. Fish and Wildlife Service (USFWS)

- 1993 Determination of Endangered Status for Three Vernal Pool Plants and the Riverside Fairy Shrimp. Federal Register 58(147): 41384-41392. Washington, D.C.: USFWS.
- 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.
- 2015 Survey Guidelines for the Listed Large Branchiopods. May 31.

U.S. Geological Survey (USGS)

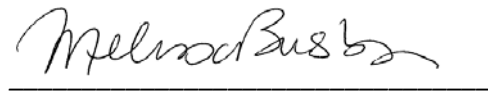
- 1975a *Otay Mesa* Quadrangle 7.5-Minute Topographic Map.
- 1975b *Imperial Beach* Quadrangle 7.5-Minute Topographic Map.

SURVEYORS' CERTIFICATION

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



Darin Busby
Senior Biologist
Busby Biological Services, Inc.
USFWS Permit Number TE-115373-3



Melissa Busby
Owner/Principal Biologist
Busby Biological Services, Inc.
USFWS Permit Number TE-080779-2



Erik LaCoste
Senior Biologist
Busby Biological Services, Inc.
Working Under USFWS Permit Number TE-233367-3



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

ATTACHMENT 1 – FIGURES





Legend

- Project Location
- ▨ San Diego Fairy Shrimp Critical Habitat
- ▨ Riverside Fairy Shrimp Critical Habitat

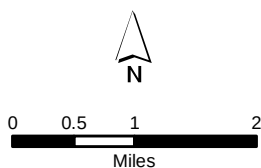
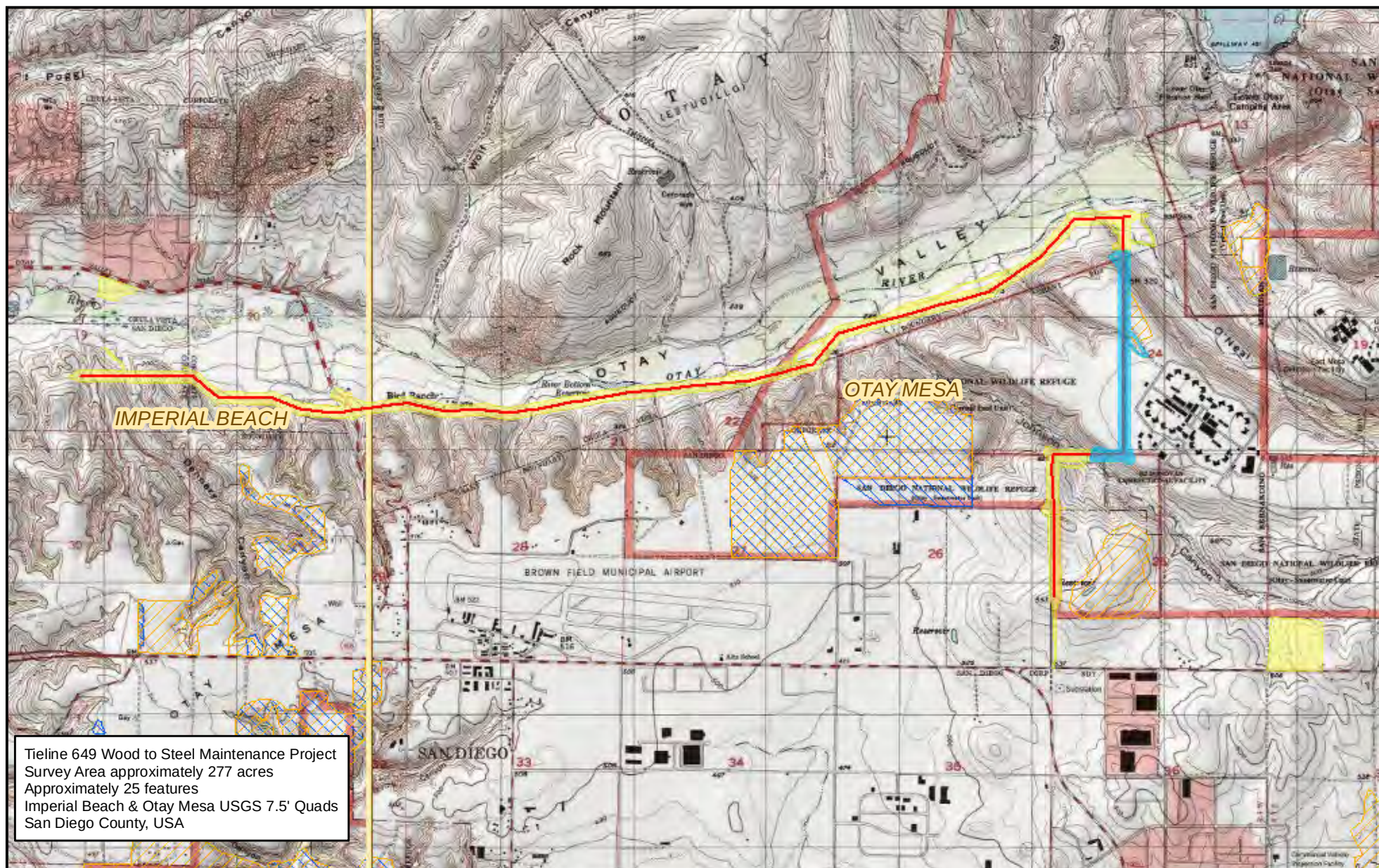


Figure 1
TL649 Fairy Shrimp Survey
Project Regional Map



Legend

- Project Centerline
- Survey Area
- Presumed Present
- USGS 7.5-min Quadrangle
- San Diego Fairy Shrimp Critical Habitat
- Riverside Fairy Shrimp Critical Habitat

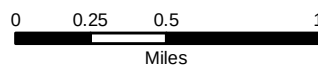


Figure 2
TL649 Fairy Shrimp Survey
Project Vicinity
USGS Map



Legend

- Project Centerline
- Survey Area
- Presumed Present
- Riverside Fairy Shrimp Critical Habitat
- San Diego Fairy Shrimp Critical Habitat

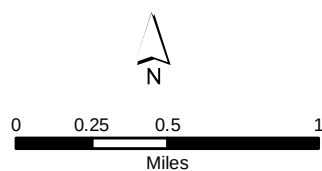


Figure 3
TL649 Fairy Shrimp Survey
Project Vicinity
Aerial Map



Legend

Staging Yard

Survey Area

Surveyed Basin

No fairy shrimp detected

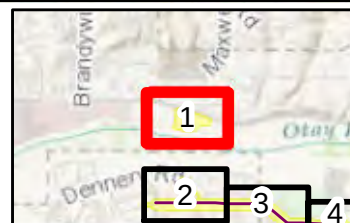
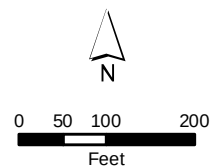


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Survey Area
- Project Pole
- Stringing Site
- Access Road

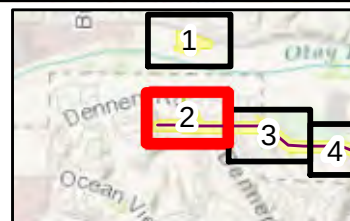
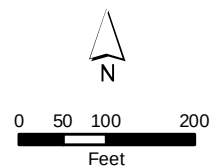


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Survey Area
- Project Pole
- Stringing Site
- Access Road

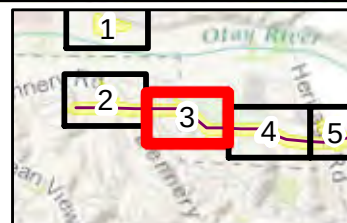
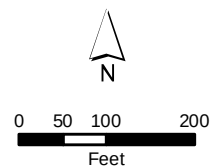


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Project Pole
- Access Road
- Survey Area

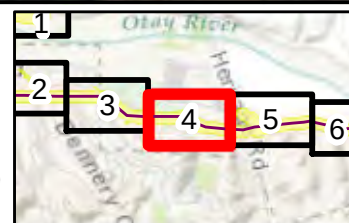
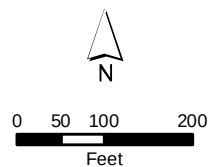
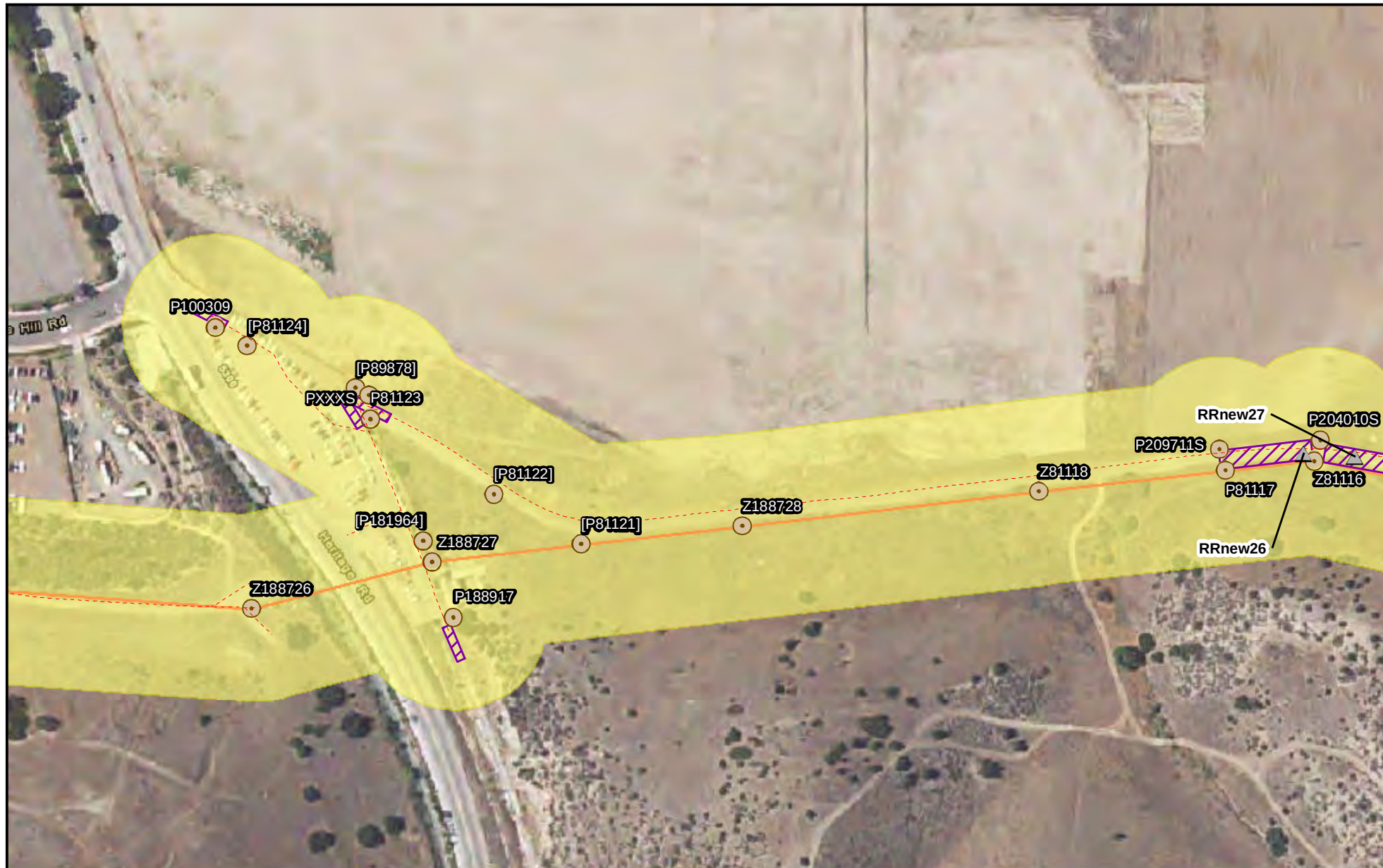


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Survey Area
- Project Pole
- Surveyed Basin
- Stringing Site
- ▲ No fairy shrimp detected
- - - Access Road

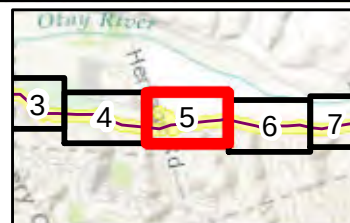
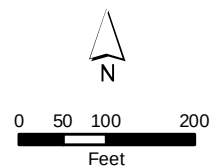


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Survey Area
- Project Pole
- Surveyed Basin**
- Stringing Site
- ▲ No fairy shrimp detected
- - - Access Road

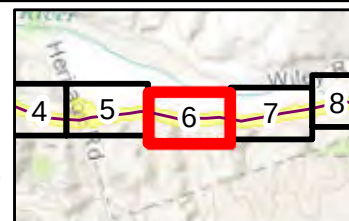
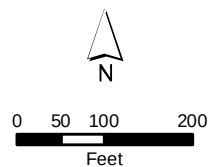
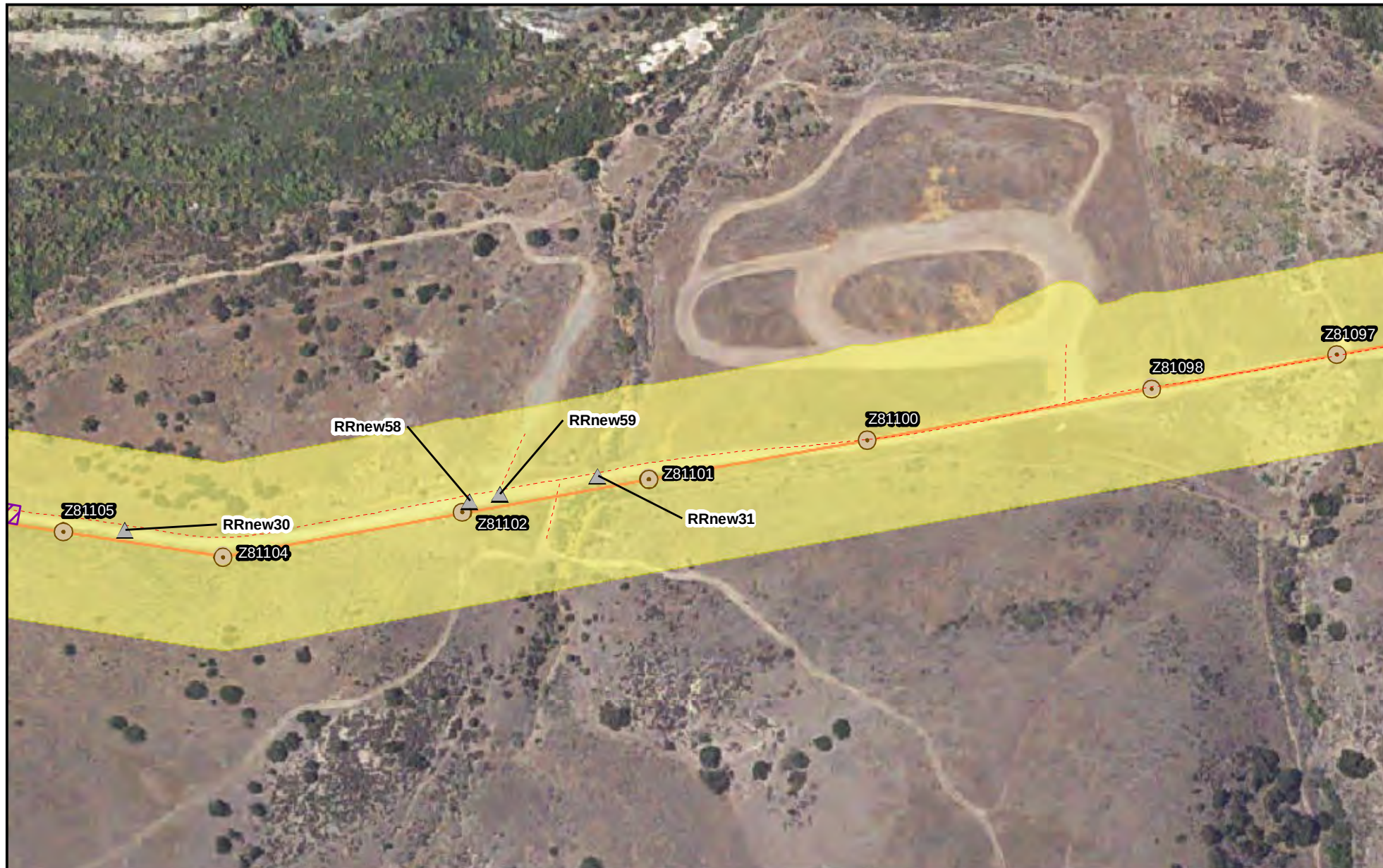


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Survey Area
- Project Pole
- Surveyed Basin**
- Stringing Site
- ▲ No fairy shrimp detected
- Access Road

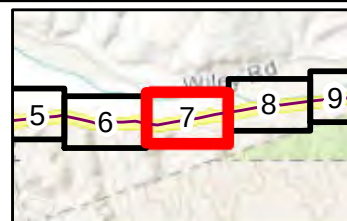
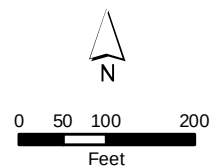
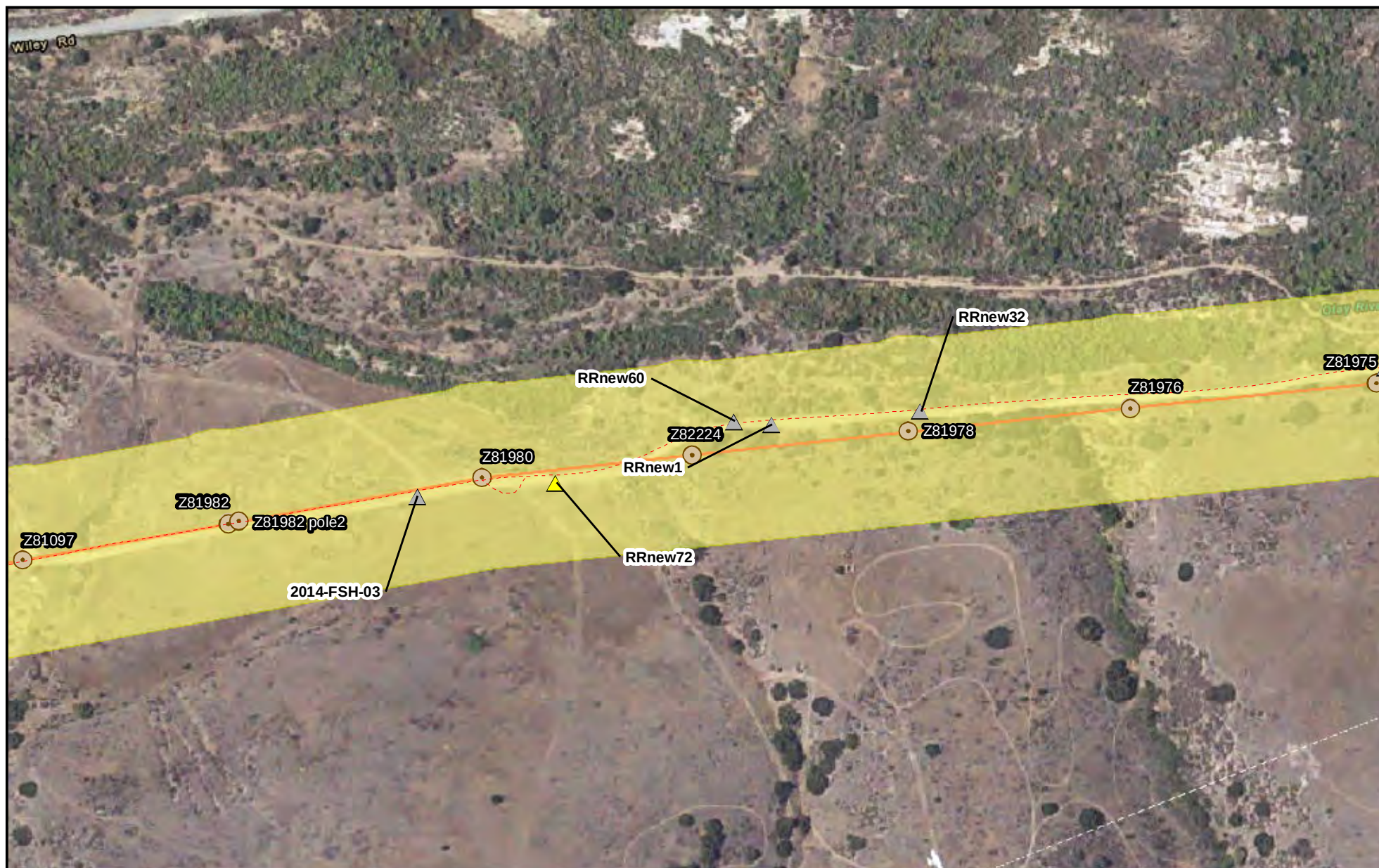


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Project Pole
- Access Road
- Survey Area
- Surveyed Basin**
- ▲ Immature/adult female *Branchinecta* sp. detected
- ▲ No fairy shrimp detected

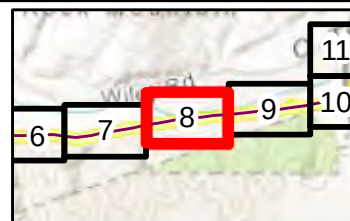
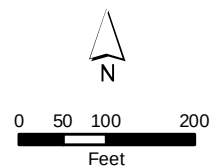
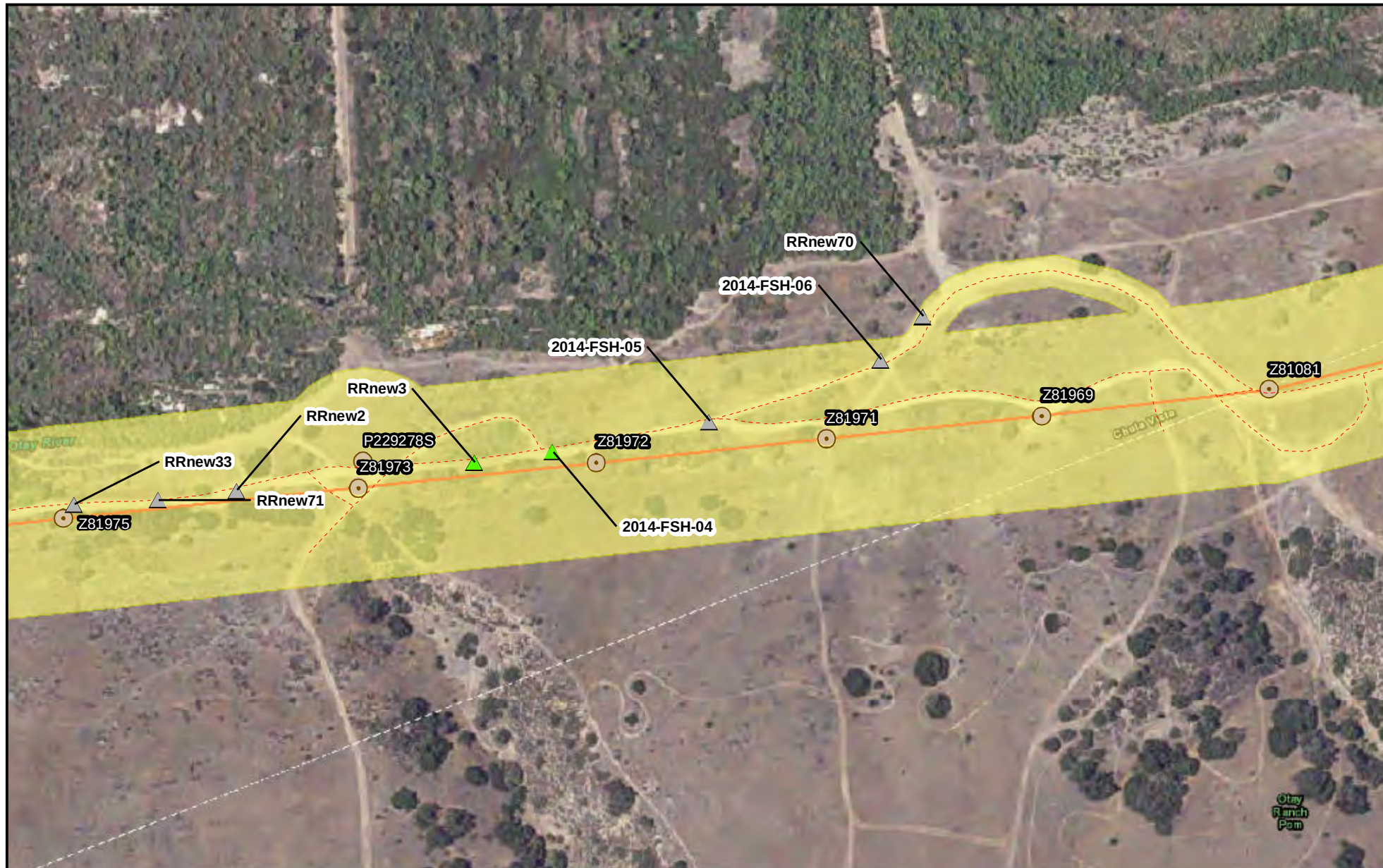


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map

Name: 20775 FairyShrimp Report Fig 4 Results_rev.Mxd
Print Date: 8/1/2016, Author: stondre





Legend

- Project Centerline
- Project Pole
- Access Road
- Survey Area
- Surveyed Basin**
- ▲ Adult *Branchinecta lindahl* detected
- ▲ No fairy shrimp detected

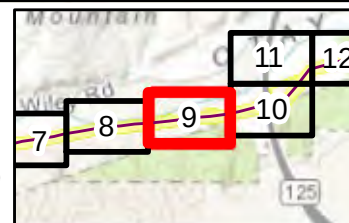
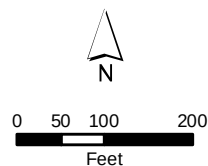
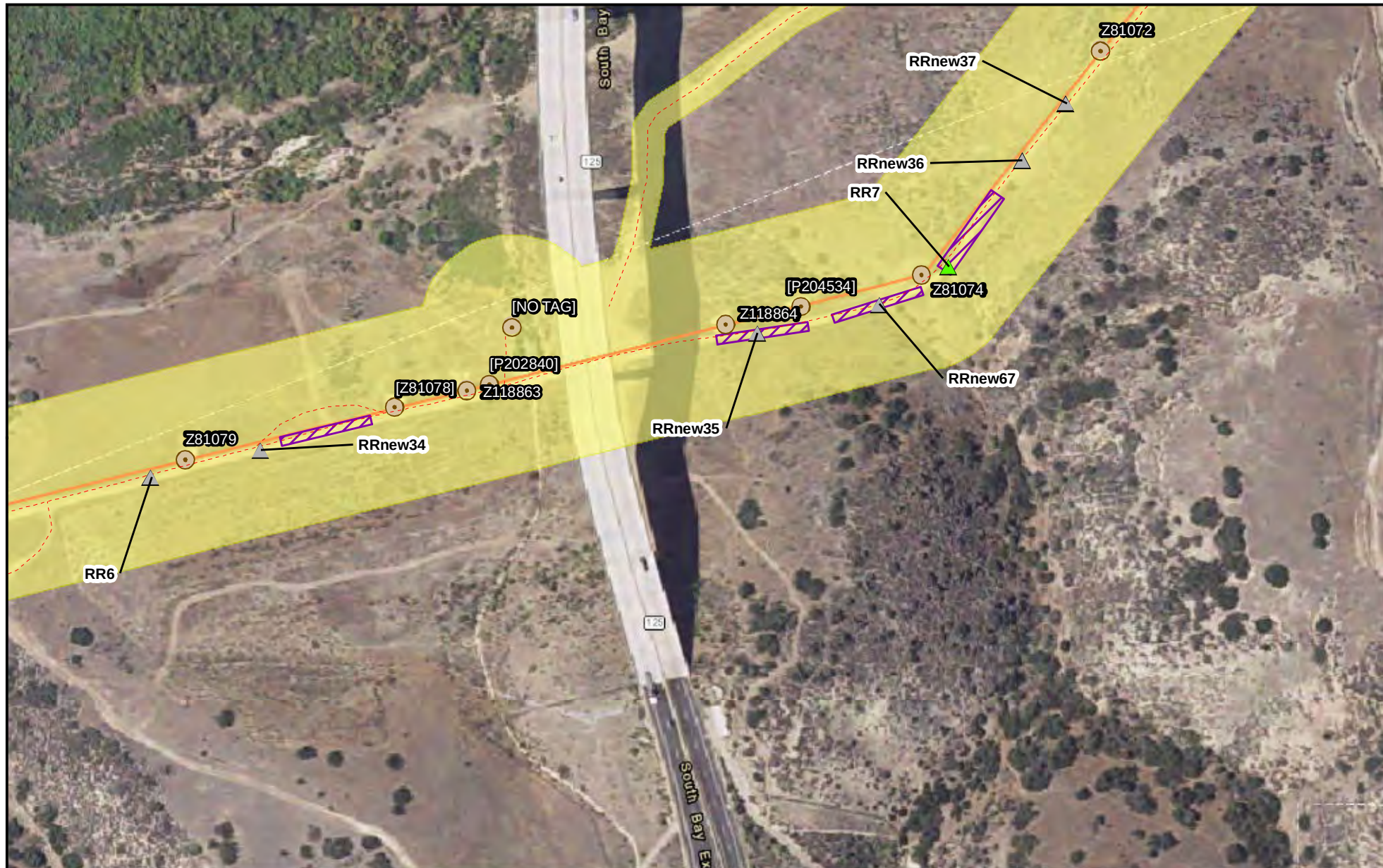


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

— Project Centerline Survey Area

● Project Pole

▨ Stringing Site

- - - Access Road

Surveyed Basin

▲ Adult *Branchinecta lindahli* detected

▲ No fairy shrimp detected

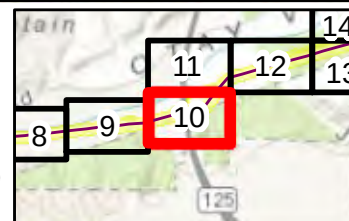
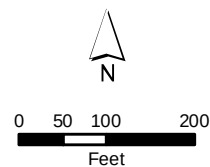


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map

Name: 20775 FairyShrimp Report Fig 4 Results_rev.Mxd
Print Date: 8/1/2016, Author: stondre





Legend

— Project Centerline Survey Area

● Project Pole

Stringing Site

--- Access Road

Surveyed Basin

▲ Adult *Branchinecta lindahli* detected

▲ Immature/adult female *Branchinecta* sp. detected

▲ No fairy shrimp detected

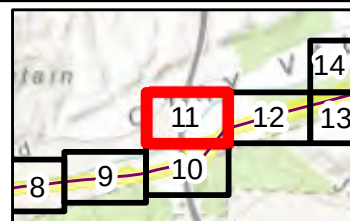
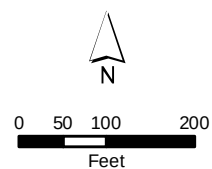


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map

Name: 20775 FairyShrimp Report Fig 4 Results_rev.Mxd
Print Date: 8/1/2016, Author: stondre





Legend

- Project Centerline
- Survey Area
- Project Pole
- Stringing Site
- Access Road
- Surveyed Basin**
- ▲ Adult *Branchinecta lindahli* detected
- ▲ Immature/adult female *Branchinecta* sp. detected
- ▲ No fairy shrimp detected

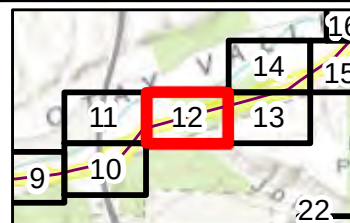
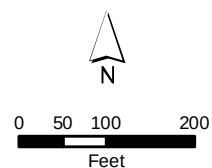
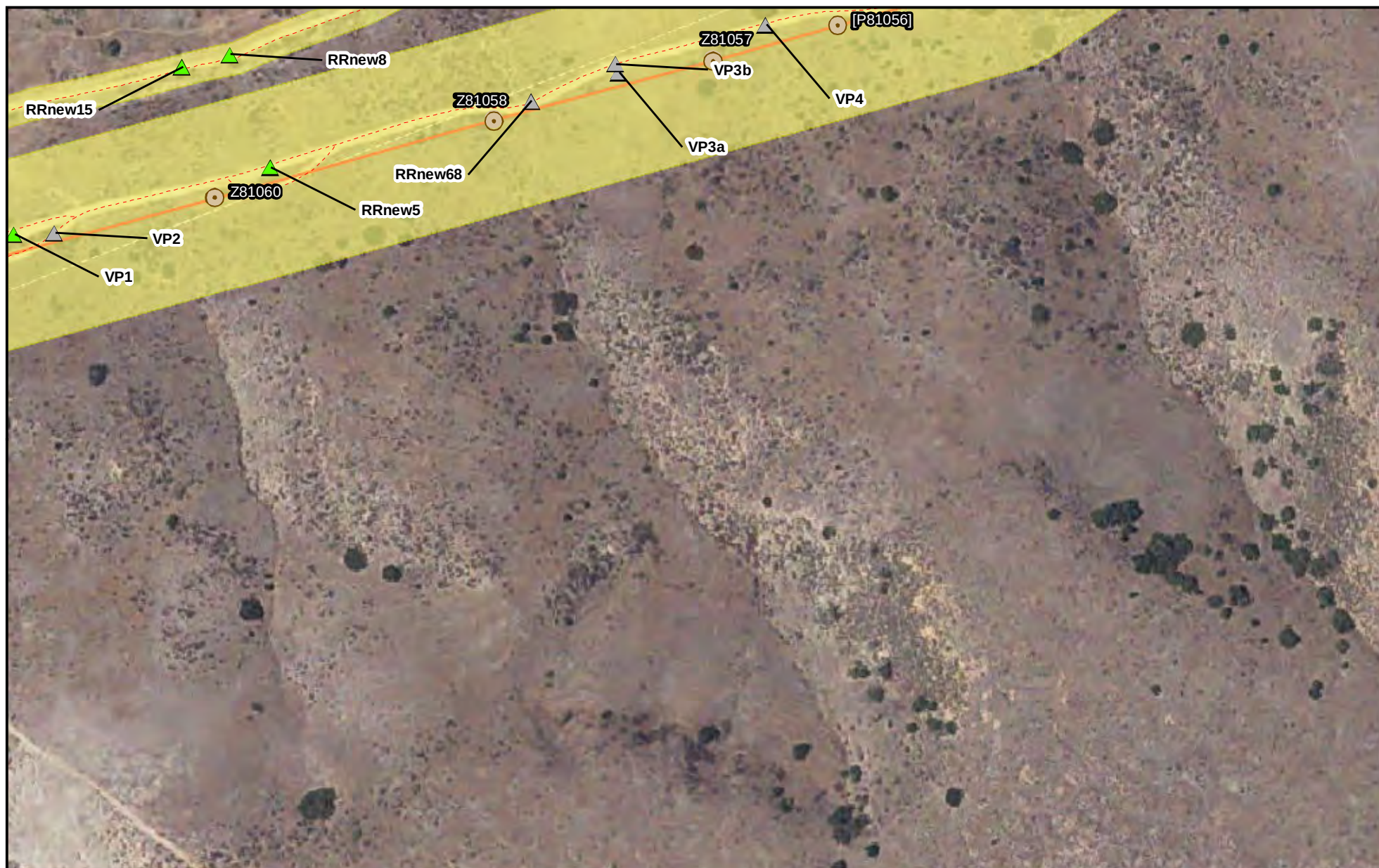


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Project Pole
- - - Access Road
- Survey Area
- Surveyed Basin**
- ▲ Adult *Branchinecta lindahli* detected
- ▲ No fairy shrimp detected

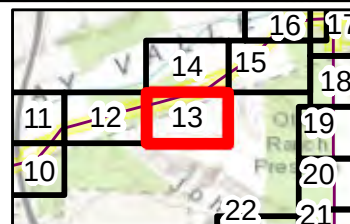
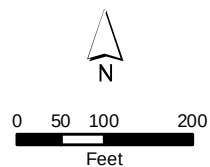


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- | | |
|--|---|
| — Project Centerline | Surveyed Basin |
| ● Project Pole | ▲ Adult <i>Branchinecta lindahl</i> detected |
| - - - Access Road | ▲ No fairy shrimp detected |
| Survey Area | |

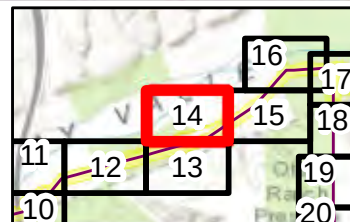
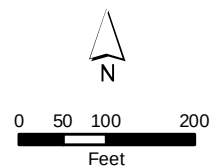
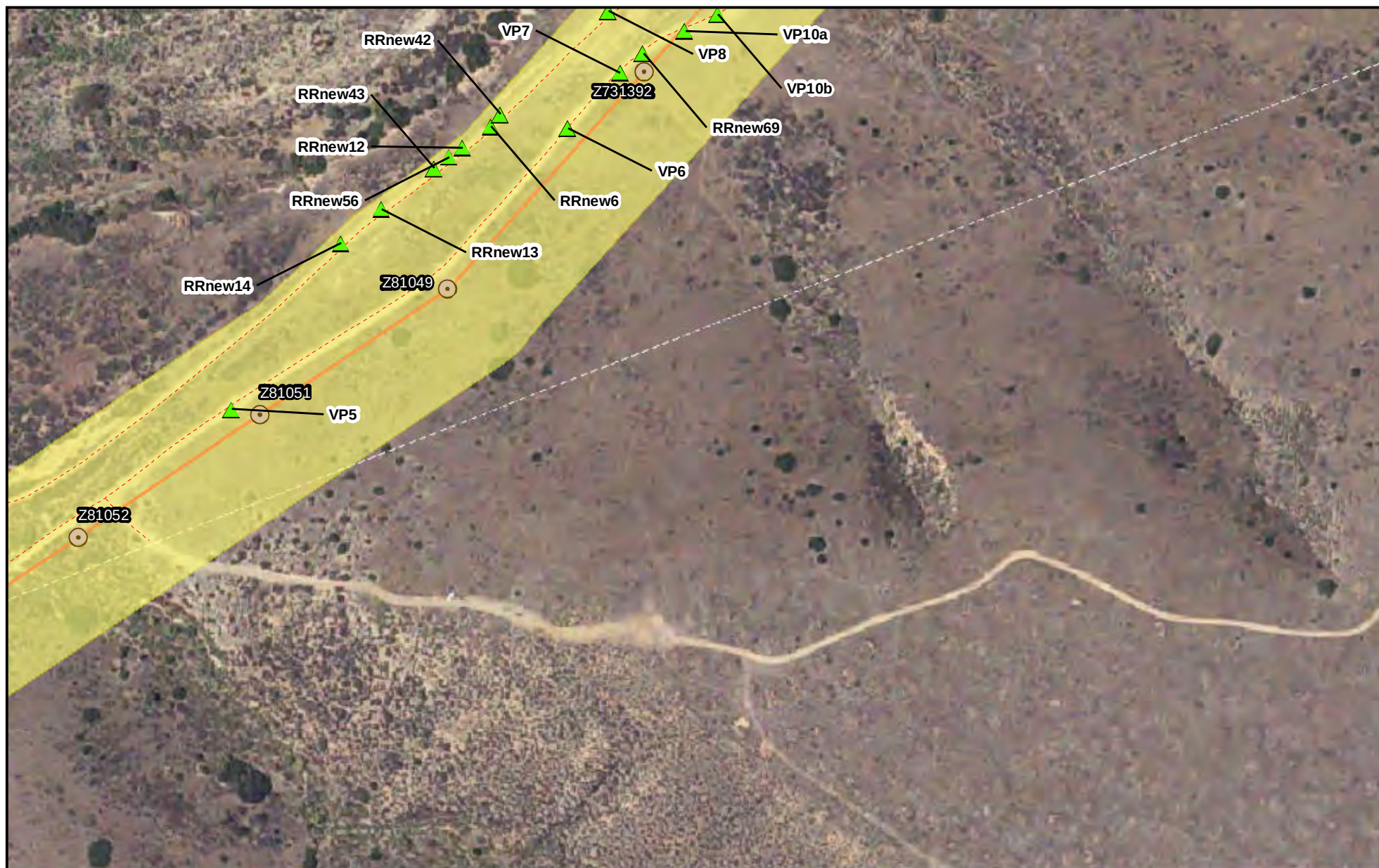


Figure 4
 TL649 Fairy Shrimp Survey
 Project Survey
 Results Map



Legend

- Project Centerline
-  Project Pole
- Access Road
-  Survey Area
- Surveyed Basin**
-  Adult *Branchinecta lindahli* detected

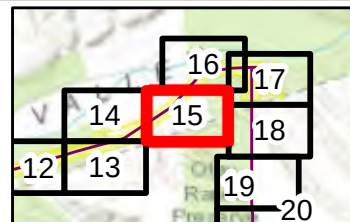
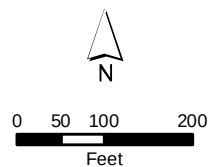


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Survey Area
- Project Pole
- Stringing Site
- - - Access Road
- Surveyed Basin**
- ▲ Adult *Branchinecta lindahli* detected
- ▲ Immature/adult female *Branchinecta* sp. detected
- ▲ No fairy shrimp detected

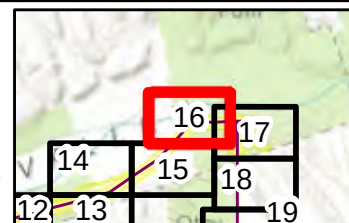
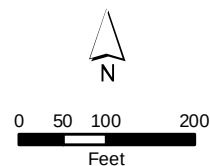


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map

Name: 20775 FairyShrimp Report Fig 4 Results_rev.Mxd
Print Date: 8/1/2016, Author: stondre





Legend

- | | | |
|--|---|--|
| --- Project Centerline | Survey Area | ▲ Adult <i>Branchinecta sandiegonensis</i> detected |
| ● Project Pole | Presumed Present | ▲ Immature/adult female <i>Branchinecta</i> sp. detected |
| Stringing Site | Surveyed Basin | ▲ No fairy shrimp detected |
| --- Access Road | ▲ Adult <i>Branchinecta lindahli</i> detected | |

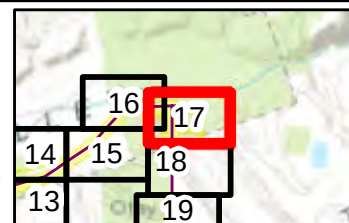
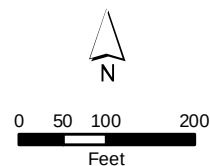


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Project Pole
- Access Road
- Presumed Present
- ▨ San Diego Fairy Shrimp Critical Habitat

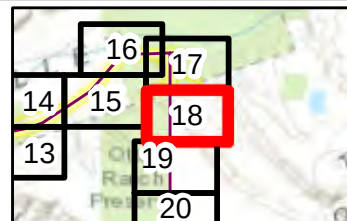
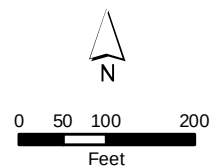


Figure 4
 TL649 Fairy Shrimp Survey
 Project Survey
 Results Map



Legend

- Project Centerline
- Project Pole
- Access Road
- Presumed Present
- San Diego Fairy Shrimp Critical Habitat

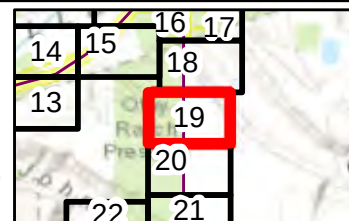
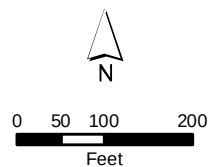


Figure 4
 TL649 Fairy Shrimp Survey
 Project Survey
 Results Map



Legend

- Project Centerline
- Project Pole
- Access Road
- Presumed Present

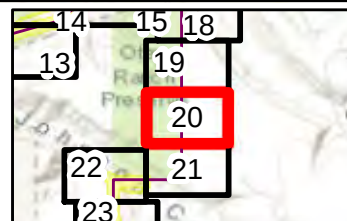
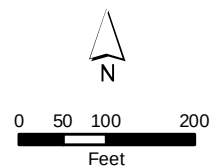
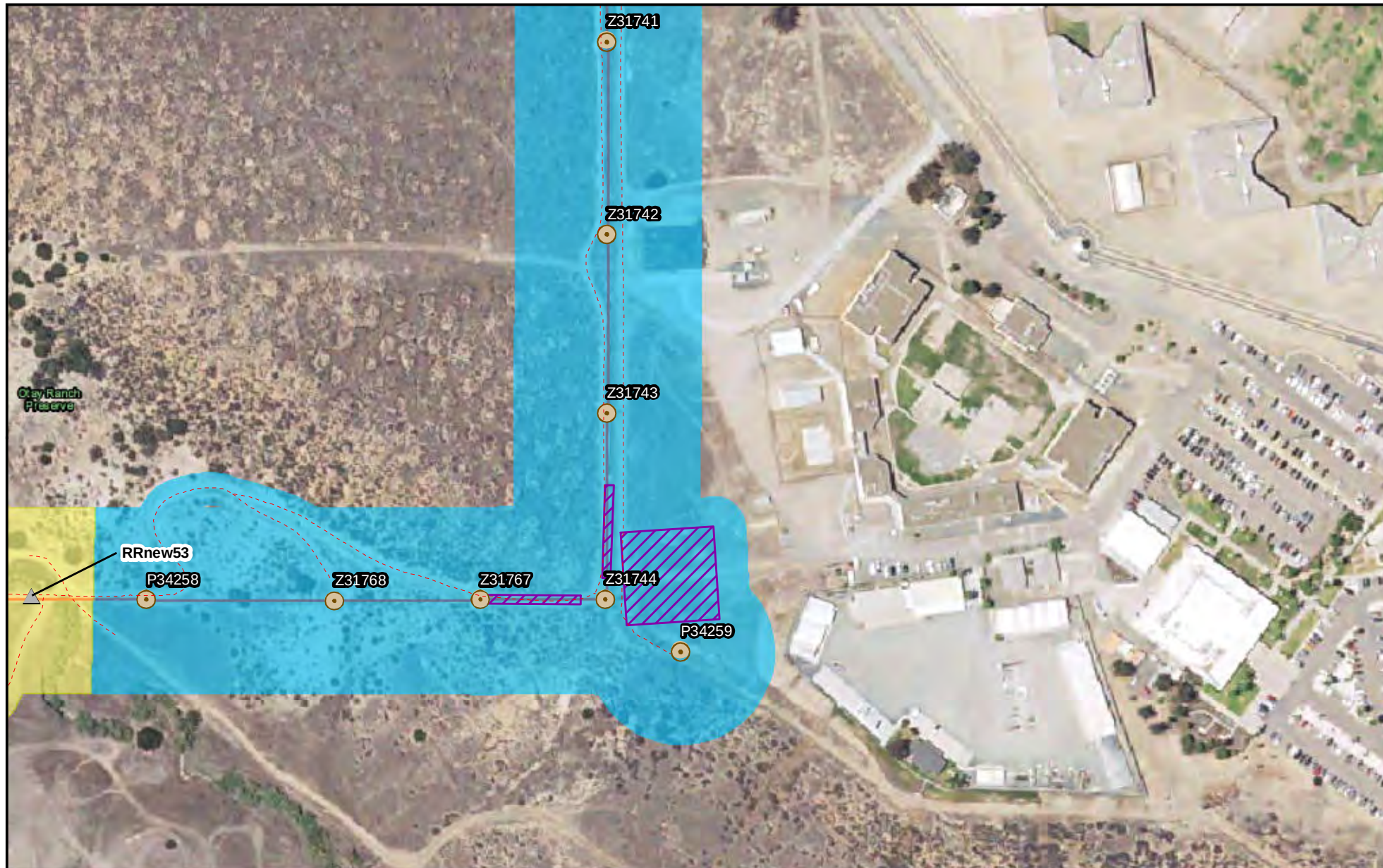


Figure 4
 TL649 Fairy Shrimp Survey
 Project Survey
 Results Map



Legend

- Project Centerline
- Survey Area
- Project Pole
- Presumed Present
- Stringing Site
- - - Access Road
- ▲ No fairy shrimp detected

Surveyed Basin

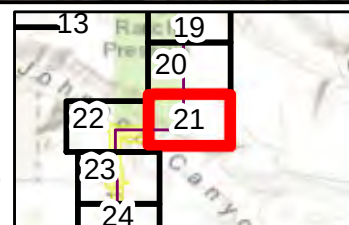
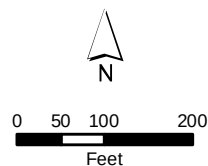


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Survey Area
- Project Pole
- Stringing Site
- Access Road
- Surveyed Basin**
- ▲ No fairy shrimp detected

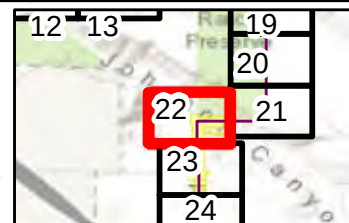
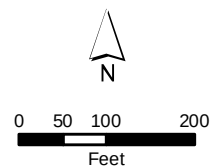


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map

Name: 20775 FairyShrimp Report Fig 4 Results_rev.Mxd
Print Date: 8/1/2016, Author: stondre





Legend

- Project Centerline
- Survey Area
- Project Pole
- Stringing Site
- - - Access Road

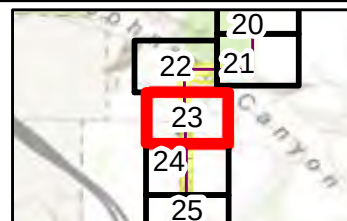
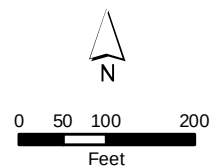
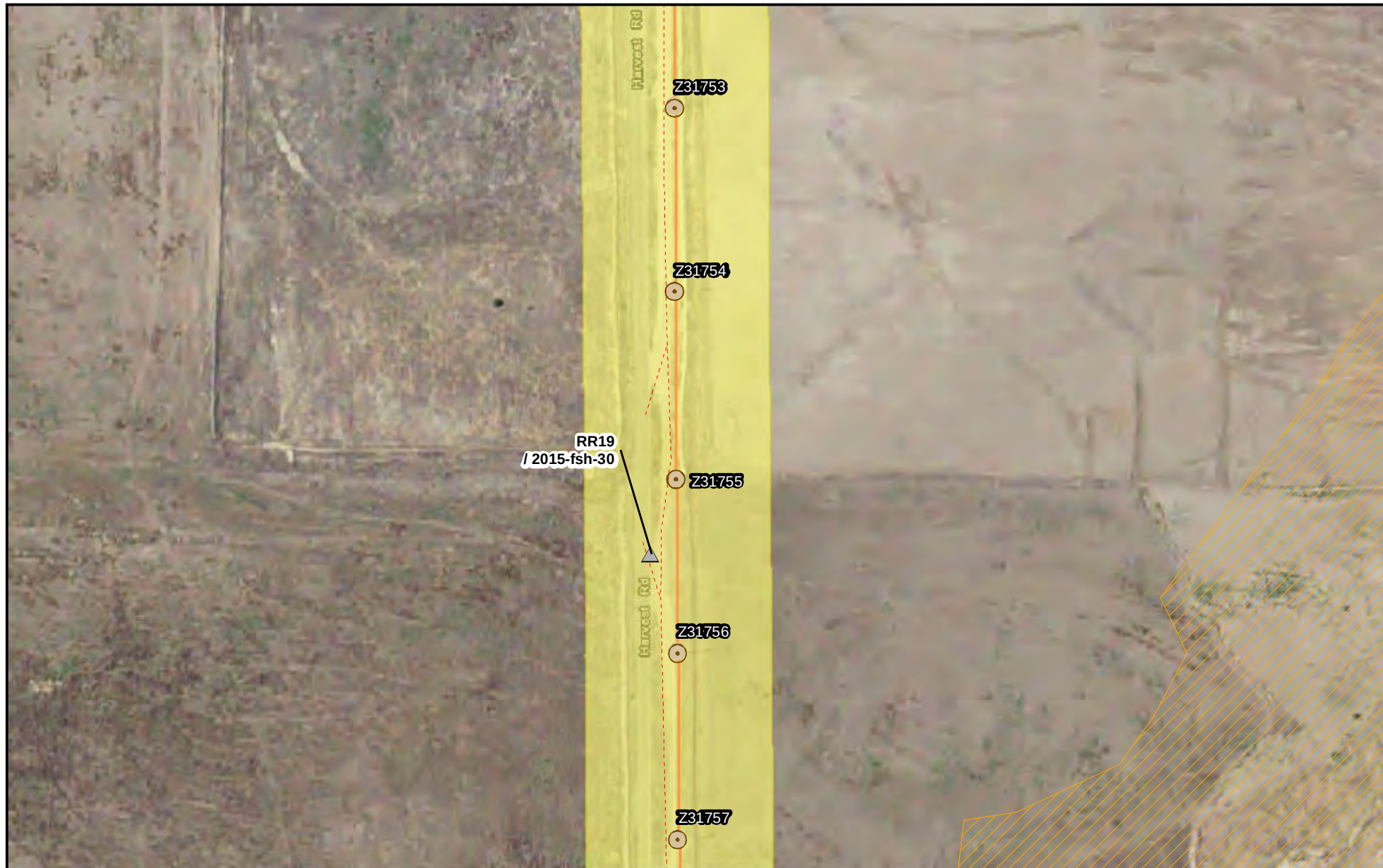


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- | | |
|--------------------|---|
| Project Centerline | Surveyed Basin |
| Project Pole | No fairy shrimp detected |
| Access Road | San Diego Fairy Shrimp Critical Habitat |
| Survey Area | |

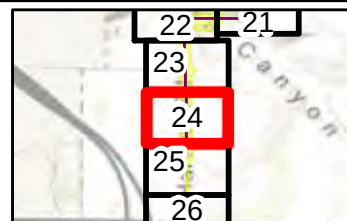
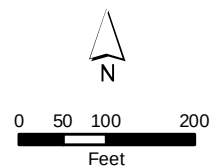


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Project Centerline
- Survey Area
- Project Pole
- San Diego Fairy Shrimp Critical Habitat
- Stringing Site
- Access Road

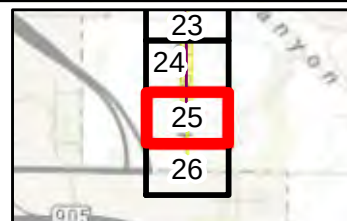
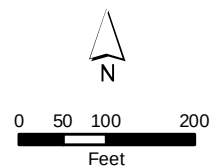


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

- Access Road
- Survey Area

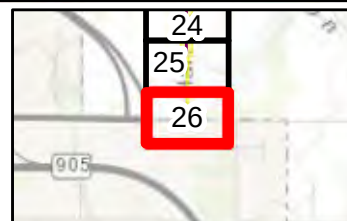
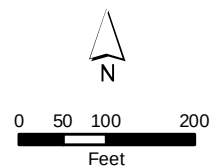


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map



Legend

-  Staging Yard
-  Survey Area

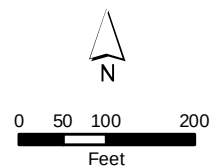


Figure 4
TL649 Fairy Shrimp Survey
Project Survey
Results Map

ATTACHMENT 2 – BASIN CONDITIONS PER SURVEY



ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
2014-FSH-03	12/28/2015	40	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
2014-FSH-03	1/11/2016	58	45	1.5	5	20	200											D, TT, UG	
2014-FSH-03	2/22/2016	54	N/A	N/A	N/A	N/A	N/A												Road work covered site
2014-FSH-03	3/14/2016	55	57	0.3	5	3	200												
2014-FSH-03	4/11/2016	63	61	4.5	5	180	200												
2014-FSH-04	12/15/2015	43	43	2	4	360	560												
2014-FSH-04	12/21/2015	65	58	2	4	520	560											D, TT, UG	
2014-FSH-04	12/28/2015	40	N/A	N/A	N/A	N/A	N/A											N/A	Muddy, unable to sample
2014-FSH-04	1/12/2016	70	68	2	4	376	560											D, TT	
2014-FSH-04	1/19/2016	60	51	2	4	320	560												
2014-FSH-04	1/25/2016	49	50	1	4	180	560	10s		10s									Collected three males and three females
2014-FSH-04	2/1/2016	40	41	2	4	200	560												Likely filled 1/31/2016
2014-FSH-04	3/14/2016	58	58	1	4	60	560												Very muddy
2014-FSH-04	4/11/2016	70	67	3	4	250	560												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
2014-FSH-04	5/10/2016	67	68	1.3	4	8	560												Mostly mud
2014-FSH-06	4/11/2016	70	75	0.5	1	18	30											D, TT, UG	
DB 1	9/20/2015	72	70	3	24	756	9000								x			CP, D, TT, NG	
DB 1	11/9/2015	57	55	24	24	572	9000											CP, TT, D	
DB 1	11/16/2015	58	52	2.5	24	450	9000											CP, D, AB	
DB 1	11/30/2015	43	45	1	24	60	9000												
DB 1	12/15/2015	60	N/A	N/A	N/A	N/A	N/A												Unable to access, inundated
DB 1	12/21/2015	43	44	4	24	3780	9000											D, TT, UG	
DB 1	12/29/2015	45	43	3	24	3000	9000												
DB 1	1/4/2016	50	52	3	24	1200	9000												
DB 1	1/12/2016	55	48	6	24	4800	9000											D, TT, AB	
DB 1	1/19/2016	50	55	10	24	9000	9000								x				
DB 1	1/25/2016	49	48	8	24	8000	9000												
DB 1	2/1/2016	40	40	10	24	8500	9000										x		
DB 1	2/8/2016	54	52	5	24	8000	9000										x		
DB 1	2/15/2016	60	58	4	24	5000	9000												
DB 1	2/22/2016	54	52	8	24	2000	9000						x						

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
DB 1	2/29/2016	50	55	4	24	500	9000												
DB 1	3/6/2016	63	66	4	24	300	9000												
DB 1	3/14/2016	66	70	5	24	2000	9000				x		x						
DB 1	3/21/2016	61	67	3	24	200	9000						x						
DB 1	3/28/2016	61	60	2	24	150	9000						x						
DB 1	4/11/2016	63	58	7	24	2000	9000												
DB 1	4/18/2016	70	58	5	24	2000	9000												
DB 1	4/25/2016	58	60	2	24	750	9000					x	x						
DB 1	5/2/2016	55	54	1	24	40	9000					x	x						
DB 1	5/10/2016	67	61	3	24	380	9000												
DB 1	5/17/2016	67	75	2.5	24	325	9000						x		x		x		
DB 1	5/24/2016	66	65	1	24	100	9000						x		x				
RR 1	12/15/2015	60	N/A	N/A	N/A	N/A	N/A												Unable to access
RR 10	4/11/2016	70	68	0.3	1	2	20											D, TT, UG	
RR 11a	9/20/2015	72	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 11a	11/9/2015	57	56	5	10	900	1000			1000s								CP, TT, D, AB	Eastern basin
RR 11a	11/16/2015	58	52	6	10	168	1000											CP, D, TT	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 11a	11/22/2015	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 11a	12/15/2015	43	46	3	10	120	1000												
RR 11a	12/21/2015	73	58	4	10	126	1000											D, TT, UG	
RR 11a	12/28/2015	40	44	4	10	648	1000												
RR 11a	1/3/2016	43	42	5	10	144	1000												Thick mud
RR 11a	1/12/2016	55	52	8	10	372	1000											D, TT	
RR 11a	1/19/2016	62	56	8	10	500	1000	100s		100s				x				AB	
RR 11a	1/25/2016	49	50	8	10	400	1000	1000s						x				AB	Collected four males and two females, with 11b
RR 11a	2/1/2016	40	40	8	10	375	1000	1000s					x					AB	
RR 11a	2/8/2016	54	52	5	10	350	1000	100s					x						
RR 11a	2/15/2016	60	57	5	10	210	1000	10s					x						
RR 11a	2/22/2016	54	N/A	N/A	N/A	N/A	N/A												Muddy, unable to survey
RR 11a	3/14/2016	58	61	1	10	60	1000												
RR 11a	4/11/2016	70	74	2.5	10	100	1000												
RR 11a	4/18/2016	70	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 11a	5/10/2016	67	71	0.3	10	32	1000												Wet mud, unable to sample
RR 11b	11/9/2015	57	56	1.5	1	190	350											CP, TT, D, AB	Western basin
RR 11b	11/16/2015	58	52	3	4	67.5	350											CP, D, TT	
RR 11b	11/22/2015	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 11b	12/15/2015	43	46	2	4	27	350												
RR 11b	12/21/2015	74	60	2	4	110	350											D, TT, UG	
RR 11b	12/28/2015	40	44	2	4	300	350												
RR 11b	1/3/2016	43	42	2	4	14	350												Thick mud
RR 11b	1/12/2016	55	50	3	4	200	350											D, TT	
RR 11b	1/19/2016	62	54	1.5	4	28	350			10s									
RR 11b	1/25/2016	49	54	1	4	25	350	10s											Collected two males and two females, with 11a
RR 11b	2/1/2016	40	41	3	4	120	350	10s											
RR 11b	2/8/2016	54	53	1.5	4	90	350	1s				x	x						
RR 11b	2/15/2016	60	59	1	4	15	350	1s				x	x						
RR 11b	4/11/2016	70	77	1.5	4	40	350												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandieganensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 11b	5/10/2016	67	71	0.3	4	22	350												Wet mud, unable to sample
RR 12	12/15/2015	43	48	2	3	12	210												
RR 12	12/21/2015	73	60	1.5	3	24	210											D, TT, UG	
RR 12	4/11/2016	70	77	0.3	3	4	210												
RR 13	11/9/2015	57	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 13	12/15/2015	43	48	1.5	3	96	100												
RR 13	12/21/2015	74	59	1.5	3	42	100											D, TT, UG	
RR 13	12/28/2015	40	44	1	3	50	100												
RR 13	1/3/2016	43	41	0.5	3	9	100												
RR 13	1/12/2016	55	54	1.5	3	66	100											D, TT	
RR 13	1/19/2016	63	56	0.3	3	3	100												
RR 13	4/11/2016	70	72	1.8	3	55	100												
RR 14	12/15/2015	55	48	1	4	7	90												
RR 14	12/21/2015	74	64	1.5	4	84	90											D, TT, UG	
RR 14	12/28/2015	50	44	2	4	45	90												No shrimp
RR 14	1/3/2016	43	42	0.5	4	2	90												
RR 14	1/12/2016	55	62	2	4	48	90											D, TT	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 14	1/19/2016	64	56	0.3	4	1.5	90	1s								x			
RR 14	4/11/2016	70	75	1.8	4	45	90												
RR 15a	9/20/2015	85	80	1	6	18	156											CP, D, TT, AB	Muddy
RR 15a	10/12/2015	79	72	4	4	68	150	100s										CP, D, TT, AB	male and female
RR 15a	10/20/2015	61	16	0.25	4	2	150				x							CP, TT, D	clear water, nothing visible
RR 15a	11/9/2015	57	58	3	4	60	150			100s								CP, TT, D, AB	
RR 15a	11/16/2015	58	54	3	4	44	150	100s										CP, D, TT	
RR 15a	11/22/2015	48	50	2	4	18	150	10s											
RR 15a	11/30/2015	43	44	1	4	3	150	10s											
RR 15a	12/15/2015	55	48	4	4	144	150												
RR 15a	12/21/2015	74	60	3	4	96	150			1s								D, TT, UG	
RR 15a	12/28/2015	50	43	3	4	45	150	10s		10s									Immature likely BRLI
RR 15a	1/3/2016	43	43	2.5	4	24	150	10s											
RR 15a	1/12/2016	55	58	4	4	120	150											D, TT, AB	
RR 15a	1/19/2016	65	60	3	4	56	150	10s		10s									
RR 15a	1/25/2016	49	55	2	4	35	150	10s											
RR 15a	2/1/2016	40	42	4	4	100	150	10s					x						

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 15a	2/8/2016	54	53	4	4	60	150	1s					x						
RR 15a	2/15/2016	60	60	1	4	15	150						x						
RR 15a	3/14/2016	58	62	2.5	4	35	150			10s									
RR 15a	4/11/2016	70	72	2.8	4	58	150												
RR 15a	4/18/2016	70	62	1.5	4	3	150			100s									
RR 15a	5/10/2016	67	75	1.3	4	40	150												Nothing present
RR 15a	5/17/2016	67	74	1	4	20	150	1000s											
RR 15b	10/12/2015	79	72	0.5	4	26	100	10s										CP, D, TT, AB	male and female
RR 15b	11/9/2015	57	58	2	4	30	100			100s								CP, TT, D	
RR 15b	11/16/2015	58	54	4	4	96	100			10s								CP, D, TT	
RR 15b	11/22/2015	48	50	2	4	24	100	10s											
RR 15b	11/30/2015	43	44	1	4	6	100	10s											
RR 15b	12/15/2015	55	48	4	4	81	100												
RR 15b	12/21/2015	74	62	3	4	80	100											D, TT, UG	
RR 15b	12/28/2015	50	43	3	4	45	100	10s		10s									Immature likely BRLI
RR 15b	1/3/2016	43	43	2.5	4	30	100	10s										AB	
RR 15b	1/12/2016	55	62	2	4	48	100											D, TT	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 15b	1/19/2016	65	54	1	4	12	100												
RR 15b	2/8/2016	54	54	2	4	30	100						x						
RR 15b	3/14/2016	58	63	1	4	15	100			10s									
RR 15b	4/11/2016	70	68	2.3	4	44	100												
RR 15b	4/18/2016	70	63	0.3	4	18	100			1s									
RR 15b	5/10/2016	67	76	0.5	4	18	100												Nothing present
RR 16	9/20/2015	85	83	1	5	126	480			10s								CP, D, TT, AB	Muddy, 10s, Immature
RR 16	10/12/2015	79	73	0.5	5	1	480	100s										CP, D, TT, AB	male and female, mostly dry
RR 16	11/9/2015	70	61	2	5	120	480			100s								CP, TT, D, AB	
RR 16	11/16/2015	58	55	2	5	105	480	100s										CP, D, TT	
RR 16	11/22/2015	50	50	1	5	10	480	10s											
RR 16	12/15/2015	55	52	2	5	210	480												
RR 16	12/21/2015	72	64	2	5	203	480			10s								D, TT, UG	
RR 16	12/28/2015	50	46	3	5	264	480	100s		100s									Immature likely BRLI, collected
RR 16	1/3/2016	48	46	3	5	144	480	10s										AB	
RR 16	1/12/2016	70	57	5	5	320	480	100s										D, TT, AB	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 16	1/19/2016	66	63	3	5	275	480	10s		10s								AB	
RR 16	1/25/2016	49	58	2	5	220	480	100s										AB	
RR 16	2/1/2016	40	43	3	5	250	480	100s					x						
RR 16	2/8/2016	60	56	2	5	210	480	10s					x						
RR 16	2/15/2016	60	62	1	5	8	480	10s					x						
RR 16	3/14/2016	58	63	2	5	90	480			10s									
RR 16	4/11/2016	70	69	2	5	115	480												
RR 16	4/18/2016	70	64	1.5	5	50	480			100s									
RR 16	5/10/2016	67	73	1.5	5	75	480												Nothing present
RR 16	5/17/2016	67	72	0.8	5	10	480			100s					x				
RR 17	9/20/2015	85	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 17	10/12/2015	89	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 17	11/9/2015	70	N/A	0.5	3	4	100			10s				x				CP, D, TT	
RR 17	11/16/2015	58	62	2.5	3	80	100											CP, D, TT	
RR 17	11/22/2015	50	55	1	3	24	100			1s									female, unknown species
RR 17	11/30/2015	43	54	0.5	3	6	100												No shrimp

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 17	12/15/2015	55	54	2	3	60	100												
RR 17	12/21/2015	61	66	2	3	55	100											D, TT	
RR 17	12/28/2015	55	57	1.5	3	26	100	1s											1 male, 1 female
RR 17	1/3/2016	48	57	1.5	3	24	100	10s											
RR 17	1/11/2016	67	62	1	3	21	100			1s									1 female
RR 17	2/8/2016	60	62	0.5	3	1	100												
RR 17	3/14/2016	60	65	0.5	3	7	100			1s									
RR 17	4/11/2016	70	79	0.8	3	12	100												
RR 18	11/22/2015	50	58	1.5	3	5	120												No shrimp
RR 18	11/30/2015	43	54	1	3	6	120												No shrimp
RR 18	12/7/2015	55	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 18	12/15/2015	55	55	2.5	3	20	120												
RR 18	12/21/2015	61	50	2	3	25	120											D, TT	
RR 18	12/28/2015	55	62	1	3	5	120												No shrimp
RR 18	1/3/2016	60	60	1	3	3	120												
RR 18	1/11/2016	67	58	1	3	5	120												
RR 18	2/8/2016	60	60	0.5	3	4	120												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 18	3/14/2016	60	64	0.5	3	3	120												
RR 18	4/11/2016	70	76	0.8	3	4	120												
RR 19	11/9/2015	70	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 19	12/15/2015	60	60	4	6	630	5625												
RR 19	12/21/2015	45	44	1	6	300	5625											D, TT	
RR 19	12/29/2015	45	47	4	6	360	5625												
RR 19	1/4/2016	50	52	3	6	72	5625												
RR 19	1/11/2016	58	52	3	6	630	5625												
RR 19	1/19/2016	63	63	1	6	100	5625												
RR 19	3/14/2016	62	70	0.3	6	3	5625												
RR 19	4/11/2016	70	76	1	6	30	5625												
RR 19	5/10/2016	67	74	0.5	1	175	5625												Nothing present
RR 2	9/20/2015	72	69	1.5	6	13.5	720											CP, D, TT, NG	Road rut
RR 2	12/15/2015	60	N/A	N/A	N/A	N/A	N/A												Unable to access, inundated
RR 2	12/21/2015	42	44	1	6	496	720											D, TT, UG	
RR 2	12/29/2015	45	43	0.5	6	330	720												
RR 2	1/12/2016	55	45	2	6	536	720											D, TT, AB	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 2	1/19/2016	50	50	2	6	300	720								x			D, TT, AB	
RR 2	1/25/2016	49	48	1	6	250	720											AB	
RR 2	2/1/2016	40	41	1	6	275	720											AB	Likely filled 1/31/2016
RR 2	3/14/2016	62	72	0.3	6	12	720												
RR 2	5/10/2016	67	60	2.5	6	300	720												Nothing present
RR 3	12/21/2015	44	44	1	2	3	32											D, TT, UG	
RR 3	12/28/2015	40	44	1	2	2	32												No shrimp
RR 4	11/22/2015	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 4	12/15/2015	43	42	2.5	5	180	840												
RR 4	12/21/2015	45	44	1.5	5	140	840											D, TT, UG	
RR 4	12/28/2015	40	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 4	3/14/2016	55	56	0.5	5	12	840												
RR 4	4/11/2016	63	58	4.5	5	50	840												
RR 5	11/9/2015	57	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 5	11/22/2015	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 5	11/30/2015	43	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 5	12/15/2015	43	42	5	6	207	350												
RR 5	12/21/2015	45	44	4	6	60	350											D, TT, UG	
RR 5	12/28/2015	40	40	2	6	27	350												No shrimp
RR 5	1/3/2016	42	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 5	1/11/2016	54	46	1	6	8	350												
RR 5	3/14/2016	55	56	0.3	6	5	350												Very muddy
RR 5	4/11/2016	63	61	1.5	6	12	350												
RR 6	12/15/2015	43	43	2	3	60	120												
RR 6	12/21/2015	67	55	1.5	3	90	120											D, TT, UG	
RR 6	12/28/2015	40	40	0.5	3	9	120												No shrimp
RR 6	1/3/2016	42	42	0.3	3	1	120												Muddy
RR 6	1/12/2016	55	55	0.5	3	10	120											D, TT	Muddy and shallow
RR 6	4/11/2016	70	75	0.8	3	16	120												
RR 7	9/20/2015	72	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 7	11/9/2015	57	56	3	9	22	1400											CP, TT, D	

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RR 7	11/16/2015	58	52	3.5	9	63	1400	100s										CP, D, TT	
RR 7	11/22/2015	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 7	12/15/2015	43	45	4	9	90	1400												
RR 7	12/21/2015	72	56	3	9	100	1400			10s								D, TT, UG	
RR 7	12/28/2015	40	42	4	9	1265	1400	100s											
RR 7	1/3/2016	42	42	2	9	40	1400												Muddy
RR 7	1/12/2016	55	52	8	9	350	1400	10s										D, TT	
RR 7	1/19/2016	61	53	5	9	160	1400	100s											
RR 7	1/25/2016	49	50	4	9	150	1400	1000s					x						Collected four males and four females
RR 7	2/1/2016	40	40	4	9	180	1400	100s					x						
RR 7	2/8/2016	54	50	3	9	90	1400	100s					x						
RR 7	2/15/2016	60	57	2	9	50	1400	10s					x						
RR 7	2/22/2016	54	55	0.3	9	1	1400	1s			x					x			
RR 7	3/14/2016	58	58	1	9	12	1400			10s	x								
RR 7	4/11/2016	70	75	2	9	70	1400												
RR 7	5/10/2016	67	70	0.3	9	14	1400												Mostly mud

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR 8	11/22/2015	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 8	12/15/2015	43	45	2	4	54	225												
RR 8	12/21/2015	75	56	2	4	96	225											D, TT, UG	
RR 8	1/3/2016	43	41	0.3	4	1	225												
RR 8	1/12/2016	55	56	1	4	22	225											D, TT	Muddy
RR 8	2/8/2016	54	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR 8	3/14/2016	58	60	0.3	4	1.5	225												
RR 8	4/11/2016	70	78	0.5	4	16	225												
RR 9	1/12/2016	55	58	2	6	60	90											D, TT	Muddy
RR 9	4/11/2016	70	77	1	6	28	90												
RR New 1	11/9/2015	57	52	2	6	36	450											CP, TT, D	
RR New 1	11/16/2015	58	52	4	6	102	450											CP, D, TT	
RR New 1	11/22/2015	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 1	11/30/2015	43	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 1	12/15/2015	43	42	3	6	300	450												
RR New 1	12/21/2015	53	46	4	6	300	450											D, TT, UG	

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RR New 1	12/28/2015	40	39	3	6	90	450												No shrimp
RR New 1	1/3/2016	42	42	0.5	6	6	450												Muddy
RR New 1	1/11/2016	58	46	4	6	140	450												
RR New 1	1/19/2016	52	46	1	6	12	450												
RR New 1	2/8/2016	54	48	2	6	70	450												
RR New 1	3/14/2016	55	56	3	6	70	450												Very muddy
RR New 1	4/11/2016	63	62	5.5	6	160	450												
RR New 10	10/20/2015	61	17	0.25	10	0.5	250											CP, TT, D, AB	clear water, nothing visible
RR New 10	11/9/2015	70	61	2	10	81	250			100s								CP, TT, D, AB	
RR New 10	11/16/2015	58	56	6	10	81	250	100s										CP, D, TT, AB	Collected shrimps
RR New 10	11/22/2015	50	58	4	10	81	250	100s											
RR New 10	11/30/2015	43	48	3	10	81	250	10s											
RR New 10	12/7/2015	50	50	2	10	24	250	10s											Very muddy
RR New 10	12/15/2015	60	58	6	10	144	250												
RR New 10	12/22/2015	59	56	5	10	130	250			10s								D, TT, UG	
RR New 10	12/28/2015	55	56	6	10	108	250	100s		100s									Immature likely BRLI
RR New 10	1/3/2016	60	56	4	10	108	250	10s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 10	1/11/2016	65	58	6	10	104	250	100s											
RR New 10	1/20/2016	58	54	3	10	100	250	10s					x					D, TT, AB	
RR New 10	1/25/2016	68	66	4	10	120	250	100s											
RR New 10	2/1/2016	50	50	4	10	250	250	10s					x						
RR New 10	2/8/2016	75	64	3	10	85	250	10s					x						
RR New 10	2/15/2016	64	64	2	10	60	250	1s					x						
RR New 10	2/22/2016	54	60	1	10	30	250	1s			x								
RR New 10	3/14/2016	60	62	5	10	60	250			10s									
RR New 10	3/21/2016	61	64	1.5	10	32	250	10s					x						
RR New 10	4/11/2016	70	72	4.5	10	90	250												
RR New 10	4/18/2016	79	70	1.5	10	6	250												
RR New 10	5/10/2016	67	76	1	3	8	250												Nothing present
RR New 11	11/9/2015	57	55	1	4	6	462											CP, TT, D, AB	
RR New 11	11/16/2015	58	52	2	4	84	462											CP, D, TT	
RR New 11	12/15/2015	60	59	2.5	4	90	462												
RR New 11	12/21/2015	75	60	3	4	196	462											D, TT, AB, UG	
RR New 11	12/28/2015	40	44	3	4	90	462											AB	No shrimp

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 11	1/3/2016	43	41	2.5	4	60	462	10s											Collected four males and three females
RR New 11	1/12/2016	70	65	2	4	110	462			1s								D, TT, AB	1 female
RR New 11	1/19/2016	61	53	1.5	4	30	462							x					
RR New 11	1/25/2016	49	52	0.5	4	2	462												
RR New 11	2/1/2016	40	40	3	4	60	462												Likely filled 1/31/2016
RR New 11	2/8/2016	54	50	2	4	45	462											AB	
RR New 11	3/14/2016	58	60	1	4	15	462												
RR New 11	4/11/2016	70	72	2.5	4	120	462												
RR New 12	11/9/2015	70	68	1	4	6	200			10s								CP, TT, D, AB	
RR New 12	11/16/2015	58	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 12	12/15/2015	60	59	1.5	4	18	200												
RR New 12	12/22/2015	59	57	2	4	24	200			10s								D, TT, UG	
RR New 12	12/28/2015	55	60	1.5	4	32	200	10s											
RR New 12	1/3/2016	60	58	1.5	4	24	200	10s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 12	1/11/2016	67	60	3	4	193	200	1000s											RR New 12, RR New 56, RR New 43 connected
RR New 12	1/20/2016	58	54	3	4	88	200	100s					x					D, TT, AB	Collected three males and two females
RR New 12	1/25/2016	68	67	2	4	40	200	10s					x						
RR New 12	2/1/2016	50	51	2	4	50	200	10s					x						
RR New 12	2/8/2016	80	65	1	4	30	200	10s					x						
RR New 12	3/14/2016	60	63	1	4	8	200			10s									
RR New 12	4/11/2016	70	78	1.3	4	22	200												
RR New 12	5/10/2016	67	80	0.5	4	10	200												Nothing present
RR New 13	11/9/2015	70	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 13	11/22/2015	50	62	1	3	4	35												No shrimp
RR New 13	12/15/2015	60	59	2	3	24	35												
RR New 13	12/22/2015	59	57	3	3	28	35			10s								D, TT, UG	
RR New 13	12/28/2015	55	61	1	3	18	35												No shrimp
RR New 13	1/3/2016	60	60	1	3	8	35	10s											
RR New 13	1/11/2016	67	63	2	3	21	35	1s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 13	1/20/2016	58	53	1.5	3	32	35	10s		10s								D, TT	Collected two males and two females
RR New 13	1/25/2016	68	68	1	3	8	35	10s					x						
RR New 13	2/1/2016	50	53	2	3	15	35						x						
RR New 13	2/8/2016	80	66	1	3	8	35						x						
RR New 13	3/14/2016	60	63	0.5	3	4	35												
RR New 13	4/11/2016	70	76	1.5	3	20	35												
RR New 13	4/18/2016	79	72	0.5	3	1	35												
RR New 13	5/10/2016	67	80	0.5	2	8	35												Nothing present
RR New 14	11/9/2015	70	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 14	12/15/2015	60	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 14	12/22/2015	59	57	1	3	17.5	25											D, TT, UG	
RR New 14	12/28/2015	55	61	1	3	6	25												No shrimp
RR New 14	1/3/2016	60	60	1	3	6	25												
RR New 14	1/11/2016	67	62	2	3	18	25	1s											1 male
RR New 14	1/25/2016	68	68	0.5	3	2	25	1s											Too few to collect
RR New 14	2/1/2016	50	54	0.5	3	3	25												Likely just filled

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 14	2/8/2016	80	66	0.3	3	1	25												
RR New 14	3/14/2016	60	64	0.5	3	2	25			1s									
RR New 14	4/11/2016	70	80	0.8	3	7	25												
RR New 15	11/9/2015	70	64	1	3	3	150			10s								CP, TT, D	
RR New 15	11/16/2015	58	54	2	3	42	150	10s										CP, D, TT	Collected shrimps
RR New 15	11/22/2015	50	60	0.5	3	2	150	1s											1 male and 1 female
RR New 15	12/15/2015	60	59	1.5	3	50	150												
RR New 15	12/22/2015	59	57	2	3	140	150			10s								D, TT, UG	
RR New 15	12/28/2015	55	61	1	3	30	150												No shrimp
RR New 15	1/3/2016	60	61	1.5	3	8	150	10s											
RR New 15	1/11/2016	67	60	1	3	90	150							x				AB	
RR New 15	1/20/2016	58	52	1.5	3	34	150	1s		10s								D, TT, AB	
RR New 15	1/25/2016	68	67	1	3	8	150	1s											
RR New 15	2/1/2016	50	54	1.5	3	20	150												Likely just filled
RR New 15	2/8/2016	80	65	1	3	10	150												
RR New 15	2/15/2016	70	68	0.5	3	2	150			10s									
RR New 15	3/14/2016	60	65	0.3	3	3	150			1s									

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 15	4/11/2016	70	79	1	3	54	150												
RR New 16	11/9/2015	70	63	1	3	15	200			10s								CP, D, TT	
RR New 16	11/16/2015	58	62	3	3	162	200											CP, D, TT, AB	
RR New 16	11/22/2015	50	54	2	3	18	200	10s										AB	
RR New 16	11/30/2015	43	48	0.5	3	1	200	1s											5 shrimp
RR New 16	12/15/2015	55	54	3	3	180	200												
RR New 16	12/21/2015	74	64	3	3	192	200			10s								D, TT, UG	
RR New 16	12/28/2015	55	50	3	3	90	200	100s		100s									Immature likely BRLI, collected
RR New 16	1/3/2016	48	51	2	3	30	200	10s											Collected three males and two females
RR New 16	1/11/2016	65	59	2	3	75	200	10s											
RR New 16	1/19/2016	66	60	1.5	3	24	200			10s									
RR New 16	1/25/2016	49	60	0.5	3	5	200	1s											
RR New 16	2/1/2016	48	47	3	3	90	200												Likely just filled
RR New 16	2/8/2016	60	60	1	3	15	200			100s									Likely BRLI
RR New 16	2/15/2016	60	61	0.5	3	4	200	10s											
RR New 16	3/14/2016	60	63	2	3	45	200			10s									

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 16	3/21/2016	61	56	1	3	3	200	100s			x								
RR New 16	4/11/2016	70	70	2.3	3	48	200												
RR New 16	4/18/2016	70	64	0.3	3	1	200	1s		10s									
RR New 16	5/10/2016	67	74	0.3	1	10	200												Nothing present
RR New 17	11/9/2015	70	61	1.5	3	87	204			10s								CP, D, TT	
RR New 17	11/16/2015	60	63	2	3	102	204											CP, TT, D	
RR New 17	11/22/2015	50	57	0.5	3	21	204	10s											
RR New 17	11/30/2015	43	52	1	3	3	204	1s				x							4 shrimp
RR New 17	12/15/2015	55	54	2	3	180	204												
RR New 17	12/21/2015	61	60	2	3	70	204			100s		x						D, TT	
RR New 17	12/28/2015	55	55	3	3	180	204	100s		100s									Immature likely BRLI, collected
RR New 17	1/3/2016	48	52	2	3	120	204	100s											
RR New 17	1/11/2016	65	60	2	3	90	204	100s											
RR New 17	1/19/2016	66	65	2	3	120	204	10s		10s									
RR New 17	1/25/2016	49	62	1.5	3	80	204	10s		10s		x							
RR New 17	2/1/2016	48	49	2	3	75	204	10s		10s		x	x						
RR New 17	2/8/2016	60	61	1	3	25	204	10s				x	x						

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 17	2/15/2016	64	62	0.5	3	45	204	10s					x						
RR New 17	2/22/2016	54	N/A	N/A	N/A	N/A	N/A												Muddy, unable to survey
RR New 17	3/14/2016	60	63	2.5	3	60	204			10s									
RR New 17	3/21/2016	61	56	0.3	3	0.5	204	10s		10s	x	x							
RR New 17	4/11/2016	70	76	2.3	3	65	204												
RR New 17	5/10/2016	67	74	0.8	3	18	204												Nothing present
RR New 18	11/9/2015	70	62	1	3	32	240			10s								CP, D, TT	
RR New 18	11/16/2015	60	63	2	3	105	240											CP, TT, D	
RR New 18	11/22/2015	50	57	1	3	36	240	10s											
RR New 18	11/30/2015	43	50	1	3	15	240	10s				x							
RR New 18	12/15/2015	55	54	3	3	30	240												
RR New 18	12/21/2015	61	64	1.5	3	50	240			10s								D, TT	
RR New 18	12/28/2015	55	55	2	3	60	240												No shrimp
RR New 18	1/3/2016	48	52	2	3	75	240	10s											
RR New 18	1/11/2016	65	60	2	3	105	240	10s											Collected three males and three females
RR New 18	1/19/2016	66	56	1.5	3	75	240	10s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 18	1/25/2016	49	63	1	3	50	240	10s											
RR New 18	2/1/2016	48	49	2	3	60	240	10s					x						
RR New 18	2/8/2016	60	61	1.5	3	18	240	1s					x						
RR New 18	2/15/2016	64	63	0.3	3	4	240			10s			x						Likely BRLI
RR New 18	3/14/2016	60	64	1.5	3	30	240			10s									
RR New 18	4/11/2016	70	76	1	3	54	240												
RR New 19	11/9/2015	70	64	1	4	36	150			10s								CP, D, TT, AB	
RR New 19	11/16/2015	60	63	2	4	60	150											CP, TT, D	
RR New 19	11/22/2015	50	57	0.5	4	3	150	10s											
RR New 19	12/15/2015	55	54	2	4	99	150												
RR New 19	12/21/2015	61	60	2	4	120	150			10s								D, TT, AB	
RR New 19	12/28/2015	55	55	2	4	40	150	10s		10s									Immature likely BRLI, collected
RR New 19	1/3/2016	48	53	2	4	60	150	10s											
RR New 19	1/11/2016	65	60	4	4	150	150	1s											
RR New 19	1/19/2016	66	58	2	4	90	150	1s		10s			x						
RR New 19	1/25/2016	49	60	1.5	4	60	150	10s					x						
RR New 19	2/1/2016	48	48	2	4	65	150	10s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 19	2/8/2016	60	60	2	4	20	150	10s					x						
RR New 19	2/15/2016	64	61	1	4	27	150	1s					x						
RR New 19	3/14/2016	60	64	1.5	4	50	150			1000s									
RR New 19	4/11/2016	70	78	1.8	4	62	150												
RR New 19	4/18/2016	79	65	0.3	4	0.5	150			10s									
RR New 2	11/22/2015	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 2	11/30/2015	43	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 2	12/15/2015	43	42	4	5	360	380												
RR New 2	12/21/2015	62	50	3	5	280	380											D, TT, UG	
RR New 2	12/28/2015	40	40	0.5	5	3	380												No shrimp
RR New 2	1/3/2016	42	42	0.3	5	2	380												Muddy
RR New 2	1/12/2016	70	68	0.5	5	4	380											D, TT	Muddy
RR New 2	3/14/2016	55	60	0.5	5	3	380												
RR New 2	4/11/2016	70	68	1	5	2	380												
RR New 20	11/9/2015	70	68	4	10	91	250			1000s								CP, D, TT, AB	
RR New 20	11/16/2015	60	63	2	10	34	250	1000s										CP, TT, D, AB	Collected shrimps

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 20	11/22/2015	50	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 20	12/15/2015	55	56	3	10	72	250												
RR New 20	12/21/2015	57	48	3	10	100	250			100s								D, TT	
RR New 20	12/28/2015	60	60	6	10	90	250	100s		100s									Immature likely BRLI
RR New 20	1/4/2016	50	50	5	10	90	250	1000s											
RR New 20	1/11/2016	58	52	10	10	250	250	100s			x								
RR New 20	1/20/2016	58	55	4	10	90	250	1000s			x	x				x		D, TT, AB	
RR New 20	1/25/2016	49	60	3.5	10	80	250	1000s			x	x				x			
RR New 20	2/1/2016	48	49	4	10	90	250	10s		10s		x	x			x			
RR New 20	2/8/2016	75	60	4	10	45	250	1s					x			x			
RR New 20	2/15/2016	64	61	1.5	10	15	250	1s					x			x			
RR New 20	3/14/2016	62	65	4	10	30	250			100s									
RR New 20	4/11/2016	70	75	4.5	10	84	250												
RR New 20	4/18/2016	79	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 20	5/10/2016	67	75	3	10	30	250			10s									
RR New 21	11/9/2015	70	69	0.5	4	12	130			10s								CP, D, TT	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 21	11/22/2015	50	60	1.5	4	18	130	10s										AB	
RR New 21	12/15/2015	55	58	3	4	100	130												
RR New 21	12/21/2015	54	54	2	4	80	130											D, TT	
RR New 21	12/29/2015	45	45	1	4	2	130	1s											Two males
RR New 21	1/11/2016	63	59	4	4	125	130												
RR New 21	4/11/2016	70	78	2.3	4	48	130												
RR New 21	5/10/2016	67	75	0.5	1	8	130												Nothing present
RR New 22	11/9/2015	70	72	3	6	24.5	60							x				CP, D, TT	
RR New 22	11/16/2015	60	64	3	6	40	60											CP, TT, D	
RR New 22	11/30/2015	43	58	1	6	6	60												No shrimp
RR New 22	12/15/2015	60	58	4	6	60	60												
RR New 22	12/21/2015	50	48	3	6	60	60			10s								D, TT	
RR New 22	12/29/2015	45	45	2	6	40	60	10s											
RR New 22	1/4/2016	50	51	1	6	6	60	10s											
RR New 22	1/11/2016	63	59	4	6	60	60	10s											
RR New 22	1/20/2016	58	66	1.5	6	36	60											D, TT	
RR New 22	1/25/2016	49	68	0.5	6	6	60				x								
RR New 22	2/1/2016	48	51	3	6	60	60												Likely just filled

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 22	2/8/2016	75	63	2	6	35	60			1000s	x								
RR New 22	2/15/2016	64	65	0.5	6	4	60	1s			x		x						
RR New 22	3/14/2016	62	69	3	6	20	60			10s									
RR New 22	3/21/2016	61	61	0.3	6	0.5	60	10s											
RR New 22	4/11/2016	70	78	3	6	30	60												
RR New 22	4/18/2016	79	68	2	6	15	60			10s									
RR New 22	5/10/2016	67	74	1.3	3	8	60			10s									
RR New 23	11/9/2015	70	55	0.5	5	1	90											CP, D, TT	
RR New 23	12/21/2015	46	46	2	5	12	90											D, TT	
RR New 23	12/29/2015	45	46	1	5	12	90												
RR New 23	1/4/2016	50	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 23	1/11/2016	58	50	5	5	42	90												
RR New 23	1/19/2016	63	62	0.5	5	2	90												
RR New 23	3/14/2016	62	70	1	5	12	90												
RR New 23	4/11/2016	70	N/A	N/A	N/A	N/A	N/A												Mud
RR New 23-1	11/22/2015	48	49	0.5	4	0.5	168											D, TT, UG	New basin, no shrimp
RR New 23-1	12/15/2015	43	45	4	4	125	168												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 23-1	12/21/2015	75	56	4	4	64	168											D, TT, UG	
RR New 23-1	12/28/2015	40	43	1	4	24	168												No shrimp
RR New 23-1	1/3/2016	42	42	1	4	3	168												
RR New 23-1	1/12/2016	55	56	2	4	60	168											D, TT	
RR New 23-1	1/19/2016	61	53	0.5	4	4	168												
RR New 23-1	2/8/2016	54	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 23-1	4/11/2016	70	77	1.8	4	40	168												
RR New 24	11/22/2015	50	60	1	4	9	160			1s								D, TT, UG	New basin, female unknown species
RR New 24	11/30/2015	43	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 24	12/15/2015	55	57	3	3	108	160												
RR New 24	12/21/2015	55	56	3	3	120	160			1s								D, TT	
RR New 24	12/28/2015	60	60	3	3	84	160	10s	10s										Collected one BRLLI male, two BRSA male, two unknown female
RR New 24	1/4/2016	50	50	2	3	54	160	1s	1s										Three male BRLLI, one male BRSA, two females

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 24	1/11/2016	63	60	2.5	3	28	160	1s		1s									1 female
RR New 24	2/8/2016	75	62	1.5	3	15	160			10s									
RR New 24	3/14/2016	62	66	1.5	3	25	160			1s									
RR New 24	4/11/2016	70	77	1.8	3	36	160												
RR New 25	12/21/2015	42	44	1	3	231	400											D, TT, UG	
RR New 25	12/29/2015	45	47	0.5	3	180	400												
RR New 25	1/12/2016	55	45	2	3	300	400											D, TT, AB	
RR New 25	5/10/2016	67	61	0.8	2	60	400												Nothing present
RR New 26	12/21/2015	43	44	1	2	21	88											D, TT, UG	
RR New 26	12/28/2015	40	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 26	1/11/2016	54	46	0.8	2	1	88												
RR New 27	12/21/2015	43	44	1	2	24	136											D, TT, UG	
RR New 27	12/28/2015	40	40	1	2	18	136											D, TT, UG	No shrimp
RR New 28	12/21/2015	43	44	1	2	8	98											D, TT, UG	
RR New 28	12/28/2015	40	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 29	12/21/2015	45	44	1	4	93	180											D, TT, UG	
RR New 29	12/28/2015	40	40	1.5	4	30	180												No shrimp

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 29	1/3/2016	42	41	1	4	18	180												Muddy
RR New 29	1/11/2016	54	46	0.8	4	4	180												
RR New 29	3/14/2016	55	54	0.5	4	25	180												
RR New 29	4/11/2016	63	60	1	4	10	180												
RR New 3	9/20/2015	72	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 3	10/12/2015	71	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 3	11/9/2015	57	54	6	10	350	1200											CP, TT, D	
RR New 3	11/16/2015	58	52	3	10	170	1200											CP, D, TT	
RR New 3	11/22/2015	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 3	12/15/2015	43	43	3	10	180	1200												
RR New 3	12/21/2015	64	46	3	10	315	1200											D, TT, UG	
RR New 3	12/28/2015	40	40	5	10	320	1200												No shrimp
RR New 3	1/3/2016	42	41	2.5	10	120	1200												Muddy
RR New 3	1/12/2016	70	66	10	10	1100	1200											D, TT	
RR New 3	1/19/2016	54	49	10	10	960	1200	100s		100s									Murky, collected specimens
RR New 3	1/25/2016	49	49	10	10	750	1200	1000s		100s									

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 3	2/1/2016	40	40	10	10	750	1200	1000s											
RR New 3	2/8/2016	54	50	6	10	600	1200	100s											
RR New 3	2/22/2016	54	N/A	N/A	N/A	N/A	N/A												Road work, covered in rock
RR New 3	4/11/2016	70	N/A	N/A	N/A	N/A	N/A												Covered in rocks
RR New 30	12/21/2015	46	44	1.5	4	8	180											D, TT, UG	
RR New 30	12/28/2015	40	40	1.5	4	15	180												No shrimp
RR New 30	1/3/2016	42	42	0.5	4	5	180												Muddy
RR New 30	1/11/2016	54	46	2	4	8	180												
RR New 30	3/14/2016	55	55	2	4	30	180												
RR New 30	4/11/2016	63	59	4	4	20	180												
RR New 31	12/21/2015	53	52	1.5	3	90	264											D, TT, UG	
RR New 31	12/28/2015	40	40	1	3	6	264												No shrimp
RR New 31	1/3/2016	42	42	0.5	3	1	264												Muddy
RR New 31	1/11/2016	58	45	1	3	6	264												
RR New 31	3/14/2016	55	56	1.5	3	8	264												
RR New 31	4/11/2016	63	60	3	3	7	264												
RR New 32	12/21/2015	54	46	1	2	4	150											D, TT, UG	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 33	12/21/2015	61	44	3	5	115	224											D, TT, UG	
RR New 33	12/28/2015	40	40	0.5	5	6	224												No shrimp
RR New 33	1/3/2016	42	42	0.5	5	3	224												Muddy
RR New 33	1/12/2016	70	62	1	5	64	224											D, TT	
RR New 33	3/14/2016	55	57	1	5	20	224												
RR New 33	4/11/2016	70	64	1.3	5	36	224												
RR New 34	12/21/2015	70	55	1	2	128	210											D, TT, UG	
RR New 34	12/28/2015	40	40	0.5	2	30	210												No shrimp
RR New 34	1/12/2016	55	65	0.5	2	32	210											D, TT	Muddy and shallow
RR New 34	4/11/2016	70	72	1.8	2	60	210												
RR New 35	12/21/2015	71	52	2	5	36	160											D, TT, UG	
RR New 35	4/11/2016	70	74	0.5	5	8	160												
RR New 36	12/21/2015	73	58	2	4	33	75											D, TT, UG	
RR New 36	12/28/2015	40	42	1	4	3	75												No shrimp
RR New 36	1/3/2016	42	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 36	1/12/2016	55	52	1	4	9	75											D, TT	
RR New 36	4/11/2016	70	77	0.5	4	6	75												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 37	12/21/2015	73	56	2	4	63	150											D, TT, UG	
RR New 37	12/28/2015	40	42	1	4	12	150												No shrimp
RR New 37	1/3/2016	42	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 37	1/12/2016	55	52	1	4	20	150											D, TT, AB	
RR New 37	3/14/2016	58	60	0.3	4	3	150												
RR New 37	4/11/2016	70	77	0.8	4	12	150												
RR New 38	12/21/2015	75	54	2	6	10	50											D, TT, UG	
RR New 38	1/12/2016	70	60	2	6	50	50			1000s								D, TT	
RR New 39	12/21/2015	73	64	2	4	240	348											D, TT, UG	
RR New 39	12/28/2015	40	44	1	4	120	348												No shrimp
RR New 39	1/3/2016	43	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 39	1/12/2016	55	60	1.5	4	50	348											D, TT	
RR New 39	1/19/2016	63	56	0.5	4	5	348												Muddy
RR New 39	4/11/2016	70	74	0.5	4	30	348												
RR New 39-1	12/21/2015	74	62	2	5	20	54											D, TT, UG	
RR New 39-1	12/28/2015	50	45	1	5	6	54												No shrimp

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 39-1	1/3/2016	43	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 39-1	1/12/2016	55	63	2	5	36	54											D, TT	
RR New 39-1	4/11/2016	70	74	1.5	5	22	54												
RR New 4	9/20/2015	72	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 4	11/9/2015	57	58	2	6	66	250											CP, TT, D	
RR New 4	11/16/2015	58	52	1	6	57	250											CP, D, TT	
RR New 4	12/15/2015	55	48	2	6	63	250												
RR New 4	12/21/2015	74	64	2	6	48	250											D, TT, UG	
RR New 4	12/28/2015	50	45	2	6	60	250												No shrimp
RR New 4	1/3/2016	43	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 4	1/12/2016	55	58	5	6	216	250											D, TT	
RR New 4	1/19/2016	65	54	2	6	140	250	10s		10s						x			
RR New 4	1/25/2016	49	56	2	6	80	250	10s								x			
RR New 4	2/1/2016	40	41	2.5	6	80	250	10s								x			Collected one male and two females
RR New 4	2/8/2016	54	53	1.5	6	50	250	1s					x			x			
RR New 4	3/14/2016	58	62	0.3	6	3	250			10s									

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 4	4/11/2016	70	75	1.8	6	52	250												
RR New 40	12/21/2015	73	60	3	4	39	68											D, TT, UG	
RR New 40	12/28/2015	50	42	2	4	18	68												No shrimp
RR New 40	1/3/2016	43	42	1	4	6	68			1s									1 female
RR New 40	1/12/2016	55	52	2	4	20	68											D, TT	
RR New 40	1/19/2016	65	60	0.3	4	0.5	68												
RR New 40	4/11/2016	70	73	1.5	4	16	68												
RR New 41	12/21/2015	73	62	1.5	2	48	108											D, TT, UG	
RR New 41	12/28/2015	50	43	1	2	14	108												No shrimp
RR New 41	1/3/2016	43	42	0.5	2	1	108			100s									
RR New 41	1/12/2016	55	60	2	2	54	108											D, TT	
RR New 41	2/8/2016	54	56	0.5	2	12	108												
RR New 41	3/14/2016	58	63	0.3	2	5	108			1s									
RR New 41	4/11/2016	70	74	1.8	2	45	108												
RR New 42	12/22/2015	59	57	2	3	25.5	320			10s								D, TT, UG	
RR New 42	12/28/2015	55	59	2	3	30	320	10s											
RR New 42	1/3/2016	60	59	1	3	20	320	10s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 42	1/11/2016	65	68	2	3	21	320	100s											Collected four males and three females
RR New 42	1/20/2016	58	56	1.5	3	310	320	10s					x					D, TT	
RR New 42	1/25/2016	68	67	1.5	3	25	320	10s											
RR New 42	2/1/2016	50	52	2	3	30	320						x						
RR New 42	2/8/2016	75	66	1	3	10	320						x						
RR New 42	3/14/2016	60	64	0.5	3	10	320			1s									
RR New 42	4/11/2016	70	75	0.8	3	20	320												
RR New 42	5/10/2016	67	82	0.3	3	10	320												Nothing present
RR New 43	12/22/2015	59	57	1.5	3	24	200											D, TT, UG	
RR New 43	12/28/2015	55	61	0.5	3	4	200												No shrimp
RR New 43	1/3/2016	60	60	1	3	40	200	10s											
RR New 43	1/11/2016	67	60	3	3	193	200	1000s											RR New 12, RR New 56, RR New 43 connected
RR New 43	4/11/2016	70	81	0.8	3	14	200												
RR New 44	12/28/2015	40	40	1	2	18	32											D, TT, UG	No shrimp
RR New 45	12/28/2015	40	39	1	3	18	48											D, TT, UG	No shrimp

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 45	1/3/2016	42	41	1	3	4	48												Muddy
RR New 45	1/11/2016	54	46	0.5	3	5	48												
RR New 45	3/14/2016	55	55	1	3	12	48												
RR New 45	4/11/2016	63	60	1.5	3	6	48												
RR New 46	12/21/2015	61	N/A	N/A	N/A	N/A	N/A												Too shallow to sample
RR New 47	12/21/2015	61	64	1	2	20	30											D, TT	
RR New 47	12/28/2015	55	55	1.5	2	20	30												No shrimp
RR New 47	1/3/2016	48	52	1	2	14	30	10s											
RR New 47	1/11/2016	65	60	1.5	2	15	30	1s											
RR New 47	1/19/2016	66	65	0.5	2	6	30	1s											
RR New 47	3/14/2016	60	65	1	2	5	30												
RR New 48	12/21/2015	61	58	1	1	12	20											D, TT	
RR New 48	12/28/2015	55	62	0.5	1	2	20												No shrimp
RR New 48	1/11/2016	65	60	0.8	1	10	20												
RR New 48	4/11/2016	70	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 49	12/21/2015	54	56	2	4	40	120											D, TT, AB	
RR New 49	12/29/2015	45	44	1	4	45	120												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 49	1/11/2016	63	60	2	4	24	120												
RR New 49	1/20/2016	58	62	0.3	4	2	120											D, TT	Mosquito larvae
RR New 49	2/8/2016	75	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 49	4/11/2016	70	80	1	4	12	120												
RR New 5	9/20/2015	85	82	2	8	190	420			10s								CP, D, TT, AB	Muddy
RR New 5	10/12/2015	79	73	3	8	90	420	1000s					x					CP, D, TT, AB	male and female
RR New 5	11/9/2015	57	62	3	8	108	420			100s								CP, TT, D, AB	
RR New 5	11/16/2015	58	55	4	8	90	420											CP, D, TT	
RR New 5	11/22/2015	48	51	1	8	18	420											AB	Algae, no shrimp
RR New 5	11/30/2015	43	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 5	12/15/2015	55	48	4	8	192	420												
RR New 5	12/21/2015	72	60	5	8	152	420											D, TT, UG	
RR New 5	12/28/2015	50	46	3	8	216	420												No shrimp
RR New 5	1/3/2016	48	46	3	8	84	420	5											Collected one male and one female
RR New 5	1/12/2016	55	62	6	8	400	420			100s								D, TT, AB	
RR New 5	1/19/2016	66	59	4	8	400	420	100s		100s								AB	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 5	1/25/2016	49	55	4	8	300	420	100s		10s									
RR New 5	2/1/2016	40	43	4	8	320	420	100s					x						
RR New 5	2/8/2016	60	56	3	8	310	420	10s					x						
RR New 5	2/15/2016	60	62	1.5	8	20	420				x		x						
RR New 5	3/14/2016	58	64	2	8	45	420			100s									
RR New 5	4/11/2016	70	69	3.5	8	125	420												
RR New 5	4/18/2016	70	63	2.5	8	120	420	10s		100s									
RR New 5	5/10/2016	67	68	3.5	8	60	420												Nothing present
RR New 5	5/17/2016	67	74	1.8	8	90	420	100s											
RR New 50	12/21/2015	54	52	1.5	3	20	50											D, TT	
RR New 50	12/29/2015	45	45	2	3	9	50												
RR New 50	1/4/2016	50	51	1.5	3	9	50												
RR New 50	1/11/2016	63	59	3	3	42	50												
RR New 50	1/20/2016	58	66	0.5	3	12	50		1s		x	x						D, TT, AB	Collected one male
RR New 50	3/14/2016	62	69	0.5	3	2	50			1s									
RR New 50	4/11/2016	70	80	1.3	3	18	50												
RR New 51	12/21/2015	50	46	1	3	6	40											D, TT	
RR New 51	12/29/2015	45	45	1	3	6	40	10s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 51	1/4/2016	50	50	3	3	36	40	10s											
RR New 51	1/11/2016	63	59	1.5	3	8	40	10s											
RR New 51	1/20/2016	58	60	1	3	8	40	1s			x							D, TT	
RR New 51	1/25/2016	49	68	0.5	3	6	40	1s			x								Collected one male and one female
RR New 51	2/1/2016	48	52	1	3	6	40												Likely just filled
RR New 51	2/8/2016	75	64	0.5	3	2	40			100s	x								
RR New 51	3/14/2016	62	70	1	3	3	40			1s									
RR New 51	4/11/2016	70	80	0.5	3	5	40												
RR New 51-1	12/21/2015	57	52	1	3	25	300											D, TT, AB	
RR New 51-1	12/28/2015	55	62	0.5	3	15	300			1s								D, TT, UG	Two females
RR New 51-1	1/11/2016	58	58	1.5	3	45	300												
RR New 51-1	3/14/2016	60	67	0.5	3	20	300			1s									
RR New 51-1	4/11/2016	70	80	0.8	3	20	300												
RR New 52	12/21/2015	50	48	1.5	3	20	40											D, TT	
RR New 52	12/29/2015	45	46	2	3	30	40	10s											
RR New 52	1/4/2016	50	52	2	3	28	40	10s											
RR New 52	1/11/2016	63	60	3	3	35	40	10s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 52	1/20/2016	58	66	1.5	3	24	40	1s										D, TT	
RR New 52	1/25/2016	68	67	1	3	15	40	1s											Too few to collect
RR New 52	2/1/2016	50	50	3	3	35	40						x						
RR New 52	2/8/2016	75	62	2	3	25	40			1000s									
RR New 52	2/15/2016	64	65	0.5	3	5	40	1s			x		x						
RR New 52	3/14/2016	62	69	1	3	12	40			10s									
RR New 52	4/11/2016	70	79	2	3	20	40												
RR New 52-1	12/21/2015	57	52	<1	1	4	4											D, TT	
RR New 52-1	1/11/2016	58	58	1	1	3	4												
RR New 53	12/21/2015	46	44	<1	1	2	30											D, TT	
RR New 53	4/11/2016	70	80	1	1	28	30												
RR New 54	12/21/2015	46	44	<1	2	10	12											D, TT	
RR New 54	1/11/2016	58	52	2	2	6	12												
RR New 54	4/11/2016	70	79	1.3	2	12	12												
RR New 55	12/28/2015	55	63	0.5	1	16	40	10s										D, TT, UG	
RR New 55	1/4/2016	50	49	1	1	4	40	10s											
RR New 55	1/11/2016	67	60	1	1	40	40	10s											Collected one male and one female

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 55	2/8/2016	75	63	0.5	1	1	40						x						
RR New 55	2/15/2016	64	65	0.3	1	1	40						x						
RR New 55	2/22/2016	54	58	1	1	0.5	40				x								
RR New 55	3/14/2016	60	68	1	1	10	40			1s									
VP New 55	4/11/2016	70	80	0.5	1	4	40												
RR New 55	4/18/2016	79	67	0.5	1	3	40												
RR New 56	1/3/2016	60	58	1.5	4	26	200	10s										D, TT, UG	
RR New 56	1/11/2016	67	60	3	4	193	200	1000s											RR New 12, RR New 56, RR New 43 connected
RR New 56	1/20/2016	58	54	1.5	4	80	200	10s					x					D, TT	Collected three males and two females
RR New 56	1/25/2016	68	67	1.5	4	40	200	10s					x						
RR New 56	2/1/2016	50	52	1.5	4	50	200	10s					x						
RR New 56	2/8/2016	80	67	1	4	30	200	10s					x						
RR New 56	4/11/2016	70	82	0.8	4	38	200												
RR New 57	1/4/2016	50	52	0.3	3	6	14	10s										D, TT, UG	
RR New 57	1/11/2016	63	60	1	3	12	14	1s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 57	3/14/2016	62	70	0.3	3	1	14			1s									
RR New 57	4/11/2016	70	80	0.8	3	12	14												
RR New 58	1/11/2016	54	45	1.5	2	4	8											D, TT	
RR New 58	3/14/2016	55	57	0.3	2	2	8												Very muddy
RR New 58	4/11/2016	63	59	1	2	8	8												
RR New 59	1/11/2016	54	45	0.8	3	7	45											D, TT	
RR New 59	3/14/2016	55	57	0.3	3	1	45												Very muddy
RR New 59	4/11/2016	63	61	0.8	3	9	45												
RR New 6	10/12/2015	85	76	0.5	6	75	232	1000s					x					CP, TT, D, AB	male and female
RR New 6	11/9/2015	70	66	2	6	45	232			100s								CP, TT, D	
RR New 6	11/16/2015	58	59	2	6	40	232	100s										CP, D, TT	Collected shrimp
RR New 6	11/22/2015	50	60	1	6	18	232	100s											
RR New 6	12/15/2015	60	59	2.5	6	36	232												
RR New 6	12/22/2015	59	57	3	6	70	232			10s								D, TT, UG	
RR New 6	12/28/2015	55	60	4	6	162	232	100s											
RR New 6	1/3/2016	60	58	4	6	150	232	100s											
RR New 6	1/11/2016	67	57	6	6	210	232	1000s											
RR New 6	1/20/2016	58	56	4	6	204	232	100s					x					D, TT, AB	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 6	1/25/2016	68	66	4	6	80	232	100s											
RR New 6	2/1/2016	50	52	4	6	100	232	100s					x						
RR New 6	2/8/2016	80	66	3.5	6	80	232	10s					x						
RR New 6	2/15/2016	70	66	3	6	75	232	10s					x						
RR New 6	2/22/2016	70	62	1	6	20	232	1s					x						
RR New 6	3/14/2016	60	62	3	6	45	232			10s						x			
RR New 6	3/21/2016	61	66	0.5	6	8	232									x			
RR New 6	4/11/2016	70	76	2.5	6	75	232												
RR New 6	4/18/2016	79	72	0.5	6	18	232												
RR New 6	5/10/2016	67	82	2	6	28	232												Nothing present
RR New 6	5/17/2016	67	78	1	6	30	232			10s									
RR New 60	1/11/2016	58	46	1	6	12	150											D, TT, UG	
RR New 60	4/11/2016	63	65	2.8	6	8	150												
RR New 61	1/11/2016	63	62	1	3	6	15											D, TT, UG	
RR New 61	3/14/2016	62	69	0.3	3	2	15												
RR New 61	4/11/2016	70	79	0.5	3	5	15												
RR New 62	1/11/2016	67	60	0.5	2	6	15											D, TT, UG	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 62	4/11/2016	70	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
RR New 63	1/11/2016	67	60	0.5	3	6	30	10s										D, TT, UG	Collected one male and one female
RR New 63	4/11/2016	70	75	0.5	3	28	30												
RR New 63	5/17/2016	68	74	3	3	25	30	100s		1000s									
RR New 63	5/24/2016	64	64	1	3	25	30	100s											
RR New 64	1/11/2016	67	63	0.5	2	4.5	35												
RR New 64	1/20/2016	58	53	0.3	2	4	35											D, TT, AB	
RR New 64	4/11/2016	70	82	0.5	2	4	35												
RR New 65	1/12/2016	55	48	1	2	96	600											D, TT, AB	Gravel substrate
RR New 65	4/11/2016	63	55	2	2	120	600												
RR New 65	5/10/2016	67	62	0.3	2	30	600												Nothing present
RR New 66	1/12/2016	55	48	0.5	1	48	450											D, TT, AB	Gravel substrate
RR New 66	5/10/2016	67	62	0.3	1	20	450												Nothing present
RR New 67	1/12/2016	55	72	0.5	2	10	90											D, TT	Muddy and shallow
RR New 67	4/11/2016	70	76	0.3	2	3	90												
RR New 68	1/12/2016	70	66	1	3	4	8											D, TT	
RR New 68	4/11/2016	70	69	0.8	3	3	8												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

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RR New 69	1/12/2016	70	64	1	2	25	30	1s										D, TT	
RR New 69	1/19/2016	66	63	0.3	2	1	30	10s											
RR New 69	3/14/2016	60	64	1	2	8	30			1s									
RR New 69	4/11/2016	70	72	1	2	20	30												
RR New 7	10/12/2015	85	76	0.5	4	32	500	100s										CP, TT, D, AB	male and female
RR New 7	11/9/2015	70	68	1.5	4	300	500			100s								CP, TT, D, AB	
RR New 7	11/16/2015	58	63	1.5	4	312	500			10s								CP, D, TT	
RR New 7	11/22/2015	50	62	0.5	4	8	500	10s											
RR New 7	12/15/2015	60	59	3	4	288	500												
RR New 7	12/22/2015	59	57	3	4	448	500			100s								D, TT, UG	
RR New 7	12/28/2015	55	60	3	4	210	500	100s											
RR New 7	1/3/2016	60	61	2	4	180	500	100s											
RR New 7	1/11/2016	67	62	3	4	300	500	100s											
RR New 7	1/20/2016	58	53	2	4	312	500	10s					x			x		D, TT	
RR New 7	1/25/2016	68	67	1.5	4	180	500	100s					x			x			
RR New 7	2/1/2016	50	53	2	4	200	500	10s					x			x			
RR New 7	2/8/2016	80	65	1.5	4	150	500	10s					x			x			
RR New 7	2/15/2016	70	68	1	4	70	500						x			x			

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 7	2/22/2016	70	62	0.3	4	40	500												
RR New 7	3/14/2016	60	64	1	4	75	500			10s									
RR New 7	4/11/2016	70	84	2.3	4	175	500												
RR New 70	1/12/2016	70	67	3	3	60	80											D, TT, AB	
RR New 70	4/11/2016	70	66	2.5	3	7	80												
RR New 71	1/12/2016	70	46	0.5	1	30	40											D, TT	
RR New 71	3/14/2016	55	58	0.3	1	1	40												
RR New 71	4/11/2016	70	65	0.3	1	6	40												
RR New 72	3/14/2016	55	56	2	3	6	80											D, TT, UG	New basin
RR New 72	5/10/2016	67	74	1.3	3	70	80			10s									
RR new 8	10/12/2015	89	76	1.5	5	90	400	1000s										CP, TT, D, AB	male and female
RR New 8	11/9/2015	70	66	3	5	145	400			10s								CP, TT, D	
RR New 8	11/16/2015	58	58	4	5	145	400	100s										CP, D, TT	Collected shrimps
RR New 8	11/22/2015	50	60	3	5	90	400	100s											
RR New 8	11/30/2015	43	49	3	5	90	400	1000s											
RR New 8	12/7/2015	50	50	1	5	18	400	10s											Very muddy
RR New 8	12/15/2015	60	59	5	5	270	400	1s											1 male and 1 female

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 8	12/22/2015	59	56	5	5	384	400			100s								D, TT, UG, AB	
RR New 8	12/28/2015	55	60	4	5	180	400	100s											
RR New 8	1/3/2016	60	61	4	5	90	400	100s											
RR New 8	1/11/2016	67	58	4	5	160	400	100s											
RR New 8	1/20/2016	58	51	2.5	5	74	400	10s					x			x		D, TT	
RR New 8	1/25/2016	68	67	2.5	5	90	400	10s					x			x			
RR New 8	2/1/2016	50	53	3	5	270	400						x			x			
RR New 8	2/8/2016	80	65	2	5	75	400						x			x			
RR New 8	2/15/2016	70	69	1.5	5	40	400						x			x			
RR New 8	2/22/2016	70	63	0.5	5	5	400												
RR New 8	3/14/2016	60	65	1.5	5	35	400			10s									
RR New 8	4/11/2016	70	79	4	5	130	400												
RR New 8	4/18/2016	79	75	1	5	10	400			10s									
RR New 8	5/10/2016	67	74	1.8	5	38	400												Nothing present
RR New 8	5/17/2016	67	76	1	5	12.5	400			100s									
RR New 9	9/20/2015	85	92	1	4	12	100											CP, D, TT, AB	May not be a part of the project
RR New 9	11/9/2015	70	74	2	4	30	100											CP, D, TT	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 9	11/16/2015	60	64	2.5	4	30	100											CP, TT, D	
RR New 9	11/22/2015	50	63	1.5	4	36	100	1s										AB	1 male and 1 female
RR New 9	11/30/2015	43	58	1	4	9	100												No shrimp
RR New 9	12/15/2015	55	58	3	4	48	100												
RR New 9	12/21/2015	54	56	3	4	65	100											D, TT	
RR New 9	12/28/2015	60	60	2	4	54	100	10s											Collected three males, no females detected
RR New 9	1/4/2016	50	51	2	4	28	100												
RR New 9	1/11/2016	63	60	3.5	4	30	100			1s									2 females
RR New 9	1/20/2016	58	62	1.5	4	48	100	1s										D, TT	
RR New 9	1/25/2016	49	66	1	4	30	100	1s					x						
RR New 9	2/1/2016	48	50	2	4	45	100	1s		10s			x						
RR New 9	2/8/2016	75	62	2	4	48	100				x								
RR New 9	2/15/2016	64	64	0.5	4	8	100	1s		10s	x		x						
RR New 9	3/14/2016	62	68	1.5	4	35	100			1s									
RR New 9	3/21/2016	61	61	1	4	16	100	10s											
RR New 9	4/11/2016	70	77	1.8	4	18	100												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
RR New 9	4/18/2016	79	67	2	4	15	100			10s									
RR New 9	5/10/2016	67	75	1.5	4	12	100												Nothing present
RR New 9	5/17/2016	68	74	0.5	4	3	100												
RR New 14	1/20/2016	58	53	1	4	8	10	1s										D, TT, AB	
VP 1	9/20/2015	85	80	3	8	297	550	10s										CP, D, TT, AB	Muddy, 10s male and female
VP 1	10/12/2015	79	73	2	8	156	550	1000s					x					CP, D, TT, AB	male and female
VP 1	11/9/2015	57	59	3	8	210	550											CP, TT, D	
VP 1	11/16/2015	58	54	3	8	100	550	1000s										CP, D, TT	Collected shrimps
VP 1	11/22/2015	48	50	2	8	120	550	1000s											
VP 1	11/30/2015	43	45	0.5	8	36	550												No shrimp
VP 1	12/15/2015	55	48	5	8	216	550												
VP 1	12/21/2015	74	65	5	8	208	550			10s								D, TT, UG	
VP 1	12/28/2015	50	43	5	8	350	550	100s		100s									Immature likely BRLI, collected
VP 1	1/3/2016	43	43	4	8	240	550	100s											
VP 1	1/12/2016	55	58	6	8	440	550	100s										D, TT	
VP 1	1/19/2016	66	58	6	8	480	550	1000s		100s									Murky, poor visibility

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 1	1/25/2016	49	55	5	8	300	550	1000s		100s								AB	
VP 1	2/1/2016	40	42	6	8	360	550	1000s					x					AB	
VP 1	2/8/2016	54	53	4	8	280	550	10s					x						
VP 1	2/15/2016	60	60	2	8	150	550	10s					x						
VP 1	2/22/2016	54	56	0.3	8	1	550				x								Muddy
VP 1	3/14/2016	58	62	3.5	8	180	550			100s									
VP 1	4/11/2016	70	70	3.3	8	130	550												
VP 1	4/18/2016	70	62	3	8	125	550			1000s									
Vp 1	5/10/2016	67	70	1	8	67	550												Nothing present
VP 1	5/17/2016	67	72	2	8	75	550	100s		1000s									
VP 10a	9/20/2015	85	86	3	7	104	418			10s								CP, D, TT	Muddy
VP 10a	10/12/2015	85	74	3	7	90	418	1000s										CP, D, TT, AB	male and female
VP 10a	10/20/2015	61	17	2.5	7	21.3	418					x						CP, TT, D	clear water, nothing visible
VP 10a	11/9/2015	70	60	4	7	84	418			100s								CP, TT, D, AB	
VP 10a	11/16/2015	58	56	4	7	76	418			100s								CP, D, TT	Collected shrimps, could not identify
VP 10a	11/22/2015	50	54	2	7	24	418	100s										Muddy	
VP 10a	11/30/2015	43	47	1	7	18	418	10s											Very muddy

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 10a	12/7/2015	55	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
VP 10a	12/15/2015	55	54	6	7	45	418												
VP 10a	12/21/2015	74	61	5	7	70	418			10s								D, TT, UG	
VP 10a	12/28/2015	55	50	5	7	60	418	10s											
VP 10a	1/3/2016	48	50	6	7	60	418	100s											
VP 10a	1/12/2016	70	56	4	7	204	418	100s										D, TT	
VP 10a	1/19/2016	66	66	4	7	75	418	10s		10s								AB	
VP 10a	1/25/2016	49	57	3	7	70	418	10s										AB	
VP 10a	2/1/2016	48	47	3	7	120	418	10s											
VP 10a	2/8/2016	60	58	4	7	70	418	10s					x						
VP 10a	2/15/2016	60	60	3	7	70	418						x						
VP 10a	2/22/2016	54	55	5	7	60	418				x					x			Muddy
VP 10a	2/29/2016	50	51	2	7	60	418									x			
VP 10a	3/6/2016	63	64	1.5	7	40	418									x			
VP 10a	3/14/2016	60	61	5	7	60	418			10s									
VP 10a	3/21/2016	61	56	4	7	40	418				x								Very muddy
VP 10a	3/28/2016	61	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 10a	4/11/2016	70	70	6.5	7	70	418												
VP 10a	4/18/2016	70	64	3	7	40	418			100s									
VP 10a	5/10/2016	67	69	2.5	7	75	418			100s									
VP 10a	5/17/2016	67	70	2.8	7	45	418			100s									
VP 10a	5/24/2016	64	63	0.5	7	5	418	10s											
VP 10b	9/20/2015	85	80	4	18	290	600			10s								CP, D, TT, AB	Muddy
VP 10b	9/28/2015	71	71	2	18	130	600	10s			x	x	x					CP, D, TT, AB	
VP 10b	10/12/2015	85	74	2	18	140	600	1000s					x					CP, D, TT, AB	male and female
VP 10b	11/9/2015	70	61	6	18	154	600			1000s								CP, TT, D, AB	
VP 10b	11/16/2015	58	56	6	18	108	600	1000s										CP, D, TT, AB	
VP 10b	11/22/2015	50	54	5	18	108	600	1000s										AB	
VP 10b	11/30/2015	43	47	3	18	96	600	10s											Very muddy
VP 10b	12/7/2015	55	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
VP 10b	12/15/2015	55	53	6	18	144	600												
VP 10b	12/21/2015	74	64	5	18	128	600			1000s								D, TT, UG	
VP 10b	12/28/2015	55	50	8	18	240	600			1000s									Likely BRLL based on previous IDs
VP 10b	1/3/2016	48	51	10	18	240	600	1000s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 10b	1/12/2016	70	62	8	18	480	600	100s										D, TT	
VP 10b	1/19/2016	66	56	8	18	530	600	1000s								x			
VP 10b	1/20/2015	61	18	1	18	11.5	600					x						CP, TT, D, AB	clear water, nothing visible
VP 10b	1/25/2016	49	55	7	18	510	600	1000s								x			
VP 10b	2/1/2016	48	45	8	18	600	600	1000s				x	x			x			
VP 10b	2/8/2016	60	53	8	18	450	600	100s					x						
VP 10b	2/15/2016	60	59	6	18	280	600						x						
VP 10b	2/22/2016	54	53	4	18	200	600									x			Muddy and murky
VP 10b	2/29/2016	50	52	5	18	180	600												Nothing in basin
VP 10b	3/6/2016	63	62	5	18	100	600												
VP 10b	3/14/2016	60	60	6	18	240	600			10s									
VP 10b	3/21/2016	61	56	6	18	185	600												
VP 10b	3/28/2016	61	62	3	18	50	600												
VP 10b	4/4/2016	52	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
VP 10b	4/11/2016	70	70	6	18	130	600												
VP 10b	4/18/2016	70	60	4	18	130	600			1000s									
VP 10b	5/10/2016	67	67	2	18	90	600												Nothing present

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 10b	5/17/2016	67	72	3.3	18	85	600			1000s									
VP 10b	5/24/2016	64	63	1.5	18	10	600	100s											
VP 11	12/15/2015	55	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
VP 11	12/21/2015	61	64	1	1	60	80											D, TT	
VP 11	12/28/2015	55	62	0.5	1	20	80												No shrimp
VP 11	1/11/2016	67	62	0.5	1	22	80												
VP 11	4/11/2016	70	77	0.5	1	12	80												
VP 12	12/21/2015	57	54	<1	3	8	250											NP, AB	50 feet south of GPS point
VP 12	1/11/2016	58	47	3	3	240	250												
VP 13	9/20/2015	85	91	0.5	3	18	440			10s								CP, D, TT, AB	Muddy
VP 13	11/9/2015	70	74	1	3	44	440			10s								CP, D, TT	
VP 13	11/16/2015	60	63	1	3	36	440	10s										CP, TT, D	
VP 13	11/22/2015	50	60	0.5	3	12	440	10s											
VP 13	12/15/2015	55	56	2.5	3	150	440												
VP 13	12/21/2015	59	54	2	3	150	440			1000s								D, TT	
VP 13	12/28/2015	55	62	2	3	432	440	100s											
VP 13	1/4/2016	50	49	3	3	60	440	100s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 13	1/11/2016	67	56	3	3	420	440	10s											Collected four males and three females
VP 13	1/20/2016	58	59	2	3	370	440	100s			x		x					D, TT	
VP 13	1/25/2016	49	62	2	3	150	440	100s					x						
VP 13	2/1/2016	48	48	3	3	300	440	100s					x						
VP 13	2/8/2016	75	62	2	3	240	440						x						
VP 13	2/15/2016	64	64	1	3	60	440			10s			x						Likely BRLI
VP 13	3/14/2016	60	67	1	3	50	440			10s									
VP 13	4/11/2016	70	80	1.8	3	120	440												
VP 13	5/10/2016	67	74	0.8	3	55	440			10s									
VP 14	9/20/2015	85	91	2	6	340	750			10s								CP, D, TT, AB	Muddy
VP 14	10/12/2015	89	76	0.5	6	182	750	1000s										CP, TT, D, AB	male and female
VP 14	11/9/2015	70	62	4	6	288	750			1000s								CP, D, TT	
VP 14	11/16/2015	60	60	3.5	6	189	750	1000s										CP, TT, D, AB	
VP 14	11/22/2015	50	58	3	6	750	750	1000s											
VP 14	11/30/2015	43	54	3	6	210	750	1000s											
VP 14	12/7/2015	48	50	2	6	168	750	1000s											Very muddy
VP 14	12/15/2015	55	56	5	6	504	750	10s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 14	12/21/2015	59	54	4	6	350	750			1000s								D, TT	
VP 14	12/28/2015	55	60	4	6	400	750			1000s									Likely BRLL based on previous IDs
VP 14	1/4/2016	50	49	5	6	150	750	1000s											
VP 14	1/11/2016	67	56	5	6	650	750	1000s											
VP 14	1/20/2016	58	59	3	6	340	750	100s			x							D, TT, AB	
VP 14	1/25/2016	49	62	2.5	6	280	750	100s					x						
VP 14	2/1/2016	48	48	4	6	450	750	100s					x						
VP 14	2/8/2016	75	60	3.5	6	420	750	10s					x						
VP 14	2/15/2016	64	64	3	6	280	750	10s					x						
VP 14	2/22/2016	54	58	2	6	100	750			1s	x					x			Amphibian egg sac, one female
VP 14	2/29/2016	50	54	1	6	75	750				x	x				x			
VP 14	3/6/2016	63	65	0.5	6	60	750				x	x				x			
VP 14	3/14/2016	60	66	4	6	350	750			100s									
VP 14	3/21/2016	61	58	3	6	250	750	100s			x	x							
VP 14	3/28/2016	61	62	2	6	240	750	100s			x	x							
VP 14	4/4/2016	52	53	0.5	6	30	750	1s				x							
VP 14	4/11/2016	70	72	3.8	6	200	750												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 14	4/18/2016	79	65	3	6	180	750			100s									
VP 14	4/25/2016	58	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
VP 14	5/10/2016	67	72	2.5	6	220	750			100s									
VP 2	12/15/2015	55	50	2	4	154	270												
VP 2	12/21/2015	74	64	2	4	120	270											D, TT, UG	
VP 2	12/28/2015	50	43	1	4	12	270												No shrimp
VP 2	1/12/2016	55	62	1	4	15	270					x						D, TT	
VP 2	4/11/2016	70	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
VP 3b	11/30/2015	43	45	0.5	3	3	432												No shrimp
VP 3b	12/15/2015	55	50	2	3	300	432												
VP 3b	12/21/2015	72	60	3	3	192	432											D, TT, UG	
VP 3b	12/28/2015	50	46	0.5	3	12	432												No shrimp
VP 3b	1/3/2016	48	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
VP 3b	1/12/2016	70	65	1.5	3	36	432											D, TT	
VP 3b	2/8/2016	60	57	0.5	3	6	432												
VP 3b	3/14/2016	58	64	0.5	3	8	432												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 3b	4/11/2016	70	72	2.3	3	200	432												
VP 3b	4/18/2016	70	64	0.3	3	1	432												
VP 4	12/15/2015	55	50	1.5	3	24	120												
VP 4	12/21/2015	72	66	1	3	27	120											D, TT, UG	
VP 4	4/11/2016	70	72	0.8	3	18	120												
VP 5	9/20/2015	85	83	1.5	6	162	440			10s				x				CP, D, TT, AB	Muddy
VP 5	10/12/2015	79	73	4	6	242	440	1000s						x				CP, D, TT, AB	male and female
VP 5	10/20/2015	61	17	0.25	6	6.5	440					x						CP, TT, D	clear water, nothing visible
VP 5	11/9/2015	70	61	4	6	119	440			100s								CP, TT, D, AB	
VP 5	11/16/2015	58	56	4	6	90	440	10s										CP, D, TT	
VP 5	11/22/2015	50	51	3	6	150	440	10s										AB	
VP 5	11/30/2015	43	45	0.5	6	9	440	10s											
VP 5	12/15/2015	55	52	6	6	240	440												
VP 5	12/21/2015	73	60	5	6	260	440			10s								D, TT, UG	
VP 5	12/28/2015	50	47	5	6	160	440	10s											collected
VP 5	1/3/2016	48	46	4	6	120	440	10s											
VP 5	1/12/2016	70	58	4	6	300	440	100s										D, TT, AB	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 5	1/19/2016	66	59	4	6	240	440	10s		10s								AB	
VP 5	1/25/2016	49	58	3	6	150	440	100s										AB	
VP 5	2/1/2016	40	44	5	6	375	440	10s											
VP 5	2/8/2016	60	58	3	6	430	440	10s											
VP 5	2/15/2016	60	61	2	6	60	440												
VP 5	3/14/2016	60	62	5	6	200	440			100s									
VP 5	3/21/2016	61	56	2	6	45	440	10s											
VP 5	4/11/2016	70	70	5	6	140	440												
VP 5	4/18/2016	70	62	4	6	140	440	10s		1000s									
VP 5	5/10/2016	67	67	2	6	65	440												Nothing present
VP 5	5/17/2016	67	72	2	6	35	440	100s		100s									
VP 6	10/12/2015	79	74	2	6	104	200	100s					x					CP, D, TT, AB	male and female, mosquito larvae
VP 6	11/9/2015	70	66	1	6	72	200			10s								CP, TT, D, AB	
VP 6	11/16/2015	58	56	4	6	78	200											CP, D, TT	
VP 6	11/22/2015	50	51	2.5	6	72	200	10s										AB	
VP 6	11/30/2015	43	45	1	6	36	200												No shrimp
VP 6	12/15/2015	55	52	6	6	200	200												

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 6	12/21/2015	73	61	5	6	150	200			10s								D, TT, UG	
VP 6	12/28/2015	55	48	3	6	120	200	10s											
VP 6	1/3/2016	48	47	2	6	60	200	10s											
VP 6	1/12/2016	70	63	4	6	160	200	10s										D, TT	
VP 6	1/19/2016	66	65	2	6	60	200	10s		10s									
VP 6	1/25/2016	49	58	1.5	6	40	200	10s											
VP 6	2/1/2016	48	45	5	6	200	200	1s											
VP 6	2/8/2016	60	58	2	6	135	200			100s									Likely BRLI
VP 6	2/15/2016	60	62	1	6	6	200	10s					x						
VP 6	3/14/2016	60	64	2	6	50	200			10s									
VP 6	4/11/2016	70	70	3	6	65	200												
VP 6	4/18/2016	70	63	2	6	60	200	100s		100s									
VP 6	5/10/2016	67	72	1	6	45	200												Nothing present
VP 6	5/17/2016	67	72	0.5	6	2	200	100s											
VP 7	9/20/2015	85	88	1.5	6	126	240			10s								CP, D, TT	Muddy, 10s, Immature
VP 7	10/12/2015	85	74	1	6	16	240	100s										CP, D, TT, AB	male and female
VP 7	11/9/2015	70	63	2	6	96	240			100s								CP, TT, D	

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 7	11/16/2015	58	56	2	6	65	240	100s										CP, D, TT, AB	
VP 7	11/22/2015	50	51	2	6	8	240	10s										AB	
VP 7	11/30/2015	43	45	0.5	6	6	240	10s											
VP 7	12/15/2015	55	53	4	6	60	240												
VP 7	12/21/2015	74	65	3	6	96	240			10s								D, TT, UG	
VP 7	12/28/2015	55	50	3	6	90	240	10s											
VP 7	1/3/2016	48	47	3	6	90	240	10s											
VP 7	1/12/2016	70	62	3	6	230	240	10s										D, TT	
VP 7	1/19/2016	66	58	2	6	78	240	10s		10s									
VP 7	1/25/2016	49	58	1.5	6	60	240	10s											
VP 7	2/1/2016	48	46	3	6	80	240	10s											
VP 7	2/8/2016	60	61	2	6	60	240	10s					x						
VP 7	2/15/2016	60	62	1	6	10	240	10s					x						
VP 7	3/14/2016	60	63	2	6	60	240			10s									
VP 7	3/21/2016	61	56	2	6	20	240	10s											
VP 7	4/11/2016	70	68	4.3	6	75	240												
VP 7	4/18/2016	70	64	2	6	40	240	10s		100s									
VP 7	5/10/2016	67	68	2	6	38	240												Nothing present

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 7	5/17/2016	67	72	1	6	30	240	100s											
VP 8	9/20/2015	85	90	1	4	25	250			10s								CP, D, TT, AB	Muddy
VP 8	10/12/2015	85	76	1	4	12	250											CP, TT, D	
VP 8	11/9/2015	70	66	2	4	198	250			10s								CP, TT, D, AB	
VP 8	11/16/2015	58	58	2	4	126	250	10s										CP, D, TT	
VP 8	11/22/2015	50	60	1	4	20	250	10s											
VP 8	11/30/2015	43	N/A	N/A	N/A	N/A	N/A												Muddy, unable to sample
VP 8	12/15/2015	60	59	2	4	63	250												
VP 8	12/22/2015	59	57	2.5	4	45	250			100s								D, TT, UG	
VP 8	12/28/2015	55	58	2	4	51	250			100s									Immature likely BRLI
VP 8	1/3/2016	60	58	2	4	105	250	100s											
VP 8	1/11/2016	65	62	3	4	120	250	1000s											
VP 8	1/20/2016	58	57	2	4	240	250	10s		10s								D, TT	
VP 8	1/25/2016	68	66	2	4	110	250	100s			x	x	x						Collected two males and two females
VP 8	2/1/2016	50	51	3	4	120	250	100s				x	x						
VP 8	2/8/2016	75	65	2.5	4	70	250	10s					x						

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 8	2/15/2016	64	65	2	4	25	250	1s					x						
VP 8	2/22/2016	54	60	0.5	4	5	250				x								
VP 8	3/14/2016	60	63	1.5	4	55	250			10s									
VP 8	3/21/2016	61	66	1	4	6	250			100s									Muddy
VP 8	4/11/2016	70	75	2.5	4	80	250												
VP 8	4/18/2016	79	71	1	4	15	250			10s									
VP 8	5/10/2016	67	82	1.3	4	24	250			10s									
VP 9	9/20/2015	85	90	1.5	4	54	234			10s								CP, D, TT, AB	Muddy
VP 9	10/12/2015	85	74	0.5	4	18	234	100s				x						CP, D, TT, AB	male and female
VP 9	11/9/2015	70	66	2	4	36	234			10s								CP, TT, AB, D	
VP 9	11/16/2015	58	57	3	4	42	234	10s										CP, D, TT, AB	
VP 9	11/22/2015	50	60	1	4	24	234	10s											
VP 9	11/30/2015	43	48	0.5	4	2	234					x							
VP 9	12/15/2015	60	58	3.5	4	90	234												
VP 9	12/22/2015	59	56	4	4	70	234			10s								D, TT, UG	
VP 9	12/28/2015	55	58	3	4	80	234	10s		10s									Immature likely BRLI
VP 9	1/3/2016	60	58	2	4	54	234	10s											

ATTACHMENT 2: BASIN CONDITIONS PER SURVEY

Feature ID	Survey Date	Temp - Air (°F)	Temp - Water (°F)	Depth - Ave. (in.)	Depth - Est. Max (in.)	Surface Area - Present (sq. ft.)	Surface Area - Est. Max (sq. ft.)	<i>Branchinecta lindahl</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Tadpoles	Mosquito larvae	Habitat Conditions	Notes/Voucher Info
VP 9	1/11/2016	65	62	2	4	50	234	100s											
VP 9	1/20/2016	58	57	2	4	80	234	10s				x	x					D, TT, AB	
VP 9	1/25/2016	68	66	1	4	55	234	10s					x						
VP 9	2/1/2016	50	51	3	4	140	234						x						
VP 9	2/8/2016	75	65	2.5	4	70	234	10s				x	x						
VP 9	2/15/2016	64	65	2	4	25	234	1s					x						
VP 9	2/22/2016	54	60	0.5	4	5	234				x								
VP 9	3/14/2016	60	63	2	4	30	234			10s									
VP 9	3/21/2016	61	66	0.5	4	2	234	10s			x	x	x						
VP 9	4/11/2016	70	74	2.3	4	45	234												
VP 9	5/10/2016	67	80	1.3	4	12	234												Nothing present

Key

AB = Algal bloom
CP = Constructed basin
D = Disturbed
NP = Natural pool
TT = Tire tracks
UG = Ungrazed

ATTACHMENT 3 – BASIN CONDITIONS SUMMARY TABLE



ATTACHMENT 3: BASIN CONDITIONS SUMMARY TABLE

Feature ID	Depth - Actual Average (in.)	Depth - Est. Actual (in.)	Surface Area - Actual Average (sq. ft.)	Surface Area - Est. Actual (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Habitat Conditions	Number of Samples	GPS Coordinate
2014-FSH-03	4.5	5	180	200				D, TT, UG	3	N32.58615° W116.98077°
2014-FSH-04	3	4	520	560	10s		10s	D, TT, UG	9	N32.58695° W116.97316°
2014-FSH-05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D, TT, UG	N/A	N32.58709° W116.97234°
2014-FSH-06	0.5	1	18	30				D, TT, UG	1	N32.58736° W116.97145°
DB 1	24	24	9000	9000				CP, D, TT, UG	26	N32.59393° W117.02109°
RR1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D, TT, UG	N/A	N32.59328° W117.02152°
RR 10	0.3	1	2	20				D, TT, UG	1	N32.59074° W116.96114°
RR 11a	8	10	900	1000	1000s		1000s	D, TT, UG	16	N32.59101° W116.96015°
RR 11b	3	4	300	350	10s		10s	D, TT, UG	14	N32.59093° W116.96056°
RR 12	2	3	24	210				NP, TT, UG	3	N32.59116° W116.95955°
RR 13	1.5	3	96	100				D, TT, UG	7	N32.59125° W116.95915°
RR 14	2	4	84	90	1s			D, TT, UG	7	N32.59128° W116.95887°
RR 15a	4	4	144	150	100s		100s	D, TT, UG	22	N32.59163° W116.95682°
RR 15b	4	4	96	100	10s		100s	D, TT, UG	16	N32.59169° W116.95670°
RR 16	5	5	320	480	100s		100s	D, TT, UG	20	N32.59409° W116.94885°
RR 17	2.5	3	80	100	10s		10s	D, TT, UG	12	N32.59778° W116.94395°
RR 18	2.5	3	25	120				D, TT, UG	10	N32.59815° W116.94086°
RR 19 / 2015-FSH-30	4	6	630	5625				D, TT, UG	9	N32.57451° W116.94506°
RR 2	2.5	6	536	720				D, TT, UG	9	N32.59347° W117.02036°

ATTACHMENT 3: BASIN CONDITIONS SUMMARY TABLE

Feature ID	Depth - Actual Average (in.)	Depth - Est. Actual (in.)	Surface Area - Actual Average (sq. ft.)	Surface Area - Est. Actual (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Habitat Conditions	Number of Samples	GPS Coordinate
RR 3	1	2	3	32				D, TT, UG	2	N32.58545° W116.99533°
RR 4	4.5	5	180	840				D, TT, UG	4	N32.58527° W116.99120°
RR 5	5	6	207	350				D, TT, UG	6	N32.58521° W116.99015°
RR 6	2	3	90	120				D, TT, UG	6	N32.58740° W116.96837°
RR 7	8	9	1265	1400	1000s		10s	D, TT, UG	16	N32.58834° W116.96419°
RR 8	2	4	96	225				D, TT, UG	6	N32.59039° W116.96243°
RR 9	2	6	60	90				D, TT, UG	2	N32.59070° W116.96140°
RR New 1	4	6	300	450				D, TT, UG	11	N32.58646° W116.97891°
RR New 10	6	10	250	250	100s		100s	D, TT, UG	22	N32.59743° W116.94436°
RR New 11	3	4	196	462	10s		1s	D, TT, UG	13	N32.58984° W116.96423°
RR New 12	3	4	193	200	1000s		10s	D, TT, UG	13	N32.59620° W116.94602°
RR New 13	2	3	32	35	10s		10s	D, TT, UG	14	N32.59593° W116.94644°
RR New 14	2	4	18	25	1s		1s	D, TT, UG	9	N32.59578° W116.94666°
RR New 15	2	3	140	150	10s		10s	D, TT, UG	15	N32.59290° W116.95440°
RR New 16	3	3	192	200	100s		100s	D, TT, UG	19	N32.59725° W116.94407°
RR New 17	3	3	180	204	100s		100s	D, TT, UG	19	N32.59854° W116.94121°
RR New 18	3	3	105	240	10s		10s	D, TT, UG	16	N32.59872° W116.94197°
RR New 19	4	4	150	150	10s		1000s	D, TT, UG	16	N32.59860° W116.94265°
RR New 2	4	5	360	380				D, TT, UG	9	N32.59839° W116.94001°

ATTACHMENT 3: BASIN CONDITIONS SUMMARY TABLE

Feature ID	Depth - Actual Average (in.)	Depth - Est. Actual (in.)	Surface Area - Actual Average (sq. ft.)	Surface Area - Est. Actual (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Habitat Conditions	Number of Samples	GPS Coordinate
RR New 20	10	10	250	250	1000s		100s	D, TT, UG	15	N32.59660° W116.93816°
RR New 21	4	4	125	130	10s		10s	D, TT, UG	8	N32.58678° W116.97482°
RR New 22	4	6	60	60	10s		1000s	D, TT, UG	18	N32.59668° W116.93881°
RR New 23	5	5	42	90				D, TT, UG	6	N32.58232° W116.94253°
RR New 23-1	4	4	125	168				D, TT, UG	8	N32.58998° W116.96271°
RR New 24	3	3	120	160	10s	10s	10s	D, TT, UG	9	N32.59820° W116.93793°
RR New 25	2	3	300	400				D, TT, UG	4	N32.59343° W117.01960°
RR New 26	1	2	21	88				D, TT, UG	2	N32.58569° W116.99684°
RR New 27	1	2	24	136				D, TT, UG	2	N32.58568° W116.99657°
RR New 28	1	2	8	98				D, TT, UG	1	N32.58552° W116.99571°
RR New 29	1.5	4	93	180				D, TT, UG	6	N32.58519° W116.99299°
RR New 3	10	10	1100	1200	1000s		100s	D, TT, UG	11	N32.58690° W116.97357°
RR New 30	4	4	30	180				D, TT, UG	6	N32.58508° W116.98922°
RR New 31	3	3	90	264				D, TT, UG	6	N32.58532° W116.98674°
RR New 32	1	2	4	150				D, TT, UG	1	N32.58652° W116.97812°
RR New 33	3	5	115	224				D, TT, UG	6	N32.58672° W116.97567°
RR New 34	1.75	2	128	210				D, TT, UG	4	N32.58752° W116.96780°
RR New 35	2	5	36	160				D, TT, UG	2	N32.58805° W116.96519°
RR New 36	2	4	33	75				D, TT, UG	4	N32.58881° W116.96380°

ATTACHMENT 3: BASIN CONDITIONS SUMMARY TABLE

Feature ID	Depth - Actual Average (in.)	Depth - Est. Actual (in.)	Surface Area - Actual Average (sq. ft.)	Surface Area - Est. Actual (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Habitat Conditions	Number of Samples	GPS Coordinate
RR New 37	2	4	63	150				D, TT, UG	5	N32.58907° W116.96357°
RR New 38	2	6	50	50			1000s	D, TT, UG	2	N32.59001° W116.96358°
RR New 39	2	4	240	348				D, TT, UG	5	N32.59107° W116.95996°
RR New 39-1	2	5	36	54				D, TT, UG	4	N32.59143° W116.95823°
RR New 4	5	6	216	250	10s		10s	D, TT, UG	12	N32.59141° W116.95841°
RR New 40	3	4	39	68			1s	D, TT, UG	6	N32.59149° W116.95720°
RR New 41	2	2	54	108			100s	D, TT, UG	7	N32.59157° W116.95696°
RR New 42	2	3	310	320	100s		10s	D, TT, UG	11	N32.59635° W116.94582°
RR New 43	3	3	193	200	1000s			D, TT, UG	5	N32.59611° W116.94617°
RR New 44	1	2	18	32				D, TT, UG	1	N32.58562° W116.99623°
RR New 45	1.5	3	18	48				D, TT, UG	5	N32.58519° W116.99292°
RR New 46	0.25	1.5	1	2				D, TT, UG	1	N32.59870° W116.94161°
RR New 47	1.5	2	20	30	10s			D, TT, UG	6	N32.59872° W116.94174°
RR New 48	1	1	12	20				D, TT, UG	4	N32.59817° W116.94139°
RR New 49	2	4	45	120				D, TT, UG	6	N32.59632° W116.93692°
RR New 5	6	8	400	420	1000s		100s	D, TT, UG	21	N32.59245° W116.95394°
RR New 50	3	3	42	50	1s	1s	1s	D, TT, UG	7	N32.59660° W116.93836°
RR New 51	3	3	36	40	10s		100s	D, TT, UG	10	N32.59667° W116.93883°
RR New 51-1	1.5	3	45	300			1s	D, TT, UG	5	N32.59800° W116.93990°

ATTACHMENT 3: BASIN CONDITIONS SUMMARY TABLE

Feature ID	Depth - Actual Average (in.)	Depth - Est. Actual (in.)	Surface Area - Actual Average (sq. ft.)	Surface Area - Est. Actual (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Habitat Conditions	Number of Samples	GPS Coordinate
RR New 52	3	3	35	40	10s		1000s	D, TT, UG	11	N32.59669° W116.93913°
RR New 52-1	1	1	4	4				D, TT, UG	1	N32.59793° W116.93985°
RR New 53	1	1	28	30				D, TT, UG	2	N32.58213° W116.94236°
RR New 54	2	2	12	12				D, TT, UG	3	N32.58108° W116.94509°
RR New 55	1	1	40	40	10s		1s	D, TT, UG	9	N32.59727° W116.93995°
RR New 56	3	4	193	200	1000s			D, TT, UG	7	N32.59616° W116.94609°
RR New 57	1	3	12	14	10s		1s	D, TT, UG	4	N32.59669° W116.93906°
RR New 58	1.5	2	8	8				D, TT, UG	3	N32.58521° W116.98741°
RR New 59	0.8	3	9	45				D, TT, UG	3	N32.58524° W116.98725°
RR New 6	6	6	210	232	1000s		100s	D, TT, UG	21	N32.59630° W116.94587°
RR New 60	2.8	6	12	150				D, TT, UG	2	N32.58648° W116.97910°
RR New 61	1	3	6	15				D, TT, UG	3	N32.59644° W116.93686°
RR New 62	0.5	2	6	15				D, TT, UG	1	N32.59674° W116.93923°
RR New 63	3	3	28	30	100s		1000s	D, TT, UG	4	N32.59712° W116.93975°
RR New 64	0.5	2	4.5	35				D, TT, UG	3	N32.59448° W116.94935°
RR New 65	2	2	120	600				D, TT, UG	3	N32.59319° W117.02135°
RR New 66	0.5	1	48	450				D, TT, UG	2	N32.59313° W117.02041°
RR New 67	0.5	2	10	90				D, TT, UG	2	N32.58817° W116.96455°
RR New 68	1	3	4	8				D, TT, UG	2	N32.59275° W116.95257°

ATTACHMENT 3: BASIN CONDITIONS SUMMARY TABLE

Feature ID	Depth - Actual Average (in.)	Depth - Est. Actual (in.)	Surface Area - Actual Average (sq. ft.)	Surface Area - Est. Actual (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Habitat Conditions	Number of Samples	GPS Coordinate
RR New 69	1	2	25	30	10s		1s	D, TT, UG	4	N32.59662° W116.94507°
RR New 7	3	4	448	500	100s		100s	D, TT, UG	17	N32.59346° W116.95298°
RR New 70	3	3	60	80				D, TT, UG	2	N32.58755° W116.97123°
RR New 71	0.5	1	30	40				D, TT, UG	3	N32.58673° W116.97523°
RR New 72	2	3	70	80			10s	D, TT, UG	2	N32.58621° W116.98004°
RR New 8	5	5	384	400	1000s		100s	D, TT, UG	22	N32.59296° W116.95415°
RR New 9	3.5	4	65	100	10s		10s	D, TT, UG	21	N32.59661° W116.93690°
VP 1	6	8	480	550	1000s		1000s	D, TT, UG	22	N32.59216° W116.95529°
VP 10a	6.5	7	204	418	1000s		100s	D, TT, UG	27	N32.59672° W116.94485°
VP 10b	10	18	600	600	1000s		1000s	D, TT, UG	29	N32.59679° W116.94468°
VP 11	1	1	60	80				D, TT, UG	4	N32.59810° W116.94279°
VP 12	3	3	240	250				D, TT, UG	2	N32.59859° W116.93950°
VP 13	3	3	432	440	100s		1000s	D, TT, UG	17	N32.59738° W116.94004°
VP 14	5	6	750	750	1000s		1000s	D, TT, UG	27	N32.59716° W116.93983°
VP 2	2	4	154	270				D, TT, UG	4	N32.59216° W116.95507°
VP 3a	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D, TT, UG	N/A	N32.59288° W116.95210°
VP 3b	3	3	300	432				D, TT, UG	9	N32.59291° W116.95212°
VP 4	1.5	3	27	120				D, TT, UG	3	N32.59309° W116.95133°
VP 5	5	6	430	440	1000s		1000s	D, TT, UG	23	N32.59504° W116.94723°

ATTACHMENT 3: BASIN CONDITIONS SUMMARY TABLE

Feature ID	Depth - Actual Average (in.)	Depth - Est. Actual (in.)	Surface Area - Actual Average (sq. ft.)	Surface Area - Est. Actual (sq. ft.)	<i>Branchinecta lindahli</i> (Adult)	<i>Branchinecta sandiegonensis</i> (Adult)	Unknown Fairy Shrimp (Immature/female)	Habitat Conditions	Number of Samples	GPS Coordinate
VP 6	6	6	200	200	100s		100s	D, TT, UG	20	N32.59629° W116.94547°
VP 7	4.25	6	230	240	100s		100s	D, TT, UG	22	N32.59653° W116.94519°
VP 8	3	4	240	250	1000s		100s	D, TT, UG	21	N32.59681° W116.94525°
VP 9	4	4	140	234	100s		10s	D, TT, UG	21	N32.59699° W116.94489°

Key

CP = Constructed basin
D = Disturbed
NP = Natural pool
TT = Tire tracks
UG = Ungrazed

ATTACHMENT 4 –PHOTOGRAPHS



ATTACHMENT 4 –PHOTOGRAPHS



Photo 1. View to north of RR New 24 that contained San Diego fairy shrimp and versatile fairy shrimp (taken November 22, 2015).



Photo 2. View to east of VP10b that contained versatile fairy shrimp (taken September 20, 2015).



Photo 3. View to east of RR New 10 that contained versatile fairy shrimp (taken November 9, 2015).



Photo 4. View to west of RR New 3 that contained versatile fairy shrimp (taken September 20, 2015).



Photo 5. View to west of RR New 8 that contained versatile fairy shrimp (taken October 12, 2015).



Photo 6. View to north of Detention Basin 1 that did not contain fairy shrimp (taken September 20, 2015).

ATTACHMENT 5 – SURVEY DATASHEETS



Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL 649		County: Quad:		Township: Range:		Section:														
SURVEYOR / Permit Number: D. Busby (115372-3) Assisted by Caroline Klein																				
Date: 9/20/15		Time: 0700-1200		Weather Conditions: 72-95°F, 0/0-10% clouds, 2-4 mph																
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m ²)		Crustaceans						Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae	Diptera			
RR2		72	69	1.5	6	13.5	720											CP, D, T	UG (road cut)	
DB1	32.59389 -117.02433		70	3	24	42 x 18 = 756	150 x 16 = 2400											CP, D, T	32.59389 -117.02433	
RRnew3																			Unable to Muddy sample	
RR7																				
RR11																				
RRnew4																				
RR15		85	80	1	6	13	150											CP, D	muddy	
VP1			80	3	8	33 x 9 = 297 297 x 5 = 1485	50 x 11 = 550 550 x 3 = 1650											TT, AB	muddy	
RRnew5			82	2	8	20 x 15 = 300 300 x 2 = 600	50 x 12 = 600 600 x 2 = 1200											CP, D	muddy	
RR16			83	1	5	126	480											TT, AB	muddy	
VP5		83	83	1.5	6	162	384											CP, D	muddy	
VP7		88	88	1.5	5	26 x 5 = 130 130 x 4 = 520	42 x 5 = 210 210 x 2 = 420											TT, AB	muddy	
VP10A		86	86	3	6	104	418											CP, D	muddy	
VP10B		80	80	4	18	240	585											CP, D	muddy	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracans and Notostracans Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLL = *Branchinella longipalpis*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed; by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

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 Rick Sanchez 760-300-7357 / ark (b, r, m, v)

SURVEY #1 (continued) (Sheet 2/2)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number:																		
Date: 9/20/15		Time: 15		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (m)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (Flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
VP9			90	1.5	4	6x9 34	13x10 23x	10s 10K(NM)									CP, D TT, AB	muddy
VP8			90	1	4	5x3 23	12x5	10s 10K(NM)				1					CP, D TT, AB	muddy
RR17																		Muddy - unstable to sample
NP13			91	0.5	3	18 34x10	38x7 48x12	10s 10K(NM)									CP, D TT, AB	muddy
VP14			91	2	6	34x10 34x10	57x10	10s 10K(NM)									CP, D TT, AB	muddy
RRnew9			92	1	3	12	9x9	-									CP, D TT, AB	grassy not be part of project

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LJO = *Lindberghia occidentalis*, BRU = *Branchinecta* (indistinct)).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

SURVEY #2 (sheet 1/1)

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghella occidentalis*, BRJL = *Branchinecta (Indohill)*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: SURVEY 943 (Sheet 1/2)		County: San Diego		Range:		Section:		
SURVEYOR / Permit Number:		Weather Conditions:		Township:		Quadrant:		
Date: 10/12/15	Time: 8:30	Temp (°C)		Surface Area (m ² x m)		Crustaceans		
Feature ID #	UTM (Northing, Easting, Datum)	Depth (cm)		Insects		Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Average	Est. Max.	Present	Est. Max.			
RRnew3								
RR15a		79	72	4		17x4		
RR15b			72	0.5		3x2		
VP1			73	2		26x6		
RRNEW5			73	3		15x6		
RR16			73	0.5		1x1		
VP5			73	4		72x11		
VP6			74	2		13x8		
VP7		85	74	1		16x1		
VP10a			74	3		15x6		
VP10b			74	2		20x7		
VP9			74	0.5		6x3		
VP8			76	1		6x2		
RRNEW6	72-59631 -10694585		76	0.5		15x29		

Notes: Fill in abbreviated names of Anostracans and Notostomatans, for all others indicate presence with a check mark. Anostracan and Notostomatans Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLL = *Branchinella longipalpis*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = Undisturbed, D = disturbed, with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

SURVEY #5 (Sheet #1 of 4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Benthic Invertebrates																		
Site or Project Name:		County:		Township:		Range:		Section:		Quadrant:								
SURVEYOR / Permit Number:																		
Date: 11/1/15		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (m)		Surface Area (m²)		Crustaceans				Insects				Platyhelminths (Flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
DB1		57	55	25		137 44											CP, TT, D	
RR5																		
RRnew1			52	2		12x 3											CP, TT	
RRnew3			54	6		50x 7											CP, TT	
RR7			56	3		22x 1											CP, TT	
RRnew11	32.58984 -116.96428		55	1	4	6x1 60x 7											CP, TT, D, AB	
RR11a			56	5		45x 20											CP, TT, D, AB	eastern basin
RR11b			56	1.5		95x 2											CP, TT, D, AB	western basin
RR13																		muddy, unable to survey
RRnew4			58	2		42x 3											CP, TT, D	
RR15a			58	3		44x 5											CP, TT, D AB	
RR15b			58	2		15x 2											CP, TT, D	
VP1			59	3		30x 7											CP, TT, D	
RRnew5			62	3		18x 6											CP, TT, D AB	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracans and Notostracans Abbreviations: Use first two letters of genus and species name. In g. L.OC = Limnocalanus macrurus, BPL = Brachionus plicatilis. For habitat conditions use two letter abbreviation as follows: NP = Natural Pond, CP = Constructed Pond, UD = undisturbed, D = disturbed, T = tree tracks, P = grazed, G = grazed, UG = ungrazed by C = cattle, H = horses, S = sheep, AB = Algal biomass present. Estimate grazing rate by H = H of grasses and forbs and density of hoof prints. LG = light grazing, MG = moderate grazing, HD = heavy grazing.

Survey #5 (Sheet 2 of 4)

Appendix 1, U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		County:		Quad:		Township:		Range:										
SURVEYOR / Permit Number:																		
Date:		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (± m ²)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RR16		70	61	2		70x		UK										
VP5			61	4		7x		UK										
VP6			60	1		12x		UK										
VP7			63	2		3x		UK										
VP10a			60	4		4x		UK										
VP10b			61	6		2x		UK										
RRnew10			61	2		9x		UK										
VP9			60	2		6x		UK										
VP8			60	2		6x		UK										
RRnew6			60	2		15x		UK										
RRnew12	52.54N20 -116.94W02	68		1	4	1x6	55x 2	UK										
RRnew13	52.54N02 -116.94W02				3		5x	UK										
RRnew14	52.54N04 -116.94W00				3		5x	UK										
RRnew7			68	1.5			1.5x 20	UK										

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations. Use first two letters of genus and species name (e.g. L-OC = Limnocalanus macrurus). For spatial conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = live tracks. T = fresh, P = pooled; G = grazed, LG = ungrazed by; C = cattle, H = horses, S = sheep. AB = Age, A = adult, J = juvenile. (Estimate grazing regime by height of grasses and forbs and density of hoof prints). LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #6 (Sheet 1 of 3)

Appendix 1, U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name: 649		County:		Quad:		Township:		Range:										
SURVEYOR / Permit Number:																		
Date: 11/16/15		Time: 7:00		Weather Conditions: Cloudy, 0-10 58°F														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (m)		Surface Area (m ²)		Crustaceans				Insects				Pterygota (Hymenoptera)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostraca	Notostraca	Copepoda	Ostracoda	Cladocera	Coleoptera	Hemiptera	Diptera			
DB1		58	52	2.5		50x15											CP, D, AB	
RRnew1			52	4		6x17											CP, D, AB	
RRnew3			52	3		5x34											CP, D, AB	
RR7			52	3.5		3x21											CP, D, TT	
RRnew11			52	2		6x4											CP, D, TT	
RR11a			52	6		6x28											CP, D, TT	
RR11b			52	3		1.5x45											CP, D, TT	
RRnew4			52	1		3x9											CP, D, TT	
BR15a			54	3		4x11											CP, D, TT	
RR15b			54	4		4x24											CP, D, TT	
VP1			54	3		5x20											CP, D, TT	collected shrimps
BRnew5			55	4		6x15											CP, D, TT	
RR16			55	2		5x21											CP, D, TT	
VP5			56	4		6x15											CP, D, TT	

Notes: Fill in abbreviated names of Anostraca and Notostraca, for all others indicate presence with a check mark. Anostraca and Notostraca Abbreviations: Use first two letters of genus and species name (e.g. L.OC = Limnocalanus occidentalis; BRL = Branchinella longipalpis).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = Ungrazed, D = disturbed, with TT = tree tracks, T = trees, P = plowed, G = grazed, LG = ungrazed by cattle, H = horses, S = sheep, AB = Algae blooms present.
 (estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

* All known basins are inundated from rain last night but sufficient time has not passed to sample many of them.

Survey #6 (Sheet 2 of 3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Benthic Invertebrates

Site or Project Name: _____ Township: _____ Range: _____ Section: _____

County: _____ Quad: _____

SURVEYOR / Permit Number: _____

Date: _____ Time: _____ Weather Conditions: _____

Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m ²)		Crustaceans				Insects				Platyhelminths (Flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
VP6			56	4		13x												
VP7			56	2		2.5x 2.6												
VP10a			56	4		4x 19												
VP10b			56	6		6x 18												
RRnew10			56	6		9x9												
VP9			57	3		6x												
VP8			58	2		4.5x 2.8												
RRnew10			59	2		4x 10												
RRnew12																		
RRnew7			63	1.5		6x 52												
RRnew8			58	4		5x 29												
RRnew15			54	2		2x 21												
RRnew16			62	3		6x 27												
RR17			62	2.5		5x 16												

Notes: Fill in abbreviated names of Anostracans and Notonectids, for all others indicate presence with a check mark. Anostracan and Notonectid Abbreviations: Use first two letters of genus and species name.
 In g. LUC = *Limnocalanus macrurus*, BRU = *Brachyura*, etc.
 For native conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pond, UD = undisturbed, D = disturbed with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed
 W = cattle, H = horses, S = sheep, AB = Algal blooms present
 (E) = moderate grazing, (M) = moderate grazing, (H) = heavy grazing, (L) = light grazing, (M) = moderate grazing, (H) = heavy grazing

Survey #7 (Sheet 1 of 3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name: TL 649										County:		Quad:		Range:	Section:			
SURVEYOR / Permit Number: D. Busby																		
Date: 11/22/15		Time: 0615		Weather Conditions: 48F, 0% clouds														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm) in.	Surface Area (sq. m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information	
		Air	Water		Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Cladocera	Coleoptera	Hemiptera				Diptera
RR4		48F																Too muddy to sample
RR5																		"
RR new1																		"
RR new2																		"
RR new3																		"
RR7																		"
RR new23-1	32.58448 -116.96271	49		0.5	3	0.5 x 1.5 = 0.75	15 x 4 = 60											"
RR8																		0, TT, UG, New Basin. No shrimp
RR11a																		Too muddy to sample
RR11b																		"
RR15a		50		2		6 x 3 = 18	BR1 105											"
RR15b		50		2		12 x 2 = 24	BR1 105											"
VPI		50		2		20 x 6 = 120	BR1 100s											"
RR new5		51		1		4 x 3 = 12	BR1 100s											Algae. No shrimp

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g. L.OC = Limnoria occidentalis, BR1 = Branchinecta birchii).
 For habitat conditions use two letter abbreviations as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed with TT = tree tracks, T = trash, P = plowed, G = grazed, LG = ungrazed by C = cattle, H = horses, S = sheep, AB = algae blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing

Survey #7 (Sheet 2 of 3)

Appendix 1, U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Ephemeroptera																	
Site or Project Name:		County:		Quad:		Range:		Section:									
SURVEYOR / Permit Number:		Weather Conditions:		Time:		Date:		Township:									
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area ft ² (ft x ft)		Crustaceans			Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			
RR16		50F	50F	1		10x1=10		BRL1 10s									
VP5			51	3		25x6=150		BRL1 10s								AB	
VP6			51	2.5		12x6=72		BRL1 10s								AS	
VP7			51	2		8x1=8		BRL1 10s								AB	
VP10			54	2		12x2=24		BRL1 100s								muddy	
VP10b			54	5		18x6=108		BRL1 1000s								AB	
RRnew6			54	2		6x3=18		BRL1 10s								AS	
RR17			55	1		2x12=24		1 Adult female BRL1								muddy	unknown species
RRnew19			57	0.5		3x1=3		BRL1 10s									
RRnew18			57	1		18x2=36		BRL1 10s									
RRnew17			57	0.5		1x2=2		BRL1 10s									
RR18			58	1.5	3	5x1=5	20x2=120	BRL1 10s									algae shrimp
VP3			60	0.5		12x1=12		BRL1 10s								muddy	
VP14			58	3		30x25=750		BRL1 100s									

Notes: Fill in abbreviated names of Anostracans and Notetetrans, for all others indicate presence with a check mark. Anostracans and Notetetrans abbreviations: Use first two letters of genus and species name.
 e.g. LLOC = *Lindernia occidentalis*; BRL1 = *Branchinella longipennis*.
 For habitat conditions use two letter abbreviations as follows: NP = Natural Pond; CP = Constructed Pond; UD = undisturbed; D = disturbed; with TT = tire tracks; T = trampled; P = plowed; G = grazed; UG = ungrazed;
 by C = cattle; H = horses; S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints). LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #7 (sheet 3 of 3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																			
Site or Project Name:		County:		Quad:		Township:		Range:											
SURVEYOR / Permit Number:		Date:		Weather Conditions:		Notes / Voucher information		Habitat Condition											
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (m) in	Surface Area (sq m)		Crustaceans				Insects				Platyhelminths (flatworms)	Notes / Voucher information			
		Air	Water		Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Chlodocera	Coleoptera			Hemiptera	Diptera	Culicidae
RRnew20																			
RRnew24	32.59820 -116.93793		60	1	4	9x1 = 20x8 = 180 9													
RRnew9			63	1.5		6x6 = 36 26													
RRnew21			60	1.5		6x3 = 18 18													
RRnew10			58	4		9x4 = 36 81													
VP9			60	1		8x3 = 24 24													
VP8			60	1		5x4 = 20 20													
RRnew6			60	1		9x2 = 18 18													
RRnew13			62	1		4x1 = 4 4													
RRnew7			62	0.5		8x1 = 8 8													
RRnew8			60	3		15x6 = 90 90													
RRnew15			60	0.5		2x1 = 2 2													

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g. L. OC = Limnoria occidentalis, BR. LI = Branchinecta longimanus).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, SD = Shaded, D = disturbed, with TT = five tracks. T = track, P = plowed, G = grazed, LG = ungrazed by, C = cattle, H = horses, S = sheep, AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 8 (sheet 1 of 2)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods															
Site or Project Name: TL 619		County: San Diego		Quadrant:		Township:		Range:							
SURVEYOR / Permit Number: D. Busby		Time: 0630-		Weather Conditions: 43°		Crustaceans		Insects							
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (m)		Surface Area (sq ft)		Crustaceans				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information	
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods				Cladocera
Detention Basin 1		43	45	1		15 x 4 = 60		None						No shrimp	
RRS														To muddy to sample	
RRnew1														"	
RRnew2														"	
RR15a		44		1		3 x 1 = 3		BRLI 10s							
RR15b		44		1		6 x 1 = 6		BRLI 10s							
VP1		45		0.5		12 x 3 = 36		None						No shrimp	
RRnew5														To muddy to sample	
VP3b		45		0.5		3 x 1 = 3		None						No shrimp	
VP5		45		0.5		9 x 1 = 9		BRLI 10s							
VP6		45		1		12 x 3 = 36		None					AB	No shrimp	
VP7		45		0.5		6 x 1 = 6		BRLI 10s							
VP10a		47		1		9 x 2 = 18		BRLI 10s						very muddy	
VP10b		47		3		12 x 8 = 96		BRLI 10s						very muddy	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations. Use first two letters of genus and species name (e.g. L.OC = Limnocalanus macrurus; BRLI = Branchinella longipalpis).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = Undisturbed, D = disturbed, with "T" = tree tracks, T = trash, P = piled, G = grazed, LG = ungrazed by, C = cattle, H = horses, S = sheep, AB = Algae, blb = bluish green.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #8 (Sheet 2 of 2)

Appendix 1, U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Crustaceans																		
Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: J. B. S. 67																		
Date: 11/30/15		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m ft)		Crustaceans				Insects				Platyhelminths (Flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae			
RRnew16			48	0.5		1x1 = 1		BRLL										
RRnew10			48	3		9x9 = 81		BRLL										
VP9			48	0.5		2x1 = 2		None										Ab. (very small) - to muddy to sample
VP8																		
RRnew8			49	3		15x6 = 90		BRLL										
RRnew18			50	1		15x1 = 15		BRLL										
RRnew17			52	1		3x1 = 3		BRLL										
RR17			54	0.5		3x2 = 6		None										No shrimp
RR18			54	1		6x1 = 6		None										No shrimp
VP14			54	3		30x7 = 210		BRLL										to muddy to sample
RRnew24																		
RRnew9			58	1		3x3 = 9		None										No shrimp
RRnew22			58	1		2x2 = 4		None										No shrimp

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name. For g. LIOC = *Lindemania occidentalis* BRLL = *Branchinecta longimanus*. For habitat conditions use two letter abbreviations as follows: NP = Natural Pond, CP = Constructed Pond, UD = undisturbed, D = disturbed, TT = tire tracks, T = trash, P = plowed, G = grazed, LG = ungrazed by, C = cattle, H = horses, S = sheep, AB = Algal blooms present. Estimate grazing regime by height of grasses and herbs and density of hoof prints. LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix I. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods																		
Site or Project Name: TL69			County:		Quad:		Township:		Range: Section:									
SURVEYOR / Permit Number: D. Busby																		
Date: 12/15		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			
VP10a																		
VP10b																		
RR18																		
VP14		48	50	2		28x6		BRL1 100s										to muddy to sample
RRnew10		50	50	2		8x3=24		BRL1 10s										"
RRnew8		50	50	1		6x3=18		BRL1 10s										"
																		very muddy
																		very muddy
																		very muddy

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Linderella occidentalis*, BRL1 = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		TL649		County:		Quad:		Township:		Range:		Section:						
SURVEYOR / Permit Number: D. Busby																		
Date: 12/15/15		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area (m ² x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RR4		43	42	2.5	5	10x18 = 180	70x12 = 840											
RR5			42	5	6	25x17 = 207	23x10 = 230											
RRnew1			42	3	6	10x30 = 300	45x18 = 810											
RRnew2			42	4	5	45x8 = 360	16x10 = 160											
RRnew3			43	3	—	30x6 = 180	—											
2014-FSH-04			43	2	4	20x3 = 60	40x4 = 160											
RR6			43	2	3	20x3 = 60	30x4 = 120											
RR7			45	4	—	30x3 = 90	—											
RRnew23-1			45	4	—	25x3 = 75	—											
RR8			45	2	4	18x3 = 54	25x4 = 100											
RR11a			46	3	—	20x6 = 120	—											
RR11b			46	2	—	27x1 = 27	—											
RR12			48	2	3	6x2 = 12	15x4 = 60											
RR13			48	1.5	3	8x12 = 96	—											

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLJ = *Branchinecta lindneri*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pond, UG = Undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

* Most basins likely just filled on 12/13/15. Many new "Potential Basins" that will be sampled next week if still inundated. A few may have filled from small amount of rain on 12/10/15.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																				
Site or Project Name:		County:		Quadrant:		Township:		Range:		Section:										
SURVEYOR / Permit Number: D. Busby																				
Date: 12/15/15		Time:		Weather Conditions:																
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans						Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae				
RR14		55	48	1	4	7x7														
RRnew4			48	2	6	21x33														
RR15a			48	4		24x6														
RR15b			48	4		27x3														
VP1			48	5		27x8														
VP2			50	2	4	18x8	27x10													
RRnew5			48	4		24x8														
VP3b			50	2	3	25x12	36x12													
VP4			50	1.5	3	12x2	24x5													
RR16			52	2	4	30x7	40x10													
VP5			52	6		30x8														
VP6			52	6		20x10														
VP7			53	4		20x3														
VP10a			54	6		15x3														

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRU = *Branchinecta indiana*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = Undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #10 (Sheet 3 of 4) Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: T L 649		County: Quad:		Township: Range:		Section:												
SURVEYOR / Permit Number: R. Bushy				Weather Conditions:														
Date: 12/15/15		Time:																
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area (m ² x m) - ft		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
VP106		55	53	6	-	8x8 = 144	-											
RRnew16			54	3	-	30x6 = 180	-											
VP11			-	-	-	-	-											to muddy to sample
RR17			54	2	-	16x4 = 60	-											
RRnew17			54	2	-	45x4 = 180	-											
RRnew18			54	3	-	10x3 = 30	-											
RRnew19			54	2	-	33x3 = 99	-											
RR18			55	2.5	-	10x2 = 20	-											
VP13			56	2.5	-	30x5 = 150	-											
VP14			56	5	-	42x12 = 504	-											
RRnew20			56	3	-	6x12 = 72	-											
RRnew24			57	3	-	18x6 = 108	-											
RRnew9			58	3	-	6x8 = 48	-											
RRnew21			58	3	-	5x20 = 100	-											

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLL = *Branchinella longipalpis*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = Undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL 649		County: Quad:		Range: Township:		Section:															
SURVEYOR / Permit Number: D. Busby		Weather Conditions:		Date: 12/15/15																	
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (m)		Surface Area (m ² x m)		Crustaceans						Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information	
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae					
RRnew22		60	58	4		10x6 = 60		/													
RRnew10			58	6		12x12 = 144		/													
VP9			58	3.5		9x10 = 90		/													
VP8			59	2		9x7 = 63		/													
RRnew6			59	2.5		3x12 = 36		/													
RRnew12			59	1.5		9x2 = 18		/													
RRnew13			59	2		6x4 = 24		/													
RRnew14								/													70 muddy to sample
RRnew7			59	3		7x4 = 28		/													
RRnew8			59	5		30x9 = 270		/													one ♂ + ♀
RRnew15			59	1.5		25x2 = 50		/													
RRnew11			59	2.5		45x2 = 90		/													
RR19			60	4	6	210x25 = 5250 630 5625		/													
*																					

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindberghii*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed;
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

→ unable to access RR1, RR2, and Detention Basin 1 due to change in combination lock.
 RR2 and Detention Basin 1 are inundated.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TLEAG		County: M Busby W/ MINH PAB		Quad:		Range:		Section:												
SURVEYOR / Permit Number: M Busby W/ MINH PAB																				
Date: 12/21/15		Time: 0750		Weather Conditions: cool, clear, mild wind, breeze																
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans						Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae					
RR19		45°	44°	1"		300ft²		None									D, TT			
RR19 RRnew51	72.58103N -116.94504W	46°	44°	2"		10ft²		None									D, TT			
RR19 RRnew53	72.58215N -116.94236W	46°	44°	4"		2ft²		None									D, TT			
RRNEW23		46°	46°	2"		12ft²		None									D, TT			
RR19 RRnew52	72.58664N -116.93915N	50°	48°	1.5"		20ft²		None									D, TT			
RR19 RRnew51	72.58667N -116.93883N	50°	46°	1"		6ft²		None									D, TT			
RRNEW22		50°	48°	3"		60ft²		None									D, TT			
RR19 RRnew50	72.58664N -116.93883N	54°	52°	1.5"		20ft²		None									D, TT			
RRNEW21		54°	54°	2"		40ft²		None									D, TT			
RR19 RRnew49	72.58664N -116.93883N	54°	56°	2"		40ft²		None									D, TT, AB			
RRNEW9		54°	56°	3"		65ft²		None									D, TT			
RRNEW24		55°	56°	3"		120ft²		None									D, TT			
VR12		57°	N/A	5"		8ft²		None									NP, AB	30 ft South of 4 ft S		
RRNEW20		57°	48°	3"		100ft²		None									D, TT			

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLO = *Branchiopoda* *limnocalanus*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = Undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL 649		County:		Quadr:		Township:		Range:		Section:											
SURVEYOR / Permit Number: M. BOSEY w/ MINADAP																					
Date: 12/21/15		Time: 0750		Weather Conditions: COOL, CLEAR, MILD WIND, DROPGU																	
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans						Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information	
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae	Diptera				
RRNEW 52-1	32.54900N -116.93990W	57°	52°	1'		25ft²		None													
RRNEW 52-1	32.54992N -116.93950W	59°	52°	5'		4ft²		None													
VP14		59°	54°	4'		350ft²		None													
VP13		54°	54°	2'		150ft²		None													
RRNEW 48	32.54512N -116.94100W	61°	50°	2'		250ft²		None													
VP11		61°	58°	1'		12ft²		None													
RRNEW17		61°	64°	1'		60ft²		None													
RRNEW 46	32.54530N -116.94161W	61°	60°	2'		70ft²		None													
RRNEW 47	32.54532N -116.94170W	61°	N/A																		
RRNEW18		61°	64°	1'		20ft²		None													
RRNEW19		61°	64°	1.5'		60ft²		None													
RRNEW19		61°	60°	2'		120ft²		None													
RRNEW17		61°	66°	2'		55ft²		None													

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLL = *Branchinella lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed; by: C = cattle, H = horses, S = sheep; AB = Algal biofilms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Township:		Range:		Section:										
SURVEYOR / Permit Number:		County:		Township:		Range:		Section:										
Date: 12/1/15		Time:		Weather Conditions:		County:		Section:										
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area (m ² x ft)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
RR-new 25	32.58304 -116.99160	42	44	1	3	33x7	40x10	None									D, TT, UG	
RR 2		42	44	1		8x62		"									D, TT, UG	
Retention Basin 1		43	44	4		140x7		"									D, TT, UG	
RR-new 26	32.58304 -116.99164	43	44	1	2	7x3	11x8	"									D, TT, UG	
RR-new 27	32.58307 -116.99167	43	44	1	2	8x3	17x8	"									D, TT, UG	
RR-new 28	32.58352 -116.99157	43	44	1	2	4x2	4x7	"									D, TT, UG	
RR 3	32.58345 -116.99153	44	44	1	2	3x1	8x4	"									D, TT, UG	
RR-new 29	32.58354 -116.99130	45	44	1	4	31x3	45x4	"									D, TT, UG	
RR 4	32.58327 -116.99120	45	44	1 1/2	4	7x20	50x11	"									D, TT, UG	
RR 5	32.58321 -116.99015	45	44	4	0	3x20	35x10	"									D, TT, UG	
RR-new 30	32.58308 -116.99122	46	44	1 1/2	4	4x2	30x6	"									D, TT, UG	
RR-new 31	32.58352 -116.98673	53	52	1 1/2	3	9x10	22x12	"									D, TT, UG	
RR-new 1		53	46	4		30x10		"									D, TT, UG	
RR-new 32	32.58352 -116.97812	54	46	1	2	2x2	15x6	TV									D, TT, UG	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLL = *Branchinella longipalpis*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pond, UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by; C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL 649		County: D. Busby Ryan Hutherson		Quadrant: Quad:		Range:		Section:										
SURVEYOR / Permit Number:		Weather/Conditions:		Time:		Date: 12/21/15												
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Habitat Condition	Notes / Voucher Information	
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae			Diptera
RR new 33	32.58672 -116.97567	61	44	3	5	2x5	32x7	None									D, TT, UG	
RR new 32	32.58674 -116.97482	62	50	3	5	7x10	9x50	"									D, TT, UG	
RR new 3		64	46	3		35x9	45x10	"									D, TT, UG	
2614-FSH-04		65	58	2		130x4		"									D, TT, UG	
RR 6		67	55	1 1/2		30x3		"									D, TT, UG	
RR new 34	32.58754 -116.97680	70	55	1	2	32x4	35x6	"									D, TT, UG	
RR new 35	32.58801 -116.96519	71	52	2	5	18x2	32x5	"	↓								D, TT, UG	
RR 7		72	56	3		25x4		10's Imp									D, TT, UG	
RR new 36	32.58881 -116.96380	73	58	2	4	11x3	15x5	None									D, TT, UG	
RR new 37	32.58907 -116.96350	73	56	2	4	2x3	30x5	"									D, TT, UG	
RR new 23-1		75	56	4		16x4	28x6	"									D, TT, UG	
RR 8		75	56	2		16x6		"									D, TT, UG	
RR new 38	32.59001 -116.96350	75	54	2	6	10x1	20x2	"									D, TT, UG	
RR new 11		75	60	3		33x6	45x6	4									D, TT, AB, UG	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRJ = *Branchinecta lindberghii*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = Undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		72649		County:		Quad:		Township:		Range:		Section:						
SURVEYOR / Permit Number: D. Busby / R. Hutzler																		
Date: 12/24/15		Time:		Weather Conditions:														
Feature ID#	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Habitat Condition	Notes / Voucher information	
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae			Diptera
RR 11B		74	60	2		55x2		None									D, TT, VG	
RR 11A		73	58	4		21x6											D, TT, VG	
RR new 39	32.59107 -116.95995	73	64	2	4	24x10	29x12										D, TT, VG	
RR 12	32.59114 -116.95956	73	60	1 1/2	3	8x3	35x6										D, TT, VG	
RR 13		74	59	1 1/2		14x3											D, TT, VG	
RR 14		74	64	1 1/2		14x6											D, TT, VG	
RR new 4		74	64	2		18x3											D, TT, VG	
RR new 39	32.59143 -116.95812	74	62	2	5	5x4	9x6										D, TT, VG	
RR new 40	32.59149 -116.95720	73	60	3	4	13x3	17x4										D, TT, VG	
RR new 41	32.59157 -116.95966	73	62	1 1/2	2	12x4	18x6										D, TT, VG	
RR 15A		74	60	3		16x6											D, TT, VG	
RR 15B		74	62	3		20x4											D, TT, VG	
VP 1		74	65	5		26x8											D, TT, VG	
VP 2		74	64	2		15x8											D, TT, VG	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LJO = *Lindberghia occidentalis*, BRL = *Branchinella indiana*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep, AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																			
Site or Project Name: TL649		County: Davin County		Quad:		Township:		Range:		Section:									
SURVEYOR / Permit Number: DAVIN CORNELL																			
Date: 12/22		Time: 8:00		Weather Conditions: 100% cloud, light drizzle, 59°F, 1-8 wind															
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Habitat Condition	Notes / Voucher Information		
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			Culicidae	Diptera
VP9		59	56	4		7x10		105										D, TT, UG	
RRnew 10			56	5		10x13		105										D, TT, UG	
VP8			57	2.5		9x5		100's										D, TT, UG	
RRnew 42	32.59635 E116.94582		57	2	3	1.6x1.7	3x2.2	105										D, TT, UG	
RRnew 6			57	3		3.5x2.0		105										D, TT, UG	
RRnew 12			57	2		12x2		105										D, TT, UG	
RRnew 43	32.59608 E116.94622		57	1.5	3	4x6	5x10	105										D, TT, UG	
RRnew 13			57	3		7x4		105										D, TT, UG	
RRnew 14			57	1		3.5x5		105										D, TT, UG	
RRnew 7			57	3		56x8		105										D, TT, UG	
RRnew 8			56	5		48x8		100's										D, TT, UG	
RRnew 15			57	2		28x5		105										D, TT, UG	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*, BRLL = *Branchinella linderni*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = Undisturbed, D = disturbed, with TT = the tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 12 (Sheet 1 of 6)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: D. Busby																		
Date: 12/28/15		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area (m ² × m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
RRnew26																		
RRnew27		40	40	1		6 × 3 = 18												too muddy to sample
RRnew44	32.58522 -116.99624		40	1	2	6 × 3 = 18	8 × 4 = 32											too muddy to sample
RRnew28																		no shrimp
RR3				1		1 × 2 = 2												no shrimp
RRnew29			40	1.5		10 × 3 = 30												no shrimp
RRnew45	32.58519 -116.99292		39	1	3	6 × 3 = 18	12 × 4 = 48											no shrimp
RR4																		too muddy to sample
RR5			40			9 × 3 = 27												no shrimp
RRnew30			40	1.5		15 × 1 = 15												no shrimp
RRnew31			40	1		3 × 2 = 6												no shrimp
2014-FSH-03																		too muddy to sample
RRnew1			39	3		15 × 6 = 90												no shrimp
RRnew33			40	0.5		6 × 1 = 6												no shrimp

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLL = *Branchinecta lindberghii*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #12 (Sheet 2 of 6)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																					
Site or Project Name:		County:		Quad:		Township:		Range:		Section:											
SURVEYOR / Permit Number:		Weather Conditions:		Time:		Date:		UTM (Northing, Easting, Datum)		Temp (°F)		Depth (cm)		Surface Area (sq m)							
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area (sq m)		Crustaceans						Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information	
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae	Diptera				Chironomidae
RRnew2		40	40	0.5		3x1 = 3															No shrimp
RRnew3			40	5		40x8 = 320															"
2014-PSH-04																					too muddy to sample
RR6			40	0.5		9x1 = 9															No shrimp
RRnew34			40	0.5		15x2 = 30															"
RR7			42	4		25x5 = 125															BRLI Adults
RRnew36			42	1		1x3 = 3															No shrimp
RRnew37			42	1		12x1 = 12															"
RRnew38-1			43	1		12x2 = 24															"
RRnew11			44	3		36x3 = 90															"
RR11a			44	4		36x18 = 648															"
RR11b			44	2		100x3 = 300															"
RRnew39			44	1		12x10 = 120															"
RR13			44	1		25x2 = 50															"

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindneri*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #12 (Sheet 3 of 6)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: D. Busby																		
Date: 12/28/15		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area (m ² x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
RR14		50	44	2		15 x 5 = 75											No shrimp	
RRnew4			45	2		20 x 3 = 60											"	
RRnew39-1			45	1		2 x 3 = 6											"	
RRnew40			42	2		9 x 2 = 18											"	
RRnew41			43	1		7 x 2 = 14											"	
RR15a			43	3		15 x 3 = 45		BRLI + TMM 10.5									TMM likely BRLI	
RR15b			43	3		15 x 3 = 45		BRLI + TMM 10.5									"	
VP1			43	5		35 x 10 = 350		BRLI + TMM 1005									" (collected)	
VP2			43	1		12 x 1 = 12											No shrimp	
RRnew5			46	3		27 x 8 = 216											"	
VP3b			46	0.5		6 x 2 = 12											"	
RR16			46	3		33 x 8 = 264		BRLI + TMM 105									TMM likely BRLI (collected)	
VP5			47	5		20 x 8 = 160		BRLI 105									collected	
VP6		55	48	3		9 x 15 = 135		BRLI 105										

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LUC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by; C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 12 (sheet 4 of 6)

Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		T L 649		County:		Quad:		Township:		Range:		Section:						
SURVEYOR / Permit Number: D. Busby																		
Date: 12/28/15		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area (sq x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae			
VP7		55	50	3		30x3=90		BRLI 10s										
VP10a			50	5		20x3=60		BRLI 10s										
VP10b			50	8		30x5=240		UNK 5mm 100s										
RRnew16			50	3		30x3=90		BRLI+ 5mm 100s										
RRnew17			55	3		45x4=		BRLI+ 5mm 100s										
RRnew17			55	1.5		10x2=20												
RRnew18			55	2		30x2=60												
RRnew19			55	2		20x2=40		BRLI+ 5mm 10s										
RR17			57	1.5		13x2=26		BRLI 2										
RRnew10			56	6		9x12=108		BRLI+ 5mm 100s										
VP9			58	3		10x8=80		BRLI+ 5mm 10s										
VP8			58	2		17x3=51		UNK 5mm 100s										
RRnew42			59	2		15x2=30		BRLI 10s										
RRnew16			60	4		27x6=162		BRLI 100s										

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLI = *Branchinecta longitarsis*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #12 (Sheet 5 of 6)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																	
Site or Project Name:		County:		Quad:		Township:		Range:		Section:							
SURVEYOR / Permit Number: D. Busby																	
Date: 12/28/15		Time:		Weather Conditions:													
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)	Surface Area (m ²)		Crustaceans				Insects				Habitat Condition	Notes / Voucher information	
		Air	Water		Average	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			Diptera Chironomidae
RRnew12			60	1.5	16x22												
RRnew43			61	0.5	4x1												No Shrimp
RRnew13			61	1	6x3												"
RRnew14			61	1	2x3												"
RRnew7			60	3	70x3												
RRnew8			60	4	30x6												
RRnew15			61	1	15x2												No Shrimp
RRnew48			62	0.5	1x2												"
VP11			62	0.5	10x2												"
RR18			62	1	5x1												"
VP13			62	2	5x8												"
RRnew55	32.59727 -116.13995		63	0.5	8x2	10x4											
VP14			60	4	40x10	40x10											
RRnew51	32.59800 -116.13990		62	0.5	15x1	30x10											

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLI = *Branchinecta longicalcar*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #12 (sheet 6 of 6)

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 126 (Sheet 1/1)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		TL649		County:		Quad:		Township:		Range:		Section:						
SURVEYOR / Permit Number:		D. Busby		Weather Conditions:														
Date: 12/29/15		Time:																
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m ² , m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
RR2		45	43	0.5		6x55 330												
Detention Basin 1			43	3		120x25 3000												
RRnew 49			44	1	4	15x55 825												
RRnew 21			45	1		2x12 24												2 23
RRnew 50			45	2		3x3 9												
RRnew 22			45	2		10x4 40												
RRnew 51			45	1		2x3 6												
RRnew 52			46	2		5x6 30												
RRnew 23			46	1		6x2 12												
RR 19			47	4		18x2 360												
RRnew 25			47	0.5		30x6 180												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*, BRU = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by; C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 13 (Sheet 2/4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL649 County: Quad: Township: Range: Section:

SURVEYOR / Permit Number: D. Busby

Date: 1/3/16 Time: Weather Conditions:

Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	
RR8		43	41	0.25		1x1											
RRnew11			41	2.5		10x6		BRLI 105									Collected 4 ♂ 3 ♀
RR11b			42	2		7x2											Thick mud
BR11a			42	5		24x6											Thick mud
RRnew39						14x4											Too muddy to survey
RR13			41	0.5		3x1											
RR14			42	0.5		2x1											
RRnew4																	Too muddy to survey
RRnew39-1																	" "
RRnew40			42	1		6x1		unk ♀									one unknown female
RRnew41			42	0.5		1x1		unk Imm. 105									Immatures
RR15a			43	2.5		12x2		BRLI 105									
RR15b			43	2.5		10x3		BRLI 105									
VP1			43	4		30x8		BRLI 105									AB

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #113 (Sheet 3/4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: D. Busby																		
Date: 1/3/16		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area (m ² x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae			
RRnew5		48	46	3		12x7		BRL										collected 10/18
VP3b																		too muddy to survey
RR16		46		3		2x6		BRL										
VP5		46		4		15x8		BRL										
VP6		47		2		12x5		BRL										
VP7		47		3		30x3		BRL										
VP10a		50		6		20x3		BRL										
VP10b		51		10		20x8		BRL										
RRnew16		51		2		15x2		BRL										collected 3/8 29
RRnew17		52		2		30x4		BRL										
RRnew47		52		1		7x2		BRL										
RRnew18		52		2		15x3		BRL										
RRnew19		53		2		30x2		BRL										
RR17		57		1.5		12x2		BRL										

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., *Liodora occidentalis*, BRL = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 13 (sheet 4/4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		County:		Quad:		Township:		Range:										
SURVEYOR / Permit Number:		Weather Conditions:		Time:		Temp (°C)		Depth (cm)										
Feature ID #	UTM (Northing, Easting, Datum)	Air	Water	Depth (cm)		Surface Area (m ² x m ²)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
				Average	Est. Max	Present	Est. Max	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae			
RRnew10		60	56	4		7x12 = 84		BRU 10s										
VP9			58	2		6x9 = 54		BRU 10s										
VP8			58	2		35x3 = 105		BRU 10s										
RRnew42			59	1		10x2 = 20		BRU 10s										
RRnew6			58	4		20x5 = 100		BRU 10s										
RRnew12			58	1.5		12x2 = 24		BRU 10s										
RRnew56	32.59416 -116.44604		58	1.5	4	13x2 = 26	25x4 = 100	BRU 10s										D, TT, V6
RRnew43			60	1		20x2 = 40		BRU 10s										
RRnew13			60	1		4x2 = 8		BRU 10s										
RRnew14			60	1		7x2 = 14												
RRnew7			61	2		60x2 = 120		BRU 10s										
RRnew8			61	4		30x3 = 90		BRU 10s										
RRnew15			61	1.5		4x2 = 8		BRU 10s										
RR18			60	1		3x1 = 3												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRU = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed;
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 13b (Sheet 1/1)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: D. Busby																		
Date: 1/4/16		Time:		Weather Conditions: Scattered Showers														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
VP13		50	49	3		15x45		BRLI										
RRnew55			49	1		4x1		BRLI										
VP14			49	5		15x10		BRLI										
RRnew20			50	5		15x15		BRLI										
RRnew24			50	2		9x6		BRLI										3♂ BRLI 2♀ 1♂ BRLI
RRnew9			51	2		5x4		BRLI										
RRnew50			51	1.5		3x3												
RRnew51			50	3		12x3		BRLI										
RRnew22			51	1		3x2		BRLI										
RRnew57	325964 -116,9396		52	0.25	3	3x2		BRLI										
RRnew52			52	2		7x4		BRLI										
RRnew23			52	3		24x2												Too muddy to survey
RR19		55	52	3		60x20												
Detention Basin 1						1250												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindahli*).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by; C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey 14d sheet 1/4

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																					
Site or Project Name:		County:		Quad:		Township:		Range:		Section:											
SURVEYOR / Permit Number:		Time:		Weather Conditions:																	
Date: 1/11/16		Temp (°C)		Depth (cm)		Surface Area (m ²)		Crustaceans				Insects				Platyhelminths (flatworms)		Habitat Condition		Notes / Voucher information	
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m ²)		Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae						
		Air	Water	Average	Est. Max.	Present	Est. Max.														
PR new 26		54	46	25 in.		1x1															
PR new 29		54	46	25 in.		1x4															
PR new 45		54	46	5 in.		1x5															
PR 5		54	46	1 in.		2x4															
PR new 30		54	46	2 in.		2x4															
PR new 58	32.580541 -116.978740	54	45	1.5 in.	2 in.	2x8	2.5x8													0, TT	
PR new 59	32.580522 -116.987722	54	45	0.5 in.	3 in.	1x7	15x3													0, TT	
PR new 21		58	45	1 in.		2x3															
PR new 03		58	45	1.5 in.		2x10															
PR new 1		58	46	4 in.		7x20															
PR new 60	32.580618 -116.979110	58	46	1 in.	6	2x6	15x10														
PR 19		58	52	3 in.		2x10x3															
PR new 54		58	52	2 in.		1.5x4															
PR new 23		58	50	5 in.		1x3															

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLL = *Branchinecta lindberghii*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed; by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number:																		
Date: 01.11.16		Time:		Weather Conditions: 80% cloud cover, 0-5 mph wind														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
RR new 52-1		58	58	1 in.		1x3												
RR new 51-1		58	58	1.5 in.		3x15												
VP 12		58	47	3 in.		9x10h												
RR new 20		58	52	10 in.		10x25												
RR new 24		63	60	2.5 in.		4x7												1005
RR new 9		63	60	3.5 in.		5x6												2-1 unknown 2-unknown 2-unknown
RR new 61	32-59641 316-95686	63	62	1 in.	3 in.	7x3	3x5											
RR new 49		63	60	2 in.		8x3												
RR new 21		63	59	4 in.		5x25												
RR new 50		63	59	3 in.		6x7												
RR new 22		63	59	4 in.		12x5												105
RR new 51		63	59	1.5 in.		2x4												105
RR new 57		63	60	1 in.		2x6												15
RR new 58		63	60	3 in.		5x7												105

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLJ = *Branchinecta lindberghii*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey 14a (sheet 3/4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		TL649		County:		Quad:		Township:		Range:		Section:						
SURVEYOR / Permit Number:				D. Bishop & D. Cardoza														
Date:		Time:		Weather Conditions:														
1.11.10				90% cloud, 10-20 mph wind														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
RR new 62	32, 591674 -116, 93923	67	60	0.5 in.	2 in.	3x2	5x3	/										
RR new 63	32, 591724 -116, 93914	67	60	0.5 in.	1 in.	3x2	3x3.5	BRLI										collected 1 male & 1 female 105
VP 14		67	56	5 in.		50x13		BRLI										1000s collected 1 male & 1 female 105
RR new 55		67	60	1 in.		4x10		BRLI										collected 4 males & 3 females
VP 13		67	56	3 in.		70x6		BRLI										
RR 18		67	58	1 in.		1x5		/										
RR 17		67	62	1 in.		7x3		unk. female										1 unknown female
VP 11		67	62	5 in.		11x2		/										
RR new 46		65	60	7.5 in.		2x5		/										
RR new 19		65	60	4 in.		50x3		BRLI										15 collected 3 males & 3 females 105
RR new 18		65	60	2 in.		35x3		BRLI										
RR new 47		65	60	1.5 in.		3x5		BRLI										15
RR new 17		65	60	2 in.		3x30		BRLI										1005
RR new 10		65	58	6 in.		13x8		BRLI										1005

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*, BRLI = *Branchinella lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey 140 (sheet 4/4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: DeBusby / C. Cargado																		
Date: 11/11/16		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°F)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RR new 16		65	59	2 in.		25x3		BRLI										105
VP9		65	62	2 in.		5x10		BRLI										1005
VP8		65	62	3 in.		40x3		BRLI										10005
RR new 42		65	62	2 in.		1.5x4		BRLI										collected 4 males; 9 females
RR new 6		67	57	6 in.		5x40		BRLI										10005
RR new 12		67	60	3 in.		55x35		BRLI	10005									RR new 50; RR new 43 connected to 12
RR new 50		"	"	"		"		"										Same as above
RR new 43		"	"	"		"		"										Same as above
RR new 13		67	63	2 in.		2x7		BRLI										15
RR new 14		67	62	2 in.		6x3		BRLI										1 male
RR new 64	22-59449 -116.91935	67	63	5 in.	2 in.	1.5x3	5x7											
RR new 7		67	62	3 in.		75x4		BRLI										1005
RR new 8		67	58	4 in.		40x4		BRLI										1005
RR new 15		67	60	1 in.		3x30												AB

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*, BRLI = *Branchinecta lindneri*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks; T = trash, P = plowed; G = grazed, UG = ungrazed;
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey 14b (Sheet 1 of 4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																				
Site or Project Name: <u>Day 14a9</u>			County: <u>Darin, Corinne</u>		Quad: <u></u>		Township: <u></u>		Range: <u></u>		Section: <u></u>									
SURVEYOR / Permit Number: <u>Day 14a9</u>																				
Date: <u>1/12/16</u>	Time: <u>9:00</u>	Weather Conditions: <u>Sunny, 0 cloud, 2-3 wind 55F</u>																		
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m ²)		Crustaceans						Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera	Chironomidae				
- RRnew25		55	45	2		300		/										D, TT, AB		
- RR2			45	2		536		/										D, TT, AB		
- DB1			48	6		4800		/										D, TT, AB		
- RRnew65	32.59319 -117.02135		48	1	2	96	600	/										D, TT, AB	gravel substrate	
- RRnew66	32.59313 -117.02042		48	0.5	1	48	450	/										D, TT, AB	gravel substrate	
- RR6				0.5		10		/										D, TT	muddy substrate	
- RRnew34				0.5		32		/										D, T	muddy substrate	
- RRnew67	32.58818 -117.02450			0.5	2	10	90	/										D, TT	muddy substrate	
- RR7			52	8		350		BRLI										D, TT	A-10s	
- RRnew36			52	1		9		/										D, TT		
- RRnew37			52	1		20		/										D, TT, AB		
- RRnew23-1			56	2		60		/										D, TT		
- RR8			56	1		22		/										D, TT	muddy	
- RR9			58	2	6	60	90	/										D, TT	muddy	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLI = *Branchinella lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = tire tracks, P = plowed; G = grazed, UG = ungrazed; C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey 14 (sheet 2 of 4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: P. G. Smith																		
Date: 1/12/16		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m ²)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RR11B			50	3		200		1								D, T		
RR11A			52	8		372		1								D, T		
RRnew39			60	1.5		50		1								D, T		
RR13			54	1.5		66		1								D, T		
RR14			62	2		48		1								D, T		
RRnew4			58	5		216		1								D, T		
RRnew39-1			63	2		36		1								D, T		
RRnew40			52	2		20		1								D, T		
RRnew41			60	2		54		1								D, T		
RR15A			58	4		120		1								D, T, AB		
RR15B			62	2		48		1								D, T	A-100's	
VP1			58	6		440		BRL1								D, T		
VP2			62	1		15		1								D, T		
RRnew5			62	6		400		unknown								D, T, AB	100's	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRL = *Branchinecta lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by; C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: <u>Darin Corneil</u>																		
Date: <u>1/12/16</u>		Time: <u>12:00</u>		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (dm)		Surface Area (m ²)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
- RRnew68	32.59275 -116.93257	70	66	1	3	4	8	/										
- VP3B			65	1.5		36		/										
- RR16			57	5		320		BRLI										A-100's
- VP5			58	4		300		BRLI										A-100's
- VP6			63	4		160		BRLI										A-10's
- VP7			62	3		230		BRLI										10's
- RRnew69	32.59162 -116.94507		64	1	2	25		BRLI										1's
- NP10a			56	4		204		BRLI										100's
- VP10b			62	8		480		BRLI										100's
- RRnew38			60	2		50		unknown										1000's Imm
- RRnew11			65	2		110		F										unknown female
- RRnew70	32.58753 -116.94123		67	3		60		/										
- 2014-FSH-04			68	2		376		/										
- RRnew3			68	10		1100		/										

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindberghii*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed.
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 15a (sheet 1/3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL649		County: San Diego		Quad:		Township:		Range:		Section:										
SURVEYOR / Permit Number: D. Busby / w Laurie Gorman																				
Date: 1/19/16		Time:		Weather Conditions: cold in morning, cool - mild, mild breeze (6-4 mph) thin cloud layer heavy																
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m ² x m)		Crustaceans						Insects				Platyhelminths (Flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae				
RR2		50	50	2		300		none									→	DTT, AB		
DB1		50	55	10		9,000		None					X				→		water bottom	
RRnew1		52	46	1		12		none									→			
RRnew3		54	49	10		960		IM 100's	A. B. lindahli 100's - collected specimens								→		murky, but more clear than in past surveys - fishy bottom	
2014-FSH-04		60	51	2		320		none									→			
RR7		61	53	5		160		A. B. lindahli 100's									→			
RRnew23-1		61	53	0.5		4		none									→			
RRnew21		61	53	1.5		30		none				X					→		diving aquatic beetle	
RR11B		62	54	1.5		78		IM 10's									→			
RR11A		62	56	8		500		IM 100's	A. B. lindahli			X					→	AB	aquatic diving beetle	
RRnew39		63	56	0.5		5		none									→		muddy	
RR13		63	56	0.25		3		none									→			
RR14		64	56	0.25		1.5		A. B. lindahli									→		tadpole did not collect	
RRnew4		65	54	2		140		IM 10's	A. B. lindahli 10's								→		tadpole	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindoria occidentalis*, BRLL = *Branchinella lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 15a (sheet 1/3)
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Survey # 15a (Sheet 2/3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																	
Site or Project Name:		County: San Diego		Quad:		Township:		Range:		Section:							
SURVEYOR / Permit Number: D. Busby assisted by L. Gorman																	
Date:		Time:		Weather Conditions:													
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m ²)		Crustaceans						Insects	Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera				
RRnew40		65	60	0.25		0.5		none									
RR15A		65	60	3		56		A.B. lindahli 10's SM unk 10's									
RR15B		65	54	1		12		none									
VP1		66	58	6		480		SM unk 100's A.B. lindahli 100's									
RRnew5		66	59	4		400		SM unk 10's A.B. lindahli 100's									
RR16		66	63	3		275		SM unk 10's A.B. lindahli 10's									
VP5		66	59	4		240		SM unk 10's A.B. lindahli 10's									
NP6		66	65	2		60		SM unk 10's A.B. lindahli 10's									
VP7		66	58	2		78		SM unk 10's A.B. lindahli 10's									
RRnew69		66	63	0.25		1		none									
VP10A		66	66	4		75		SM unk 10's A.B. lindahli 10's									
VP10B		66	56	8		530		A.B. lindahli 100's									
RRnew16		66	60	1.5		24		SM unk 10's									
RRnew19		66	58	2		90		SM unk 10's A. unknown 10's									

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindahli*).
For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Need to collect: ~~RR1, RR2, RR3, RR4, RR5, RR6, RR7, RR8, RR9, RR10, RR11, RR12, RR13, RR14, RR15, RR16, RR17, RR18, RR19, RR20, RR21, RR22, RR23, RR24, RR25, RR26, RR27, RR28, RR29, RR30, RR31, RR32, RR33, RR34, RR35, RR36, RR37, RR38, RR39, RR40, RR41, RR42, RR43, RR44, RR45, RR46, RR47, RR48, RR49, RR50, RR51, RR52, RR53, RR54, RR55, RR56, RR57, RR58, RR59, RR60, RR61, RR62, RR63, RR64, RR65, RR66, RR67, RR68, RR69, RR70, RR71, RR72, RR73, RR74, RR75, RR76, RR77, RR78, RR79, RR80, RR81, RR82, RR83, RR84, RR85, RR86, RR87, RR88, RR89, RR90, RR91, RR92, RR93, RR94, RR95, RR96, RR97, RR98, RR99, RR100~~

Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: <u>D. Busby</u> Date: <u>1/25/16</u> Time: <u>7am</u> Weather Conditions: <u>Sunny, calm, mild</u>																		
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RR2		49	48	1		250		/									AB	
DB1			48	8		8,000		/										
RRnew3			49	10		750		BRL1										A-1000s I-1000s
204-FSH-04			50	1		180		BRL1										A-100s collected: I-100s 309 39
RR7			50	4		150		BRL1										A-1000s collected: 409 49
RRnew11			52	0.5		2		/										A-100s
RR11b			54	1		25		BRL1										A-100s collected: 209 29
RR11a			50	8		400		BRL1									AB	A-1000s collected: 409 29
RRnew4			56	2		80		BRL1										A-100s / tadpoles
RR15a			55	2		35		BRL1										A-100s
VP1			55	5		300		BRL1										A-1000s I-1000s
RRnew5			55	4		300		BRL1										A-1000s I-100s
RR16			58	2		220		BRL1										A-1000s
VP5			58	3		150		BRL1										A-1000s

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g. LIOC = *Lindnerella occidentalis*, BRL1 = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindieriella occidentalis*, BRLL = *Branchinecta lindneri*).
For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 16 (sheet 2/3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		Township:		Range:		Section:												
SURVEYOR / Permit Number:		County:		Quad:														
Date: 1/25/16		Time: 10:05 AM		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			
VP6			58	1.5		40		BRL									A-105	
VP7			58	1.5		60		BRL									A-105	
VP10a			57	3		70		BRL								AB	A-105	
VP10b			55	7		510		BRL									A-10005 / 105	
RRnew16			60	0.5		5		BRL									A-15	
RRnew19			60	1.5		60		BRL				X					A-105	
RRnew17			62	1.5		80		BRL				X					A-105	
RRnew18			63	1		50		BRL									A-105	
VP13			62	2		150		BRL									A-1005	
VP14			62	2.5		280		BRL									A-1005	
RRnew20			60	3.5		80		BRL				X					A-10005 / 105	
RRnew19			66	1		30		BRL									A-15	
RRnew22			68	0.5		6		BRL				X					A-15	
RRnew51			68	0.5		6		BRL				X					A-15 collected: 10/19	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRL = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #16 (Sheet 3/3) Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL 649 County: Quad: Township: Range: Section:

SURVEYOR / Permit Number: P. Busby

Date: 1/25/16 Time: Weather Conditions:

Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	
RRnew52		68	67	1		15		BRU									A-15 too few to collect
RRnew10			66	4		120		BRU									A-100s
NP9			66	1		55		BRU				X					A-10s
VP8			66	2		110		BRU	X	X	X	X					A-100s collected 28/28
RRnew42			67	1.5		25		BRU									A-100s
RRnew6			66	4		80		BRU									A-100s
RRnew12			67	2		40		BRU				X					A-10s
RRnew56			67	1.5		40		BRU				X					A-10s
RRnew17			68	1		8		BRU				X					A-10s
RRnew14			68	0.5		2		BRU									A-15 too few to collect
RRnew7			67	1.5		180		BRU				X					A-100s / A-cyprid
RRnew8			67	2.5		90		BRU				X					A-100s / A-cyprid
RRnew15			67	1		8		BRU									A-1s

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRU = *Branchinella* (Lindahl)).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 17 (sheet 1/3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL649		County: Quad:		Township: Range:		Section:					
SURVEYOR / Permit Number: D. Busby											
Date: 7/1/16		Time: 7:00		Weather Conditions: partly cloudy, and windy / rained yesterday							
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)	Surface Area (m ²)		Crustaceans	Insects	Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water		Average	Est. Max.					
RR2		40	41	1		275	—			AB	likely filled yesterday
DB1			40	10		8500	—				Mesquite grove
RRnew3			40	10		750	BRLI				A-1000s / CABN Vocalsizing *
2014-FSH-04			41	2		200	—				likely filled yesterday
RR7			40	4		180	BRLI				A-100s
RRnew11			40	3		60	—				likely filled yesterday
RR11b			41	3		120	BRLI				A-10s
RR11a			40	8		375	BRLI			AB	A-1000s
RRnew4			41	2.5		80	BRLI				A-10s / tadpoles collected 10/28
RR15a			42	4		100	BRLI				A-10s
VP1			42	6		360	BRLI			AB	A-1000s
RRnew5			43	4		320	BRLI				A-100s
RR16			43	3		250	BRLI				A-100 / CABN Vocalsizing *
VP5			44	5		375	BRLI				A-10s

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindberghii*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = fire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed
 by: C = cattle, H = horses, S = sheep, AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

* Many basins newly inundated yesterday but these won't be surveyed until next week. Only basins surveyed last week will be surveyed today.

Survey 17 (Sheet 2/3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name: TL649		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: D. Busby																		
Date: 2/1/16		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (sq m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			
VP6		48	45	5		200		BRL1									A-15	
VP7			46	3		80		BRL1									A-105	
VP10a			47	3		120		BRL1									A-105	
VP10b			45	8		600		BRL1		X							A-1005 / hand picked (CAGN) vouchered *	
RRnew16			47	3		90		BRL1									likely just filled	
RRnew19			48	2		65		BRL1									A-105	
RRnew17			49	2		75		BRL1		X							A-105	
RRnew18			49	2		60		BRL1		X							A-105 / CAGN vouchered *	
VP13			48	3		300		BRL1									A-1005 / CAGN vouchered *	
VP14			48	4		450		BRL1									A-1005	
RRnew20			49	4		90		BRL1		X							A-1005 / hand picked I-105	
RRnew9			50	2		45		BRL1									A-15 I-105	
RRnew22			51	3		60		BRL1									likely just filled	
RRnew51			52	1		6		BRL1									likely just filled	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRL1 = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Calculate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL649		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: D. Busby																		
Date: 2/1/16		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			
RRnew52		50	50	3		35		/		X								
RRnew10			50	4		350		BRL1		X								A-105
VP9			51	3		140		/		X								
VP8			51	3		120		BRL1		X								A-1005
RRnew42	=		52	2		30		/		X								
RRnew6			52	4		100		BRL1		X								A-1005
RRnew12			51	2		50		BRL1		X								A-105 / CAEN utilizing *
RRnew56			52	1.5		50		BRL1		X								A-105
RRnew13			53	2		15		/		X								likely just-filled
RRnew14			54	0.5		3		/										A-105 / Anoploles
RRnew7			53	2		206		BRL1		X								Anoploles
RRnew8			53	3		270		/		X								likely just-filled
RRnew15			54	1.5		20		/										

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Linderiella occidentalis*, BRL1 = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed;
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #18 (Sheet 1/4) Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL 649		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: D. Busby Survey Number:																		
Date: 2/8/16		Time: 6:45 am		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m ²)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
DB1		54	52	5		8000		/										Mesquite / grass
RRnew1			48	2		70		/										
RRnew3			50	6		600		BRU										A-100s
RR7			50	3		90		BRU										A-100s
RRnew11			50	2		45		/									AB	tree muddy to sunny
RRnew23-1																		tree muddy to sunny
RR8																		
RR11b			53	1.5		90		BRU										A-1s
RR11s			52	5		350		BRU										A-100s
RRnew4			53	1.5		50		BRU										A-1s / Spotted
RRnew41			56	0.5		12		/										
RR15a			53	4		60		BRU										A-1s
RR15b			54	2		30		/										
VP1			53	4		280		BRU										A-100

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*, BRU = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Butterflies: *Santa montana*
Anise swallowtail
Sulphur

Survey 18 (Sheet 2/4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL649

County: D Butte

Quad: 23

Township: 10N

Range: 24E

Section: 1

SURVEYOR / Permit Number: 2816

Date: 2/8/16

Time: 10:00

Weather Conditions: Clear

Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information	
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae				Diptera Chironomidae
RRnew5		60	56	3		370		BRL									A-10s		
VP36			57	0.5		6													
RR16			56	2		210		BRL									A-10s		
VP5			58	3		430		BRL									A-10s		
VP6			58	2		135		unk. sp.									I-100s / 100s BRL		
VP7			61	2		60		BRL									A-10s		
VP10a			58	4		70		BRL									A-10s		
VP10b			53	8		450		BRL									A-100s		
RRnew16			60	1		15		unk. sp.									I-100s / 100s BRL		
RRnew19			60	2		20		BRL									A-10s		
RRnew17			61	1		25		BRL									A-10s		
RRnew18			61	1.5		18		BRL									A-1s		
RR17			62	0.5		1													
RR18			60	0.5		4													

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g. L. locustae, L. occidentalis, BRL = Branchinecta hindshahi).
For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed; with TT = tire tracks, P = plowed, G = grazed, UG = ungrazed
by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey 18 (Sheet 3/4)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																	
Site or Project Name:		County:		Quad:		Township:		Range:		Section:							
SURVEYOR / Permit Number: D. G. G. G.																	
Date: 2/18/14		Time:		Weather Conditions:													
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae		
VP13		75	62	2		240											
RRnew55			63	0.5		1											
VP14			60	3.5		420											A-105
RRnew20			60	4		45											A-15 / 500000
RRnew24			62	1.5		15											S-105
RRnew9			62	2		48											
RRnew49																	Too muddy to survey
RRnew22			63	2		35											S-1000
RRnew51			64	0.5		2											S-1005
RRnew52			62	2		25											I-1005
RRnew10			64	3		85											A-105
VP9			65	2.5		70											A-105
VP8			65	2.5		70											A-105
RRnew42			66	1		10											

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*, BRLL = *Branchinella lindahli*).
For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = tire tracks, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #19 (Sheet 1/3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: D. Busby																		
Date: 2/15/16		Time: 0630-		Weather Conditions: Sunny / Warm														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			
DB1		60	58	4		5000		/										
RR7			57	2		50		BRU										A-10s
RR11b			59	1		15		BRU			X							A-1s
RR11a			57	0.5		210		BRU										A-10s
RR15a			60	1		15		/										
VP1			60	2		150		BRU										A-10s
RRnew5			62	1.5		20		/		X								
RR16			62	1		8		BRU										A-10s
VP5			61	2		60		/										
VP6			62	1		6		BRU										A-10s
VP7			62	1		10		BRU										A-10s
VP10a			60	3		70		/										
VP10b			59	6		280		/										
RRnew16			61	0.5		4		BRU										A-10s

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., *Limnocalanus macrurus*, BRU = *Branchinecta* (Indehill)).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey 19 (sheet 2/3)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name: TL 649					County:		Quad:		Township:		Range:		Section:					
SURVEYOR / Permit Number: D. Surby																		
Date: 2/15/16		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
RRnew19		64	61	1		27		BRL			X						A-1s	
RRnew17			62	0.05		45		BRL			X						A-10s	
RRnew18			63	0.25		4		unk sp			X						T-10s likely BRL	
RRnew18 VP13			64	1		60		unk sp			X						T-10s likely BRL	
RRnew18 VP14			64	3		280		BRL			X						A-10s	
RRnew55			65	0.25		7		/			X							
RRnew20			61	1.5		15		BRL			X						A-1s / T-10s	
RRnew9			64	0.5		8		BRL			X						A-1s T-10s	
RRnew22			65	0.5		4		BRL			X						A-1s	
RRnew51																		
RRnew52			65	0.5		5		BRL			X						A-1s	
RRnew10			64	2		60		BRL			X						A-1s	
VP9			65	2		25		BRL			X						A-1s	
VP8			65	2		25		BRL			X						A-1s	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRL = *Branchinecta lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = tire tracks, P = plowed; G = grazed, UG = ungrazed by; C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey 19 (Sheet 3/3)

Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods

[illegible]

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindnerella occidentalis*, BRLL = *Branchinella lindahli*).
For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #20 (Sheet 1/2)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Range:		Section:															
SURVEYOR / Permit Number:		Weather Conditions:		UTM (Northing, Easting, Datum)		Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans		Insects				Platyhelminths (flatworms)		Habitat Condition		Notes / Voucher Information	
Feature ID #		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae							
DET. BASIN 1		54	52	8"		2,000						✓											
2011-FSH-03																							
RR-New 3																							
RR-7			55	1/4"		7		UNK	✓														
RR 11A																							
VP-1			56	1/4"		1			✓														
RR VP 10A			55	5"		60			✓														
VP 10B			53	4"		200																	
RR New 17																							
RR New 55			58	1"		0.5			✓														
VP 14			50	2"		100		UNK	✓														
RR New 10			60	1"		30		BRL	✓														
VP 9			60	0.5		5			✓														
VP 8			60	0.5		5			✓														

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRL = *Branchinecta lindberghii*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:	County:	Quad:	Township:	Range:	Section:

SURVEYOR / Permit Number:	D. Busby
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Date: 2/29/16	Time: 0630-	Weather Conditions: Partly cloudy, warm; 0-1 mph
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[illegible]

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Linderiella occidentalis*, BRLI = *Branchinecta lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #22 (Sheet 1/1)

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Linderniella occidentalis*, BRLL = *Branchinecta lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1: U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: T649		County: Quad:		Township: Range:		Section:															
SURVEYOR / Permit Number: D. Bysby		Weather Conditions: Cloudy, cool																			
Date: 3/14/16	Time: 0730	Temp (°C)		Depth (cm)		Surface Area (m ² x m) - ft		Crustaceans				Insects				Platyhelminths (flatworms)		Habitat Condition		Notes / Voucher information	
Feature ID #	UTM (Northing, Easting, Datum)	Air	Water	Average	Est. Max	Present	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae						
RRnew29		55	54	0.5		25	/														
RRnew45			55	1		12	/														
RR4			56	0.5		12	/														
RR5			56	0.25		5	/														very muddy
RRnew30			55	2		30	/														very muddy
RRnew58			57	0.25		2	/														very muddy
RRnew59			57	0.25		1	/														very muddy
RRnew31			56	1.5		8	/														
2014-fsh-03			57	0.25		3	/														
RRnew72			56	2	3	6	/														D, TT, UG
RRnew1			56	3		70	/														new basin
RRnew33			57	1		20	/														very muddy
RRnew71			58	0.25		1	/														
RRnew2				0.5		3	/														

Notes: Fill in abbreviated names of Anostracids and Notostracids, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LUC = *Limnocalanus macrurus*, BRL = *Branchinella lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Township:		Range:		Section:													
SURVEYOR / Permit Number:		Time:		Weather Conditions:																			
Date: 3/14/16		UTM (Northing, Easting, Datum)		Temp (°C)		Depth (dm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)		Habitat Condition		Notes / Voucher information	
Feature ID #		Air	Water	Average	Est. Max.	Present	Est. Max.	Present	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae						
2014-fsh-04		58	58	1		60			/														
RR7			58	1		12			unk sp		X												very muddy
RRnew37			60	0.25		3			/														I-10s
RR8			60	0.25		1.5			/														
RRnew11			60	1		15			/														
RR11a			61	1		60			/														
RRnew4			62	0.25		3			unk sp														I-10s
RRnew41			63	0.25		5			unk sp														I-1s
RR15a			62	2.5		35			unk sp														I-10s
RR15b			63	1		15			unk sp														I-10s
VP1			62	3.5		180			unk sp														I-10s
RRnew5			64	2		45			unk sp														I-100s
VP3b			64	0.5		8			/														
RR16			63	2		90			unk sp														I-10s

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLL = *Branchinecta lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: D. Busby																		
Date: 3/14/16		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			
VP5		60	62	5		200		unc sp									I-100s	
VP6			64	2		50		unc sp									I-10s	
VP7			63	2		60		unc sp									I-10s	
RRnew69			64	1		8		unc sp									I-1s	
VP10a			61	5		60		unc sp									I-10s	
VP10b			60	6		240		unc sp									I-10s	
RRnew16			63	2		45		unc sp									I-10s	
RRnew19			64	1.5		50		unc sp									I-100s	
RRnew17			63	2.5		60		unc sp									I-10s	
RRnew47			65	1		5		/										
RRnew18			64	1.5		30		unc sp									I-10s	
RRnew10			62	5		60		unc sp									I-10s	
VP9			63	2		30		unc sp									I-10s	
VP8			63	1.5		55		unc sp									I-10s	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLL = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep, AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: <u>TL619</u>		County: <u>Yavapai</u>		Quadrant: <u>5</u>		Township: <u>33N 07E</u>		Range: <u>33N 07E</u>		Section: <u>33N 07E</u>								
SURVEYOR / Permit Number: <u>D. Baskin</u>										Date: <u>7/14/16</u>								
Weather Conditions:										Time: <u>10:00 AM</u>								
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae			
RRnew42		60	64	0.5		10		unt									I-1s	
RRnew6			62	3		45		unt									I-10s / +2 pool	
RRnew12			63	1		8		unt									T-10s	
RRnew14			64	0.5		2		unk									T-1s	
RRnew13			63	0.5		4		unk										
RRnew7			64	1		75		unk									I-10s	
RRnew8			65	1.5		35		unk									T-10	
RRnew15			65	0.25		3		unk									I-1s	
RR17			65	0.5		7		unk									I-1s	
RR18			64	0.5		3		unk										
VP13			67	1		50		unk									I-10s	
RRnew55			68	1		10		unk									I-1s	
VP14			66	4		350		unk									I-100s	
RRnew51			67	0.5		20		unk									I-1s	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., *Limnocalanus macrurus*, *Branchinella* *lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Surveyed 23 (Sheet 5/5) Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL249		County: D. Dusbay		Quadrant: 1		Township: 1		Range: 1		Section: 1																							
SURVEYOR / Permit Number: 3114/16				Weather Conditions:																													
Date: 3/14/16		Time: 10:00		Temp (°C)		Depth (cm)		Surface Area (m ² x m)		Crustaceans		Insects		Platyhelminths (flatworms)		Habitat Condition		Notes / Voucher information															
Feature ID #		UTM (Northing, Easting, Datum)		Temp (°C)		Depth (cm)		Surface Area (m ² x m)		Crustaceans		Insects		Platyhelminths (flatworms)		Habitat Condition		Notes / Voucher information															
				Water		Average		Present		Anostracans		Copepods		Ostracods		Cladocera		Coleoptera		Hemiptera		Diptera		Diptera		Chironomidae							
RRnew20				62		4		30		unk																				I-100s			
RRnew24				66		1.5		25		unk																				I-1s			
RRnew9				68		1.5		35		unk																				I-1s			
RRnew61				69		0.25		2		unk																							
RRnew50				69		0.5		2		unk																				I-1s			
RRnew22				69		3		20		unk																				I-10s			
RRnew51				70		1		3		unk																				I-1s			
RRnew57				70		0.25		1		unk																				I-1s			
RRnew92				69		1		12		unk																				I-10s			
RRnew23				70		1		12		unk																							
RR19				70		0.25		3		unk																							
RR2				72		0.25		12		unk																							
Deception Basin 1				66		5		2000		unk																							

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LICC = *Limnocalanus macrurus*, BRLI = *Branchinella lindahli*).
 Habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed cattle, H = horses, S = sheep, AB = Algal blooms present.
 Grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Township:		Range:		Section:									
SURVEYOR / Permit Number: <u>DAVID BUNBY, CHRISTINA CENACIO</u>																			
Date: <u>03/11/16</u>		Time: <u>8:50-11:00</u>		Weather Conditions: <u>100% cloud cover, sunny 80% CC</u>															
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans						Insects			Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
VP#5		56	56	2 in.		45	BRLI										A-10s		
VP#7		56	56	2 in.		20	BRLI										A-10s		
VP#10A		56	56	4 in.		40	/										very thick mud		
VP#10B		56	56	6 in.		185	/												
PP new 16		56	56	1 in.		3	BRLI										A-100s		
PP new 17		56	56	25 in.		0.5	BRLI										I-10s, A-10s		
VP#14		58	58	3		250	BRLI										A-100s		
PP new 9		61	61	1 in.		11	BRLI										A-10s		
PP new 22		61	61	25 in.		0.5	BRLI										A-10s		
PP new 10		64	64	1.5 in.		32	BRLI										A-10s		
VP#9		66	66	5 in.		120	BRLI										A-10s		
VP#8		66	66	1 in.		6	unk.										I-100s, muddy		
PP new 6		66	66	5 in.		8	/										spotted patches		
Data Basin 1		67	67	3 in.		200	/												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Limnocalanus macrurus*, BRLI = *Branchinella longipalpis*).
 For habitat conditions use two letter abbreviations as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = tire tracks, T = tire tracks, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints). LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #26 (Sheet 1/1)

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberella occidentalis*, BRLI = *Branchinecta lindneri*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 27 PD 1 of 8 Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: <u>TL 649</u>		County: <u>Elk LA Coste</u>		Quad: <u>27</u>		Township: <u>27</u>		Range: <u>27</u>		Section: <u>27</u>								
SURVEYOR / Permit Number: <u>ENK LA Coste</u>																		
Date: <u>4/11/16</u>		Time: <u>745</u>		Weather Conditions: <u>50% clouds, 63°F, calm winds</u>														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
DET BAS 1		63	58	7.0		1400												
RRNew 65			65	2"		120												
RRNew 29			60	1"		10												
RRNew 45			60	1.5"		6												
RR 4			58	4.5"		50												
RR 5		61	61	1.5"		12												
RRNew 30		59	59	4"		20												
RRNew 58		59	59	1"		8												
RRNew 59		61	61	0.75"		9												
RRNew 31		60	60	3"		7												
2014-FSH-03		61	61	4.5"		180												
RRNew 60		65	65	2.75"		8												
RRNew 61		62	62	5.5"		160												
RRNew 35	DRY																	DRY

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLO = *Branchinecta lindberghii*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Survey # 27 Pg 2 of 8

Site or Project Name: TL 644 County: Quad: Township: Range: Section:

SURVEYOR / Permit Number: E. L. G. 54

Date: 4/11/14 Time: Weather Conditions:

Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RRNew 33		70	64	1.25		36												
RRNew 31			65	0.25		6												
RRNew 2			68	1.0														
RRNew 3	60NE																	
2014-FSH-04			67	3"		250												
RRNew 70			66	2.5"		7												
2014 FSH 06			75	0.5		18												
RR 6			75	0.75		14												
RRNew 34			72	1.75"		60												
RRNew 35			74	0.5		8												
RRNew 67			76	0.25		3												
RR 7			75	2.0		70												
RRNew 36			77	0.5		6												
RRNew 37			77	0.75		12												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*; BRLI = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Survey # 27 Pg 3 of 8

Site or Project Name: <u>TCM 449</u>		County: <u>La Crosse</u>		Quad: <u></u>		Township: <u></u>		Range: <u></u>		Section: <u></u>								
SURVEYOR / Permit Number: <u>6. C. La Crosse</u>				Date: <u>4/11/16</u> Time: <u></u> Weather Conditions: <u></u>														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est Max	Present	Est Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RRNew 23-1			77	1.75		40												
RR 8			78	0.50		16												
RRNew 30	DRY		-	-		-												
RRNew 11			72	2.5		120												
RR 9			77	1.0		22												
RR 10			-	0.25		2												
RR 11B			77	1.05		40												
RR 11A			74	2.5		100												
RRNew 39			74	0.15		30												
RR 12			77	0.25		4												
RR 13			72	1.75		55												
RR 14			75	1.75		45												
RRNew 4			75	1.75		52												
RRNew 39-1			74	1.5		22												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLL = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 8

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Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name:		County:		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: E. LaCasse																		
Date: 4/11/16		Time: 11:16		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			
RRnew40			73	1.5		16												
RRnew41			74	1.75		45												
RR15A			72	2.75		58												
RR15B			68	2.25		44												
VP1			70	3.25		130												
VP2	-																	WUD,
RRnew5			69	3.5		125												
RRnew68			69	0.75		3												
VP3B			72	2.25														
VP3A	try			0.75		12												Dry Grasses
VP4			72	0.75		18												
RR16			69	2.0		115												
VP5			70	5.0		140												
VP6			70	3.0		105												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed.
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Sung # 28

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Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: <u>72649</u>		County: <u></u>		Quad: <u></u>		Township: <u></u>		Range: <u></u>		Section: <u></u>								
SURVEYOR / Permit Number: <u>E. L. Lister</u>																		
Date: <u>4/11/16</u>		Time: <u></u>		Weather Conditions: <u></u>														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
VP 7			68	4.25		75												
RRNew69			72	1.0		20												
VP10A			70	6.5		70												
VP10B			70	6.0		130												
RRNew116			70	2.25		40												
RRNew10		72		4.5		90												
VP 9			74	2.25		45												
VP 8			75	2.5		80												
RRNew42			75	0.75		20												
RRNew6			76	2.50		75												
RR New12			78	1.25		20												
RRNew50			82	0.75		30												
RRNew43			81	0.75		14												
RRNew13			76	1.50		20												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*, BRLL = *Branchinella lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep, AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

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Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name: T694			County: Quad:		Township: Range:		Section:											
SURVEYOR / Permit Number: E. LaCasse																		
Date: 4/11/18		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RRNEW 14			80	0.75		7												
RRNEW 14			81	0.5		4												
RRNEW 7			81	2.25		175												
RRNEW 8			79	4.0		130												
RRNEW 15			79	0.75		54												
RR 17			79	0.75		12												
RRNEW 19			78	1.75		62												
RRNEW 10			76	1.0		54												
RRNEW 47	DRY																	Bone Dry.
RRNEW 46	DRY																	Bone Dry.
RRNEW 17			76	2.25		65												
VP 11			77	0.5		12												
RRNEW 40	MUD																	MUD.
RR 18			76	0.75		7												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLO = *Branchinecta lindberghii*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by; C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 28

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Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name:		County:		Quad:		Township:		Range:		Section:															
SURVEYOR / Permit Number:		Weather Conditions:		Time:		Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)		Habitat Condition		Notes / Voucher information	
Feature ID #	UTM (Northing, Easting, Datum)	Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera	Culicidae	Diptera	Chironomidae							
VP13			80	1.75		120																			
VPNEW55			80	0.5		4																			
VP14			72	3.75		200																			
RRNEW43			75	0.5		28																			
RRNEW52-1	Dry		80	0.75		20																		Dry	
RRNEW51-1			75	4.5		84																			
RRNEW20																									
VP12	Dry																							Dry	
RRNEW24			77	1.75		36																			
RRNEW9			77	1.75		18																			
RRNEW61			79	0.5		5																			
RRNEW49			80	1.0		12																			
RRNEW21			78	2.25		48																			
RRNEW50			80	1.25		18																			

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLL = *Branchinecta lindahli*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey # 78

Sheet 8 OF 8

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL 694 County: Quad: Township: Range: Section:

SURVEYOR / Permit Number: E. LaCasseDate: 4/11/16 Time: Weather Conditions:

Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
RRNew22			78	3.0		30													
RRNew51			80	0.5		5													
RRNew57			80	0.75		12													
RRNew52			79	2.0		20													
RRNew 62	MUD																	MUD.	
RRNew 23	MUD																	MUD	
RRNew 53			80	1.0		28													
RRNew 54			79	1.25		12													
RR 19 FISH 30	DRY																	dry.	
RR 19			76	1.0		30													

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*, BRLL = *Branchinecta lindahli*).
For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #28 (Sheet 1/2) Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: <u>FL 649</u>			County: <u></u>		Quad: <u></u>		Township: <u></u>		Range: <u></u>		Section: <u></u>							
SURVEYOR / Permit Number: <u>D. Bushy</u>																		
Date: <u>4/18/16</u>		Time: <u>0700</u>		Weather Conditions: <u></u>														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max	Present	Est. Max	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
DB1		70	58	5		2000												
RR11a																		To muddy to survey
RR15a			62	1.5		3												I-100s
RR15b			63	0.25		18												I-1s
VP1			62	3		125												I-1000s
RRnew5			63	2.5		120												A-10s I-100s
VP3b			64	0.25		1												
RR16			64	1.5		50												I-100s
VP5			62	4		140												A-10s I-1000s
VP6			63	2		60												A-100s I-100s
VP7			64	2		40												A-10s I-100s
VP10a			64	3		40												I-100s
VP10b			60	4		130												I-1000s
RRnew16			64	0.25		1												A-1s I-10s

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindernia occidentalis*, BRLL = *Branchinella lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Turn # 28 (Sheet 2/2)

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods																		
Site or Project Name: TL649					County:		Quad:		Township:		Range:		Section:					
SURVEYOR / Permit Number: D Busby																		
Date: 4/18/16		Time:		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RRnew19		79	65	0.25		0.5		unc sp										I-10s
RRnew55			67	0.5		3		/										
VP14			65	3		180		unc sp										A-100s
RRnew20																		Too muddy to survey
RRnew9			67	2		15		unc sp										I-10s
RRnew22			68	2		15		unc sp										I-10s
RRnew10			70	1.5		6		unc sp										I-10s
VP8			71	1		15		unc sp										I-10s
RRnew6			72	0.5		18		/										
RRnew13			72	0.5		1		/										
RRnew8			75	1		10		unc sp										I-10s

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLI = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Survey #31 (c43) Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TL 6014		County: SD		Quad:		Township:		Range:		Section:								
SURVEYOR / Permit Number: FRANK LACOSTE																		
Date: 5/10/16		Time: 0745		Weather Conditions: 67°F, 0.1 wind, 100% o.c. cloudy														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae			
DET BAS 4		67°F	61	3.0	6.5	320											Nothing Present	
RRNEW 65			62	0.25	1	30											11	
RRNEW 66			62	0.25	0.75	20											11	
RR 2			60	2.5	5.5	300											11	
RRNEW 25			61	0.75	1.5	60											11	
2014-Fish-04			108	1.25	3.0	8											Mostly mud.	
RR 7			70	0.25	1	14											Mostly mud	
RR11B			71	0.25	1	22											WET MUD, CANNOT SURVEY	
RR11A			71	0.25	1	32											WET MUD, CANNOT SURVEY	
RR11A																	Nothing	
RR15A			75	1.25	3.5	40											11	
RR15b.			76	0.5	1.5	18											11	
VP 1			70	1.0	3.0	62											11	
RRNEW 25			68	3.5	6.0	60												

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRIL = *Branchinecta lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: <u>Survey 31 (Dot B)</u>		County: <u>TL 669</u>		Quadrant: <u>TL 669</u>		Township: <u>TL 669</u>		Range: <u>TL 669</u>		Section: <u>TL 669</u>								
SURVEYOR / Permit Number: <u>C. L. Foster</u>																		
Date: <u>5/10/16</u>		Time: <u>16:00</u>		Weather Conditions:														
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera			
RR16			73	1.5	3.5	75												Nothing Present
VP5			67	2.0	4.5	65												11
VP6			72	1.0	2.75	45												11
VP7			68	2.0	1.0	38												11
VP10 A			69	2.5	7.0	75												Juveniles 100%
VP10 B			67	2.0	5.5	90												Nothing
RRNEW10			74	0.25	0.75	10												Nothing
VP9			76	1.0	2.5	8												11
VP8			80	1.25	3.0	12												11
RRNEW12			82	1.25	3.0	24												Juveniles 100%
RRNEW11			82	0.25	1.0	10												Nothing
RRNEW11			82	2.0	4.5	28												11
RRNEW12			80	0.5	1.5	10												11
RRNEW13			80	0.5	2.0	8												11

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BRLL = *Branchinecta lindberghii*). For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed; UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present. (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods

Site or Project Name: TW49		County:		Quad:		Township:		Range:		Section:									
SURVEYOR / Permit Number: M. Busby (Assisted by Andrew Kark)																			
Date: 5/17/16		Time:		Weather Conditions:															
Feature ID #	UTM (Northing, Easting, Datum)	Temp (°C)		Water	Depth (cm)		Surface Area (m x m)		Crustaceans				Insects				Platyhelminths (flatworms)	Habitat Condition	Notes / Voucher information
		Air			Average	Est. Max.	Present	Est. Max.	Anostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
RR15a		67°	74°		1.0 in		30 ft		BALI									1,000's A	
VP1		67°	72°		2.0 in		75 ft		BALI									100's A 1,000's Im	
RRNEW5		67°	74°		1.75 in		90 ft		BALI									100's A	
RR16		67°	72°		2.75 in		10 ft		UNK									100's Im	
VP5		67°	72°		2.0 in		35 ft		BALI									100's A 100's Im	
VP6		67°	72°		0.5 in		20 ft		BALI									100's A	
VP7		67°	72°		1.0 in		30 ft		BALI									100's A	
VP10a		67°	70°		2.75 in		45 ft		UNK									100's Im	
VP10b		67°	72°		3.25 in		85 ft		UNK									100's Im	
RRNEW63		68°	74°		3.0 in		125 ft		BALI									100's A 1,000's Im	
RRNEW9		68°	74°		0.5 in		30 ft		✓									10's Im	
RRNEW6		67°	78°		1.0 in		30 ft		UNK									100's Im	
RRNEW8		67°	76°		1.0 in		125 ft		UNK									100's Im	
DETENTION BASIN 1		67°	74°		2.5 in		325 ft		✓									mosquito larvae	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = *Lindberghia occidentalis*, BALI = *Branchinella lindahli*).
 For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool, UD = undisturbed, D = disturbed, with TT = tire tracks, T = trash, P = plowed, G = grazed, UG = ungrazed.
 by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
 (Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

