

Biological Resources Technical Report

Whitewater Groundwater Replenishment Facility Right of Way Project

Riverside County, California

Prepared for:

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CONTENTS

1.0	INTRODUCTION	1
1.1	Project Background and Location	1
1.1.1	Area A.....	6
1.1.2	Area B.....	6
1.1.3	Biological Study Area.....	6
1.1.4	Existing Avoidance and Minimization Measures for Biological Resources	6
1.1.5	Previous Federal Authorizations and Commitments.....	7
1.1.6	Coachella Valley Multiple Species Habitat Conservation Plan	8
1.1.7	California Desert Conservation Area Plan/Coachella Valley Plan Amendment/Desert Renewable Conservation Area Plan.....	12
1.1.8	BLM-Sensitive Species.....	12
1.2	Project Description	13
1.3	Summary of Right-of-Way Application Request/Proposed Action	13
1.3.1	Area A.....	14
1.3.2	Area B.....	14
1.3.3	Facility Operations	15
1.3.4	Maintenance and Repair Activities.....	16
1.3.5	Avoidance and Minimization Measures	18
1.4	Summary of Consultation to Date.....	19
2.0	STUDY METHODS.....	21
2.1	Listed and Proposed Species Potentially in the Biological Study Area	21
2.2	Biological Studies Conducted	23
2.2.1	Coachella Valley Giant Sand-Treader Cricket.....	24
2.2.2	Coachella Valley Milk-Vetch.....	24
2.2.3	LeConte's Thrasher	24
2.2.4	Coachella Valley Jerusalem Cricket	24
2.2.5	Access Road Surveys.....	24
2.2.6	Habitat Modeling Revisions	25
3.0	RESULTS: ENVIRONMENTAL SETTING	25
3.1	BSA Overview.....	25
3.2	Physical Conditions	26
3.2.1	Topography	26
3.2.2	Watershed	26
3.2.3	Water Availability to Wildlife	26

3.2.4	Existing Disturbance Levels	27
3.2.5	Sand Transport Processes	27
3.2.6	Soils.....	29
3.3	Biological Conditions.....	31
3.3.1	Vegetation Communities.....	31
3.3.2	Dominant Plant Species.....	34
3.3.3	Common Animal Species	35
3.3.4	Aquatic Resources.....	35
3.3.5	Nesting Migratory Bird Species and Nesting Raptors	35
3.3.6	Invasive Species.....	36
3.3.7	Wildlife Corridors.....	37
4.0	RESULTS: HABITAT AND SPECIES MODELING REVISIONS.....	38
5.0	RESULTS: SENSITIVE SPECIES	39
5.1	Federally Listed/Proposed Species.....	39
5.1.1	Coachella Valley Milk-Vetch.....	39
5.1.2	Triple-Ribbed Milk-Vetch.....	41
5.1.3	Coachella Valley Fringe-Toed Lizard.....	41
5.1.4	Mojave Desert Tortoise.....	42
5.1.5	Least Bell's Vireo	44
5.1.6	Peninsular Bighorn Sheep	45
5.2	BLM-Sensitive Species.....	46
5.2.1	BLM-Sensitive Plant Species	46
5.2.2	Flat-Tailed Horned Lizard.....	47
5.2.3	Burrowing Owl.....	47
5.2.4	Golden Eagle	48
5.2.5	Palm Springs Little Pocket Mouse	49
5.2.6	Palm Springs Round-Tailed Ground Squirrel	50
5.2.7	Animal Species Considered but Eliminated from Consideration	52
6.0	IMPACTS OF THE PROPOSED ACTION (Alternative 1).....	52
6.1	Types of Impacts	52
6.2	Direct Impacts.....	53
6.2.1	Operations of the Facility	53
6.2.2	Maintenance and Repair Activities	55
6.3	Indirect Impacts	56
6.3.1	Operations of the Facility	56

6.3.2	Maintenance and Repair Activities	57
6.4	Cumulative Impacts.....	57
6.5	Mitigation.....	58
6.6	Residual Impacts after Mitigation.....	62
7.0	ALTERNATIVES IMPACTS ANALYSIS	62
7.1	Alternative 2 – Partial Implementation (Area B Only).....	62
7.1.1	Summary of Alternative	62
7.1.2	Impact Analysis.....	63
7.2	Alternative 3 – Reduced Volume	63
7.2.1	Summary of Alternative	63
7.2.2	Impact Analysis.....	64
7.3	Alternative 4 – Land Disposal.....	64
7.3.1	Summary of Alternative	64
7.3.2	Impact Analysis.....	64
7.4	Alternative 5 – No Action Alternative	65
7.4.1	Summary of Alternative	65
7.4.2	Impact Analysis.....	65
8.0	CONCLUSIONS AND DETERMINATION.....	66
8.1	Results Summary (Proposed Action).....	66
8.2	Determination (Proposed Action).....	67
8.2.1	MDT	68
8.2.2	LBV	68
8.2.3	CVMV	68
8.2.4	TRMV.....	68
8.2.5	Summary.....	68
9.0	REFERENCES.....	70

LIST OF TABLES

Table 1.	CVMSHCP Modeled Habitat within Area A and Area B.....	11
Table 2.	Summary of Application Request Components.....	14
Table 3.	Summary of Soils in the BSA	29
Table 4.	Current Habitat Modeling for Areas A and B.....	34
Table 5.	Current and Revised Habitat Modeling for Areas A and B.....	39
Table 6.	Summary of Species Modeling for the Biological Survey Area and Requested Right of Way	67
Table 7.	Determination of Project Effects on Federally Listed Species	68

Figure 1. Project Vicinity	2
Figure 2. Project Location.....	3
Figure 3. Project Location.....	4
Figure 4. Project Features.....	5
Figure 5. Regional Hydrology and Hydrological Unit Code Boundaries	30
Figure 6. NRCS Soils Map.....	32

LIST OF APPENDICES

Appendix A – Whitewater Floodplain Conservation Area
Appendix B – Current and Revised Species Modeling
Appendix C – Excerpts from O&M Manual
Appendix D – Plant and Animal Species Potential for Occurrence
Appendix E – USFWS Species List (IPaC)
Appendix F – Floral and Faunal Species Compendium
Appendix G – Representative Photographs

ACRONYMS AND ABBREVIATIONS

AFY	acre-feet per year
amsl	above mean sea level
BA	Biological Assessment
BCC	birds of conservation concern
BLM	Bureau of Land Management
BMP	Best Management Practice
BO	Biological Opinion
BSA	Biological Study Area
BUOW	burrowing owl
Cal-IPC	California Invasive Plant Council
CDCA	California Desert Conservation Area
CDFW	California Department of Fish and Wildlife
Cfs	cubic feet per second
CNDDDB	California Natural Diversity Data Base
CRA	Colorado River Aqueduct
CVAG	Coachella Valley Association of Governments
CVCC	Coachella Valley Conservation Commission
CVFTL	Coachella Valley fringe-toed lizard
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
CVMV	Coachella Valley milk-vetch
CVWD	Coachella Valley Water District
DRECP	Desert Renewable Energy Conservation Plan
DWA	Desert Water Agency
DWR	Department of Water Resources

EA	Environmental Assessment
EIS	Environmental Impact Statement
Facility	Whitewater River Groundwater Replenishment Facility
FESA	Federal Endangered Species Act
FONSI	Finding of No Significant Impact
FP	fully protected
FTHL	flat-tailed horned lizard
GIS	Geographic Information System
GOEA	golden eagle
GPS	global positioning system
HCP	Habitat Conservation Plan
HUC	Hydrologic Unit Code
I-	Interstate
IPaC	Information for Planning and Conservation database
LBV	least Bell's vireo
MDT	Mojave desert tortoise
Metropolitan	Metropolitan Water District of Southern California
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
NRS	Natural Reserve System
O&M	operations and maintenance
OHV	off-highway vehicle
PCE	Primary Constituent Element
Project	Whitewater River Groundwater Replenishment Facility Right of Way Project
PSGS	Palm Springs round-tailed ground squirrel
PSPM	Palm Springs little pocket mouse
SBBM	San Bernardino Base and Meridian
SSAR	Society for the Study of Amphibians and Reptiles
SSC	Species of Special Concern
SWP	State Water Project
TRMV	triple-ribbed milk-vetch
UCR	University of California, Riverside
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

1.1 Project Background and Location

Coachella Valley Water District (CVWD) has submitted an application to the U.S. Department of Interior, Bureau of Land Management (BLM) for the Whitewater River Groundwater Replenishment Facility (Facility) Right of Way Project (Project). The BLM originally granted CVWD a right of way (LA052742) on April 5, 1984 for 509.7 acres on public lands located in portions of Section 24 of Township 3 South, Range 3 East and Sections 20, 28, and 30 of Township 3 South, Range 4 East, San Bernardino Baseline and Meridian (SBBM) (Figures 1 through 4). The purpose of the right-of-way grant was to construct the groundwater infiltration ponds that now operate in the right-of-way area. The grant was supported by a National Environmental Policy Act (NEPA) Environmental Assessment (EA) (BLM 1984). The grant expired on April 4, 2014. BLM also previously granted CVWD a right of way (CA 19150) to construct, operate, maintain, and terminate a low-flow dike and channel (conveyance channel) on public lands. The area granted included 1.51 acres in a portion of Section 14 of Township 3 South, Range 3 East, SBBM. This was a 25-year grant that expired in 2011. Information on the operation and maintenance activities of the existing facilities is provided in Section 1.2.

In conjunction with the approvals for right-of-way grant LA052742 in 1984, the U.S. Fish and Wildlife Service (USFWS) issued a Biological Opinion (BO) at the conclusion of federal Endangered Species Act Section 7 consultation. The 1984 BO required CVWD to set aside 1,200 acres of land for habitat for the Coachella Valley fringe-toed lizard (CVFTL; *Uma inornata*). The area set aside as a requirement of the BO is located east of Area B between Indian Canyon Drive and Gene Autry Trail.

CVWD's current Operation and Maintenance (O&M) Manual (CVWD 2015) for the site incorporates several Best Management Practices (BMPs) and other measures to reduce impacts to natural resources. The O&M Manual for the ongoing activities within the facility was submitted for review to the Coachella Valley Conservation Commission (CVCC), who provided copies to the resource agencies for review. Biological BMPs that are currently incorporated in the O&M Manual are consistent with both the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and 1984 BO requirements. There are eight species specifically covered under the BMPs, which include pre-activity surveys, monitoring during work activities near sensitive species locations, flagging of avoidance areas if species are found near work areas, and various policies and special procedures for work crews to implement when conducting activities that may affect sensitive species.

An environmental review for the Project is required under NEPA because the Project requires discretionary approvals by federal agencies that may affect the environment. NEPA requires an environmental review of actions (e.g., decisions) by the federal government that could significantly impact the quality of the human environment. This Biological Resources Technical Report provides information on the existing biological resources at the Project site.

The application requests right of way on BLM-managed lands in two locations totalling 690.73 acres, which is 178.83 acres more than the prior two authorizations (Figures 1 through 4). These two areas are referred to as Area A and Area B.



Figure 1. Project Vicinity

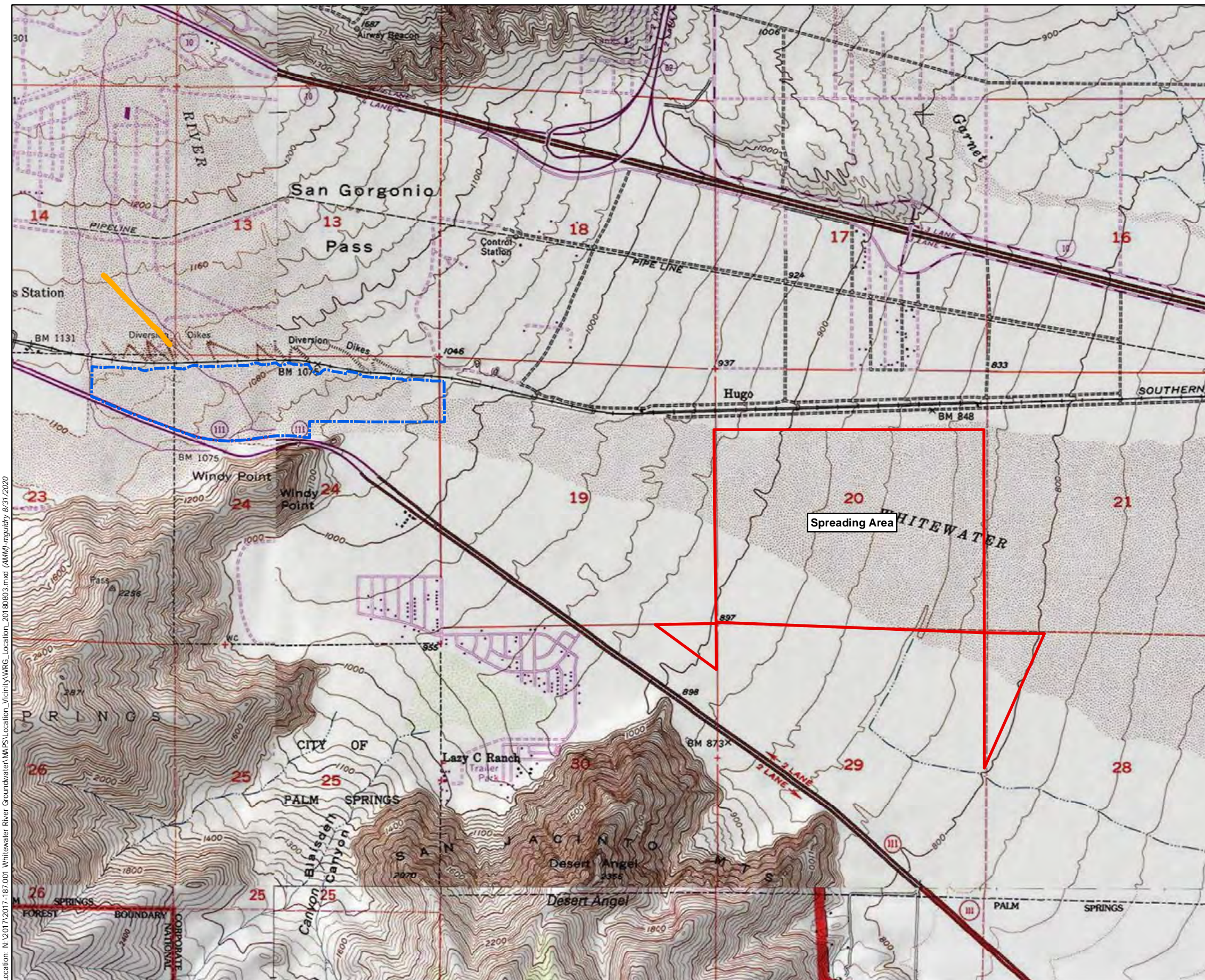


Figure 2. Project Location

Map Features

- Area A - Whitewater Groundwater Replenishment Facility
- Area A - Low Flow Crossing
- Area B

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Figure 4. Project Features

Map Contents

- Area A - Whitewater Groundwater Replenishment Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)

Spreading Area



Area A and Area B are described in detail below.

1.1.1 Area A

Area A includes the following:

- 509.7 acres of BLM-managed public lands, including intake and diversion structures and a portion of the infiltration ponds at the existing Facility (previously part of right-of-way grant LA 052742); and
- 2.2 acres of BLM-managed public lands that are currently developed with the Low-Flow Dike and Channel Crossing (road) (previously part of right-of-way grant CA 19150).

1.1.2 Area B

Area B consists of 178.83 acres of BLM-managed public lands located north of Highway 111 and west of the Facility. This area was not included in either of the previous right-of-way grants. Existing flood control berms maintained by CVWD are located in this area.

1.1.3 Biological Study Area

The Biological Study Area (BSA) for the Project encompasses the requested right of way and a buffer of 500 feet around these areas. The BSA is generally bounded by Interstate 10 (I-10) and the Union Pacific Railroad to the north, Indian Canyon Drive to the east, and Highway 111 on to the west and south (Figures 1, 2, and 3). Existing facilities include a series of dikes, levees, spillways, and 19 infiltration ponds located in portions of Section 24, Township 3 South, Range 3 East and Sections 20, 28, and 30 of Township 3 South, Range 4 East, SBBM (approximately 509 acres), and the Low-Flow Crossing area (approximately 2.2 acres) on a portion of Section 14, Township 3 South, Range 3 East, SBBM. Area B of the proposed BLM right-of-way grant includes portions of Sections 23, and 24, Township 3 South, Range 3 East, SBBM (approximately 178.83 acres).

1.1.4 Existing Avoidance and Minimization Measures for Biological Resources

CVWD adheres to the avoidance and minimization measures required by the CVMSHCP and the 1984 BO for maintenance and operations located within CVMSHCP Conservation Areas. Although the CVMSHCP avoidance and minimization measures do not apply to public lands, in practice, CVWD applies these measures to all O&M activities associated with the Facility. Appendix C lists the O&M measures in detail. The current avoidance and minimization measures include worker education, pre-activity surveys and avoidance of sensitive plant and wildlife species, limiting off-road travel to BLM-designated routes of travel, salvage of sensitive plants and/or seeds, avoidance of herbicide and pesticide use in habitat occupied by sensitive plant and wildlife species, avoiding fueling and maintaining vehicles in sensitive areas, and buffers for nesting birds.

BLM consultation with USFWS for this Project will result in a new BO. Any new measures arising out of the new BO for the Project would continue to cover activities within CVMSHCP Conservation Areas and BLM lands.

1.1.5 Previous Federal Authorizations and Commitments

As a result of formal consultation in 1982, the right-of-way grant for CVWD on BLM lands was authorized by means of an EA in 1984 (BLM 1984) along with a Finding of No Significant Impact (FONSI). A BO for the facility was also issued in 1984 (USFWS 1984). The BO covered the CVFTL. Although the Coachella Valley milk-vetch (CVMV; *Astragalus lentiginosus* var. *coachellae*) was considered in the BO, this plant was not formally listed at that time.

The conclusion of the BO was that “destruction of approximately 236 acres of CVFTL habitat on 1,450 acres of public lands would jeopardize the continued existence of the CVFTL and would hinder the recovery efforts for the lizard.” Compensatory mitigation for the CVFTL required a three-party agreement among the CVWD, the BLM, and the USFWS for 1,218 acres of land east of North Indian Canyon Drive to be conserved and managed for the CVFTL for the life of the right-of-way grant (30 years)¹. Required commitments include management of conserved habitat for the CVFTL, review and approval by the USFWS of any proposed wind energy facility for the area, and placement of a flood control dike along the east margin of the conserved habitat area.

The allotment of lands that were set aside per the 1984 BO have not been surveyed recently; their current conditional status is unknown.

Among the further recommendations within the 1984 BO is the following:

“As the project is constructed, some habitat suitable for the CVFTL or the CVMV may re-establish on the lee edges of dikes or elsewhere. BLM should enter into discussion with the CVWD to ascertain the possibility of CVWD conducting their regular facilities maintenance work in such a manner that any re-establishing habitat would not be disturbed or at least be disturbed as little as possible.”

Potential damage done to small patches of suitable CVFTL habitat that occurs during water delivery to a pond that contains these habitats is minimized by the CVWD O&M BMPs by conducting pre-activity surveys and avoiding sensitive resources present by adjusting work areas minimizes potential damage done to small patches of suitable CVFTL habitat that occurs during water delivery to a pond that contains these habitats under the CVWD O&M plan. The mitigation for CVFTL was accomplished via the conservation of 1,218 acres.

¹ Since the BO was adopted, the 1,218 acres are prescribed in the CVMSHCP to be permanently conserved under the Habitat Conservation Plan for Coachella Valley Flat Tailed Horned Lizard (see Section 6.6.1 *Obligations of the Local Permittees*, page 6-17 of the CVMSHCP [Coachella Valley Association of Governments [CVAG] 2007]).

1.1.6 Coachella Valley Multiple Species Habitat Conservation Plan

The CVMSHCP, originally approved in 2008 by state and federal agencies, provides a regional vision for balanced growth of the region and conservation of 27 highly sensitive plant and wildlife species through protecting approximately 240,000 acres of open space in compliance with state and federal endangered species laws. Overall management of the CVMSHCP is provided by the CVCC, a joint powers authority of elected representatives. On October 1, 2008, the USFWS issued a Section 10(a)(1)(B) incidental take permit for the CVMSHCP.

During the plan development process, CVWD played an important role as one of the region's key public service entities and as manager of the Whitewater Groundwater Replenishment Facility and several other facilities. Other participants include Riverside County, the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage, as well as Mission Springs Water District, Imperial Irrigation District, CVAG, California State Parks, Coachella Valley Mountains Conservancy, and California Department of Transportation. Under the CVMSHCP, species protection is predicated on a science-based modeling of habitats within the region.

The CVMSHCP contains several areas designated by a Conservation Area Reserve system, which is designed to include representative native plants, animals, and natural communities across their modeled natural ranges of variation in the valley. The types and extent of conservation requirements for covered species, natural communities, and landscapes within these reserves are defined by specific goals and objectives intended to support several guiding ecologically-based principles. As a result, the CVMSHCP incorporates ongoing biological monitoring and land management programs to assure the principles and species-specific Conservation Goals and Objectives are met and maintained throughout the life of the plan.

Sand transport by wind action (aeolian sand transport) is an important ecological function in the region. The mitigation area for the BO was designated under the CVMSHCP as a mixture of Ephemeral Sand Fields and Active Dunes. As a part of the CVMSHCP's ongoing monitoring program, the mitigation area has been monitored by the CVCC. Based on the latest annual monitoring reports available online (CVCC 2013, 2014), one of the core aeolian sand community plots is located within the mitigation area. The plot where the mitigation area is located has been documented to support CVFTL and CVMV, as well as other aeolian sand obligate species (CVCC 2013).

1.1.6.1 Whitewater Floodplain Conservation Area

The BSA is located within the Whitewater Floodplain Conservation Area, which was designated as such by the USFWS under the CVMSHCP (Appendix A) and encompasses portions of the Whitewater River floodplain south of I-10 eastward to the existing Whitewater Floodplain Preserve, established by the CVFTL HCP). This Conservation Area includes additional habitat east and southeast of the existing Preserve on the west and east sides of Gene Autry Trail, south and east of the Facility's groundwater infiltration ponds, the Garnet Hill area north of the existing preserve, the sand transport areas south of I-10 along Mission Creek, and Willow washes, which connect this area to the Willow Hole Conservation Area north of I-10. The Whitewater Canyon Conservation Area is located to the northwest of this Conservation Area. To the west is the Highway 111/I-10 Conservation Area. The Whitewater Floodplain Conservation

Area connects to the Snow Creek/Windy Point Conservation Area near Windy Point, where the San Gorgonio River joins the Whitewater River. The Whitewater Floodplain Conservation Area contains a total of approximately 7,400 acres.

Ownership of the Whitewater Floodplain Conservation Area includes CVWD fee land, private land and BLM lands. The BLM lands are located in two large parcels east of the infiltration ponds (Area A), Area B and several small parcels north of Area B. The entire replenishment pond area within the Facility, including BLM land within Area A, was excluded from the conservation designation.

The Whitewater Floodplain Conservation Area provides habitat for several key sensitive species for the CVMSHCP:

- CVMV
- Coachella Valley giant sand-treader cricket (*Macrobaenetes valgum*)
- CVFTL
- Palm Springs round-tailed ground squirrel (*Xerospermophilus tereticaudus chlorus*) (PSGS)
- Palm Springs little pocket mouse (*Perognathus longimembris bangsi*) (PSPM)

All of these species are considered and discussed within this document. Although there is modeled habitat for the Coachella Valley Jerusalem cricket (*Stenopelmatus calhouni*), based on surveys conducted for the CVMSHCP, it has not been found in this area. The area also provides some land designated as Other Conserved Habitat (not core habitat) for the CVMV, triple-ribbed milk-vetch (*Astragalus tricarlinatus*) (TRMV), Mojave desert tortoise (*Gopherus agassizii*) (MDT), flat-tailed horned lizard (*Phrynosoma mcallii*) (FTHL), LeConte's thrasher (*Toxostoma lecontei*), and burrowing owl (*Athene cunicularia*) (BUOW).

The following goals apply within CVMSHCP conservation areas:

1. Represent native ecosystem types or natural communities across their natural range of variation in a system of conserved areas.
2. Maintain or restore self-sustaining populations or metapopulations of the species included in the Plan to ensure permanent conservation so that take authorization can be obtained for currently listed species (animal species) and non-listed species can be covered in case they are listed in the future.
3. Sustain ecological and evolutionary processes necessary to maintain the functionality of the conserved natural communities and Habitats for the species included in the Plan.
4. Maximize connectivity among populations and avoid habitat fragmentation within Conservation Areas to conserve biological diversity, ecological balance, and connected populations of Covered Species.
5. Minimize adverse impacts from off-highway vehicle (OHV) use, illegal dumping, edge effects, exotic species, and other disturbances in accordance with the Management and Monitoring Programs.

6. Manage the Conservation Areas adaptively to be responsive to short-term and long-term environmental change and new science.

There are acreage goals for conservation to be met within the Conservation Area. In addition to these goals, the following two measures expressed in the CVMSHCP regarding the Conservation Area apply specifically to this Project and CVWD (Section 4, Page 4-54):

- CVWD will deposit sand removed from the groundwater infiltration ponds during maintenance operations in the fluvial and aeolian sand transport area on CVWD lands in a location previously suggested by Dr. Monica Swartz (CVWD), Mark Fisher (University of California, Riverside (UCR)/Deep Canyon Natural Reserve System (NRS)), Al Muth (UCR/Deep Canyon NRS), Cameron Barrows (Director, Coachella Valley Preserve, Center for Natural Lands Management/UCR Center for Conservation Biology), Peter Griffiths (U.S. Geological Survey (USGS) Water Resources Division, Tucson, AZ) and Robert Webb (USGS Water Resources Division, Tucson, AZ). Materials were placed in a manner that downwind and downstream habitat would receive appreciable inputs of fluvial and aeolian sand from the deposits, as determined in consultation with the Reserve Management Oversight Committee. It is understood that CVWD has a sediment relocation adaptive management pilot project in place and that the results of the effort were discussed in the field during a site visit with Danielle Ortiz of the BLM, Cameron Barrows of the UCR, Brett Daniels of CVWD and Scott Taylor of ECORP on July 24, 2018.
- The Permittees shall comply with applicable avoidance, minimization, and mitigation measures described in Section 4.4 and the Land Use Adjacency Guidelines as described in Section 4.5.

1.1.6.2 Modeled Habitats

The CVMSHCP provides a science-based modeling of habitat areas for covered species. Modeled habitats are a result of extensive review by a group of independent science advisors who provided information and expertise regarding Covered Species. The models developed during the plan development process came from species distribution information, natural community mapping, results of biological surveys, and data regarding species richness, natural communities' richness, habitat heterogeneity, and habitat fragmentation. Modeled habitats include approximately 174.52 acres within Area B (including the low-flow crossing) and 516.25 acres within Area A.

The natural community mapping represents a single factor considered in the overall review process and development of species models. Vegetation mapping for Area A and Area B includes ephemeral sand fields, Sonoran creosote bush scrub, Sonoran mixed woody and succulent scrub, reservoir (infiltration ponds), stabilized desert sand fields, and stabilized shielded sand fields. Within the BSA, there is modeling for 16 species considered in the CVMSHCP for coverage, including Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, CVMV, MDT, FTHL, CVFTL, LeConte's thrasher, least Bell's vireo (*Vireo bellii pusillus*) (LBV), PSGS, PSPM, Peninsular bighorn sheep (*Ovis canadensis nelsoni*), western yellow bat (*Lasiurus xanthinus*), summer tanager (*Piranga rubra*), TRMV, yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*) (Table 1). Mapping of the modeled habitat areas under the CVMSHCP, overlain on the vegetation mapping provided in the CVMSHCP, is provided in Appendix B.

Table 1. CVMSHCP Modeled Habitat within Area A and Area B

	Modeled Habitat	Acreage	Species*
Area A	Ephemeral sand fields	103.80	1, 2, 3, 5, 6, 7, 8, and 9
	Reservoir (Infiltration ponds)	280.13	N/A
	Stabilized desert sand fields	3.74	1, 2, 3, 5, 6, 7, 8, and 9
	Stabilized shielded sand fields	128.58	1, 2, 3, 5, 6, 7, 8, and 9
	Sonoran creosote bush scrub	2.2	4, 7, 9, and 10
Area B	Ephemeral sand fields	28.72	1, 2, 3, 5, 6, 7, 8, and 9
	Sonoran creosote bush scrub	145.40	3, 4, 7, 8, 9, and 10
	Sonoran mixed woody & succulent scrub	0.40	7

*Key:

1. Coachella Valley giant sand-treader cricket, 2. Coachella Valley Jerusalem cricket, 3. CVMV, 4. MDT, 5. FTHL, 6. Coachella Valley fringe-toed lizard, 7. LeConte's thrasher, 8. Palm Springs ground squirrel, 9. PSPM, and 10. TRMV.

Within the modeled habitat areas, most of the infiltration ponds are designated as Reservoir and are not modeled habitat for any of the Conservation Area species. Stabilized Shielded Sand Fields overlap portions of the easternmost infiltration ponds, but this is likely an error created during mapping efforts utilizing pre-pond construction ancillary imagery and data sets. The infiltration ponds were constructed before any modeling/mapping associated with CVMSHCP occurred.

1.1.6.3 Covered Activities

Based on the CVMSHCP mapping and descriptions of covered activities, the use of the Facility, including the infiltration ponds on BLM lands (Area A) and the Colorado River Aqueduct (CRA) turnout and infiltration channel, as it is currently being used, is considered a "covered activity" (Section 7, Table 7-6). Covered activities are those which receive approval under the Implementation Agreement under the CVMSHCP. The covered facility is identified as the "Spreading Area for CRA water, O&M" and avoidance and minimization measures are required for this facility for sediment removal and placement in deposition area. In previous meetings with the BLM, the technical direction was to use CVMSHCP modeled habitat in order to guide this process (B. Anderson pers. comm.).

1.1.6.4 CVWD Mitigation Obligations Under the CVMSHCP

Under the CVMSHCP, CVWD has a commitment to turn over undeveloped CVWD lands within conservation areas by the end of year 50 of the permit² which is 2058. CVWD also has obligations for cooperation with CVCC toward conservation of lands and establishment/enhancement of habitat areas for various sensitive species. Also, the CVMSHCP notes that CVWD shall contribute \$3,583,400 toward the Endowment Fund for the Monitoring Program, the Management Program, and Adaptive Management.

²The total CVMSHCP permit term is 75 years.

CVWD has currently met the monetary contribution obligation and is actively working toward agency approval of created habitat projects.

Two key measures noted in the CVMSHCP (Section 6.1.1, Page 6-17) apply specifically to the Project or to the O&M of the facility:

- Of the approximately 7,000 acres that CVWD owns in the Conservation Areas, CVWD shall cooperate with CVCC toward the conservation of those lands, as follows: Approximately 1,200 acres of the 7,000 acres are in the Whitewater Floodplain Conservation Area and are currently conserved pursuant to the CVFTL HCP. These lands will be permanently committed to conservation under the CVMSHCP.
- Lands on which CVWD has Take Authorization for O&M of facilities that are Covered Activities, will be conserved only to the extent compatible with the O&M of the facilities.

Note that the lands required to be conserved under the CVMSHCP were those already set aside for mitigation for construction of the existing replenishment facility as a result of the 1984 BO for the right-of-way grant.

1.1.7 California Desert Conservation Area Plan/Coachella Valley Plan Amendment/Desert Renewable Conservation Area Plan

The Federal Land Policy and Management Act directs the BLM to prepare land use plans that provide guidance on how public lands are to be managed. All activities on BLM-managed land must be in conformance with the approved land use plan. The BSA is located within the Coachella Valley Plan Amendment to the California Desert Conservation Area (CDCA) Plan. The CDCA encompasses over 10 million acres of public land managed by the BLM in Riverside, San Bernardino, Imperial, Kern, and Inyo counties. The Coachella Valley Plan Amendment to the CDCA Plan approved a number of changes to the 1980 CDCA Plan, one of which was to establish habitat conservation objectives for assessing compatible uses in eight vegetation community types and developing appropriate mitigation measures. Based on those objectives, approximately 95 percent of the BLM land managed in the Coachella Valley was to be managed consistent with the multispecies habitat conservation objectives established through the CVMSHCP. These habitat objectives apply to all BLM-administered public lands that fall within the conservation area boundaries established through the CVMSHCP. Additionally, the CDCA Plan was amended in 2016 by the Desert Renewable Energy Conservation Plan (DRECP). Although habitat modeling was conducted for the DRECP, the Project area lies in an area that was not modeled. According to direction from the BLM, the approach to guide CDCA consistency on BLM lands was to use the modeled species habitat developed for the CVMSHCP to determine presence/absence of a species so habitat conservation goals could be measured. If the Project falls within the modeled species habitat, the BLM would assume presence (B. Anderson, pers. comm.).

1.1.8 BLM-Sensitive Species

BLM-sensitive species merit special management consideration to promote their conservation and reduce the likelihood and need for future listing under the federal ESA. The BLM California State Director may

designate as BLM-sensitive species the following groups of species: proposed or candidate species for listing as threatened or endangered under the federal ESA, delisted species under the federal ESA, species listed under the California ESA, California State Species of Special Concern (SSC), California State Fully Protected Species (FP), and California rare plants ranked as List 1B (plants rare, threatened, or endangered in California and elsewhere) identified in the California Department of Fish and Wildlife Special Vascular Plants, Bryophytes, and Lichens List (current version online at <https://www.wildlife.ca.gov/Conservation/Plants/Info>), unless the State Director decides on a case-by-case basis that a particular List 1B species does not warrant sensitive status.

According to BLM Instruction Memorandum No. CA-2020-006, all BLM-sensitive species are managed as special status species, along with species listed as endangered or threatened under the federal ESA, and are to be included in documents discussing environmental impacts (BLM 2019). A list of BLM-sensitive species was provided by the state office of BLM, which covers all of California for BLM-sensitive plant and animal species. These lists were obtained in November 2020. The Palm Springs-South Coast Field Office (BLM Palm Springs) previously provided a list of species known from the Coachella Valley region and this list was used as a guide to focus on BLM-sensitive species that need to be evaluated for the Project. The list includes species listed at federal levels and also includes species that are listed as California State Species of Special Concern (SSC) or California State Fully Protected Species (FP).

1.2 Project Description

The CVWD is requesting a right-of-way grant from the BLM for the existing Facility that is operated and maintained by CVWD and Desert Water Agency (DWA) and is located on land that is both CVWD-owned and BLM-managed. Both agencies have a combined allocation of 194,100 acre-feet per year (AFY) of water to the State Water Project (SWP). However, the Coachella Valley does not have a direct delivery connection to the SWP infrastructure, so CVWD and DWA have an exchange agreement with the Metropolitan Water District of Southern California (Metropolitan). Metropolitan receives CVWD and DWA's SWP water and, in exchange, Metropolitan delivers CVWD and DWA Colorado River water at the CRA turnout. In addition, depending on availability, CVWD and DWA may receive water unrelated to their SWP allocation, which is also delivered through the CRA as part of the exchange agreement with Metropolitan in the form of Colorado River water. These additional water supplies are defined as "non-SWP" water and include, but are not limited to, Pool A and B water, Yuba water, Article 21 water, and Rosedale Rio Bravo water. The Colorado River Water (defined as both SWP and non-SWP water) flows down the existing Whitewater River until it reaches the Facility.

1.3 Summary of Right-of-Way Application Request/Proposed Action

A summary of the application request is provided in Table 2. More detail on the facilities located in the proposed right-of-way areas is provided below. Operations, maintenance and repair activities are also described below.

Table 2. Summary of Application Request Components

Project Component	Proposed Action
Area A (acres)	511.9
Area B (acres)	178.83
Total Right of Way Application Approval Area (acres)	690.73
Construction/Demolition	No
Operation, Maintenance, and Repair	The existing OMR activities would not be modified. Facility maintenance (sediment removal, dike repair, road maintenance), maintenance of "No Trespassing" signs, and construction/removal of Berm #2 would continue.
Groundwater Replenishment (AFY)	511,000

AFY = acre-feet per year

1.3.1 Area A

Area A includes 509.7 acres within the area of the infiltration ponds and 2.2 acres including the Low-Flow Dike and Channel Crossing (road) authorized under the previous grants LA 052742 and CA 19150, respectively. These lands are described as portions of Section 24 of Township 3 South, Range 3 East and Sections 20, 28, and 30 of Township 3 South, Range 4 East (approximately 509.7 acres). This area is currently developed with the existing Facility, which includes a series of gates and diversion channels that distribute incoming water into 19 groundwater infiltration ponds, as well as portions of the ponds themselves. Of the approximately 1,990 total acres for this facility, 1,480.3 acres is located on CVWD-owned land and 509.7 acres (the area requested for right-of-way grant) is located on BLM-managed land. The construction, operation, and maintenance of the infiltration ponds on BLM-managed land was previously authorized by right-of-way grant LA 052742. Section 1.3.3 provides additional information on facility operations. There is no new construction proposed for this facility, either on BLM-managed or CVWD-owned lands.

In addition to the BLM-managed lands within the Facility, Area A includes 2.2 acres on a portion of Section 14 of Township 3 South, Range 3 East. This area is currently developed with a berm/road known as the Low-Flow Dike and Channel Crossing. The construction, operation, and maintenance of this facility were previously authorized under right-of-way grant CA19150. There is no new construction proposed on these lands.

1.3.2 Area B

Area B includes portions of Sections 23, and 24 of Township 3 South, Range 3 East (approximately 178.83 acres). Two existing berms in this area help control incoming flows. Berm #1 in Section 23 diverts surface flows toward the sluicing and diversion structure and provide flood control to the area south of the berm, including Highway 111. Berm #2 in Section 24 directs incoming flows around the sluice gate structure and into the Whitewater River during stormwater events when flows exceed 400 cubic feet per second (cfs). Existing roads on BLM-managed lands within Area B would be used by CVWD staff to access, maintain, and repair the existing facilities within the Area B (see Section 1.3.3 for additional information on maintenance and repair activities). There is no new construction proposed on these lands.

1.3.3 Facility Operations

1.3.3.1 Groundwater Replenishment Facility

Decline in the Coachella Valley water table was first identified by local farmers and residents during the 1910s, and the public utility, CVWD, was formed as the Coachella Valley County Water District in 1918. Groundwater replenishment efforts originally involved capturing larger storm flows at Windy Point, northwest of Palm Springs; contracts were then made with the federal government to import Colorado River Water into the valley via the Coachella Canal in 1919. DWA was formed in 1961 as a cooperating agency with CVWD to provide water service to Palm Springs and Cathedral City.

In 1973, to better capture additional imported water from the CRA as well as natural flows, the Facility was constructed, initially consisting of 10 ponds. An additional nine ponds were constructed in 1984, after approval of the prior BLM right-of-way grant. In 2013, CVWD completed improvements to the facility, which included a new sluicing and diversion structure and conveyance channel on CVWD-owned land, and improvements to the existing ponds on both BLM-managed and CVWD-owned land. The method of operations and size of the facility is not proposed to change with the current right of way application.

Delivery flows to the facility are released from CRA turnouts DWCV-01, DWCV-02, DWCV-03, DWCV-14 (A, B, C, and D), and DWCV-04 (P). Imported water mixes with any natural flows in the Whitewater River and is conveyed to the percolation ponds via a five-mile reach of the Whitewater River channel. The maximum imported water flow rate is 720 cfs and the maximum natural flow rate is 80 cfs for a maximum total flow rate of 800 cfs. The water is delivered through the Windy Point USGS gauge into the sluicing and diversion structure, where it is then routed to the percolation ponds via a southern concrete-lined conveyance channel or earthen channel along the northern boundary of the facilities to Intake Structures 1 and 2.

The typical flow pattern of the Colorado River water (water) is as follows:

- The water is discharged from the CRA Turnout, located north of I-10, and flows via the natural Whitewater River flow path through Sections 11 and 14 within Township 3 South, Range 3 East.
- The water flows across publicly and privately owned lands until the water crosses Section 14 of Township 3 South, Range 3 East at the Low-Flow Dike and Channel Crossing, which is located on BLM-managed public land.
- The water continues to flow across a portion of public lands within Sections 23 and 24 of Township 3 South, Range 3 East until it reaches the sluicing and diversion structure of the Facility.
- Once the water reaches the sluicing and diversion structure, the water flows either along the northern or southern boundary of the infiltration ponds, depending on the flow rate of the water and the current operating conditions:
 - Intake Structures 1 and 2 have a capacity of 400 cfs each.
 - Water deliveries from the CRA are captured at either Intake Structures 1 or 2 into Ponds 1, 2, and 10 or the cement-lined conveyance channel into Ponds 1, 10, and 14.

- Prior to and during a storm event, normal operating procedures are modified to prevent stormwater flows greater than 400 cfs from entering the replenishment facility. Stormwater flows are diverted around the replenishment facility into the Whitewater River using Berm #2 in an effort to safely convey flows from a storm event to avoid damage to the replenishment facilities intake structures, cement-lined conveyance channel, infiltration ponds, and other related infrastructure. During a storm event, imported water is not delivered to the Facility; therefore, Colorado River water is not present in the channel when water is being diverted.

On its right-of-way application, CVWD has indicated a maximum infiltration volume of 511,000 AFY of water, which is the maximum combined capacity of all of the ponds operating year round. Infiltration would be a combination of Colorado River water and natural inflows.

CVWD and DWA request their full Table A SWP water amounts from the California Department of Water Resources (DWR) each year, for a combined total of 194,100 AFY, and continue to exchange their SWP water for Colorado River water for replenishment at the Facility through an exchange agreement with Metropolitan. The entire allocation of SWP water is not guaranteed. The actual allocation varies due to weather conditions (e.g., drought), increased demand, restrictions on water export from the Sacramento-San Joaquin Delta to protect the Delta smelt (*Hypomesus transpacificus*), and other factors.

In addition, CVWD and DWA have an Advanced Delivery Agreement with Metropolitan that was executed in 1985 (with subsequent amendment) that allows Metropolitan to pre-deliver up to a total of 800,000 acre-feet of SWP water into the Coachella Valley. Metropolitan provided data for the number of delivery days per year for the Facility, which is highly variable for the years for which data is available. Between 1973 and 2019, the average water delivered annually is 76,739 AF. However, as described above, the actual water deliveries vary widely; since 1973, the water delivery has ranged from no water delivered to 385,994 AF delivered in 2017.

1.3.3.2 Low-Flow Dike and Channel Crossing

This area includes the Low-Flow Dike and Channel Crossing (road), which channelizes the imported water deliveries, natural runoff (e.g., snow melt) and stormwater flows toward the Facility. CVWD also uses existing roads in this area to ensure that the “No Trespassing” signs are undisturbed, and to replace missing or damaged signs.

1.3.4 Maintenance and Repair Activities

Maintenance and repairs at the Facility would continue as it currently occurs and are described in this section. In general, facility maintenance is conducted annually. However, there are factors that can cause maintenance to occur more frequently on occasion. Imported water deliveries to the facility fluctuate from year to year based on SWP availability (drought versus wet years). This can result in changes to sedimentation in the ponds and scouring of the ponds (more in wet years and less in drought years). Metropolitan may alter deliveries for aqueduct maintenance, which can result in opportunistic times for CVWD to perform facility maintenance. The variability in water deliveries can also influence vegetation growth in the facilities, which requires removal.

Flows from storm events in the Whitewater River watershed can cause scouring and erosion to facilities and can also cause increased sedimentation that requires removal. It is difficult to predict the frequency of storm events and the magnitude of the events' impact on the facility, and maintenance may be required more often than once per year in wet years. The typical annual maintenance program lasts approximately 12 weeks (60 working days).

Portions of infiltration ponds 6 through 19 are located on BLM land. The annual maintenance that occurs in the ponds includes ripping the ground with a bulldozer and removing vegetation and sediment as needed to maintain percolation rates. Other maintenance includes armoring and repairing dikes and maintaining service roads around the infiltration ponds. The types of vehicles that access this area include scrapers, bulldozers, excavators, front-end loaders, articulating rock trucks, motor graders, dump trucks, water trucks, bobcats, and standard CVWD service trucks. These include dust control measures such as applying water to disturbed soil surfaces during maintenance operations and prohibiting maintenance activities when the wind speed exceeds 25 miles per hour.

There is no regularly scheduled maintenance for the Low-Flow Dike and Channel Crossing. After storm events, maintenance may entail excavating material, sloping, shaping, and restoring the berm where it has been washed out or eroded by water. This happens very seldom; from 2010 to 2020, maintenance has only occurred twice, after large storms in 2010 and 2019. However, if heavy equipment were needed, the type of vehicles that would access this area would include bulldozers, articulating rock trucks, and excavators to repair portions of the Low-Flow Dike and Channel Crossing. The following describes the type of maintenance, access and vehicles that would be used on the various sections of Area B.

1.3.4.1 Section 23 (3-3-23)

The types of activities that may occur in this area include access to and maintenance of the existing berm (Berm #1). Berm #1 is approximately 2,800 feet long and is used to divert surface flows toward the sluicing and diversion structure and to provide flood protection to areas south of the berm, including Highway 111. CVWD has not performed maintenance on Berm #1 in the last 35 years (Patrick McDaniel, CVWD, pers. comm 2020). However, CVWD is requesting access to this area in the event future maintenance is required. CVWD would use the existing service road along the Union Pacific Railroad if maintenance is required; excavators, bulldozers, and standard CVWD service trucks would be used.

1.3.4.2 Section 24 (3-3-24)

Activity in this area includes maintaining the existing Berm #1 where it extends into Section 24, as described above. Other activities include the placement and removal of Berm #2 that is used to divert water around the sluice gate structure when stormwater flows are expected so that the storm flows do not damage the Facility. When storm flows greater than 400 cfs are expected, material is taken from the conveyance channel's western dike, approximately 70 feet to the northwest, to construct Berm #2, which is approximately 75 feet long, 40 feet wide, and nine feet high. After the storm, the material is put back into the gap of the conveyance channel's western dike in the location from which it was originally removed. Installation and removal of the berm takes one day for each activity and approximately 6,000 square feet of total area is disturbed each time. One piece of large earthmoving equipment (dozer or excavator) is used to construct and remove Berm #2. The frequency of the installation/removal of Berm #2 is based on

storm events and typically occurs approximately five times per year. The types of vehicles that access this area include excavators, bulldozers, and standard CVWD service trucks. There are service roads in this area that CVWD uses and maintains. Construction and removal of Berm #2 is conducted under the U.S. Army Corps of Engineers Emergency RGP63 Permit.

CVWD maintains the segment of road in Area B that is part of the Low-Flow Dike and Channel Crossing. A CVWD service truck is used for this activity.

1.3.5 *Avoidance and Minimization Measures*

CVWD's current O&M Manual for the site incorporates several BMPs and other measures to reduce impacts to natural resources as required by the CVMSHCP. The O&M Manual for the ongoing activities within the facility was submitted for review to the CVCC who provided copies to the resource agencies for review. Under renewal of the right-of-way grant, CVWD would continue to implement the O&M Manual. Biological BMPs that are currently incorporated in the O&M Manual are consistent with both the CVMSHCP and 1984 BO requirements, and are summarized below.

Avoidance and minimization measures are detailed within the O&M Manual for the following sensitive species:

- CVMV
- Coachella Valley giant sand-treader cricket
- FTHL
- CVFTL
- LeConte's thrasher
- BUOW
- PSGS
- PSPM

BMP measures incorporated for these species generally include pre-activity surveys, monitoring during work activities near sensitive species locations, flagging of avoidance areas if species are found near work areas, and various policies and special procedures for work crews to implement when conducting activities that may affect sensitive species in order to minimize effects of operations and maintenance activities on sensitive species. Relevant excerpts of the O&M Manual can be found within Appendix C.

A revision to the current O&M Manual is anticipated as a part of the process of completing the Environmental Impact Statement (EIS) for the Project, which would incorporate any new, identified mitigation measures for species and their habitats.

1.4 Summary of Consultation to Date

As noted earlier, the original EA for the right of way grant was approved in 1984 (BLM 1984), along with a NEPA FONSI. The BO for the facility was also issued in 1984 (USFWS 1984). Out of this consultation, the CVWD was to set aside 1,218 acres of land east of North Indian Canyon Drive to be conserved and managed for the CVFTL for the life of that 30-year agreement.

During the initial discussions regarding the process for renewal of the right-of-way grant, the BLM was consulted; BLM biologist Joyce Schlachter provided a list of species to CVWD for consideration in the analysis on March 23, 2017. This list included CVMV, CVFTL, LeConte's thrasher, Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, BUOW, PSPM, and PSGS. These species were to be studied in accordance with protocols described within *Aeolian Sand Communities and Species Monitoring Protocols* (UCR 2012a) and *Alluvial Fan Communities and Species Monitoring Protocols* (UCR 2012b). This guidance has been superseded by subsequent meetings and discussions with BLM.

Additional consultation has been conducted with the BLM through several in-person meetings and two field meetings regarding the Project. These meetings, and the participants, are summarized below.

- September 13, 2017 – Project kickoff meeting/field meeting. Participants included BLM biologist Joyce Schlachter and BLM Project Manager Brandon Anderson
- October 11, 2017 – Project progress meeting. Participants included Brandon Anderson of the BLM.
- June 13, 2018 – Biology meeting. Participants included Brandon Anderson, BLM biologist Danielle Ortiz, and BLM Project Manager Victoria Hernandez
- July 12, 2018 – Soil Sampling Work Plan Meeting. Participants included Brandon Anderson, Danielle Ortiz, Jim Weigand, and Mark DeMaio of the BLM
- July 24, 2018 – Field meeting/site tour. Participants included Danielle Ortiz and Mark DeMaio of the BLM and Cam Barrows from UCR/CVMSHCP
- July 25, 2018 – Cooperator's Meeting. Participants included Brandon Anderson, Danielle Ortiz, Jim Weigand, John Daniel and Mark DeMaio of the BLM

In addition, the BLM is a regular participant/invitee for bi-weekly Project meetings that have occurred since October 2017. USFWS has been invited to these meetings since November 2018.

An additional list of sensitive species to be considered was provided by the BLM on April 12, 2018.

An official species list for the Proposed Project was generated from the USFWS Information for Planning and Conservation (IPaC) Proposed Project planning tool on May 25, 2018, and is included as Appendix E. The following wildlife species listed as endangered, threatened, or candidate species pursuant to FESA were included in the IPaC species list:

- CVMV
- TRMV
- Arroyo (=arroyo southwestern) toad (*Anaxyrus californicus*)
- CVFTL
- MDT
- LBV
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Peninsular bighorn sheep.

There is neither potential habitat nor likelihood for the arroyo toad or southwestern willow flycatcher to exist within the BSA for the Project. Habitat is absent for both of these species, whose habitat requirements are particularly narrow subsets of larger types of vegetation and streambed communities. The arroyo toad requires a particular stream flow regime and does not tend to thrive in managed hydrologic conditions, such as those that occur within the BSA. The willow flycatcher requires a diverse riparian habitat structure that is absent from the BSA. Also, habitat is not modeled under the CVMSHCP for either species within the BSA. Therefore, these two species are eliminated from further consideration and further analysis for these species is not provided in this report. Further detail for these species and rationale for their presumed absence can be found in Appendix D.

There are currently five federally listed species known to occur or have a reasonable potential to occur within the BSA: CVMV, TRMV, CVFTL, LBV, and MDT. The species' habitats are generally persistent within the BSA, although the quality level for those habitats is variable. Critical Habitat for the CVMV was included in the IPaC species list and is present in or adjacent to the BSA. No other Critical Habitat areas were within the BSA.

CVMV is listed as endangered pursuant to FESA. There is FESA-designated Critical Habitat and CVMSHCP-modeled habitat located within Area B and portions of Area A for the Project; therefore, it must be considered; preparation of a Biological Assessment (BA) under FESA for this species is required.

TRMV is listed as endangered pursuant to FESA. There is modeled habitat under the CVMSHCP for this species to exist within Area B and portions Area A of for the Project; therefore, it must be considered; preparation of a BA for this species is required.

CVFTL is listed as threatened pursuant to FESA. There is modeled habitat under the CVMSHCP for this species within Area B and portions of Area A for the Project; therefore, it must be considered; preparation of a BA for this species is required.

MDT is listed as threatened pursuant to FESA. There is modeled habitat under the CVMSHCP for this species to exist within Area B for the Project; therefore, it must be considered; preparation of a BA for this species is required.

LBV is listed as endangered pursuant to FESA. There is potential habitat for this species to exist within Area A and Area B for the Project, but only as a transient. No breeding habitat is present; nevertheless, it must be considered and preparation of a BA for this species is required. Note that the USFWS typically would consider effects to other sensitive riparian bird species in the BA, including effects to southwestern willow flycatcher and western yellow-billed cuckoo.

Peninsular bighorn sheep is listed as endangered pursuant to FESA. There is modeled habitat for this species to exist within the BSA, but not within either Area A or Area B for the Project. However, due to the potential for indirect impacts, this species may be considered as a part of a BA for the Project.

In addition, the IPaC list mentions four migratory Birds of Conservation Concern (BCC) to be considered: BUOW, Costa's hummingbird (*Calypte costae*), golden eagle (*Aquila chrysaetos*) (GOEA), and Lawrence's goldfinch (*Carduelis lawrencei*). BCC species are termed as birds that may warrant special attention at the Project location.

2.0 STUDY METHODS

2.1 Listed and Proposed Species Potentially in the Biological Study Area

ECORP biologists performed a literature search to determine the special-status species that have been documented in BSA using the following resources:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB) Special Animals List (CDFW 2018a)
- California Natural Diversity Database Special Vascular Plants, Bryophytes and Lichens List (CDFW 2018b)
- eBird
- Data Basin
- California Native Plant Society (CNPS) Online Inventory
- USFWS IPaC list generated for the Project (Appendix E)
- The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012)
- Coachella Valley Multiple Species Habitat Conservation Plan (CVAG 2007)
- Documents published by the regulatory agencies and other scientific literature
- Biological technical reports authored for previous proposed projects on or near the BSA
- Various online websites (e.g., CalFlora 2018)

Using this information and observations in the field, a list of special-status plant and animal species that may have the potential to occur within the BSA was generated and analyzed. For the purposes of this assessment, special-status species are defined as plants or animals that:

- are BLM-sensitive, based on a list for the Palm Springs Field Office provided by BLM;
- have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the California Endangered Species Act or FESA;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Wildlife Code, Sections 3511, 4700, 5050, or 5515; and/or
- are of expressed concern to resource and regulatory agencies, or local jurisdictions.

Sensitive species reported for the region in the literature search or for which suitable habitat occurs in the BSA were assessed for potential to occur within the area based on the following guidelines:

Present:	Species was observed within the BSA during a site visit or focused survey.
High:	Habitat (including soils and elevation factors) for the species occurs within the BSA and a known occurrence has recently been recorded (within the last 20 years) within five miles of the area.
Moderate:	Habitat (including soils and elevation factors) for the species occurs within the BSA and a documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the BSA; or a recently documented observation occurs within five miles of the area and marginal or limited amounts of habitat occurs in the BSA.
Low:	Limited or marginal habitat for the species occurs within the BSA and a recently documented observation occurs within the database search, but not within 5 miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the BSA; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search.
Presumed Absent:	Species was not observed during a site visit or focused surveys conducted in accordance with protocol guidelines at an appropriate time for identification; habitat (including soils and elevation factors) does not exist on site; or the known geographic range of the species does not include the BSA.

Note that location information on some CNDDDB searches include a buffer around species observations so as to obfuscate exact locations of sensitive species. Therefore, for survey purposes, environmental factors associated with species occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence.

Plant nomenclature follows that of The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012). Wildlife nomenclature follows the Society for the Study of Amphibians and Reptiles (SSAR, 2017), the

Checklist of North American Birds (Chesser et al. 2018), and the Revised Checklist of North American Mammals North of Mexico (Bradley et al. 2014).

2.2 Biological Studies Conducted

During early discussions between CVWD, DWA, and BLM, the BLM biologist requested surveys for the CVMV, CVFTL, PSGS, PSPM, BUOW, Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, and LeConte's thrasher. These species were to be assessed in accordance with the requirements under the CVMSHCP protocols found within the documents prepared by UCR, *Alluvial Fan Communities and Species Monitoring Protocols* (UCR 2012a) and *Aeolian Sand Communities and Species Monitoring Protocols* (UCR 2012b), as updated. A new protocol was issued for the Coachella Valley Jerusalem cricket in 2014, for instance (UCR/CVCC 2014). Based on conversations with the UCR: Palm Desert monitoring group, a new preferred protocol for PSPM was also identified (C. Barrows, Pers. Comm.).

After this survey plan was established, additional coordination among CVWD, DWA, and BLM was conducted regarding the approach to analysis of biological impacts. In the interest of maintaining the Project schedule, several surveys were authorized and completed under the original scope of work to meet critical seasonal restrictions. Missing critical survey windows would mean Project delays of a year or more. During this time period, the following surveys within Area A and Area B were conducted:

- 1/15/2018 – Biological reconnaissance to determine best location of sample plots and Coachella Valley Jerusalem cricket survey #1
- 1/24/2018 – LeConte's thrasher survey #1
- 1/30/2018 – Coachella Valley Jerusalem cricket survey #2, Coachella Valley giant sand-treader cricket survey #1
- 2/28/2018 – CVMV survey, Coachella Valley giant sand-treader cricket survey #2, LeConte's thrasher survey #2

In addition to the focused surveys, biologists also conducted surveys of various access roads used by CVWD personnel. Results of these surveys are provided in Section 2.0. Study Methods for each of these surveys are provided in Sections 2.2.1 through 2.2.5.

Through further conversations between the CVWD and the BLM, along with changes in personnel and agency coordination, it was decided that the habitat modeled as suitable in the CVMSHCP may be considered occupied by each respective species for the purpose of NEPA analysis. Additionally, the entire replenishment facility, including property owned by CVWD, would be evaluated. This includes the approximately 1,300-acre replenishment facility (which includes the approximately 509.7-acre Area A), the 2.2-acre Low-Flow Crossing, and the 178.83-acre Area B, for a total of approximately 1,481 acres. Of this area, only the ponds themselves (approximately 929 acres) have either not been modeled or appear to have been modeled incorrectly (the eastern ponds are modeled as stabilized shielded sand fields, although aerial photography shows them as reservoir/infiltration ponds). Consequently, a field survey was conducted to identify habitat areas for species that may not be currently modeled, to check areas that

appeared to be incorrectly modeled within the replenishment pond facility, and to eliminate remaining planned focused species surveys under the original scope mentioned above.

2.2.1 Coachella Valley Giant Sand-Treader Cricket

The survey area for Coachella Valley giant sand-treader cricket consisted of approximately 200 acres of total habitat within both Area A and Area B. Randomized sample plots, measuring 10 meters (m) by 100 m, were established through habitat areas and surveyed once during the cricket activity period (January to February). A total of 10 sample plots were established within the BSA.

2.2.2 Coachella Valley Milk-Vetch

The survey area for CVMV consisted of approximately 200 acres of total habitat within both Area A and Area B. Sample plots, coinciding with those established for the Coachella Valley giant sand-treader cricket above, were surveyed once during the blooming period (February to March). Biologists conducting the survey maintained a count of plants observed both within plots and incidentally during other surveys.

2.2.3 LeConte's Thrasher

The survey area for the LeConte's thrasher consisted of approximately 330 acres of total habitat within both Area A and Area B. The survey consisted of a visual assessment for thrashers along one-km transects located within potential thrasher habitat areas during two seasonal periods: November through January and May through July. Audio playback surveys were performed at three points along each transect during the first survey period. Points were spaced evenly along the transect. The second survey period did not involve audio playback due to the potential to harass breeding pairs, but consisted of visual establishment of breeding success (fledglings, signs of breeding success), if applicable.

2.2.4 Coachella Valley Jerusalem Cricket

The survey area for the Coachella Valley Jerusalem cricket consisted of approximately 200 acres of total habitat within both Area A and Areas B. Sample plots, coinciding with those established for the Coachella Valley giant sand-treader cricket, were surveyed twice during the cricket activity period (December through February, within one week following rain events). Prior to the surveys, within each of the established sample plots, the area was evaluated for the presence of debris piles, which are suitable habitat for the species. Cover boards were placed to serve as cricket attractants for sample plots where debris piles were absent. Water was not used or added to areas underneath cover boards.

2.2.5 Access Road Surveys

Because access roads were actively being considered as part of the survey area at the time focused biological surveys were being considered, biologists conducted reconnaissance-level surveys of these additional areas. This work was completed in order to be responsive to the BLM's requests for additional information and to encompass the BLM's requested survey area at that time. The survey consisted of slow-driving of the roads, with biologists noting habitats and species observed. The timing of the survey was in early 2018, as noted above.

2.2.6 *Habitat Modeling Revisions*

In order to assess where there may be deficiencies in the modeled habitat areas under the CVMSHCP, a biologist with knowledge of the habitats within the Coachella Valley and specifically with experience in dune habitat areas for the CVFTL conducted a single day of survey work. The biologist focused on the replenishment pond array, where habitat areas on the aerial photographs did not seem to exactly match what was modeled or where no modeling appears to have been done. The biologist walked the area and revised the existing mapping based on the locations of these sand deposits and associated habitat types.

Revisions to CVMSHCP mapping were mapped in the field, using a Global Positioning System (GPS) handheld device, and entered into our Project Geographic Information System (GIS) database. The existing mapping was then overlain on the new mapping and new total acreages were then derived as a factor of existing and new GIS layers as revised by this field effort.

3.0 RESULTS: ENVIRONMENTAL SETTING

3.1 BSA Overview

The BSA is located within the Palm Springs area of the Coachella Valley, within an area that is relatively undeveloped and that supports native shrub land habitat and is situated in the Sonoran Desert Region of the Desert Province of California (Baldwin et. al. 2012). Appendix F provides a floral and faunal compendium of the BSA; Appendix G provides representative photographs of the BSA.

The BSA includes the infiltration ponds that could serve as a water source for local wildlife and also as a stopover for migrating and wintering waterfowl within the Coachella Valley. The BSA is located within the Pacific Flyway form migratory bird species, which includes all of California, Oregon and Washington. The Coachella Valley and its major bodies of water such as the Salton Sea are important wintering grounds for migratory bird species using the Pacific Flyway (Audubon 2019). The BSA is located within the plan area for the CVMSHCP and in the floodplain of the Whitewater River in north Palm Springs in Riverside County. It also includes the confluence of Whitewater River and Snow Creek.

The Whitewater River floodplain historically was the major influence on both the topography and the hydrology of the area. The Whitewater River south of I-10 is currently channelized for flood control and water conservation purposes, leaving much of the historic floodplain isolated from flood influences. The average monthly minimum temperature ranges from 45 in December to 80 in July, and the average monthly maximum temperature ranges from 70 in December to 109 in July (National Oceanic and Atmospheric Administration [NOAA] 2020). Average annual precipitation is approximately 4.83 inches of rain (NOAA 2020). The hottest time of year is during July and August and the coolest time of year is within December and January.

3.2 Physical Conditions

3.2.1 Topography

The BSA lies within the alluvial fan of the Whitewater River, a tributary of the Salton Sea Watershed. This gives the topography of the area a gentle slope decreasing in elevation from west to east. The Whitewater River channel enters the BSA from the north, curving to the east as it nears Highway 111. Historically the channel spread out as it flowed eastwards into a large alluvial field. Currently the water flows are directed into the Facility and infiltration ponds, and only flows in the historic floodplain (north of the Facility) during large storm events. Elevation in Area B reaches about 1,100 feet above mean sea level (amsl) in the west to around 1,000 feet amsl in the east. A drop of about 15 to 20 feet occurs from the edge of the creosote (*Larrea tridentata*) scrub community to the dry riverbed that borders the southern edge of Area B. Area A has less variation in its topography, with a gradual drop of about 100 feet from the western border to the eastern border of Area A.

3.2.2 Watershed

The BSA is part of the 17,000 square mile Southern Mojave-Salton Sea Hydrologic Unit (4-digit Hydrologic Unit Code [HUC] 1810), within the 1,500-square-mile Whitewater River Watershed (8-digit HUC 18100201) and within the 180-square-mile Headwaters Whitewater River Subbasin (10-digit HUC 1810020103) (Figure 5). The subbasin spans portions of San Bernardino and Riverside counties from the eastern side of the San Bernardino Mountains and western side of the Little San Bernardino Mountains southward. The subbasin contains the upper Whitewater River from San Gorgonio Mountain south to Cathedral City, Mission Creek, a tributary to the Whitewater River, and Snow Creek which originates on the northern side of the San Jacinto Mountains.

The highest elevation portions of the subbasin are at over 11,000 feet amsl in the San Bernardino Mountains, with precipitation consisting of a combination of snow and rain in large enough amounts to carve out a well-defined network of channels. Within the San Jacinto Mountains, Snow Creek originates on the steep upper slopes of Mount San Jacinto. Historically, the surface waters disappear underground beneath high amounts of deposited alluvial sediment and leaving only ephemeral or intermittent surface flows as each of these streams flow downhill and converge into the desert floor.

Both Mission Creek and Snow Creek still exhibit this historic pattern of surface flows in the upper basin and subsurface flows below. The Whitewater River, however, is now augmented by regular releases from the CRA to feed groundwater recharge within the Coachella Valley. Collection in drains and natural subsurface outflows of the Whitewater River Subbasin downstream allow waters not collected for recharge to eventually enter the Salton Sea (CVWD 2012).

3.2.3 Water Availability to Wildlife

The Whitewater River is a naturally ephemeral to intermittent regional waterway that historically flowed mainly in response to storm events. The current flow regime is still naturally ephemeral to intermittent, but is augmented when water supplies are released upstream from the CRA. The current channel corresponds to the natural river flow path but has been partially modified to protect existing

infrastructure including Highway 111, as well as to direct the flows toward the Facility. Near Highway 111, and the Whitewater River confluence with Snow Creek, the main channel turns sharply from a southerly direction to an easterly direction, and in this location a berm was also constructed to further protect the highway. Within the lower part of the Whitewater River channel, just upstream from the infiltration ponds, CVWD operates a gate that can be closed to divert flows into the Facility when needed. Water is almost always present within a portion of the Facility, offering nearly year-round water availability to wildlife. Generally, the infiltration ponds within the westernmost half of the array nearest to the water entry point tend to be inundated much more frequently than ponds in the easternmost portions.

The water sources within the Coachella Valley, and the quality of water within them, plays a vital role in the survival and propagation of numerous wildlife species native to the region as well as migrating and wintering species. According to a study prepared for the CVMSHCP (Terra Nova 2004), regional surface waters in the Coachella Valley include both manmade and natural features and account for approximately 44,276 acres (3.87%) of the CVMSHCP Plan Area. Natural water bodies, including the Salton Sea, account for the bulk of the available water bodies, comprising approximately 43,460 acres of the total, whereas manmade water features, including the Whitewater River infiltration ponds and Lake Cahuilla, account for about 816 acres of the total (Terra Nova 2004).

3.2.4 *Existing Disturbance Levels*

Most of the BSA, by area, is composed of natural habitats but the area contains various isolated areas of regular disturbance. There is a railroad track operated by the Union Pacific Railway Company that crosses the Whitewater River channel. Various dirt access roads are located throughout the area, used to maintain the Facility, for access to wind generation facilities, or for railroad maintenance access. Other dirt roads in the area, which represent abandoned access roads or informal dirt roads, are used for illegal recreation/OHV activities. The entire area is officially closed to OHV and recreational uses, but recreationalists can still enter illegally. Illegal recreational access, which damages biological resources and property, is considered to be a major management issue in the area. Within the surrounding areas to the BSA, there is Highway 111 (to the south) and there are extensive wind turbine fields (north and east of the BSA). There are also non-native plant species present within the BSA, interspersed within the native habitat areas and comprised of nuisance species such as Mediterranean grasses that are largely naturalized within the southern California desert areas. Non-native herbaceous species can reduce forage availability of native plant species for the resident wildlife species and can compete effectively with native plant species.

3.2.5 *Sand Transport Processes*

Sand transport occurs within the BSA via two natural processes: aeolian movement and fluvial movement. Sand gathers primarily as a result of fluvial processes within larger streams, depositing sands at the base of the mountains. Larger sand deposits can be found strewn along the northern base of the San Jacinto Mountains. Aeolian transport of these sands involves wind moving them into large dunes or spreading them out into sand fields. These sandy features historically would slowly move across the BSA from west to east, via wind and fluvial processes. Waves of sand dunes were developed across the Whitewater River

alluvial fan that supported hosts of sand-specific species, such as the CVFTL, whose home range is restricted to the ever-shifting sands.

Currently the aeolian sand processes have been curtailed to a large degree by various developments including freeways, wind generation facilities, the Facility and various windbreaks. Fluvial processes continue within larger drainages such as the Whitewater River and Snow Creek, but these too have been influenced and modified due to intervening developments such as the channelization of Whitewater River. During stormwater events greater than 400 cfs, diversion into the Facility does not occur and the fluvial process in the Whitewater River remains intact. In addition, North Indian Canyon Drive which runs north to south across the natural sand transport zone continues to hinder natural sand transport processes. Windblown sands are still conveyed across the area, but at a reduced rate as a result of these developments.

Alluvial sand movement through the Whitewater River and into the infiltration pond area appears to be continuing. Flows within the Whitewater River, augmented by Colorado River water, result in a higher waterborne erosion of sediment within the channel over much of its length, leading to a substrate that is largely composed of rocks and boulders with little silt or sand. Sediment does not typically deposit or remain within much of the Whitewater Channel during low flow conditions, instead being transported to the infiltration pond area where it gets deposited within the ponds. These sediments are periodically cleaned out by maintenance and deposited on the berms adjacent to each pond. Diversion to the Facility does not occur during storm events, and the sediment remains in the Whitewater Channel.

Within the Facility, fine sands were observed within several of the infiltration ponds. For the most part, they were along the edges of the ponds against the intervening dikes. It is unclear how much of the sand observed was aeolian versus fluvial in origin. In the far eastern portions of the infiltration ponds, where water is seldom present, deposited sands seemed to be most abundant along the leeward sides of the dikes, suggesting that these sands are primarily aeolian. Sands within the infiltration ponds are generally disturbed during maintenance of the ponds, preventing them from attaining much depth. During biological resources survey visits to the infiltration ponds the largest sand deposits seemed to be one meter or less in depth (ECORP 2020b). Sands within the infiltration ponds also tend to occur within isolated and small patches, do not generally support vegetation, are surrounded by otherwise disturbed areas, and ephemeral due to the ongoing maintenance activities and wind action in the area. Because of all of these factors, the patches of sands are considered to be of low suitability for sand-specific animals and plants for all of these factors, even though they may support these species from time to time.

Within the historic Whitewater River channel north of the pond array, abundant and undisturbed sands combined historic alluvium and more recent deposits from fluvial processes when waters are not diverted into the infiltration ponds. Aeolian processes contribute to sand deposits as well. Small amounts of scattered herbaceous vegetation was present within some portions of the historic Whitewater Channel directly north of the Facility and the sands appeared to be more extensive and deeper than those within the infiltration pond area. Refer to Section 3.3.4 for further information regarding impacts for the various alternatives on vegetation within this portion of the Whitewater River Channel.

The 1,218 acres set aside for CVFTL conservation as recommended in the 1984 BO was classified per the CVMSHCP as a mixture of Ephemeral Sand Fields and Active Dunes. As a part of the CVMSHCP's ongoing monitoring program, the CVCC has monitored the mitigation area. Based on the latest annual monitoring reports available online (CVCC 2008-2019), one of the core aeolian sand community plots is located within this area. This location has been documented to support CVFTL and CVMV, as well as other aeolian sand obligate species (CVCC 2008-2019).

3.2.6 Soils

Within the BSA there are six different soil series (Table 3 and Figure 6). Carsitas soils occur over the majority of Area A and Area B. Carrizo soils occur in two bands that run north-south along the eastern and central portion of Area B. Riverwash soils occur along the southern boundary of Area B, south of where vegetation stops within the riverbed. A very small portion of Myoma soils occurs in Area B.

Wind erosion of soils is a significant factor determining soil composition in the Coachella Valley, involving the detachment, transportation and deposition of soil particles by wind action (U.S. Department of Agriculture 2017). In drier regions, with low rainfall, windblown soils can be widespread, especially during drought periods. Susceptibility of a soil to aeolian sand transport is increased or decreased primarily based on the vegetation cover and size of particles, with coarser particles being less susceptible and clay and silt being most susceptible. Of the soil types present in the Project area, the fine sand soil categories found in the BSA (Carsitas and Myoma series) will tend to be most susceptible to wind erosion. These soil types dominate Area A and portions of Area B.

Table 3. Summary of Soils in the BSA

Code	Soil Series	Mapping Unit	NRCS Hydric/ Landform	Water Drainage	Material	Permeability
CcC	Carrizo	Stony sand, 2 to 9% slopes	No	Excessively drained	Alluvium derived from granite	Rapid. Very low surface runoff. Water holding capacity about 1.9 inches
CdC	Carsitas	Gravelly sand, 0 to 9% slopes	No	Excessively drained	Gravelly alluvium derived from granite	Rapid. Very low surface runoff. Water holding capacity about 3.0 inches
ChC	Carsitas	Cobbly sand, 2 to 9% slopes	No	Excessively drained	Gravelly alluvium derived from granite	Rapid. Very low surface runoff. Water holding capacity about 3.0 inches.
CkB	Carsitas	Fine sand, 0 to 5% slopes	No	Excessively drained	Sandy alluvium derived from granite	Rapid. Water holding capacity about 3.0 inches
MaD	Myoma	Fine sand, 5 to 15% slopes	No	Somewhat excessively drained	Wind-blown sandy alluvium	Rapid. Very low surface runoff. Water holding capacity about 4.8 inches.
RA	Riverwash	Frequently flooded, 0 to 2% slope	Yes	Excessively drained	Sandy and gravelly alluvium	Variable characteristics

NRCS = Natural Resources Conservation Service



Figure 5.
Regional Hydrology and
Hydrological Unit Code Boundaries

Map Contents

- Area A - Whitewater Groundwater Replenishment Facility
- Area A - Low Flow Crossing
- Area B
- Hydrological Unit Code (HUC) 10 Boundary
- Whitewater River Flowpath
- Mandmade Diversion Channel
- ⊗ Diversion Gate

Location: N:\2017\2017-187.001 Whitewater River Groundwater Replenishment Facility Project\jurisdictional_delineation\hydrology\WRG_hydro.mxd (MAG/AMM/AMM/MAG) mgulduy 8/31/2020



3.3 Biological Conditions

3.3.1 Vegetation Communities

Existing CVMSHCP modeling of vegetation communities contained within the Project area includes Sonoran Creosote Bush Scrub, Sonoran Mixed Woody and Succulent Scrub, Ephemeral Sand Fields, Stabilized Desert Sand Fields, Stabilized Shielded Sand Fields (including disturbed), and Reservoir (infiltration ponds).

Within Area B, the three vegetation communities present include Ephemeral Sand Fields, Sonoran Creosote Bush Scrub and Sonoran Mixed Woody and Succulent Scrub. Within Area A, the four vegetation communities present are Ephemeral Sand Fields, Stabilized Desert Sand Fields, Stabilized Shielded Sand Fields and Reservoir (the existing infiltration ponds).

These vegetation communities are described in more detail below.

3.3.1.1 Sonoran Creosote Bush Scrub

This vegetation community is part of the creosote bush scrub alliance characterized by the dominance of creosote bush (*Larrea tridentata*) with occasional co-dominance of burrobrush (*Ambrosia dumosa*) and little to no herbaceous species or sub-shrubs in the understory. The community is the most widely distributed vegetation type within the Colorado Desert, occurring throughout the Coachella Valley. It can be found evenly distributed throughout Area B, occurring on upper south-trending slopes and deep-soil terraces adjacent to floodplains. Within Area A, the community is more restricted to the perimeter of the area, outside of the infiltration pond array. In addition, the Low-Flow Crossing portion of Area A is mapped as Sonoran creosote bush scrub. The CVMSHCP lists this type of vegetation community as habitat for the following covered species: peninsular bighorn sheep, PSGS, PSPM, MDT, LeConte's thrasher, BUOW, CVFTL, Coachella Valley giant sand-treader cricket, CVMV, triple-ribbed milkvetch, Orocopia sage (*Salvia greatae*) and the Mecca aster (*Xylorhiza cognata*).

3.3.1.2 Sonoran Mixed Woody and Succulent Scrub

As the name implies, this vegetation community is dominated by both succulent shrub species and woody shrub species alike. The main succulents are various cacti, including silver cholla (*Opuntia echinocarpa*), pencil cholla (*Opuntia ramosissima*), beavertail cactus (*Opuntia basilaris*) and ocotillo (*Fouquieria splendens*). Woody shrub species in the community include creosote, burrobrush, and a wider variety of other shrubs and subshrubs depending upon elevation and soil factors. The community tends to be quite diverse and is largely restricted to rockier areas and some alluvial fans and slopes. A very small portion of this community has been mapped within Area B. The CVMSHCP lists this type of vegetation community as habitat for the following covered species: Peninsular bighorn sheep, MDT, LeConte's thrasher, BUOW, CVFTL, Coachella Valley giant sand-treader cricket, CVMV, triple-ribbed milkvetch, Orocopia sage and the Mecca aster.

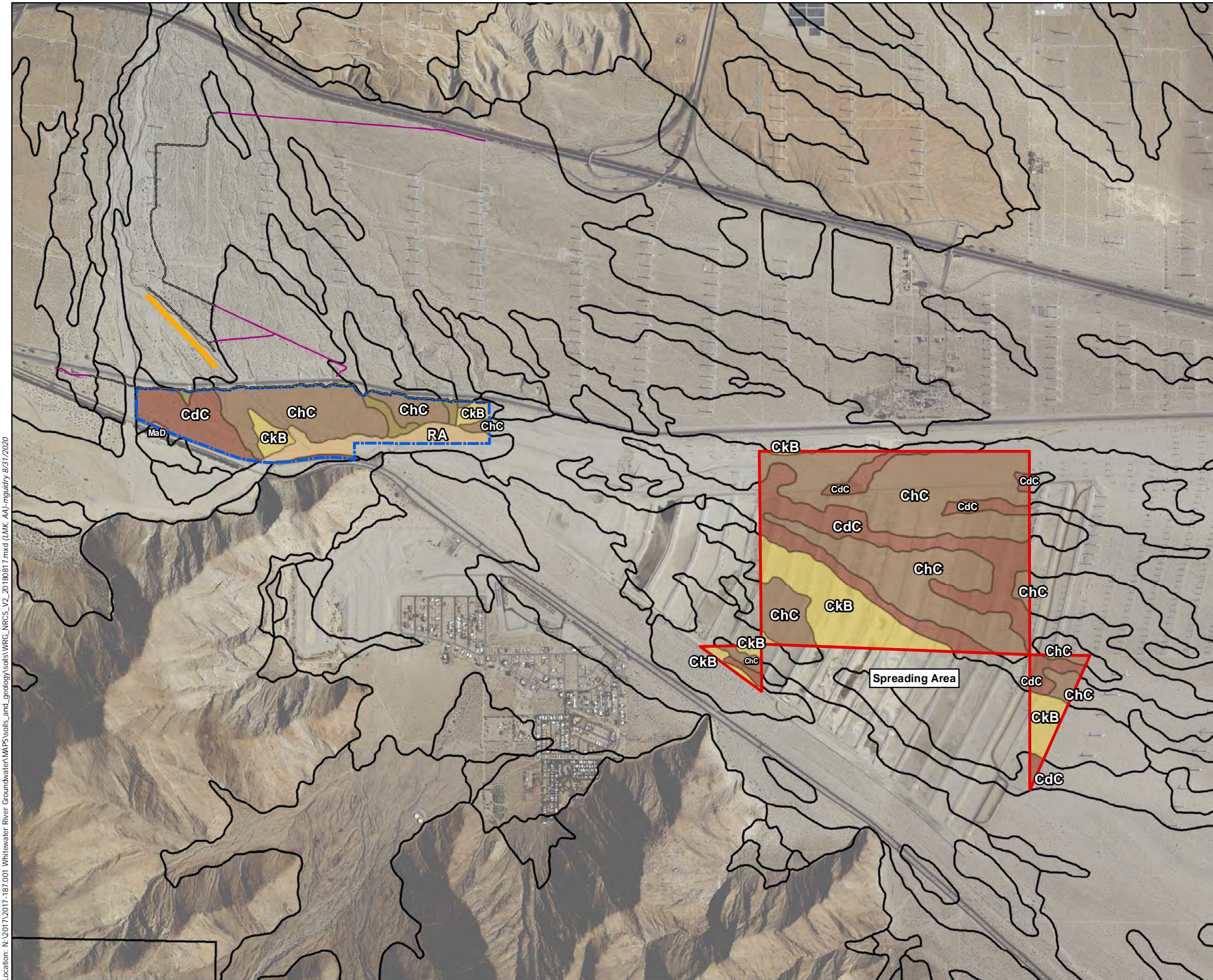


Figure 6. NRCS Soils Map

Map Features

- Area A - Whitewater Groundwater Replenishment Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)

Series Number - Series Name

- CcC - Carrizo stony sand, 2 to 9 percent slopes
- CdC - Carsitas gravelly sand, 0 to 9 percent slopes
- ChC - Carsitas cobbly sand, 2 to 9 percent slopes
- CkB - Carsitas fine sand, 0 to 5 percent slopes
- MaD - Myoma fine sand, 5 to 15 percent slopes
- RA - Riverwash

Natural Resources Conservation Service (NRCS)
Soil Survey Geographic (SSURGO) Database for
Riverside County, CA



3.3.1.3 Ephemeral Sand Fields

Ephemeral sand fields are part of the aeolian sand communities of the Coachella Valley floor that lack dune formations. Ephemeral sand fields occur with an aeolian sand depth of 0 to 2 meters, a base substrate of gravel and rocks, and support a moderate shrub cover. Conditions that form the community include very high sand movement through wind action and a moderate precipitation gradient. Plant species within the community include creosote bush, indigo bush (*Psoralea schottii*), desert willow (*Chilopsis linearis*) and California croton (*Croton californica*). The CVMSHCP lists this type of vegetation community as habitat for the following covered species: CVFTL, Coachella Valley giant sand-treader cricket, CVMV and the Coachella Valley Jerusalem cricket. Surrounding the infiltration pond facility, there is a dominance of this plant community.

3.3.1.4 Stabilized Desert Sand Fields

This community is very similar to the Ephemeral Sand Fields community, with the primary difference being that the fields are stabilized from aeolian sand transport. The community typically occur as isolated patches within Sonoran Creosote Bush Scrub communities. Plant species are primarily creosote at very low densities. The CVMSHCP lists this type of vegetation community as habitat for the following covered species: FTHL, CVFTL, Coachella Valley giant sand-treader cricket, CVMV, Coachella Valley Jerusalem cricket, PSGS, PSPM, LeConte's thrasher and BUOW. Stabilized Desert Sand Fields are located north of the infiltration pond array within the replenishment facility portion of Area A.

3.3.1.5 Stabilized Shielded Sand Fields (including Disturbed)

This community is very similar to the Stabilized Desert Sand Fields community, with the primary difference being that the fields are shielded from aeolian processes of sand deposition by a physical barrier or other interruption. In this case the infiltration pond facility acts as an interruption to wind-related sand movement downwind. This community harbors an aeolian sand depth of 0 to 2 meters, upon a substrate of silt and cemented sands, with a moderate shrub density of creosote. These areas support a moderate sand movement rate, due to winds being partially blocked. Within the infiltration pond facility, Pond 19 is partially modeled as stabilized sand fields. The community continues east of the infiltration pond facility. CVMSHCP-covered species associated with this community include the CVFTL, the PSGS, and the FTHL.

3.3.1.6 Reservoir

The Reservoir designation consists of the infiltration ponds. The majority of Area A boundaries contain reservoir (the existing Facility).

In accordance with the CVMSHCP, the currently mapped vegetation acreages of these communities are provided in Table 4.

Table 4. Current Habitat Modeling for Areas A and B

Habitat	Current Acreage
Area A	
Ephemeral Sand Fields	103.80
Stabilized Desert Sand Fields	3.74
Stabilized Shielded Sand Fields	128.58
Reservoir (Infiltration Ponds)	273.58
Sonoran Creosote Bush Scrub	2.2
Area B	
Ephemeral Sand Fields	28.72
Sonoran Creosote Bush Scrub	149.71
Sonoran Mixed Woody and Succulent Scrub	0.40

3.3.2 Dominant Plant Species

The dominant vegetation types and plants seen in Area B of the BSA consist primarily of native upland land cover types associated with the southern Mojave Desert. The dominant shrub species is creosote. Within the bottoms of stream channels, and within former alluvial portions of the Whitewater River, there were also desert willow individuals present. A very sparse cover of nonnative grasses is present within the understory of most of the vegetation communities. The primary nonnative grass species is common Mediterranean grass (*Schismus barbatus*) along with a few patches of fountain grass (*Pennisetum setaceum*). Other species of smaller cover within Area B included tree tobacco (*Nicotiana glauca*), short-pod mustard (*Hirschfeldia incana*), cheat grass (*Bromus tectorum*), red brome (*Bromus madritensis* ssp. *rubens*), Sahara mustard (*Brassica tournefortii*), and wild oats (*Avena* sp.)

Within Area A, the tops of the berms between ponds are cleared of vegetation (access roads). The habitat on the slopes of the ponds is a combination of disturbed herbaceous species and upland shrubs such as four-wing salt bush (*Atriplex canescens*) and goldenbush (*Ericameria* sp.). Several nonnative species are also present, including common Mediterranean grass, Russian thistle (*Salsola tragus*), crimson fountain (*Pennisetum setaceum*) grass, tree tobacco, short-pod mustard, cheat grass, red brome, Sahara mustard, and wild oats. Not much vegetation develops within the pond bottoms due to frequent inundation, but what is present typically consists of a few scattered shrub species. Although the inundated ponds consisted only of open water, within the perimeter and within non-inundated ponds, biologists observed scattered salt cedar (*Tamarix* sp.), creosote, four-wing saltbush, goldenbush, mule fat (*Baccharis salicifolia*), and varying cover of algae within ponds that are more frequently flooded. Shrub cover within the infiltration ponds was less than 10 percent at the most. Nonnative species including Russian thistle were often present as well. The Low-Flow Crossing portion of Area A contains a dike and road and is surrounded by upland land cover types dominated by creosote.

3.3.3 Common Animal Species

Several common animal species were noted during field surveys, focused surveys for specific animals, or during field meetings. This discussion provides examples of the typical species observed in Area A and Area B. The full list of plant and animal species observed is contained within Appendix F.

Typical animal species found in Area B of the BSA consisted of desert invertebrates, birds, reptiles and mammals. Invertebrates include various species of beetles, spiders, ants, flies, bees, scarabs, grasshoppers, crickets, moths, and butterflies. Bird species are diverse consisting of smaller passerine species like the verdin (*Auriparus flaviceps*) to raptor species such as the red-tailed hawk (*Buteo jamaicensis*). Common reptile species present included the western fence lizard (*Sceloporus occidentalis*) and zebra-tailed lizard (*Callisaurus draconoides*). Mammals such as the coyote (*Canis latrans*) are present, along with smaller animals such as the black-tailed jackrabbit (*Lepus californicus*).

There were fewer species observed overall within Area A. Most species were the more disturbance-adapted species as well as some aquatic species like mallards (*Anas platyrhynchos*) or American coots (*Fulica Americana*) within inundated ponds. During one of the visits, a white-faced ibis (*Plegadis chihi*) was observed. Some lizard species were observed along the sides of the pond such as zebra-tailed lizard and side-blotched lizard (*Uta stansburiana*). Also several common insect species were observed such as various bees, ants, and hover-flies. Many common species expected within Area B are considered to have potential to occur within Area A as well.

3.3.4 Aquatic Resources

The primary aquatic resources within the BSA include the Whitewater River, the CVWD diversion channels and the CVWD infiltration ponds. The Whitewater River is channelized through this area and is augmented typically by CRA waters. The aqueduct runs approximately 242 miles from Lake Havasu on the California/Arizona border in San Bernardino County to Lake Matthews located in western Riverside County, where it is then distributed to various agencies and water-purveyors. Water is released from the aqueduct north of I-10 into the Whitewater River via an outfall controlled by a gate valve. The water then flows down the natural flow path of the river. The water tends to be turbid and flows are rapid when the river is flowing. The substrate consists of boulders and cobbles with little to no resting fine sediment areas. Within the replenishment facility, waters consist primarily of open flows with little to no margin vegetation development. The diversion channels associated with the facility are largely cement-lined with no vegetation.

3.3.5 Nesting Migratory Bird Species and Nesting Raptors

Potential nesting habitat for migratory birds was present within vegetation in the BSA boundaries, including desert willow and creosote bushes, cholla cactus (*Cylindropuntia* sp.), and within various rock outcrops and some structures. Trees were generally absent from the area and those that were present were too small to be of use to raptor species. Areas adjacent to the BSA boundaries, including additional shrub cover and rock outcroppings, also provide potential nesting habitat for neo-tropical migratory birds and raptors; however, raptors tend to nest in only the largest trees and on cliff faces in the mountains, or, in some instances, utility towers.

GOEA nest sites are known to occur within the adjacent San Jacinto Mountains and to the north within and directly adjacent to the Little San Bernardino Mountains. Suitable nest sites for this species tend to be on steep cliff faces that are inaccessible to potential predators such as bobcats (*Felix rufus*). There are likely nests for other raptor species within these areas as well, such as the prairie falcon (*Falco mexicanus*). Areas that meet the criteria for an eagle or falcon nest site are absent from both Area A and Area B. However, both of these species, and other raptor species, could hunt within both areas.

Species of raptors that could nest within Area A or Area B include primarily smaller species such as the American kestrel (*Falco sparverius*).

3.3.6 Invasive Species

The biological surveys did not include a scientific assessment of nonnative species cover. The following information is based on a combination of ocular estimates made during other surveys and overall impressions of the area made during vegetation surveys.

According to the California Invasive Plant Council (Cal-IPC), over 100 plant species considered exotic/invasive within the region that occur in the BSA. The region includes the entire Coachella Valley from the San Geronio Pass area southward through the Salton Sea area. Invasive plant species on this list that were observed within the BSA included salt cedar (*Tamarix* sp.), common Mediterranean grass, Russian thistle, crimson fountain grass, tree tobacco, short-pod mustard, cheat grass, red brome, Sahara mustard, and wild oats. Most of the nonnative plant species concentrations were observed either along the Whitewater River channel or within the infiltration ponds. For instance, large patches of crimson fountain grass were present in Area B where the diversion gate and manmade diversion channel are located. The presence and density of nonnative grasses such as crimson fountain grass constitutes a wildfire concern in the Whitewater floodplain. Nonnative grasses were also scattered among various native shrub communities, although these were in very low densities.

According to Cal-IPC, the invasive rating for the nonnative plant species observed within both Area A and Area B fall into three categories: high, moderate and limited. These ratings are explained below.

- **High** – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
- **Moderate** – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
- **Limited** – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic

Plants rated as high include cheat grass, red brome, tamarisk and Sahara mustard. Plants rated as moderate include fountain grass, tree tobacco, shortpod mustard, and wild oats. Plants rated as limited included the common Mediterranean grass and Russian thistle.

Area A and Area B were evaluated using the Cal-IPC invasive rating for non-native plant species. The ratings fall into three categories: high, moderate, and limited. Appendix H provides more details on the rating system. Plants rated as high include cheat grass, red brome, salt cedar and Sahara mustard. Plants rated as moderate include crimson fountain grass, tree tobacco, shortpod mustard, and wild oats. Plants rated as limited included the common Mediterranean grass and Russian thistle.

Within both Area A and Area B, the current baseline level of nonnative weed cover is considered to be low density overall, although there are scattered patches of crimson fountain grass that are of higher density near the sluice gate and patches of Sahara mustard near the Low-Flow Crossing that are of moderate density. The vegetation for these two areas is regularly disturbed and removed as part of the O&M of the Facility, resulting in soil disturbance that can encourage these species. Even though the patch of crimson fountain grass observed near the sluice gate is approximately 50 feet long by 10 feet wide, crimson fountain grass patches of similar density are absent within the majority of Area B. Estimates of nonnative species cover for all nonnative species range at less than 10 percent absolute cover within any given patch. For individual species, the species with the highest apparent level of absolute cover is common Mediterranean grass (Rating: Limited) while the species with the lowest apparent cover (least common) is tree tobacco (Rating: Moderate).

Nonnative wildlife species were generally not common within the BSA. Species that may occur could include nonnative invertebrate species including earwigs (*Dermaptera* sp.) and silverfish (*Thysanura* sp.), or bird species such as Eurasian collared-dove (*Streptopelia decaocto*). The extreme climatic conditions and dominant native desert environment limit most wildlife species that occur to those adapted for these conditions.

3.3.7 Wildlife Corridors

Within the landscape, wildlife moves along linkages between large blocks of habitat that allow safe movement with access to food and water resources. Riparian and riverine corridors are ideal as movement or wildlife corridors. The exact definition of a corridor varies, as do the composition of these specific environments, but corridors can include any river system, urban greenbelts, culverts, alluvial fan systems, linear transportation corridors such as dirt roads and underpasses. There are also regional wildlife corridors, local wildlife corridors and worldwide movement corridors such as the Pacific Flyway. The Pacific Flyway is used by bird species to travel between breeding ranges in North America and overwintering grounds in Central and South America. For the purpose of this report, a corridor is herein considered as a linear habitat, embedded in a dissimilar habitat matrix, which connects two or more large blocks of habitat.

Wildlife movement corridors are critical for the survival of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and

adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. Naturally, the nature of corridor use and wildlife movement patterns varies greatly among species.

The BSA provides wildlife movement opportunities because it consists of open and relatively unfragmented land. However, it would not be considered a specific and necessary wildlife movement corridor to allow wildlife to move between important natural habitat areas due to the abundance of similar open land nearby. The BSA is also mostly surrounded by additional open unfragmented land, functioning as a single contiguous block of habitat rather than a corridor. The Whitewater River and water within the infiltration ponds, however, attract wildlife. The presence of these aquatic resources likely results in some focal use of these features by local and transient wildlife. It could also present a potential stopover along the Pacific Flyway. Although the dirt roads and desert washes located within the BSA are likely utilized by wildlife moving through the area, these features would not be considered necessary linkages between conserved natural habitat areas or critical for wildlife movement because of the nearby open space surrounding the BSA.

4.0 RESULTS: HABITAT AND SPECIES MODELING REVISIONS

Existing modeling of habitat areas contained within the CVMSHCP mapping includes Ephemeral Sand Fields, Sonoran Creosote Bush Scrub, Sonoran Mixed Woody and Succulent Scrub, Ephemeral Sand Fields, Stabilized Desert Sand Fields, Stabilized Shielded Sand Fields (including disturbed), and Reservoir (infiltration ponds). As a result of the surveys conducted, modeled habitat obtained from the CVMSHCP within and near the easternmost portion of the infiltration ponds was revised. Note that the original mapping of "Reservoir" did not include the easternmost infiltration ponds.

These easternmost infiltration ponds were recognized as not being frequently inundated and so were mapped within the CVMSHCP as Stabilized Shielded Sand Fields. The revision conducted as part of this assessment was based on field work to assess the habitat within all of the infiltration ponds, but in particular the easternmost ponds that are least subject to inundation. Areas within these ponds have been subject to long-term drought, compared with the remainder of the infiltration ponds, and so aeolian deposits have become apparent within some of them.

Revisions to the existing CVMSHCP mapping included a reduction in Ephemeral Sand Fields (replaced with other communities), a reduction in Stabilized Shielded Sand Fields, and an increase in Disturbed Stabilized Shielded Sand Fields. All of the revisions made to the modeling correspond to eastern portions of the infiltration pond array. The mapped vegetation acreages of these communities in accordance with CVMSHCP models (Current Acreage), and as revised by survey (Revised Acreage), are provided in Table 5 and the revised mapping is within Appendix B.

Table 5. Current and Revised Habitat Modeling for Areas A and B

Habitat	Current Acreage	Revised Acreage	Difference in acreage
Area A			
Ephemeral Sand Fields	103.80	100.70	-3.10
Stabilized Desert Sand Fields	3.74	3.74	0
Stabilized Shielded Sand Fields	128.58	92.49	-36.09
Disturbed Stabilized Shielded Sand Fields	0	39.24	+39.24
Reservoir (Infiltration Ponds)	273.58	273.58	0
Sonoran Creosote Bush Scrub	2.2	2.2	0
Area B			
Ephemeral Sand Fields	28.72	28.72	0
Sonoran Creosote Bush Scrub	149.71	149.71	0
Sonoran Mixed Woody and Succulent Scrub	0.40	0.40	0

On the maps showing the CVMSHCP modeled habitat included in this report (Appendix B), a larger area surrounding the proposed right of way was reviewed to provide context for both vegetation communities and associated modeling out to a one-mile buffer around Area A and Area B (the BSA). Table 5 summarizes the species that were not modeled in the BSA, species modeled in the BSA but not modeled in the requested right of way, and species modeled in the right of way. At the direction of the BLM the species is assumed to be present if modeled habitat is present.

CVMSHP-managed species whose habitat has not been modeled within the BSA include LBV, southern yellow bat (*Lasiurus ega*), summer tanager, yellow-breasted chat, and yellow warbler (Appendix B). Although Peninsular bighorn sheep habitat is modeled within the BSA, it is not within the requested right of way, and all of the modeled habitat is south of Highway 111. LBV, southern yellow bat, summer tanager, yellow-breasted chat, and yellow warbler were considered but are assumed not to be present due to lack of habitat within the BSA and lack of modeled habitat according to the CVMSHCP. Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, CVMV, MDT, FTHL, fringe-toed lizard, LeConte's thrasher, PSGS, PSPM, and TRMV all have modeled habitat in the BSA, including the requested right of way, and are considered present.

5.0 RESULTS: SENSITIVE SPECIES

5.1 Federally Listed/Proposed Species

5.1.1 *Coachella Valley Milk-Vetch*

CVMV was federally listed as an endangered species in 1998 due to its low number of known occurrences. Critical Habitat for the species was designated in 2013. This species is also considered to be a BLM-

sensitive species. The following is an abbreviated species account derived from the CVMSHCP (CVAG 2007), Barneby (1964), USFWS (2004), and USFWS (2009a).

CVMV is an annual or short-lived perennial of the Fabaceae (pea) family that is endemic to the Coachella Valley, in the western Sonoran Desert. The CVMV is strongly affiliated with sandy habitats, whether they involve areas with active sand transport, are stabilized, or are shielded sandy substrates. The leaves, stems, and fruits of CVMV are densely covered with short, appressed (pressed flat), white hairs while the pink-purple flowers are arranged in 11- to 25-flowered racemes (a simple, elongated inflorescence) and the two-chambered fruits are strongly inflated. CVMV is one of 19 varieties of *A. lentiginosus* found in California.

CVMV seeds germinate in fall to early winter. Seasonally dormant root crowns (i.e., the point at which the root and stem of a plant meet) sprout new shoots in December to January. The date of first flowering may be as early as December in perennial plants, but usually not until January or February and continues into April for plants in their first year. The timing of germination or crown-sprouting is highly dependent on rainfall patterns during a given year.

CVMV were historically uncommon in the Coachella Valley, and associated with various windblown sand deposits. Most of the known occurrences in the Coachella Valley are in and around the Snow Creek, Whitewater River, Mission and Morongo creeks, Willow Hole, The Big Dune, and the Thousand Palms Reserve areas. Habitat occurs within Whitewater Canyon, mainly near Snow Creek and to the southeast. Modeled habitat for CVMV encompasses the eastern edge of Area B and both the northern and eastern edge of the Area A.

5.1.1.1 Survey Results

CVMV surveys of the BSA were conducted, and several individuals were observed within Area B near the confluence of Snow Creek and Whitewater River, in Ephemeral Sand Field habitat areas. None were observed within Area A. There is CVMSHCP-modeled habitat for the species in the proposed right of way (Area A and Area B) and where the modeled habitat occurs, these areas are assumed to be occupied.

5.1.1.2 Critical Habitat

Critical Habitat for the CVMV has been designated within the BSA, occurring along Snow Creek and the entire Whitewater River floodplain. Both Area A and Area B are within designated Critical Habitat. This also includes the infiltration ponds in their entirety.

Although all of the area is mapped as Critical Habitat, there are several areas that do not support suitable habitat for the CVMV. The CVMSHCP modeling, for instance, depicts a Reservoir designation within the infiltration ponds, which is not considered to be CVMV habitat for the most part, due to ongoing maintenance and periodic inundation. Other smaller areas within the overall Critical Habitat areas include developed zones, the flow path of the Whitewater River channel, appurtenant structures for the facility, wind power turbines and other small disturbed areas. Nevertheless, all areas designated as Critical Habitat for the CVMV will be considered as part of the consultation on the Project for BLM lands.

Another factor to be considered is the sand transport process across Area A and Area B, which constitutes a key ecological process for CVMV habitat maintenance. Because this is a dynamic system, it is possible that non-ideal habitat areas can become more suitable over time as sands are deposited in new areas. For new areas to develop within the Project site maintenance areas, there would need to be a prolonged absence of maintenance activities. Most of the sand deposits within the Project area are located outside of maintained areas or within areas that receive relatively little maintenance, such as the easternmost infiltration ponds.

5.1.2 Triple-Ribbed Milk-Vetch

The TRMV was federally listed as an endangered species in 1998 due to its low number of known occurrences. Critical Habitat for the species has not been designated. This species is also considered to be a BLM-sensitive species. The following is an abbreviated species account derived from the CVMSHCP (CVAG 2007) and USFWS (2009b).

TRMV is a perennial of the Fabaceae (pea family) that ranges within transition areas of the Sonoran and Mojave deserts in San Bernardino and Riverside counties at elevations from 1,300 to 4,000 feet amsl. TRMV was originally thought to be restricted to canyon bottom sites. However, significant occurrences have been found since its listing, resulting in an expansion of TRMV distribution and a re-characterization of known habitat. Habitat includes Joshua tree woodland and Sonoran Desert scrub. Leaves are 1.3 to 2.7 inches long, with 17 to 20 leaflets that are silvery strigose on the upper surface. The flowers are white or pale cream-colored, arranged in loose, 6- to 17-flowered racemes. The fruit is narrow, 0.8 to 1.6 inches long, glabrous, and distinctly three-ribbed.

TRMV was known by historical occurrences from eight areas in the southeastern San Bernardino Mountains and western Little San Bernardino Mountains in Riverside County, and the Orocopia Mountains and Santa Rosa Mountains in Riverside County. Since listing, four additional occurrences have been found with some numbering more than 300 plants. Modeled habitat for TRMV does not occur within either Area A or Area B, and the nearest known occurrences are within Whitewater Canyon north of I-10 over 10 miles north.

5.1.2.1 Survey Results

TRMV surveys of the BSA were not conducted. There is CVMSHCP-modeled habitat in the proposed right of way (Area A and Area B), so this species is presumed present within those areas.

5.1.2.2 Critical Habitat

Critical Habitat for the TRMV has not been designated.

5.1.3 Coachella Valley Fringe-Toed Lizard

The CVFTL was federally listed as an endangered species in 1980 due to its low number of known occurrences. Critical Habitat for the species was designated in 1980. This species is also considered to be a BLM-sensitive species. The following is an abbreviated species account from the CVMSHCP (CVAG 2007) and USFWS (1985, 2010).

CVFTL is a medium-sized lizard with a whitish back and belly and light eye-like markings that extend to the shoulders. The species is adapted to live in fine sand, keeping sand material away from its eyes, mouth, nose, and ears. The CVFTL is closely related to the Colorado Desert fringe-toed lizard (*Uma notata*) and the Mojave fringe-toed lizard (*U. scoparia*). The species is restricted to aeolian and fluvial sand deposits (dunes) on the floor of the Coachella Valley in Riverside County, California. Home range size for the species is less than one acre, allowing them to inhabit very small and discrete sand sites. They are omnivorous, eating both plants and arthropods primarily, and breeding occurs in the spring (April/May) following a winter dormancy period.

CVFTL habitat was estimated at approximately 170,000 acres prior to human settlement of the Coachella Valley. More recent estimates by CVAG have the habitat available at closer to 27,000 acres (16 percent of the historic amount). Within the Whitewater Floodplain Conservation Area of the CVMSHCP, there is an estimated 5,617 acres of habitat with 5,309 acres targeted for conservation. Currently about half of the total targeted acreage for conservation have been conserved. The adjacent Snow Creek/Windy Point Conservation Area supports an additional 1,374 acres of habitat for the CVFTL. Modeled habitat for CVFTL occurs within the eastern edge of Area B and both the northern and eastern edge of the Area A.

Recent genetic work (Vandergast et al. 2016) indicates that fragmentation and drought have acted synergistically on CVFTL populations within their range to cause genetic change over a short time frame. Loss of connectivity, low effective population size, and measurable loss of genetic diversity, especially for populations that occur in the Whitewater River Floodplain, indicate that conservation efforts have not maintained the genetic integrity of this species.

Although habitat within the infiltration ponds is not ideal for CVFTL, due to regular maintenance activities and disturbance, the sand transport process across Area A and Area B constitutes a key ecological process for CVFTL that may make the habitat more suitable for the species, eventually if there is a lack of maintenance activity.

5.1.3.1 Survey Results

CVFTL surveys of the BSA were not conducted. CVMSHCP-modeled habitat is within the proposed right of way (Area A and Area B); therefore the species is presumed present where habitat is modeled.

5.1.3.2 Critical Habitat

Critical Habitat for the CVFTL has not been designated within the BSA, but is more to the southeast near Thousand Palms and the Indio Hills region, approximately 20 miles to the east. Primary constituent elements (PCEs) of Critical Habitat for the CVFTL include all active sand dunes, stabilized or partially stabilized sand dunes, active or stabilized sand fields, shielded sand fields, active washes, and ephemeral non-sandy areas within the sand transport system zone.

5.1.4 Mojave Desert Tortoise

The MDT was federally listed as a threatened species in 1980 and state listed as an endangered species in 1990. Critical Habitat was designated for the MDT in 1990 (USFWS 1990). This species is also considered to be a BLM-sensitive species. The following is an abbreviated species account derived from the

CVMSHCP (CVAG 2007), Berry et al. (2002), USFWS (1994), Boarman (2002), Desert Tortoise Council (1997), Lovich (1992), and Berry and Medica (1995).

MDTs are associated primarily with Mojave creosote bush scrub, but have also been found in succulent scrub, cheesebush (*Ambrosia salsola*) scrub, blackbrush (*Coleogyne ramosissima*) scrub, hopsage scrub, shadscale (*Atriplex confertifolia*) scrub, microphyll woodland, and Mojave atriplex-allscale (*Atriplex* spp.) vegetation communities. This species typically inhabits flat, gently sloping terrain, valleys and bajadas, washes, rocky hillsides, and open flat desert areas with sandy to sandy-gravel soils that offer suitable substrates for burrowing and nesting. MDTs are typically found at an elevation range of approximately 1,970 to 3,300 feet amsl, but have occasionally been found higher than 3,940 feet amsl. MDTs are known to occupy a home range of approximately 0.75 square mile and travel long distances for resource use.

MDT activity patterns are controlled primarily by ambient temperature and precipitation. In the western Mojave Desert, MDTs are generally most active between April and June, and September and October, when the herbaceous vegetation they prefer (grasses and flowers of annual plants) is most abundant. They have also been known to eat other items such as insects, lizards, and feces, but these items make up a very small proportion of their diet. In periods of harsh or unusually dry conditions, MDTs can retreat to burrows where they lower their metabolism and loss of water and consume very little food. During inactive periods MDTs hibernate, aestivate, or rest in subterranean burrows spending approximately 98 percent of their time in these cover sites. During active periods, they usually spend nights and the hotter part of the day in their burrow or resting under shrubs.

MDTs experience delayed sexual maturity and are long-lived. They reach sexual maturity at approximately 12 to 20 years of age. Tortoise eggs are laid in spring (April to June) and occasionally in fall (September to October). Female tortoises lay between one to eight eggs in sandy or friable soil, often at the mouth of burrows. The eggs incubate unattended for between 90 to 120 days, during which the sex of the young is determined by soil temperature. Birth intervals range from zero to three times per year.

The range of the MDT has declined because of several factors, including urbanization and other human-related activities (OHV use, overgrazing of domestic livestock, and construction of roads and utility corridors). Secondary contributions to degradation include the proliferation of exotic plant species and a higher frequency of anthropogenic fire. Effects of these impacts include alteration or destruction of macro- and micro-vegetation elements, establishment of disclimax plant communities, soil destabilization, soil compaction, erosion, and pollution.

In California, the MDT has historically inhabited the Mojave and Sonoran deserts, including Inyo, Imperial, eastern Kern, Los Angeles, San Bernardino, Riverside, and San Diego counties. MDT sightings on the Coachella Valley floor are rare, as the species is primarily known from Whitewater Hills, Stubbe and Cottonwood canyons, Mission Creek, and the Little San Bernardino Mountains. Populations have also been found as far east as the Santa Rosa Mountains. Habitat occurs within Whitewater Canyon but is north of I-10 within the designated Whitewater Canyon Conservation Area of the CVMSHCP. There is modeled habitat for MDT within the BSA in Area B. There have been infrequent incidental sightings of MDT within the Whitewater River floodplain in this area, but these sightings are poorly documented and not generally substantiated enough to identify a consistent use pattern by MDT.

5.1.4.1 Survey Results

MDT surveys of the BSA were not conducted. There is CVMSHCP-modeled habitat for MDT in the proposed right of way (Area A and Area B); therefore the species is presumed to be present where the habitat is modeled.

5.1.4.2 Critical Habitat

Critical Habitat for the MDT has not been designated within the BSA. PCEs of Critical Habitat for the MDT include sufficient space to support viable populations within each of the five recovery units and provide for movements, dispersal, and gene flow; sufficient quantity and quality of forage spaces and the proper soil conditions to provide for the growth of such species; suitable substrates for burrowing, nesting, and overwintering; burrows, caliche caves, and other shelter sites; sufficient vegetation for shelter from temperature extremes and predators; and habitat protected from disturbance and human-caused mortality.

5.1.5 Least Bell's Vireo

The LBV was state-listed as an endangered species by California Fish and Game Commission in 1980, and federally listed as an endangered species in 1986, after it was determined that the species was reduced to only 300 pairs nationwide. Critical Habitat for the species was designated in 1994. This species is also considered to be a BLM-sensitive species. The following is an abbreviated species account derived from the CVMSHCP (CVAG 2007), Kus (2002), Patten et al. (2003), Goldwasser et al. (1980), and Grinnell and Miller (1944).

LBV are small insectivorous birds, preferring to forage by gleaning small insects from vegetation within a few feet of the ground under protective canopies of willows (*Salix* sp.), cottonwoods, and other riparian shrubs and trees. Prey items include caterpillars, beetles, grasshoppers, and moths. LBVs typically occupy riparian areas with low shrubs in the vicinity of water or in dry parts of washes and canyon bottoms containing willows, mule fat, and wild blackberry (*Rubus ursinus*). They have also been associated with valley oaks (*Quercus lobata*), wild grape (*Vitis californica*), poison oak (*Toxicodendron diversilobum*), and sumac (*Rhus* sp.) along margins of water courses. In desert areas, mesquite (*Prosopis* sp.) and arrowweed (*Pluchea sericea*) may be occupied. There have also been observations of vireos utilizing catclaw (*Acacia greggii*), tree tobacco and, to a greatly reduced extent, salt cedar stands in Baja California and the Colorado River.

LBVs are monogamous but may also be serial monogamous by switching mates within the same season or between years. Vireos may have as many as five broods per year, but typically have only one or two broods. Nest-building begins in late March but may continue through the beginning of July. Males use perches high in the canopy, which are often exposed, as territorial singing perches and for courtship display. Male courtship displays include wing flicking and tail fanning, often accompanied by rapid calls. Their nests are frequently located at the edges of bushes, or in branches projecting into open areas.

Clutch sizes are typically three to four eggs, and both birds share incubation duties during the day. Only the female does so at night. Incubation lasts about 14 days, with fledging occurring 10 to 12 days after

hatching. Both parents feed the nestlings and may continue to care for fledged young for at least two weeks, unless the pair has a second brood, after which care for the fledglings is provided primarily by the male.

LBVs were historically common in lowland riparian habitats, ranging from southern California (San Diego County) to Red Bluff (Tehama County). Populations also occurred on both sides of the Sierra Nevada and Coast Ranges, in Owens and Death Valley, and the Mojave Desert. The species also had a wide elevation tolerance, from -53 meters (-175 feet) in Death Valley to 1,250 meters (4,100 feet) at Bishop, in Inyo County. The LBV has not been recorded much within the Coachella Valley, except within riparian habitats as a transient species. Habitat where LBV have been recorded according to eBird occurs within Whitewater Canyon (Bonnie Bell), approximately three miles north of the Area B and 1.5 miles north of I-10 within the designated Whitewater Canyon Conservation Area of the CVMSHCP. The nearest modeled habitat for LBV, but where LBV have not been recorded, occurs within the upper tributaries of Snow Creek, in the mountains approximately two miles south of the BSA. The BSA contains only sporadic habitat that is not sufficient in extent to support breeding LBV. Therefore, in consideration of all of these factors, if LBV were to occur within the BSA, it would only be expected during migration as a transient species.

5.1.5.1 Survey Results

LBV surveys of the BSA were not conducted specifically because no suitable habitat was present. There is no CVMSHCP-modeled habitat in the BSA, and therefore the species is presumed to be absent from the right of way.

5.1.5.2 Critical Habitat

Critical Habitat for the LBV has not been mapped within the BSA. PCEs of Critical Habitat for the LBV include all riparian woodland habitats that include structural components of both canopy and shrub layers, along with some upland vegetation. Edges or ecotones within the riparian habitat types with other habitat types are essential as well.

5.1.6 Peninsular Bighorn Sheep

Bighorn sheep (*Ovis canadensis*) are divided taxonomically into three distinct subspecies, one of which is the peninsular range population (*Ovis canadensis nelsoni*). Bighorn sheep are ungulates, belonging to the Bovidae family, which also includes antelope, cattle, and goats, and are characterized as cloven-hoofed ruminant mammals. This species occurs on rocky desert slopes to the west of the proposed right of way; the population's full range is from the San Jacinto Mountains south to the U.S.-Mexico border. The population is federally listed as endangered. Information found below is primarily taken from the Recovery Plan for the Bighorn Sheep, Peninsular Population (USFWS 2000).

Peninsular bighorn sheep inhabit mountainous areas with a variety of different slopes and slope aspects, preferring protected rocky slopes, cliffs, canyons, washes and alluvial fans. Like other bighorn sheep, they generally prefer ready access to water sources and are able to navigate rugged habitat without difficulty, using their innate climbing abilities. They eat primarily plants, including cacti, and their seasonal distribution varies based on availability of water sources. They are a herd animal, with females forming

groups with their offspring and using smaller home ranges than the males. Lambing season is the spring when desert plants are most abundant.

5.1.6.1 Survey Results

Peninsular bighorn sheep surveys were not conducted. CVMSHCP-modeled habitat is located within the BSA, south of Highway 111, but not within the proposed right of way. The species is presumed to be absent, therefore, from the proposed right of way.

5.1.6.2 Critical Habitat

Critical Habitat for the peninsular bighorn sheep was designated in 2001 but has not been mapped within the proposed right of way. Critical Habitat is found to the south of Highway 111. PCEs of Critical Habitat for the sheep include space for normal herd behavior, protection from disturbance, native desert plant communities, water sources and linkages between subpopulations.

5.2 BLM-Sensitive Species

All of the species discussed in previous sections are also considered to be BLM-sensitive species. Below are species which are also BLM-sensitive species but are not otherwise discussed in this report. The BLM designates sensitive species and implements measures to conserve these species on BLM lands in order to promote their conservation and ultimately to prevent their listing under FESA.

5.2.1 BLM-Sensitive Plant Species

According to the list provided by the BLM, there are 71 plant species listed which are under the purview of the Palm Springs Office and could have potential to occur within the Project site. There are an additional 21 species which are being considered for addition to this list. Because the list includes a mixture of desert species and more coastal or montane plant species, the list was reviewed and several species for which habitats are not present within the Project site or for which ranges do not overlap the Project site were eliminated from consideration. Appendix D provides a tabular list of plant species whose occurrence was considered possible and lists their potential to occur within the Project site.

5.2.1.1 Survey Results

Focused surveys for sensitive plant species were not conducted, other than for CVMV. Stands of CVMV were located within Area B near the confluence between the Whitewater River and Snow Creek. CVMSHCP-modeled habitat for CVMV and Critical Habitat for CVMV, is within the proposed right of way; therefore the species is presumed to be present where that habitat is modeled. Similarly, modeled habitat for TRMV is within the right of way and discussed in further detail above.

5.2.1.2 Potentially Occurring Plant Species

Of the species which are listed as BLM-sensitive plant species for this field office, the only two with potential to occur were the CVMV and TRMV. Most of the species included on the list are native to other counties, especially San Diego County, or are not usually found within the desert. Due to the Project area

being out of the range of most of the BLM-sensitive plant species, little evaluation for most of them was necessary. The few that are within range are analyzed elsewhere within this document.

5.2.2 *Flat-Tailed Horned Lizard*

The FTHL is a BLM-sensitive species and a CDFW SSC. It typically inhabits sandy desert flatlands with sparse vegetation. This species of horned lizard is typically found in desert flatlands with sparse vegetation but can also be found in low hills or alkali flats (NatureServe 2019). The FTHL requires fine sand for cover as it burrows just beneath the surface to avoid extreme temperatures. They also use mammal burrows to seek refuge (Stebbins 2003).

The FTHL has a snout-to-vent length of 2.5 to 3.4 inches, cryptic coloration, and a distinguishing mid-dorsal stripe that is unique to this species of horned lizard (Stebbins 2003). The FTHL primarily feeds on native species of ants and is positively associated with ant densities (NatureServe 2019). Adult FTHLs are reported to be obligatory hibernators; individuals begin hibernation as early as October and emerge as late as March. Courtship and breeding of FTHLs are believed to take place in early spring after emergence from winter hibernation. FTHLs are oviparous (egg-laying, early maturing, and may produce multiple clutches within a breeding season; however, they produce relatively small egg clutches compared to most other horned lizards) (NatureServe 2019). The first clutch hatches in early July and the second clutch, if laid, hatches in late August and early September. Hatchlings from the first clutch may reach sexual maturity after their first winter season, whereas hatchlings born later may require an additional growing season to mature. Threats to this species of horned lizard include urbanization, agriculture, geothermal developments, OHV use, and sand and gravel mining (Stebbins 2003).

5.2.2.1 Survey Results

FTHL surveys were not conducted. CVMSHCP-modeled habitat is within the proposed right of way (Area A and Area B); therefore the species is presumed to be present where that habitat is modeled.

5.2.3 *Burrowing Owl*

The BUOW is a BLM-sensitive species and a CDFW SSC. The BUOW is a small, migratory owl found in various habitats throughout North America. With a mottled brown and white appearance, BUOW are usually very cryptic with their surroundings when not flying or foraging. Most of their time is spent on the ground in front of burrow entrances or sitting on low perches near their burrows. These owls are unusual in that they either excavate their own burrows for shelter and breeding purposes, or they rely on California ground squirrels (*Otospermophilus beecheyi*) and other burrowing mammals for burrow construction. BUOWs have also been known to nest within natural rock cavities, debris piles, culverts and pipes (Rosenberg et al. 1998).

Many areas in the Mojave Desert provide wintering habitat, other areas provide breeding habitat, and some areas provide both wintering and breeding habitat. Due to the adaptive migratory behavior of the BUOW, areas within their range could contain both wintering individuals and permanent residents in proximity to one another.

Habitat requirements for BUOWs consist of arid, open areas with sparse vegetation cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. Friable soils are also important habitat requirements for this species. Although habitat loss due to urbanization is a contributing factor to population declines, BUOWs (particularly when not breeding) can be highly tolerant of nearby human impacts when suitable habitat is present.

BUOWs breed in the spring and are generally monogamous throughout the breeding season. Typically, only one clutch is laid per breeding season and average clutch size is six to seven eggs, although only three to five hatchlings will survive to fledging stage. The female will incubate the eggs for 27 to 30 days while the male provides food for the female during incubation and to the female and young just after hatching (NatureServe 2019). The young fledge the nest around six weeks and have been known to remain in the natal area and forage with the adults for a period of time thereafter. Although active throughout the day, BUOWs mainly forage nocturnally for small vertebrate and invertebrate prey items, such as small mammals, lizards, birds, and beetles.

The primary reasons for BUOW population decline are habitat loss, degradation, and fragmentation due to agricultural and urban development. Predation by natural predators (hawks, larger owls, and mammals) and introduced predators (domestic cats and dogs) is also responsible for large declines of this species. In Conway (2018), it is cited that “many authors have suggested that eradication of burrowing animals is a major cause of BUOW declines, because burrows dug by burrowing animals are a critical resource for western BUOWs.”

5.2.3.1 Survey Results

Although focused BUOW surveys were not conducted, biologists driving through the area on access roads and along dikes within the infiltration ponds during other surveys had the potential to make incidental observations of BUOW or their sign. No BUOW or sign of BUOW were observed, however. Nevertheless, the species is presumed to be present where habitat occurs in both Area A and Area B.

5.2.4 Golden Eagle

The GOEA is a BLM-sensitive species and a CDFW FP species. Eagles are also considered to be a public trust resource and are federally protected by the Bald and Golden Eagle Protection Act (16 U.S. Code [USC] § 668) and by the Federal Migratory Bird Treaty Act (16 USC §703-711). The GOEA is a top-level predator species that can occupy many square miles of territory and nests on steep cliff faces and, occasionally, in high trees or manmade structures. The habitats that they use for foraging are quite variable, but generally consist of open areas where the shrub and tree canopy are somewhat sparse. Large tracts of forest lands are typically avoided by GOEAs, for instance, though they could fly over such areas en route to other more suitable foraging areas. GOEAs prey upon a large number of mammals, birds, and reptiles, but some evidence has shown that black-tailed jackrabbits are a preferred prey item in much of the western U.S. (USGS 2020).

GOEAs are a large eagle with an overall brown coloration, with slightly paler flight feathers, and a golden coloration about the nape. Their wingspan is very large ranging from 70 to 80 inches. GOEAs are usually very cryptic with their surroundings when not flying or foraging. Most of their time is spent on the soaring

high in the air in search of prey. Because of the inaccessibility of their chosen nest locations, their nests are relatively safe from most predators.

Many areas in the Coachella Valley provide hunting habitats, but nesting areas are generally restricted to surrounding mountainous zones. The cliffs in the San Jacinto Mountains to the south of the infiltration ponds provide the nearest suitable nest locations and there are historic nests in this area. GOEAs will use the same nest locations over multiple generations. Any GOEAs using the proposed right of way for this Project are expected to be foraging individuals. Area A and Area B combined would comprise a fairly small portion of a GOEA's potential entire foraging area. No suitable nest sites for GOEA are located within the Project site.

The primary reasons for GOEA population risk are threats to historic nest sites, which are relatively few across the species' range. Additional risk factors are foraging habitat loss, degradation, and fragmentation due to agricultural and urban development, and use of agricultural pesticides.

5.2.4.1 Survey Results

No GOEA surveys were specifically conducted within the Action Area and no GOEA were observed incidental to other surveys. GOEA is presumed to be primarily present as an occasional foraging species within both Area A and Area B.

5.2.5 Palm Springs Little Pocket Mouse

The PSPM is a small pocket mouse belonging to the Heteromyidae family, which also includes kangaroo rats, spiny pocket mice, and kangaroo mice, and are characterized by large hind feet and external cheek pouches used for temporary seed storage. The little pocket mouse (*Perognathus longimembris*) is the smallest member of the Heteromyidae family. There are seven subspecies of *P. longimembris*, all of which are different from one another based on range and/or morphological or genetic differences.

This nocturnal pocket mouse has soft, silky pelage that lacks spines. Although the pelage is generally uniform in color, there are usually two small patches of light-colored hairs at the base of each of the ears (Brylski 1998b). These patches may or may not be conspicuous, depending on the color variation of the animal. Pelage coloration ranges from "gypsum-colored" to buffy (Brylski 1998a). PSPM are distinguished from other pocket mice of the genus *Chaetodipus* by their small size, unlobed antitragus in the outer ear, and the absence of a tail crest (Brylski 1998a). *P. l. bangsi* is distinguished from other *P. longimembris* subspecies by its range and genetic studies.

The historic range of the PSPM was from San Geronio Pass east to the south of Joshua Tree National Park, south to Borrego Springs and the east end of San Felipe Narrows (Brylski 1998a). The current range of this species is not well known, with pockets of known populations scattered throughout the Coachella Valley in native desert habitat. This species appears to be extirpated from Palm Springs to the Salton Sea in areas that have been developed for urban and agricultural purposes (Brylski 1998a). The estimated amount of suitable habitat present for this species is approximately 142,000 acres, however, it is unknown if all suitable habitat is occupied (CVAG 2007). Habitats associated with the PSPM include sparsely vegetated creosote bush scrub, desert scrub, and grassland communities containing loose, sandy soils

(CVAG 2007; Brylski 1998a). These habitats are almost always flat or contain gentle slopes less than 15 percent in grade (CVAG 2007). PSPM are also associated with creosote bush, brittlebush (*Encelia farinosa*), burro bush, and Mormon tea (*Ephedra californica*) (Brylski 1998a).

Very little life history data are available specifically for the PSPM; therefore the following information is based on *P. longimembris* and other closely related *P. longimembris* subspecies. Little pocket mice are solitary mammals that are known to be quite aggressive in intraspecific interactions (Brylski 1998a). This species is active only during the spring, summer, and fall and hibernate during the cold months (probably from approximately October to March) (Brylski 1998a). Days are spent in underground burrows, excavated by the mouse, that are plugged near the entrance for protection from predators and temperature regulation. These burrows consist of several different chambers and tunnels used for giving birth, raising young, food storage, and protection.

The PSPM is thought to breed from January to August, with March to May being the peak months (CVAG 2007). It is likely that reproduction is dependent on the amount of precipitation occurring during the previous winter and the presence of available forage, similar to the reproductive activity of other desert rodents (CVAG 2007).

Diet of the PSPM is not well understood; however, closely-related pocket mice species consume seeds and green vegetation when available (Brylski 1998a; CVAG 2007). Amount and necessity of water intake by the animal is unknown.

Threats to this species include habitat loss due to urban and agricultural development, OHV use, loss of habitat due to water table reduction, nonnative invasive plant species outcompeting native vegetation, domestic pet predation, and illegal trash dumping (CVAG 2007).

5.2.5.1 Survey Results

PSPM surveys were not conducted. CVMSHCP-modeled habitat is within the proposed right of way (Area A and Area B) Therefore the species is presumed to be present within these modeled habitat areas.

5.2.6 Palm Springs Round-Tailed Ground Squirrel

The PSGS is a distinct subspecies of the round-tailed ground squirrel (*Xerospermophilus tereticaudus*). This species is also known as the PSGS. Squirrels classified under the genus *Spermophilus* (under which the PSGS has been classified since the mid-twentieth century) were split into two groups in 2009 based on genetic and morphological features, *Spermophilus* and *Xerospermophilus* (Helgen et al. 2009).

The PSGS is a small ground squirrel species characterized by a distinctly different pelage color from other subspecies of *X. tereticaudus*. The pelage color on the PSGS is even in coloration, lacks striping, and ranges in color from drab gray to pale cinnamon brown or pinkish cinnamon (USFWS 2009c). The tail is not bushy and relatively long compared to other squirrels in the same genus. The alarm and social calls of this species are very high-pitched and sound like a short “peep” or a shrill whistle (Ernest and Mares 1987).

The range of the PSGS was originally thought to be restricted to the area between the Salton Sea in the southeast and the San Geronio Pass to the northwest, however, there is evidence that the range is larger than previously thought (USFWS 2009c). Recent genetic and morphologic studies of the round-tailed ground squirrel have revealed that animals similar in morphology and genetic makeup are also found near Daggett (east of Barstow, California) and perhaps even as far north as Death Valley (USFWS 2009c). This diurnal squirrel species is found in climates characterized by high temperatures and low humidity. Suitable habitat types for this species include creosote bush scrub and desert saltbush scrub with sandy to gravelly soils that support herbaceous vegetation, typically in the Lower Sonoran Life Zone (CVAG 2007; Ernest and Mares 1987). Mesquite, desert sink scrub, and desert wash habitats have also been associated with the PSGS.

The PSGS is only active during late winter through late summer. Adults emerge from their burrows during January and February, with emergence time and reproductive readiness being highly dependent on the amount of rainfall during the months of December and January prior (Ernest and Mares 1987). Males are the first to become reproductively ready, with females following shortly after. Females enter the pregnancy cycle around early March and give birth to litters of one to 12 young (average of six) in April and May (Brylski 1998b). The young are born blind, deaf, and hairless, completely dependent on the female. Nursing extends through late June, with juvenile dispersal occurring in June and July. The squirrels return to their burrows around August or September, and by this time body temperature, heart rate, and metabolism have fallen drastically to prepare for hibernation and/or torpor (reduced body temperature during periods of inactivity) during the winter months (Ernest and Mares 1987). It has been suggested that the PSGS does not enter full hibernation during the winter, but rather enters a state of torpor (Brylski 1998b). While this species is generally inactive between September and January, it has been observed above ground on warm winter days (Ernest and Mares 1987). The PSGS is able to survive through this period of inactivity on their stored body fats until the winter rains come and restore the vegetation.

Diet is composed of green vegetation, seeds, insects, and in rare circumstances, other small mammal and small bird species (Ernest and Mares 1987). Composition of the squirrel's diet varies with season, amount of winter rainfall, and available forage. However, green vegetation and seeds always constitute the majority of the squirrel's diet. Round-tailed ground squirrels inhabiting areas adjacent to agricultural areas have been known to consume alfalfa and dates (Ernest and Mares 1987). Round-tailed ground squirrels obtain the necessary amount of water in their diet through the food items they consume.

Burrows are typically constructed in the mounds of sand accumulated at the base of larger shrubs such as creosote bush and mesquite (CVAG 2007), or modifies other small mammal burrows, including those made by kangaroo rats (*Dipodomys* spp.) (Ernest and Mares 1987). There are often two separate entrances to these burrows, with some containing up to four, and the entrances of active burrows are usually plugged at about 17 inches (45 cm) (Ernest and Mares 1987). Round-tailed ground squirrels utilize their burrows for shelter, reproduction, and periods of inactivity; however, it does not appear that this species hoards food in their burrows, unlike many other desert rodent species (Ernest and Mares 1987).

Threats to the PSGS include habitat loss due to agricultural and urban development, OHV use, loss of mesquite hummocks due to decreasing water tables, domestic pet predation, and nonnative, invasive plants outcompeting native vegetation (CVAG 2007).

5.2.6.1 Survey Results

PSGS surveys were not conducted. CVMSHCP-modeled habitat is within the proposed right of way (Area A and Area B) Therefore the species is assumed to be present within those areas.

5.2.7 Animal Species Considered but Eliminated from Consideration

Other animal species that were analyzed for their potential to occur included those listed on the BLM-sensitive species lists. Most do not occur within the Project area because their distributional range is elsewhere. Species such as raptor species, including GOEA and similar species, were identified as potentially occurring within the vicinity of the Project area and potentially using the area for foraging. These species, as well as most common bird species, are covered by the stipulations in this document concerning migratory bird nesting and raptor nesting.

Several bat species could be present within the vicinity of the Project area, including species of myotis (*Myotis* spp.) as well as several desert species of bats. Although these nocturnal mammals could use the facility for foraging purposes, especially the open water areas, their maternity roosting habitats do not occur within the Project area and thus they were not considered in terms of Project impacts. Neither Area A or Area B contain caves, rock crevices, large trees or other areas suitable as roosting habitats. Nevertheless, some areas could be used as temporary roosts or nocturnal roosts. Bats will sometimes stop to rest on surfaces while migrating or during nighttime foraging activities. O&M activities are not expected to adversely affect these individuals, if present.

6.0 IMPACTS OF THE PROPOSED ACTION (ALTERNATIVE 1)

6.1 Types of Impacts

This report has been prepared in accordance with legal requirements of NEPA and with consideration of BLM and USFWS regulations, policies, and guidance. This section provides a discussion of the direct, indirect and cumulative impacts associated with the Proposed Action, with respect to biological resources.

An impact is direct when the primary effects of a project's construction displaces habitat by replacing it with permanent development. This includes all areas that would be paved, where structures would be planned or where there is permanent planned disturbance present. Indirect impacts are the result of secondary effects of a project, where no habitat is being displaced by development, but where there may still be effects on biological resources. Examples of indirect impacts include habitat isolation, loss of foraging habitat, urban edge effects, exotic species invasion, vehicular noise and increased lighting or noise associated with a use. The magnitude of a direct impact is generally greater than that of an indirect impact, but both can be equally significant, depending on the specific circumstances.

Cumulative impacts are those which take place in synergy with other, unrelated development projects over time within the same region as a subject project. Multiple projects, each resulting in a combination of direct and indirect impacts, can affect biological resources on a meta scale. The potential types of impacts that are considered to be cumulative include extirpation of a species from a portion of its range, losses of wildlife corridor functionality, and so on.

The following impact section addresses the Proposed Action, wherein the right-of-way grant for Area A and Area B would be approved (690.73 acres total). Under the Proposed Action, CVWD would operate and maintain the existing facility in its current configuration and for its current purpose. No new construction would occur. The facility could receive and infiltrate up to 511,000 AFY of water, representing the entire capacity of the existing ponds. For additional detail concerning the Proposed Action, refer to the EIS for the Project.

6.2 Direct Impacts

The direct impacts from construction and operation of the Facility were addressed and mitigated originally under the 1984 EA and BO. The Proposed Action would not include new construction and does not include O&M activities outside the current areas of disturbance. Continued implementation of the Proposed Action would not result in the direct removal of habitats not already under disturbance or otherwise within the impact footprint for existing facilities. New direct impacts, therefore, are not contemplated for the Project beyond those that currently occur due to routine facility O&M/repair activities.

It should also be noted that CVWD's current O&M Manual for the site incorporates several BMPs and other measures to reduce impacts to natural resources as part of CVWD's obligations as a covered activity under the CVMSHCP. The O&M Manual for the ongoing activities within the facility was submitted for review to the CVCC, who provided copies to the resource agencies for review. Biological BMPs that are currently incorporated in the O&M Manual are consistent with both the CVMSHCP and 1984 BO requirements. There are eight species specifically covered under the BMPs, which include pre-activity surveys, monitoring during work activities near sensitive species locations, flagging of avoidance areas if species are found near work areas, and various policies and special procedures for work crews to implement when conducting activities that may affect sensitive species. Although the BMPs are not required for the portions of the Facility that are on public lands, in practice, CVWD applies the BMPs to all O&M activities no matter the land ownership of the areas with activity. To ensure the BMPs are implemented in the same manner for the life of the proposed right-of-way grant, mitigation has been included in Section 6.5.

6.2.1 Operations of the Facility

6.2.1.1 Federally Listed Species

Currently the operations portions of the facility support the following listed species: CVMV, TRMV, CVFTL and MDT. Impacts to these species are analyzed primarily in the context of creation of Berm #2 in advance of storm events. No impacts are anticipated to occur associated with operations of intake structures or sluice gates or normal driving access around the facility.

Impacts to species vary based on the configuration of modeled habitat areas with respect to the activities. Within the area where Berm #2 is created, within the floodplain in Ephemeral Sand Fields habitats, modeled habitat only occurs for the CVFTL and CVMV. The area has no modeled habitat for TRMV or MDT. Therefore, only impacts to CVFTL and CVMV associated with operations are considered potentially substantial and adverse without mitigation.

6.2.1.2 Habitats

Habitats that are directly affected by operations include Sonoran Creosote Bush Scrub, Ephemeral Sand Fields, Stabilized Desert Sand Fields, Shielded Sand Fields, and Reservoir. Impacts to these communities will be associated with the removal of vegetation primarily and potentially the creation of Berm #2 in advance of storm events. Other operational activities are not anticipated to create impacts. To these vegetation communities, these impacts are considered adverse but are not considered to be substantial and do not require mitigation, because they are widely distributed and common in the region.

6.2.1.3 BLM-Sensitive Species

The areas subject to operations activities within the Facility currently support the following BLM-sensitive species: CVMV, TRMV, CVFTL, MDT, FTHL, BUOW, PSPM and PSGS. Impacts to these species are analyzed primarily in the context of creation of Berm #2 in advance of storm events. No impacts are anticipated to occur associated with operations of intake structures or sluice gates or normal driving access around the facility.

Impacts to species vary based on the configuration of modeled habitat areas with respect to the activities. Within the area where Berm #2 is created, within the floodplain in Ephemeral Sand Fields habitats, modeled habitat only occurs for the CVFTL, CVMV, PSPM, PSGS, and FTHL. As discussed above, impacts to CVFTL and CVMV are considered potentially substantial and adverse without mitigation. Impacts to PSPM, PSGS and FTHL are considered to be adverse but not substantial due to the lower level of sensitivity associated with these species and because records are not currently known from the impact areas for Berm #2.

6.2.1.4 Additional Species

Under the CVMSHCP, habitats have been modeled for the Le Conte's thrasher (*Toxostoma lecontei*), Coachella Valley Jerusalem cricket and Coachella Valley giant sand-treader cricket within the proposed right of way. Although these species are not listed and are not BLM-sensitive species, they could become listed over the life of the right-of-way lease and impacts under those circumstances would be substantial. Therefore additional mitigation measures for these species are outlined within the mitigation measures for the Proposed Action.

Due to the potential for nesting migratory bird species and raptor species within the proposed right of way, a substantial impact may occur to these species over the course of maintenance activities. Mitigation measures for these species are provided below.

6.2.2 Maintenance and Repair Activities

6.2.2.1 Federally Listed Species

Facility maintenance activities currently have the potential to affect the following listed species: CVMV, TRMV, CVFTL and MDT. Impacts to species could occur in the form of removal of accumulated sediments at the facility and removal of vegetation at the facility, maintenance of the low-flow crossing and maintenance of Berm #1 in Area B. No impacts are anticipated to occur associated with maintenance of intake structures or sluice gates or other developed features within the facility.

Impacts to these species vary based on the configuration of modeled habitat areas with respect to the various activities. Within the areas where maintenance occurs, modeled habitat has been mapped for the CVMV, TRMV, CVFTL and MDT. For the MDT, modeled habitat only occurs within the vicinity of Berm #1 and the Low-Flow Crossing. For TRMV, modeled habitat only occurs within the vicinity of the Low-Flow Crossing. For CVMV and CVFTL, modeled habitat occurs at all maintenance locations being considered in this analysis. The impacts to these species, within their respective occurrence locations, are considered potentially substantial and adverse without mitigation.

6.2.2.2 Habitats

Habitats that are directly affected by maintenance and repair activities include Sonoran Creosote Bush Scrub, Ephemeral Sand Fields, Stabilized Desert Sand Fields, Shielded Sand Fields, and Reservoir. Impacts to these communities will be associated with the removal of vegetation at the Facility, maintenance of the low-flow crossing and maintenance of Berm #1 in Area B. No impacts are anticipated to occur associated with maintenance of intake structures or sluice gates or other developed features within the Facility. These impacts are considered adverse but are not considered to be substantial due to the wide distribution of these vegetation communities within the region.

6.2.2.3 BLM-Sensitive Species

Facility operations currently have potential to affect the following BLM-sensitive species: CVFTL, TRMV, CVFTL, MDT, FTHL, BUOW, PSPM and PSGS. Impacts to species could occur in the form of removal of accumulated sediments at the facility, removal of vegetation at the facility, maintenance of the low-flow crossing and maintenance of Berm #1 in Area B. No impacts are anticipated to occur associated with maintenance of intake structures or sluice gates or other developed features within the facility.

Impacts to species vary based on the configuration of modeled habitat areas with respect to the activities. Within the area where maintenance occurs, modeled habitat occurs for the CVFTL, CVMV, TRMV, MDT, PSPM, PSGS, and FTHL. BUOW is also expected to potentially occur. As discussed above, impacts to CVFTL, CVMV, TRMV and MDT are considered potentially substantial and adverse without mitigation within their respective locations where they can occur. Impacts to PSPM, PSGS, BUOW and FTHL are considered to be adverse but not substantial due to the lower level of sensitivity associated with these species and because observations and public records of these species within areas undergoing these maintenance activities are lacking.

6.2.2.4 Additional Species

Under the CVMSHCP, habitats have been modeled for the Le Conte's thrasher, Coachella Valley Jerusalem cricket and Coachella Valley giant sand-treader cricket within the proposed right of way. Although these species are not listed and are not considered to be BLM-sensitive species, they could become listed over the life of the right-of-way lease and impacts under those circumstances would be substantial. Additional mitigation measures for these species are outlined within the mitigation measures for the Proposed Action.

Due to the potential for nesting migratory bird species and raptor species within the proposed right of way, a substantial impact may occur to these species over the course of maintenance activities. Mitigation measures for these species are provided below.

6.3 Indirect Impacts

Indirect impacts from Facility construction were addressed and mitigated originally under the 1984 EA and BO. Indirect impacts due to continued implementation of the Proposed Action could occur to biological resources that occur within the vicinity and region of the Facility. As operations continue over the life of the renewed lease, indirect effects would be due to both the operations of the facility and due to the maintenance and repair activities needed, in particular within the Whitewater River channel. The indirect impacts are associated with vehicular operations, water operations, flood gate operations and all other activities needed to operate the facility. The timing and extent of indirect impacts are expected to be the same as is presently occurring for the facility.

Indirect impacts due to maintenance and repair activities would occur before anticipated storm events or other events that require maintenance of the berms or the low-flow crossing. Although these impacts would be similar in magnitude and areal extent as to what is currently occurring (annual basis), the frequency of maintenance and repair events can be variable.

6.3.1 Operations of the Facility

During operations, indirect impacts could arise due to construction noise and dust associated with the creation of Berm #2 in advance of storm events. This berm is created using heavy equipment and is removed once the storm has ended. Impacts could occur to species and habitats in the immediate vicinity of the berm creation location, within Ephemeral Sand Fields in the Whitewater River channel. Indirect impacts may also occur to surrounding habitat areas, especially Sonoran Creosote Bush Scrub. The duration of this impact is fairly short, taking a few hours normally to create and subsequently to remove the berm. For this reason, indirect impacts due to construction noise and dust are unlikely to create substantial indirect impacts to surrounding habitats. For listed species located within the area, including CVFTL and CVMV, indirect impacts should be addressed in the same manner as direct impacts. Indirect impacts to these species are adverse and potentially substantial without mitigation. Rule 403.1 from the SCAQMD for fugitive dust control makes an exception for controlling fugitive dust when habitat for federally listed species such as CVFTL and CVMV would be imperiled.

Indirect impacts could also occur due to operations of the facility where they entail ground disturbance, as these activities can encourage the growth and spread of nonnative, invasive weed species. Over time, indirect impacts due to invasive weed presence can lead to increased fire risk and intensity, or to loss of native habitat areas. Rule 403.1 from the SCAQMD for fugitive dust control makes an exception for controlling fugitive dust when habitat for federally listed species such as CVFTL and CVMV would be imperiled.

6.3.2 *Maintenance and Repair Activities*

During maintenance activities, indirect impacts could arise due to construction noise and dust associated with the maintenance of Berm #1, the Low-Flow Crossing, and the Facility (accumulated vegetation and sediment removal). These activities could include construction noise and dust impacts from heavy equipment use to areas surrounding the direct impact zone. Impacts could occur to species and habitats in the immediate vicinity of the various maintenance location, within Ephemeral Sand Fields in the Whitewater River channel, within Reservoir and Stabilized Shielded Sand Fields within the infiltration ponds and within Sonoran Creosote Bush Scrub within the Low-Flow Crossing. Indirect impacts may also occur to surrounding habitat areas, especially Sonoran Creosote Bush Scrub but also Ephemeral Sand Fields and Stabilized Desert Sand Fields.

The duration of these maintenance activities is variable, depending on the damage to the respective locations needing maintenance and/or amount of accumulated vegetation and sediment in the ponds needing removal. Because the impact duration is variable, indirect impacts due to construction noise and dust are also variable. The proposed mitigation measures for the project for direct impacts should be extended into surrounding areas as a buffer to account for indirect impacts, especially where federal listed species are involved. For listed species located within the area, indirect impacts should be addressed in the same manner as direct impacts. This includes CVFTL, CVMV, TRMV and MDT for their respective locations where modeled habitats occur. Indirect impacts to these species are adverse and potentially substantial without mitigation.

Indirect impacts could also occur due to maintenance of the facility where the activities entail ground disturbance, in that these activities can encourage the growth and spread of nonnative, invasive weed species. Over time, indirect impacts due to invasive weed presence can lead to increased fire risk and intensity, or to loss of native habitat areas. This impact is potentially substantial in will require mitigation.

6.4 Cumulative Impacts

Cumulative effects to biological resources could result from past, current, and reasonably foreseeable future developments within the region surrounding the Project area. Land use changes, for instance, can degrade habitat and species diversity incrementally through contributing to fragmentation of species populations and habitats, through alterations in hydrologic regimes, through climate change, introduction of pesticides/herbicides, changes to fire regimes, changes in water quality, or changes in predator movement patterns. An accumulation of impacts over time can cause effects on biological resources that can be substantial if not mitigated in some manner.

Within the Project area, there are regional planning efforts whose express purpose is, in part, to moderate the effects of cumulative impacts in the region. The CVMSHCP Whitewater Floodplain Conservation Area surrounds the Facility and incorporates portions of both Area A and Area B within its boundaries. This planning area offers reasonable mitigation efforts for the conservation of listed species and BLM-sensitive species through land management efforts, species conservation and ongoing status surveys within the boundaries for sensitive species. Other regional plans such as the CDCA Plan, as amended by the DRECP, provide similar guidance for public lands management in the region.

Because the Project area is within existing conservation areas and public lands, the areas surrounding Areas A and B are protected from development and no adjacent direct impacts to habitat are expected to occur while these protections are in place. Should there be a development proposal for these lands, or sale of public lands in the area, the process by which the sale would occur would be expected to conduct an independent analysis on the cumulative effects of that action.

Because the duration of the right-of-way lease would be an additional 30 years, there is potential for the surrounding environment to change in response to various factors discussed above. However, the regional plans that are in place for the region are expected to successfully mitigate these factors for the Project,

6.5 Mitigation

As previously described, CVWD is required to implement certain BMPs as part of its obligations as a covered activity under the CVMSHPC. Although the BMPs are not required for the portions of the Facility that are on public lands, in practice CVWD applies the BMPs to all O&M activities no matter the land ownership of the areas with activity. To ensure the BMPs are implemented in the same manner for the life of the proposed right-of-way lease, mitigation has been included below.

The following mitigation measures are recommended:

BIO-1: Pre-Activity Surveys for CVFTL/FTHL.

Prior to maintenance activities, a qualified biologist should check for areas of sand accumulation that could constitute suitable CVFTL habitat. During the inactive season for CVFTL (November 1 through March 14), individuals may be buried within these sand accumulation areas and subject to direct impacts. Maintenance of sand accumulation areas within the Facility should therefore be avoided during the inactive season for CVFTL, unless temperatures at the sand surface are between 95 and 110° F, which would allow for their activity. Removal of these sand accumulation areas during the active season for CVFTL (March 15 to October 31) is preferred, as CVFTL and FTHL are active and could potentially move out of harm's way.

To avoid impacts to CVFTL and FTHL in operations and maintenance areas during the active season, or during the inactive season when temperatures are high enough to allow activity, a pre-activity survey should be performed for these species within 30 days prior to proposed maintenance activities. For emergency work, where loss of property or life is imminent, surveys for CVFTL and FTHL may be conducted fewer than 30 days prior.

If the species is determined to be present, direct impacts to the species must be avoided by relocation of the lizard outside of work areas into suitable habitats. Lizards will be captured, moved well outside of work areas and released in the shade of a shrub. No lizards will be held in captivity or in transport for longer than 10 minutes after their initial capture. Lizards will be transported in clean, white, plastic 5-gallon buckets. The biologist will avoid handling and capturing the species if it may be relocated passively (i.e., by chasing it out of the area). The biologist conducting the pre-activity survey for CVFTL/FHTL and any relocation efforts will have the requisite education and experience that demonstrates proficiency in finding, handling and relocating CVFTL/FHTL.

BIO-2: Pre-Activity Surveys for Nesting Birds.

For all activities conducted during the nesting season for migratory bird species (March through August) or raptor species (January through August), pre-activity surveys will be conducted within areas to be directly impacted by the activity and within a 500-foot buffer around these locations to identify any active nest for migratory birds, BUOW or raptor species that may be adversely affected by work activities. If an active migratory bird nest is located, the biologist will direct workers to avoid the area where the nest is located to avoid direct impacts to the resource and will also establish an appropriate no-work buffer with respect to the species involved in order to protect its nest from activity-related indirect impacts.

Generally, the buffer zone will be a minimum of 250 feet in size for migratory birds and 500 feet for sensitive bird species and tree-nesting raptors. All protective measures will be left in place until the nest is determined to be inactive, as confirmed by the biologist. After work has been completed, all temporary signage or flagging shall be removed.

BIO-3: Pre-activity Surveys for PSPM. If proposed operations or maintenance activities will take place within modeled habitat for PSPM, pre-activity surveys will be conducted to determine presence and will include visual surveys primarily but also track detection and listening for calls. If the species is determined to be present and could be impacted by the activities, a qualified biologist should assist construction crews in flagging and planning access routes to avoid impacts to potential burrow locations as much as feasible (i.e., placement of preferred routes on project plans and incorporation of methods to avoid as much suitable habitat/soil disturbance as possible). After work has been completed, all temporary signage or flagging shall be removed.

BIO-4: Pre-activity Surveys for CVMV and TRMV. For Covered Activities within modeled CVMV and TRMV modeled habitat in the Project area, surveys by a qualified biologist who can recognize each species will be required for activities during the growing and flowering period for the species from February 1 - May 15. Any occurrences of the species within areas to be impacted directly will be flagged and the activities shall avoid impacts to the plants to the maximum extent feasible. If CVMV or TRMV are found within the footprint of any operations or maintenance activity, the activity will halt in that area and CVWD will coordinate with the BLM and USFWS to determine feasible mitigation measures, which could include salvage of plant material and/or seeds. Operations and maintenance activities will avoid the use of herbicides where either CVMV or TRMV may be affected, at the direction of

a biologist. All flagging and other protective measures will be removed after completion of ground-disturbing activities.

BIO-5: Invertebrate Species Avoidance (Coachella Valley Jerusalem Cricket and Giant Sand-Treader Cricket). For areas within modeled Coachella Valley giant sand-treader cricket habitat, steps will be taken to control and manage activities that degrade that habitat. Activities that could negatively affect these species include alteration of the natural vegetation, fragmentation, and construction equipment impacts. A biologist will oversee the control and management of operational and maintenance activities that could result in sand compaction or may crush burrows, where modeled or identified habitat for the cricket occurs, especially in the vicinity of Snow Creek.

Operations and maintenance activities will not occur within occupied habitat during the emergence period in the winter months and during the breeding season in the spring (January through March), unless in case of urgent need. In that case, a biologist knowledgeable of the species will review the area in advance of activities and will make recommendations for minimization and avoidance, such as flagging potential burrows for avoidance and establishing no-work buffers. CVWD will avoid stockpiling construction materials, lumber, or other sources of artificial cover at CVWD facilities if feasible, in or near habitat for these species. No pesticide use shall occur in habitat that could be occupied by this species. All flagging and other protective measures will be removed after completion of ground-disturbing activities.

BIO-6: Vehicular Use

All movement of construction vehicles will be restricted to pre-designated access, contractor-acquired access, or public roads. All personnel shall be informed that their activities must be confined within the marked or flagged areas. All fueling and maintenance of vehicles and other equipment as well as location of staging areas shall be located as far as practicable from any potential habitat for biological resources, at the direction of a biologist.

CVWD staff and other personnel driving to and from facilities where these species may be present, during operations and maintenance activities, will not exceed 25 mph. Personnel on the right of way near to habitat for sensitive biological resources will check under their parked vehicles for biological resources prior to moving them. If a sensitive biological resource, such as CVFTL, are observed underneath a vehicle then a biologist will be contacted to relocate the animal prior to moving the vehicle.

Where temporary access roads traverse sensitive sand resource areas, these access roads shall be clearly marked or flagged at the outer limits prior to the onset of any surface disturbing activity, so as to avoid impacting those resources. After work has been completed, all temporary signage or flagging shall be removed.

BIO-7: Worker Environmental Awareness Training

Prior to the initiation of work activities within or near any sensitive habitat areas, all construction personnel will be instructed on the protection of the biological resources known to be present by the qualified biologist. A Worker Environmental Awareness Program (WEAP) will be developed to assist in educating workers for any activity of the sensitive

biological resources present within the right of way. The training will address life history, listing status, applicable state and federal laws, field procedures, and prohibited activities. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. The program will include handouts and photographs to be distributed to personnel. A log sheet will be maintained of those who have received the training for a particular work activity, and these logs will be signed by those receiving the training.

BIO-8: Equipment Storage and Stockpiling

In order to prevent entrapment of animals during multiple-day activities, contractors must cap pipes, culverts or other similar materials or structures that are stored on the site for one or more nights. A biological monitor will inspect these areas to ensure compliance. In lieu of this measure, crews may cap the structures before bringing them onto the construction site. Any excavated holes (i.e., foundations) left open overnight will be covered, and/or fencing will be installed to prevent the possibility of animals from falling into them. This will involve use of earthen ramps or similar escape routes.

Maintenance activities will be designed and implemented using BMPs in a way that minimizes new disturbances, to prevent erosion, offsite degradation, and reduce direct impacts to sensitive biological resources, at the direction of a biologist with knowledge of the species involved.

BIO-9: Environmentally Sensitive Area (ESA) Fencing

For all work areas and construction sites where sensitive sand resources are present, but not directly impacted. such as Critical Habitat for CVMV or sand accumulation areas that may support CVFTL, ESA fencing will be used to protect areas just outside of work locations. The ESA fencing will be installed at the direction of a biologist familiar with these resources. In some cases, ESA fencing may be needed around trenches, pits, pipe materials and other potential hazards at the direction of the project biologist.

BIO-10: Biological Monitoring

During all work activities near sand habitats, especially during periods of high CVFTL/FTHL activity (March 15 through October 31), a qualified biological monitor should be present full time to ensure that connected, naturally vegetated areas with sandy soils and typical native vegetation remain intact to the extent feasible and practicable. The biological monitor will also inspect trenches, holes, or other excavations for entrapped species, and direct work crews in methods to ensure that the potential for entrapment of animal species is minimal.

Weekly monitoring is required for work activities where sensitive resources are observed to be present nearby including CVFTL/FTHL, nesting birds, PSPM, CVMV/TRMV and sensitive invertebrate species.

BIO-11: Reporting. CVWD will provide a brief report to the BLM and USFWS 30 days prior to the start of ground disturbing activities within and near sensitive habitat areas, except in the cases of emergency work conducted under imminent loss of life or property where surveys were completed on a shorter timeframe. In those emergency cases, the report will be

provided as soon as possible. This reporting will include a description of the proposed work activities that includes that date, time, type of activity, and the avoidance and minimization measures used to reduce impacts to special status species.

CVWD will provide BLM and USFWS with a post-maintenance report no later than 60 days post completion of the ground disturbing activities. This report will include a description of the work activities that were completed, results of any surveys conducted, summary of biological monitoring conducted, and description of all avoidance and minimization measures used to reduce impacts to special status species. WEAP logs will be included in each report as an appendix.

BIO-12: Integrated Weed Management Plan. CVWD will identify actions to reduce impacts from, and control where feasible, invasive plant and animal species within the Facility and operational areas. To this end, an Integrated Weed Management Plan will be developed that identifies areas with substantial weed growth and describes a long-term plan for management of these areas that includes control measures and periodic success monitoring. The plan will be submitted to and approved by the BLM Palm Springs Field Office for areas within public lands. The plan will include mitigation measures such as, prior to entering the project footprint for the first time or after returning from another location off the site, all vehicles and ground-disturbing equipment would be thoroughly cleaned outside of the project footprint in areas that are: non-BLM lands, outside of modeled habitats for federal listed species, and outside of CVMSHCP Conservation Areas. This will help lessen and prevent the spread, propagation and introduction of invasive nonnative plant species.

6.6 Residual Impacts after Mitigation

Implementation of the mitigation measures above will reduce the level of impacts to a less than substantial level. No residual impacts are expected as a result of continuation of the Project with existing and recommended mitigation measures in place.

7.0 ALTERNATIVES IMPACTS ANALYSIS

7.1 Alternative 2 – Partial Implementation

7.1.1 *Summary of Alternative*

With Alternative 2 – Partial Implementation, the BLM would only grant right of way for Area B (178.83 acres) and the Low-Flow Dike and Channel Crossing portion of Area A (2.2 acres), and not for the portion of Area A within the Facility (509.7 acres). The existing facilities located on public lands in Area A would be demolished and removed, and the land would be reclaimed in accordance with BLM requirements. This alternative would remove portions of Ponds 6 and 7, and would make flows to Ponds 8 through 19 impossible through the existing Facility design. With this alternative, only Ponds 1 through 5 and a portion of Ponds 6 and 7, which are located on CVWD lands, would be available for replenishment. The replenishment capacity of the Facility would be reduced to approximately 87,000 AFY, or approximately 17

percent of the existing capacity. Water would still be conveyed from the existing CRA turnouts to the Whitewater River, and conveyed downstream to the infiltration ponds via a five-mile reach of the Whitewater River, through the Windy Point USGS gauge into the intake and sluicing structure, and into the infiltration ponds. Maintenance activities at the Facility for this alternative would be the same as described in Alternative 1, but would occur over a smaller area. Maintenance activities for the Low-Flow Dike and Channel Crossing and the berms would be the same as described Alternative 1.

7.1.2 *Impact Analysis*

As a subset of the Proposed Action, wherein the infiltration pond portion of Area A is excluded from consideration, all impacts and mitigation described in the above sections would be applicable for this alternative, except where they uniquely pertain to the infiltration pond portion of Area A.

Under this alternative, due to exclusion of much of the infiltration pond array portions of the right of way, there would be no maintenance of the Facility within BLM lands and the existing facilities located on public lands in Area A would be demolished and removed, and the land reclaimed in accordance with BLM requirements.

The remaining portions of the facility would still be maintained, including the reconfigured pond array consisting of seven ponds and approximately 17 percent of the total existing capacity for infiltration. Also, Berms #1 and #2 in Area B and the Low-Flow Dike and Channel Crossing portion of Area A would still be maintained and operated in the current manner.

Impacts due to implementation of this alternative would be the same as the Proposed Action for Area B and less than the Proposed Action analyzed for Area A. However, there would be substantial short-term direct and indirect impacts due to grading, recontouring and restoring public lands within Area A. Over the long term, once these areas are restored, the amount of native habitat within the Project area would be increased over what is currently present. Overall, the footprint of the facility would be decreased, leading to less potential direct and indirect impacts to biological resources over the long term. There would also be a commensurate reduction in water availability to local wildlife and migrating waterfowl due to having a reduced acreage of surface water within the infiltration ponds.

7.2 *Alternative 3 – Reduced Volume*

7.2.1 *Summary of Alternative*

With Alternative 3 - Reduced Volume, the Project components would be the same as for Alternative 1 – Proposed Action, but with a reduced maximum annual infiltration volume. CVWD would operate and maintain the existing Facility in its current configuration and for its current purpose. No new construction would occur. The Facility would receive and infiltrate up to 220,000 AFY of water, representing the capacity that was evaluated for the EA for the original right-of-way grant in 1984. This would be approximately 43 percent of the capacity of the existing ponds. As with Alternative 1, both Area A and Area B would be authorized for a total of 690.73 acres of public lands. Operations and maintenance activities would be the same as described for Alternative 1.

7.2.2 *Impact Analysis*

This alternative would not increase or decrease the amount of right of way granted, but would solely alter the amount of received waters and infiltration. The O&M activities would occur in the same areas as under the Proposed Action and the expected impacts and mitigation would be the same as identified in that analysis. The reduction in water delivery may entail a commensurate reduction in water availability to local wildlife and migrating waterfowl if the lower water input results in a reduced acreage of surface water within the infiltration ponds.

7.3 *Alternative 4 – Land Disposal*

7.3.1 *Summary of Alternative*

With Alternative 4 - Land Disposal, the Project components would be the same as for Alternative 1 – Proposed Action, with the exception of the term of the right-of-way grant. A land exchange or direct land sale at fair market value, as required under FLPMA, of the public lands requested in the right-of-way application would be approved by the BLM. A right-of-way grant would be approved on Area A and Area B for 10 years, which is the approximate amount of time needed to authorize the land exchange or direct land sale, along with a required land use plan amendment.

With this alternative, CVWD would operate and maintain the existing Facility in its current configuration and for its current purpose. No new construction would occur. The Facility would receive and infiltrate up to 511,000 AFY of water, representing the capacity of the infiltration ponds. With this alternative, slightly more land would be exchanged or sold to CVWD because the BLM prefers to include the area between the northern Area B boundary and the USGS Section line in the withdrawal. Therefore, the total acreage for Area B would be 231.20 acres, 52 acres larger than Area B in Alternative 1- Proposed Action. There would be no change in the size of Area A. With this Alternative, total of 743.10 acres of public lands would be exchanged or sold to CVWD. The BLM would retain an exclusive easement access for the roads in Area B (10.83 acres). The current grant holder for the wind energy facilities in Area A (approximately 50 acres) would retain their right to be sited in Area A for the time remaining on the grant. Operations and maintenance activities would be the same as described for Alternative 1.

7.3.2 *Impact Analysis*

The Project components under this alternative would be the same as for the Proposed Action, with the exception of the term of the right-of-way grant. With this alternative, a land exchange or direct land sale of the public lands requested in the right-of-way application would be approved by the BLM. Consequently, the duration of right-of-way grant would be equivalent to the time it takes for the land exchange to take place. The O&M activities would occur in the same areas as under the Proposed Action and the expected impacts and mitigation would be the same as identified in that analysis.

With this alternative, O&M activities would occur in the same areas as under the Proposed Action and the expected impacts and mitigation would be the same as identified in that analysis. Under this alternative, however, there would ultimately be no set duration or need for renewal of right-of-way lease for the Project. The O&M of the Facility would be of indefinite duration, and no additional review or analysis

would be imposed except that which may imposed by the agencies during the permitting process for the current Project. Cumulative impacts could be more substantial under this alternative if no duration for O&M is set and there is no future review of impacts to biological resources.

Mitigation measures and residual impacts after mitigation would be the same as described for the Proposed Action.

7.4 Alternative 5 – No Action Alternative

7.4.1 Summary of Alternative

With the No Action Alternative, the BLM would not grant a right of way for the Facility, Low-Flow Dike and Channel Crossing, or other maintenance areas. CVWD would be required to remove and reclaim those portions of the Facility located on public lands. The berms in Area B would also be removed and reclaimed.

7.4.2 Impact Analysis

With this alternative, impacts related to operations, maintenance, and repair activities in Area A and Area B would not occur. However, there would be substantial short-term direct and indirect impacts due to grading, recontouring, and restoring public lands within Area A and Area B. Over the long-term, once the infiltration pond areas are restored, the amount of native habitat within the Project area would be increased over what is currently present in Area A by approximately 511.9 acres. Overall, the footprint of the infiltration ponds would be decreased by 83 percent, leading to less potential direct and indirect impacts to biological resources over the long term associated with routine maintenance of the infiltration pond array.

In Area B, Berm #1, which contains the Sonoran creosote bush scrub vegetation community, would be removed from public lands and the lands would be restored. The effects on biological resources due to the absence of Berm #1 are expected to be greater than those of the Proposed Action because the entire 2,800-foot-long berm and all associated habitat would be removed instead of the occasional repair that would occur with the Proposed Action. Additionally, flow in the Whitewater River channel could result in flooding into habitats south of the existing berm, which may alter those habitats and the species distribution in those areas. Habitat south of this berm consists of Sonoran creosote bush scrub and modeled habitats for CVMV, TRMV, DT, CVFTL and FTHL.

Construction, removal, and maintenance of Berm #2 would not occur under this alternative. This would result in a need for additional maintenance of various Facility structures due to storm damage. Under this alternative, storm waters could damage the sluice gates, intake structures, channels, access roads and pond arrays. Events of maintenance of the infiltration ponds would be more frequent, increasing the amount of direct and indirect impacts on various species and their habitats. Potentially, portions of the Facility might need to be rebuilt if storm effects are of long duration and/or high velocity. Due to the lack of control of storm events into the Facility, the effects on biological resources due to this alternative are expected to be greater than those of the Proposed Action. Due to the loss of the infiltration ponds, there would also be a commensurate loss in water availability to local wildlife and migrating waterfowl.

Alternative 5 may also result in action by CVWD to reconfigure the Facility to operate without the use of public lands. Whether and how the Facility would be reconfigured is speculative and outside of the scope of this EIS. Any subsequent actions CVWD may take would be subject to further environmental review under CEQA at the time they were identified.

No mitigation would be required at the CVWD-owned portions of the Facility because there would be no BLM action. Mitigation for removal of infiltration ponds and berms would be the same as described for Alternative 1. Implementation of the mitigation measures will reduce the level of impacts to a less than substantial level.

8.0 CONCLUSIONS AND DETERMINATION

8.1 Results Summary (Proposed Action)

This report has been prepared in accordance with legal requirements of NEPA and with consideration of BLM and USFWS regulations, policies, and guidance. Implementation of the Project would not result in the direct removal of habitats not already under disturbance or otherwise within the impact footprint for existing facilities. Surveys completed for the Project covered Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, LeConte's Thrasher and CVMV. Surveys also made minor revisions to habitat mapping within the right of way and BSA, to reflect sand accumulations within the infiltration ponds and their distribution within mostly disturbed areas. Access roads that are routinely used by CVWD were also surveyed for general habitat and species use purposes.

The biological surveys completed for the Project identified CVMV within Area B, primarily associated with the Snow Creek area. In addition, there was evidence of Coachella Valley giant sand-treader cricket within the Snow Creek area. Both the cricket and CVMV were associated with dune habitat areas. Although the surveys did not identify any suitable habitat for other listed or proposed species, and none were observed during field surveys, there is Critical Habitat for CVMV located within the Project site.

The majority of the modeled habitat within the infiltration ponds was considered Disturbed, including those areas mapped as Native Habitat under the modeling protocol. The updated model reflects these conditions, with minor revisions to mapped habitat in the easternmost three infiltration ponds. The rest of the replenishment pond area as well as the rest of the BSA reflected conditions as they are mapped within the CVMSHCP.

These areas are considered to be occupied because modeled habitat occurs within the BSA and the proposed right of way for several species, including the federal-listed as endangered CVMV, TRMV, MDT and CVFTL. For other federally listed species such as the peninsular bighorn sheep and LBV, modeled habitat occurs within the BSA but not within the proposed right of way; thus these species are assumed not to be affected by the Project. BLM-sensitive species, including the FTHL, PSGS and PSPM, are considered present. All have modeled habitat in the BSA, including the requested right of way; those modeled areas are considered to be the extent of these species' distribution.

Additional non-listed species managed under the CVMSHCP, such as the Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, and LeConte's thrasher, also have modeled habitat in the BSA, including the requested right of way, and are considered present. See Table 6 for a summary of the occurrence of species whose habitats are modeled within the BSA and requested right of way, respectively.

Table 6. Summary of Species Modeling for the Biological Survey Area and Requested Right of Way

Species	Not Modeled in BSA	Modeled in BSA/ Not Modeled in Requested ROW	Modeled in Requested ROW
Coachella Giant Sand-Treader Cricket			X
Coachella Valley Jerusalem Cricket			X
CVMV			X
MDT			X
FTHL			X
CVFTL			X
LeConte's Thrasher			X
LBV	X		
PSGS			X
PSPM			X
Peninsular Bighorn Sheep		X	
Southern Yellow Bat	X		
Summer Tanager	X		
TRMV			X
Yellow-Breasted Chat	X		
Yellow Warbler	X		

Notes: BSA = Biological Study Area, ROW = Right of Way

8.2 Determination (Proposed Action)

Based on the presence of suitable habitat within the BSA, the CVFTL is expected to occur infrequently within the BSA, primarily as a transient species. Direct effect on the species is expected to be minimized and avoided for the most part due to the existing BMPs required by the CVMSHP and implemented by the CVWD. Impacts to mapped Critical Habitat would not occur. All of the potential Project effects on the species are inside areas already approved for impact by covered activities in the CVMSHCP. No new construction is proposed. Therefore, no compensatory mitigation or modifications to the Project is recommended. The species has been given a determination of "May Affect, Not Likely to Adversely Affect."

8.2.1 MDT

There is suitable habitat for MDT within the Project footprint, but based on the absence of suitable habitat within the BSA and lack of records nearby, the MDT is not expected to occur regularly within the BSA. The proposed Project would not result in direct or indirect effects to this species. The species has been given a determination of "No Affect."

8.2.2 LBV

Similarly, a finding of "No Affect" has also been made for the LBV due to lack of habitat and lack of designated Critical Habitat within Area A and Area B for the species.

8.2.3 CVMV

Based on the presence of suitable habitat and individuals within the BSA, the CVMV has potential to be affected by the Project on an ongoing basis. However, the known populations are located outside of typical work areas and several avoidance and minimization measures are already in place to reduce or eliminate Project direct and indirect effects on this species. All of the potential Project effects on the species are inside areas already approved for impacts as a covered activity within the CVMSHCP. Therefore, no compensatory mitigation or modifications to the Project is recommended. The species has been given a determination of "May Affect, Not Likely to Adversely Affect."

8.2.4 TRMV

Based on the absence of suitable habitat and individuals within the BSA, the TRMV has very low potential to be affected by the Project on an ongoing basis. Individuals may be carried downstream and occur as transients or "waifs" within Whitewater Canyon. These individuals are not expected to persist due to being outside of the typical range and cut off from main population areas. Known populations are located outside of typical work areas and upstream within the Whitewater River canyon. The potential for ongoing Project activities to affect this species is considered unlikely. The species has been given a determination of "No Affect."

8.2.5 Summary

The determinations for all federally listed species are summarized in Table 7.

Table 7. Determination of Project Effects on Federally Listed Species

Common Name	Scientific Name	Status	Habitat Present/Absent	Determination
Reptiles				
CVFTL	<i>Uma inornata</i>	FT, SE	P	May Affect, Not Likely to Adversely Affect
MDT	<i>Gopherus agassizii</i>	FT, ST	P	No Affect
Birds				
LBV	<i>Vireo bellii pusillus</i>	FE, SE	A	No Affect

Common Name	Scientific Name	Status	Habitat Present/Absent	Determination
Plants				
CVMV	<i>Astragalus lentiginos</i> <i>var. coachellae</i>	FE	P	May Affect, Not Likely to Adversely Affect
			CH	Not Likely to Adversely Affect
TRMV	<i>Astragalus tricarinatus</i>	FE	A	No Effect

U.S. Fish and Wildlife Service
 FE Federal Endangered
 FT Federal Threatened
 FC Federal Candidate

California Department of Fish and Wildlife
 SE State Endangered
 SSC California Species of Concern
 CH Critical Habitat

Habitat Absent/Present
 P Present
 A Absent

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LIST OF APPENDICES

Appendix A – Whitewater Floodplain Conservation Area

Appendix B – Current and Revised Species Modeling

Appendix C – Excerpts from O&M Manual

Appendix D – Plant and Animal Species Potential for Occurrence

Appendix E – USFWS Species List (IPaC)

Appendix F – Floral and Faunal Species Compendium

Appendix G – Representative Photographs

Whitewater Floodplain Conservation Area

Recirculated Final Coachella Valley Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan

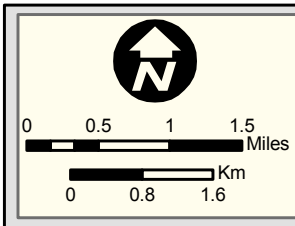
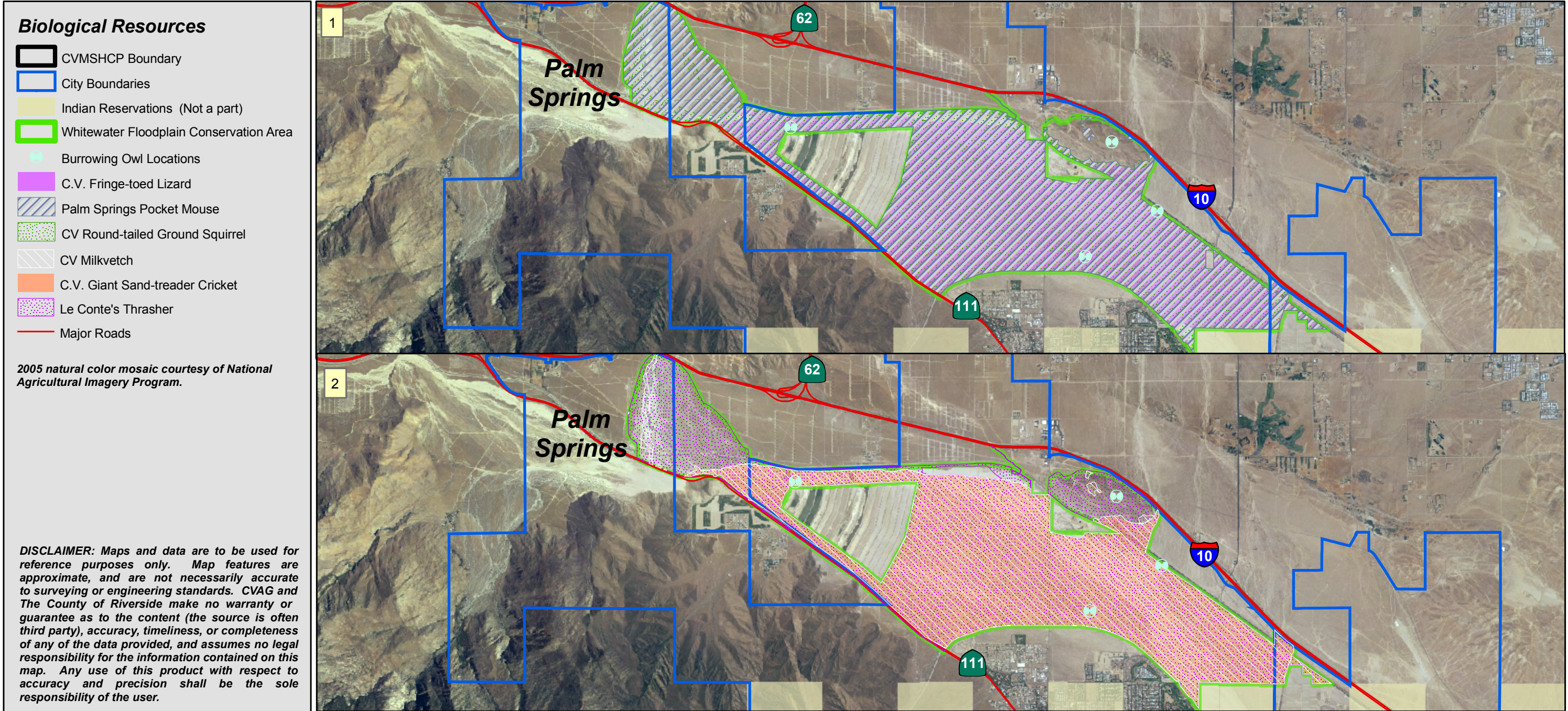
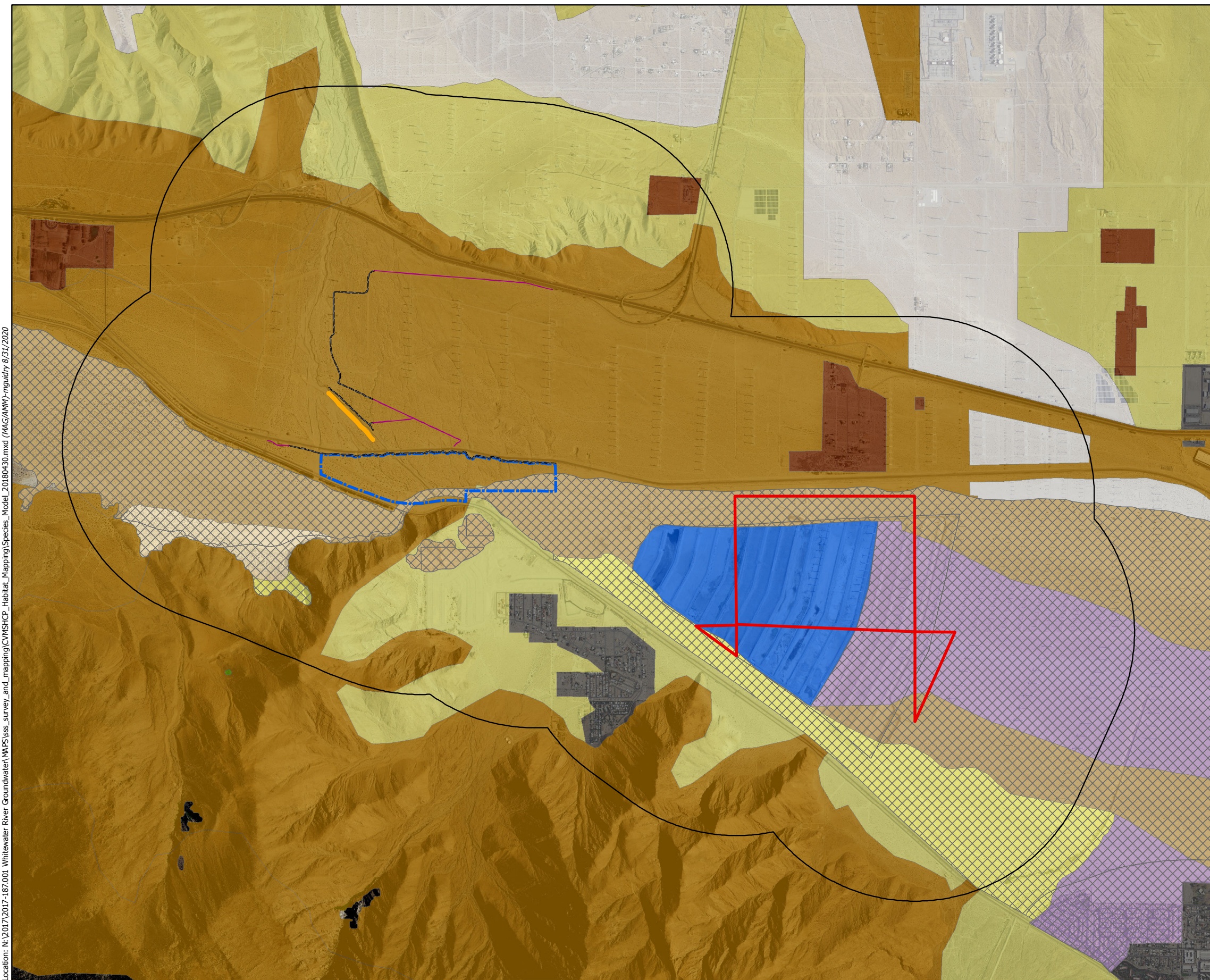


Figure 4-11b: Whitewater Floodplain Conservation Area

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Current CVMSHCP Species Model

Coachella Giant Sand Treader Cricket

Sheet 1 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Coachella Giant Sand Treader Cricket

Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

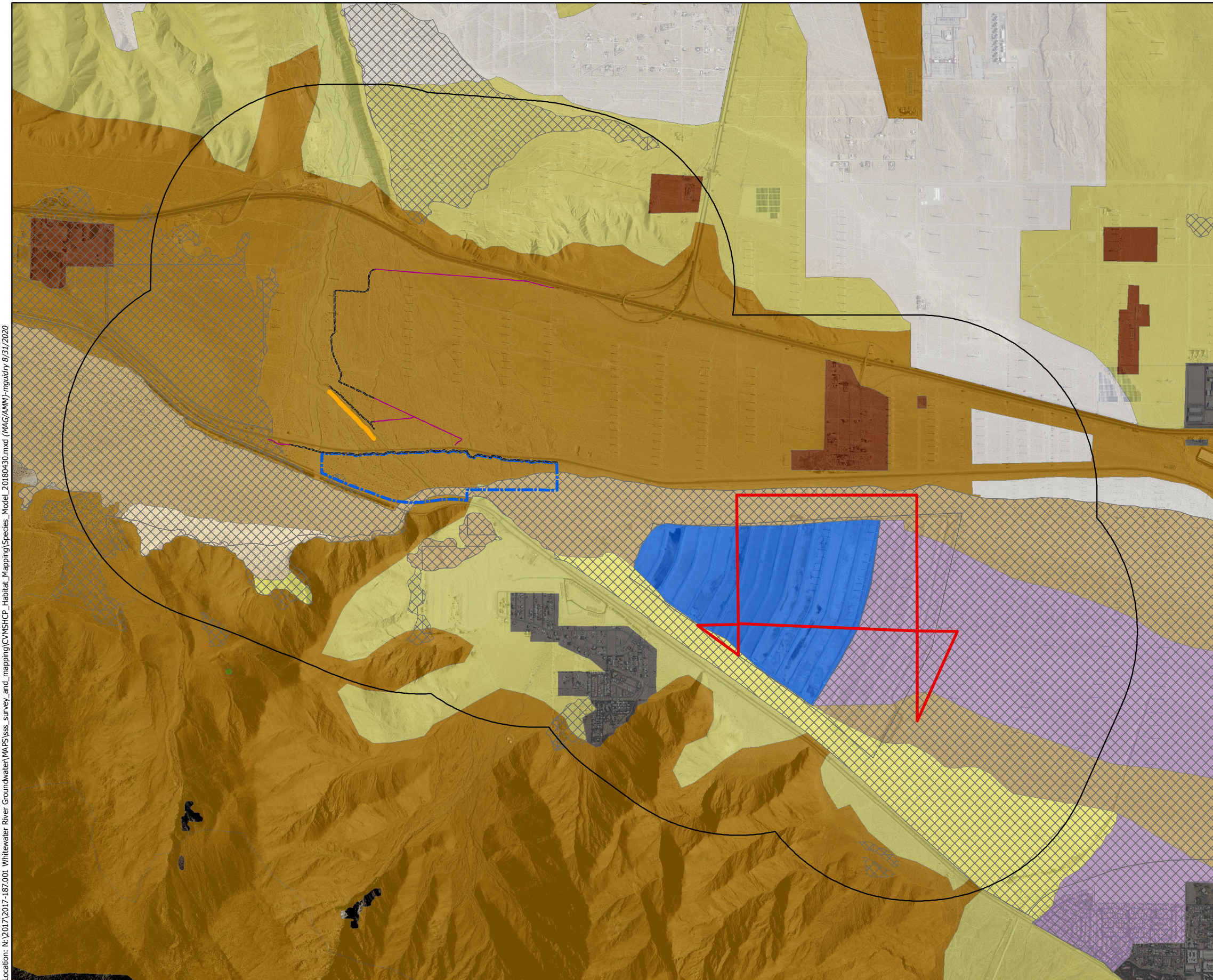
1 - Coachella Valley Multiple Species Habitat Conservation Plan



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/AMM)-ngaudry 8/31/2020



Current CVMSHCP Species Model Coachella Valley Jerusalem Cricket Sheet 2 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Coachella Valley Jerusalem Cricket

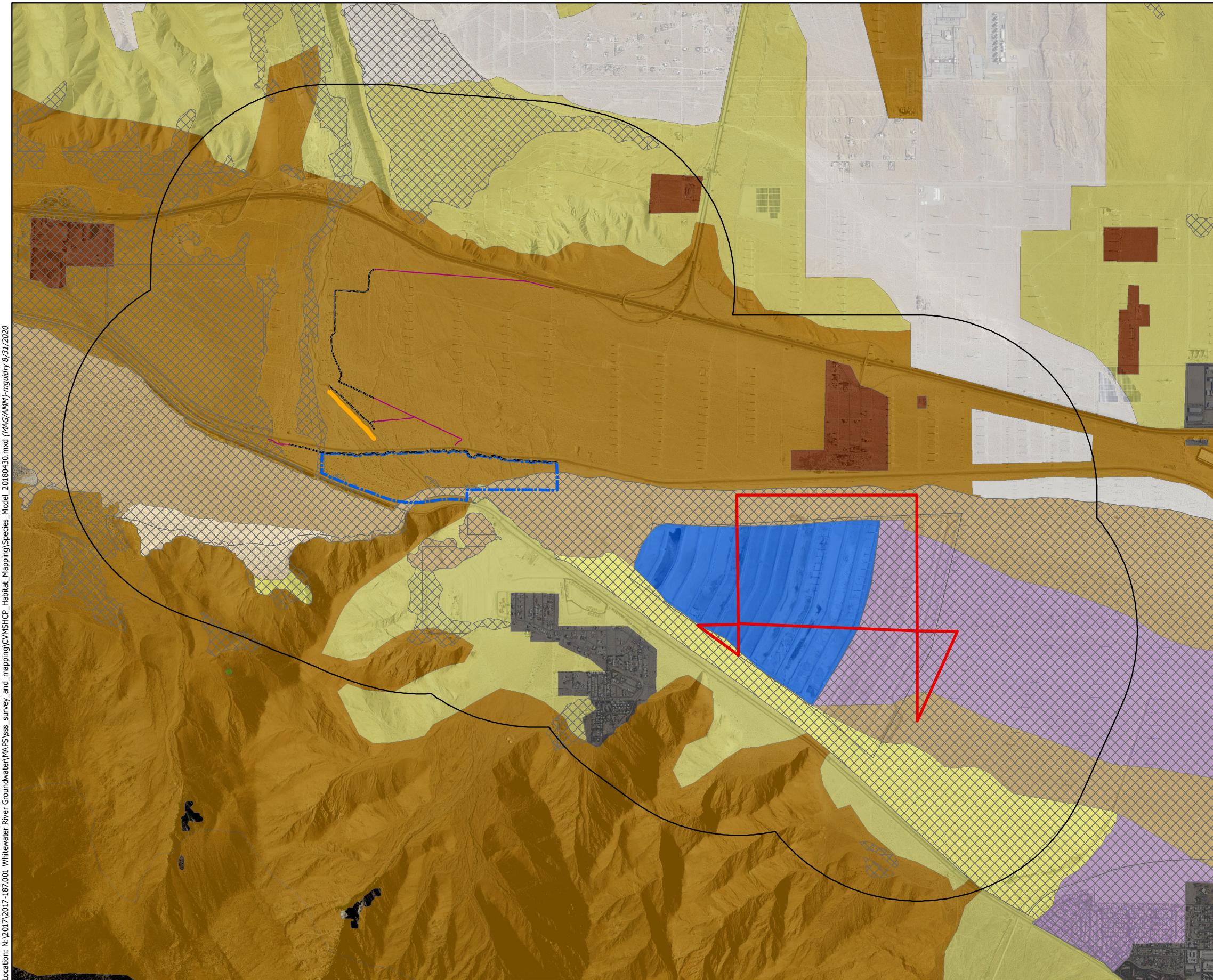
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/MM)-ngaudry 8/31/2020



Current CVMSHCP Species Model

Coachella Valley Milkvetch

Sheet 3 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Coachella Valley Milkvetch

Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

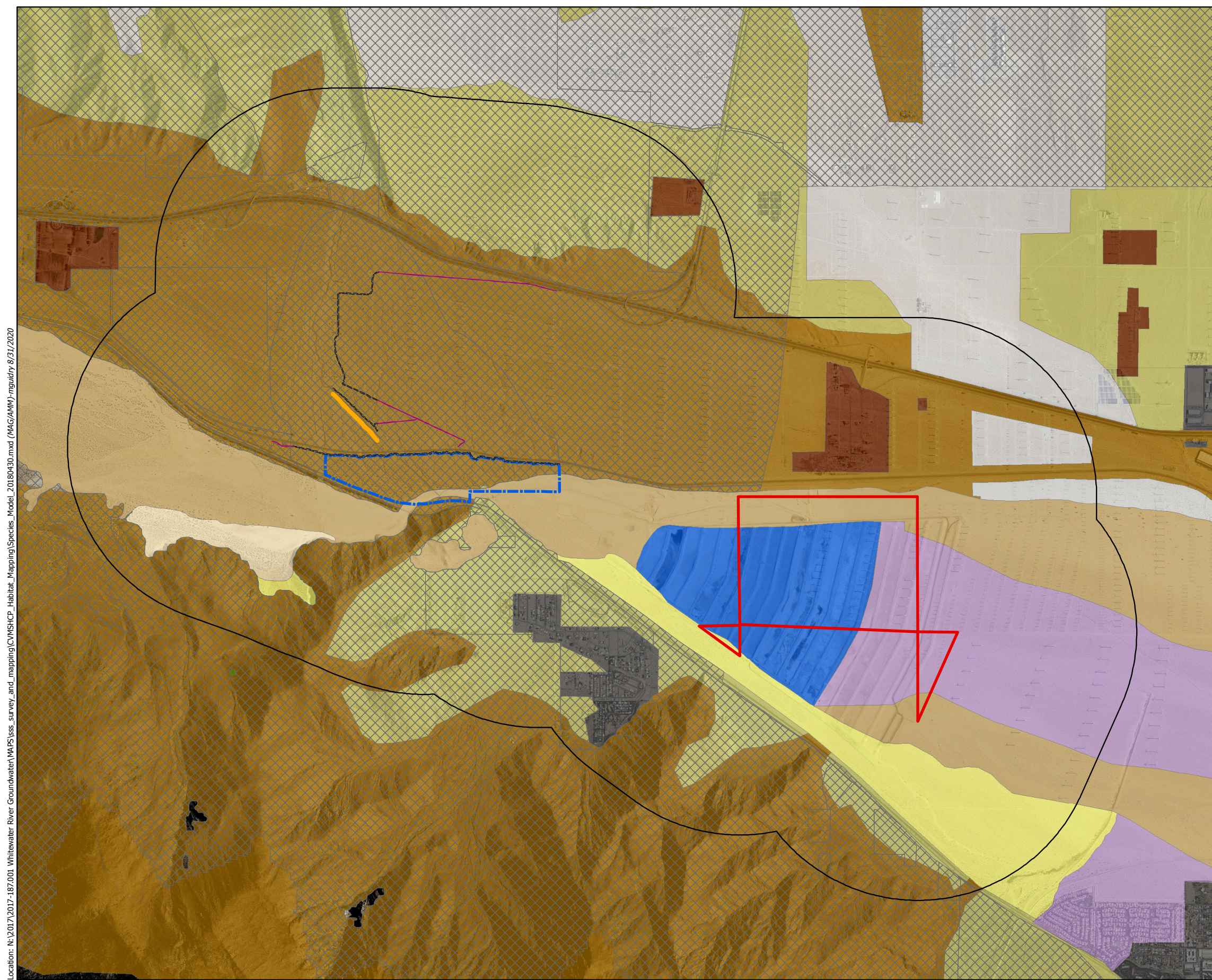
1 - Coachella Valley Multiple Species Habitat Conservation Plan

ECORP Consulting, Inc.

ENVIRONMENTAL CONSULTANTS



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/MM)-mgudry 8/31/2020



Current CVMSHCP Species Model

Desert Tortoise

Sheet 4 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

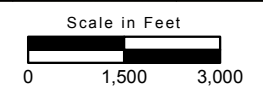
Species Model

- Desert Tortoise

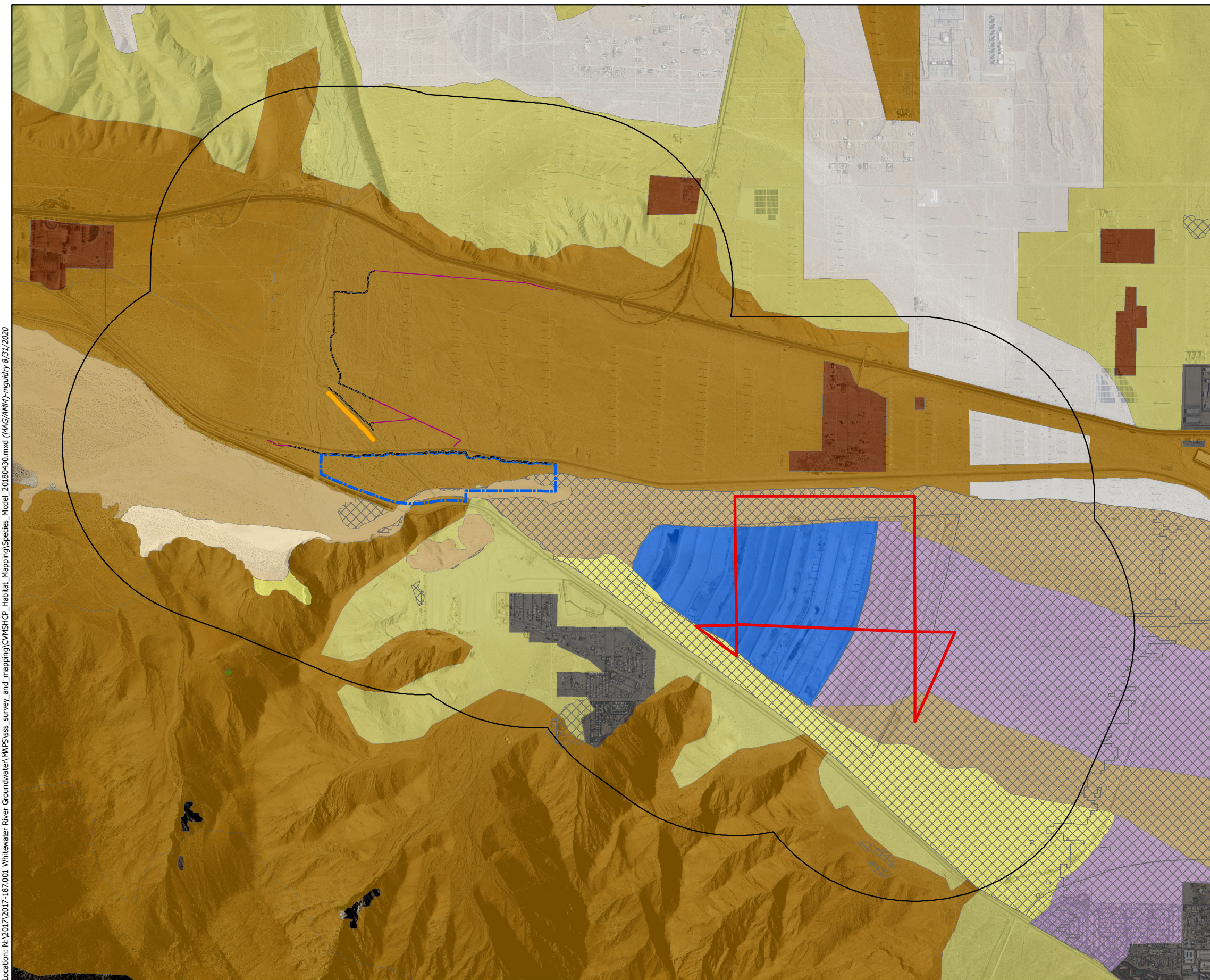
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/AMM)-ngudry 8/31/2020



Current CVMSHCP Species Model Flat-tailed Horned Lizard Sheet 5 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Flat-tailed Horned Lizard

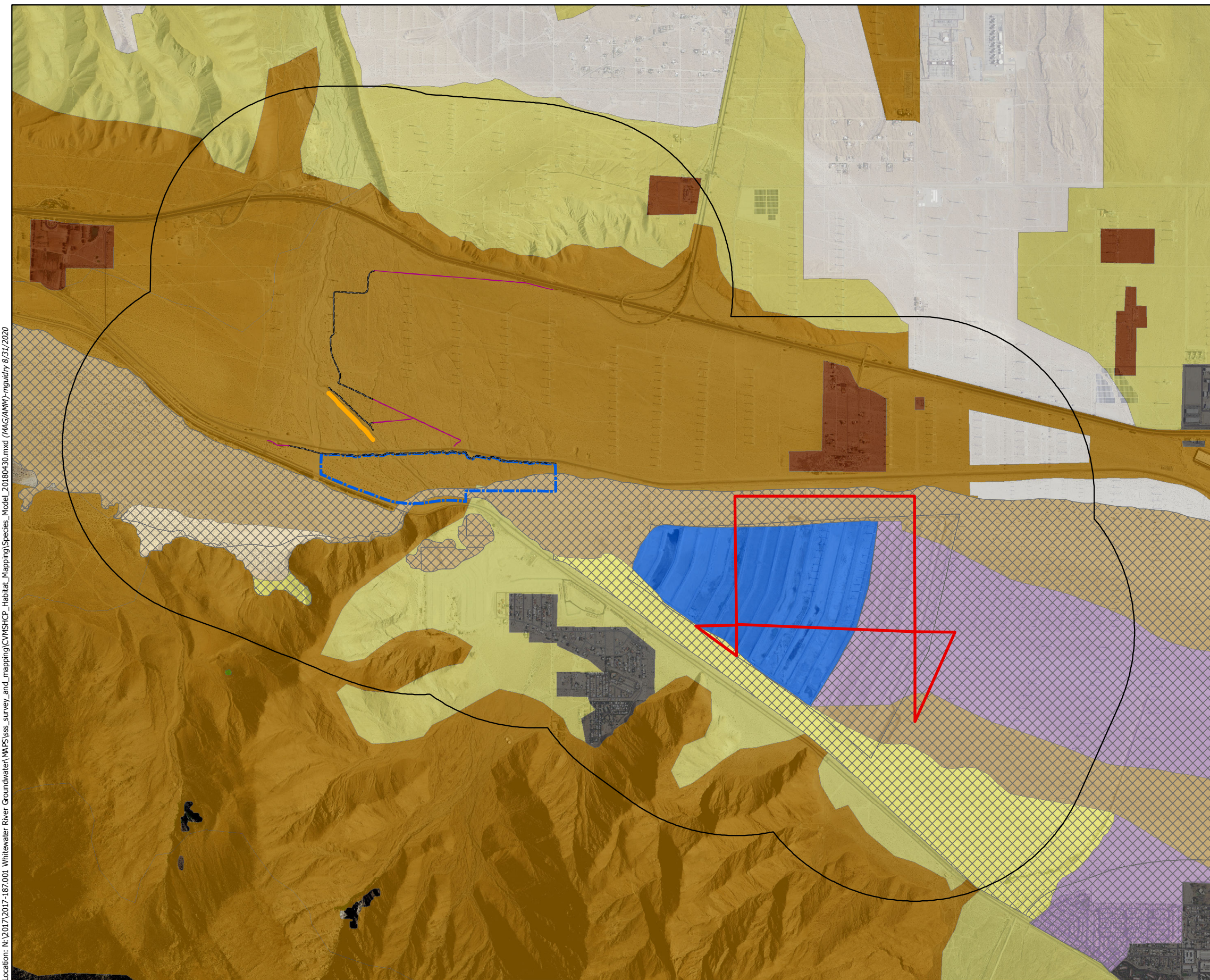
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan









Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/MM)-ngudry 8/31/2020




Current CVMSHCP Species Model Fringe-toed Lizard Sheet 6 of 16

Map Contents

Project Features

-  Area A - Whitewater Facility
-  Area A - Low Flow Crossing
-  Area B
-  Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
-  Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
-  1-Mile Project Features Buffer

Species Model

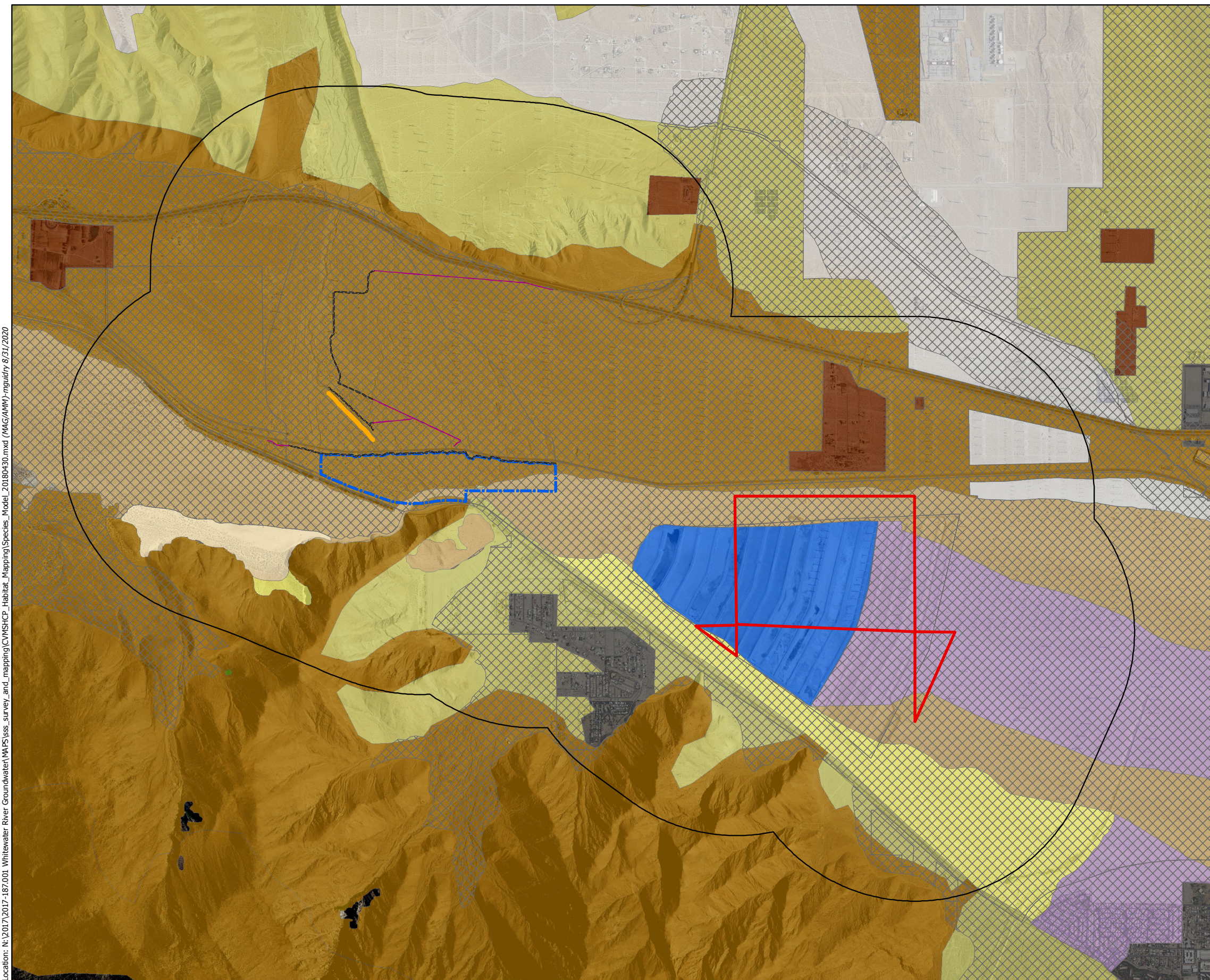
-  Fringe-toed Lizard

Vegetation Community ¹

-  Active desert dunes
-  Desert fan palm oasis woodland
-  Ephemeral sand fields
-  Reservoir (Recharge ponds)
-  Rural
-  Sonoran creosote bush scrub
-  Sonoran mixed woody & succulent scrub
-  Stabilized desert sand fields
-  Stabilized shielded sand fields
-  Urban
-  Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan

Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/MM)-ngudry 8/31/2020



Current CVMSHCP Species Model Le Conte's Thrasher Sheet 7 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Le Conte's Thrasher

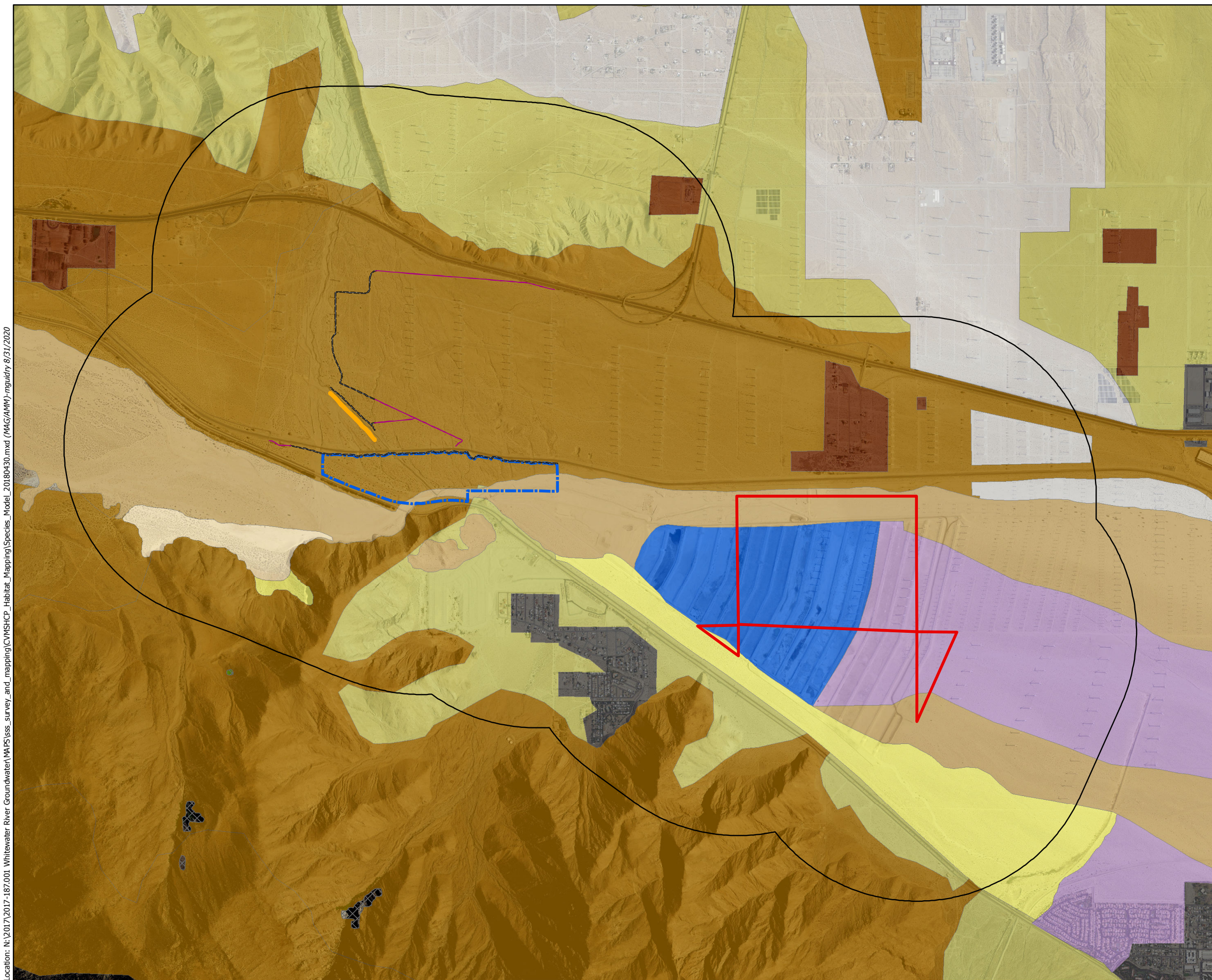
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/AMM)-ngudry 8/31/2020



Current CVMSHCP Species Model Least Bell's Vireo Sheet 8 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Least Bell's Vireo

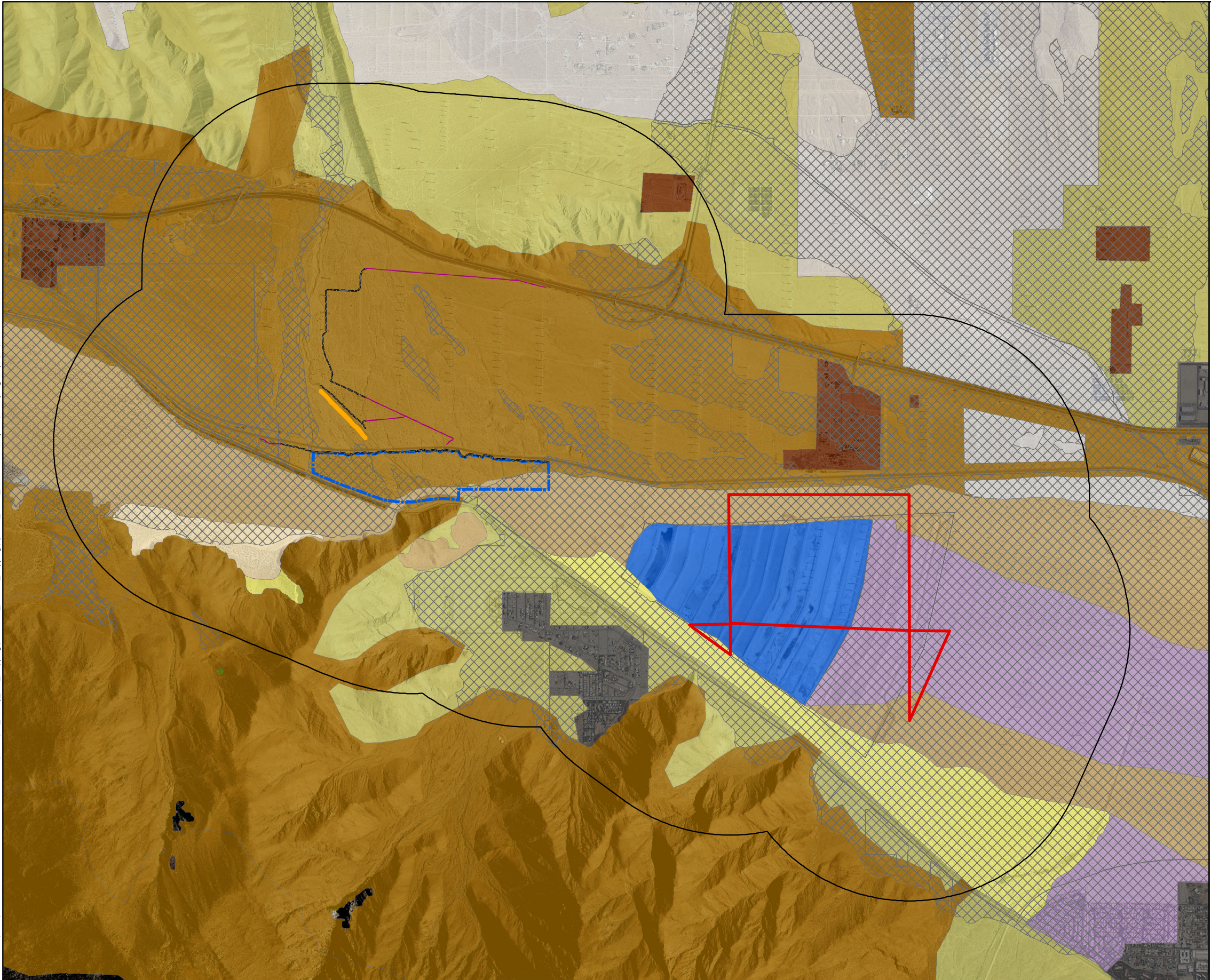
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/MM)-ngudry 8/31/2020



Current CVMSHCP Species Model

Palm Springs Ground Squirrel

Sheet 9 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Palm Springs Ground Squirrel

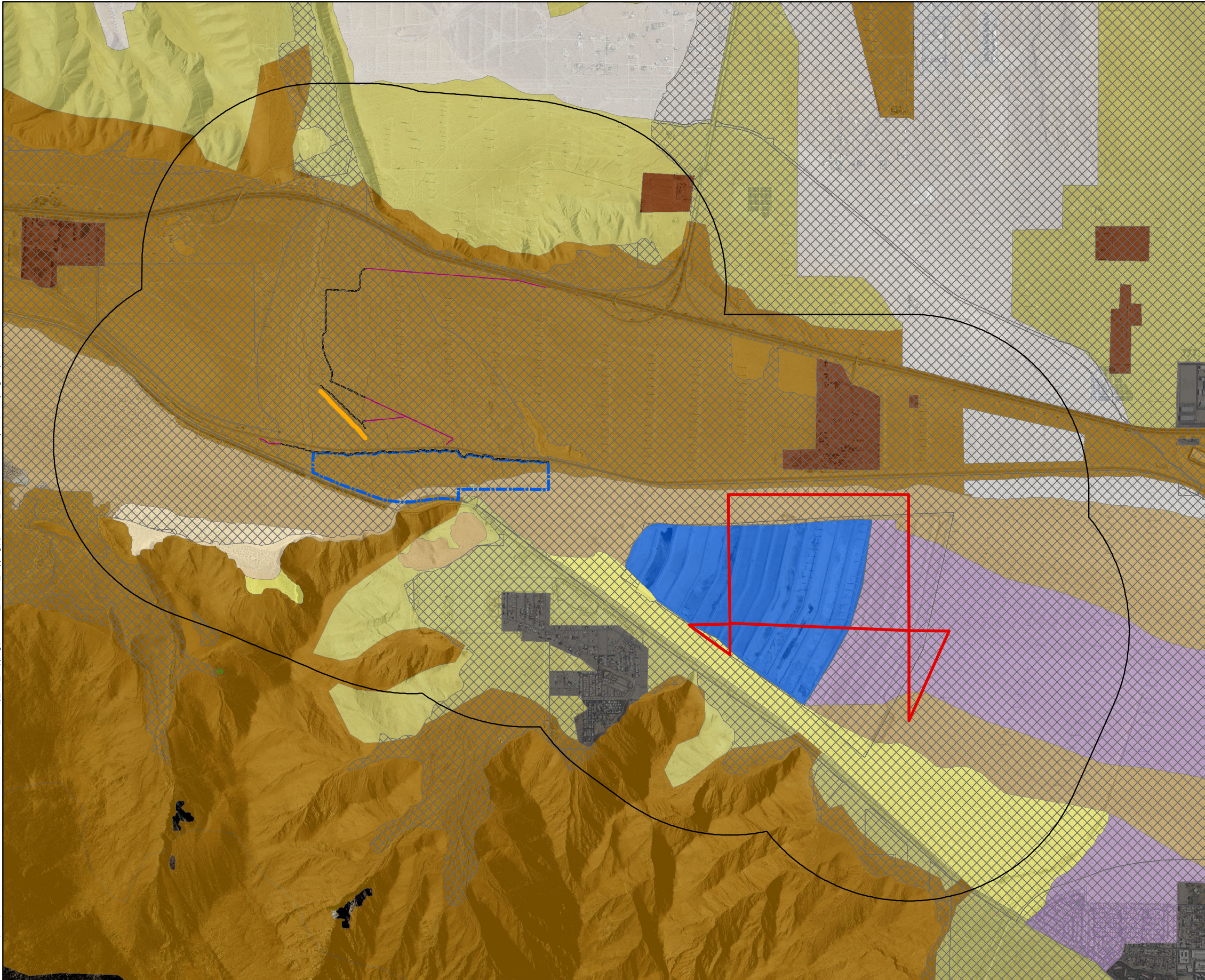
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/MM)-ngudry 8/31/2020



Current CVMSHCP Species Model Palm Springs Pocket Mouse Sheet 10 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Palm Springs Pocket Mouse

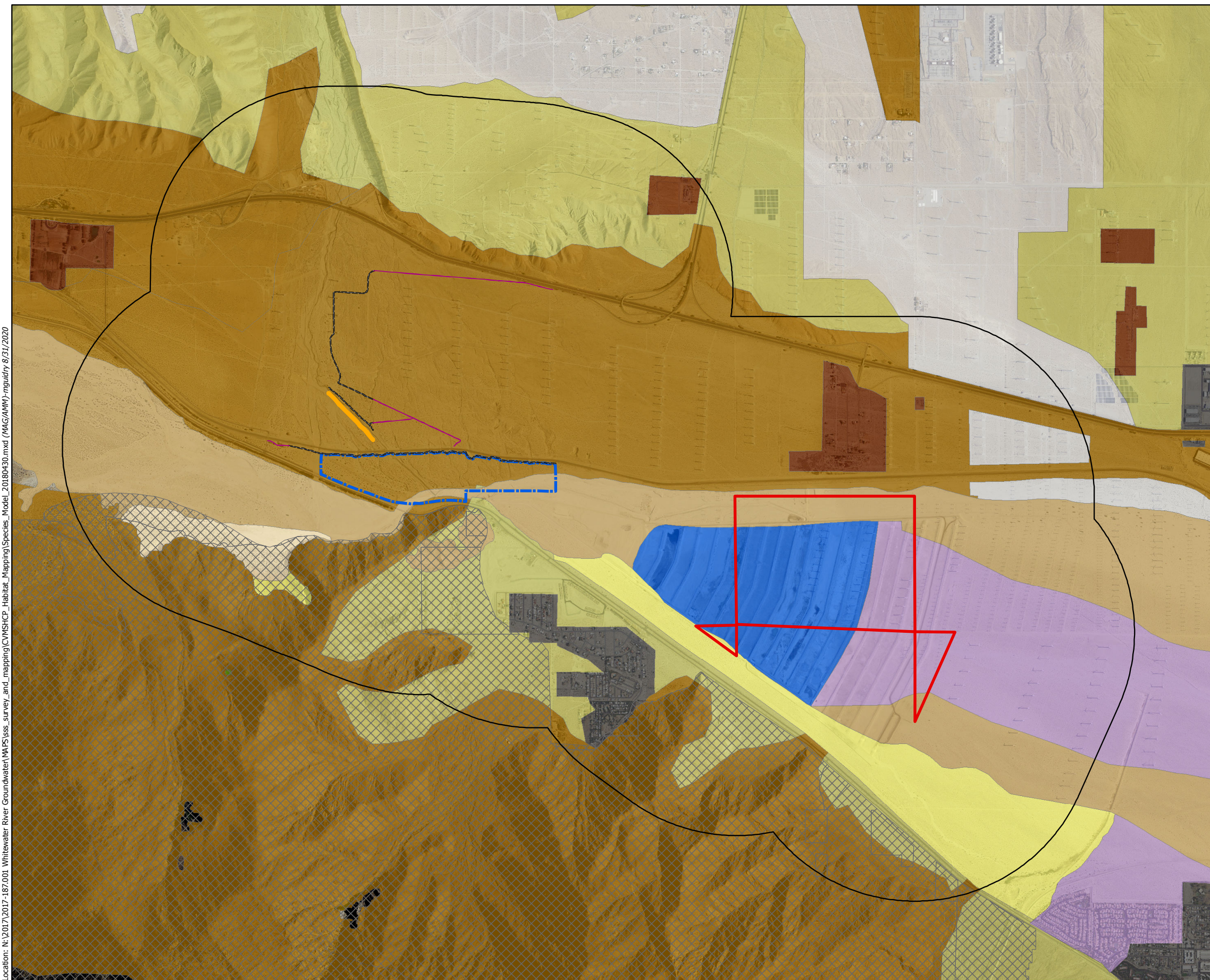
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/AMM)-ngudry 8/31/2020



Current CVMSHCP Species Model Peninsular Bighorn Sheep Sheet 11 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Peninsular Bighorn Sheep

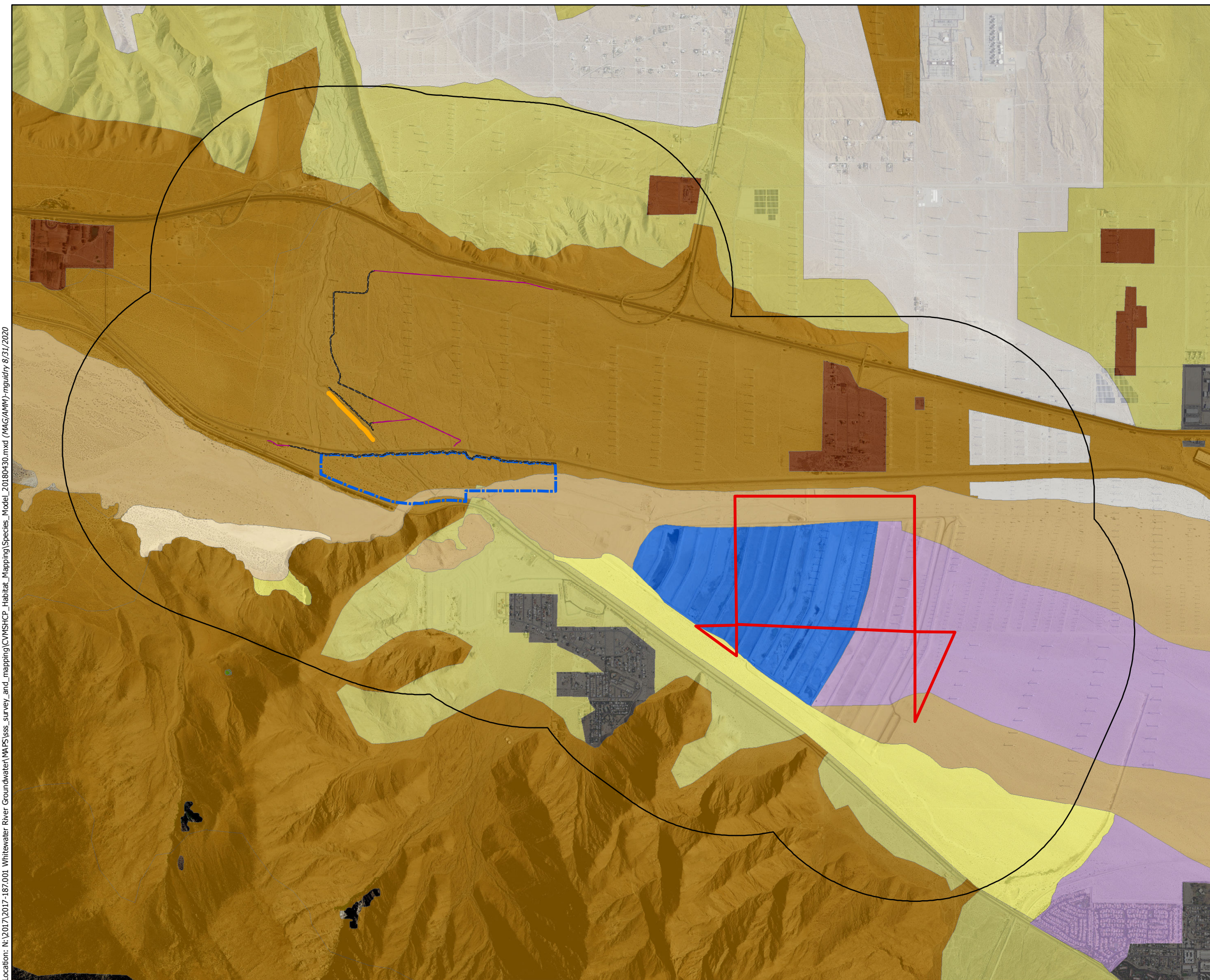
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/AMM)-ngudry 8/31/2020



Current CVMSHCP Species Model Southern Yellow Bat Sheet 12 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Southern Yellow Bat

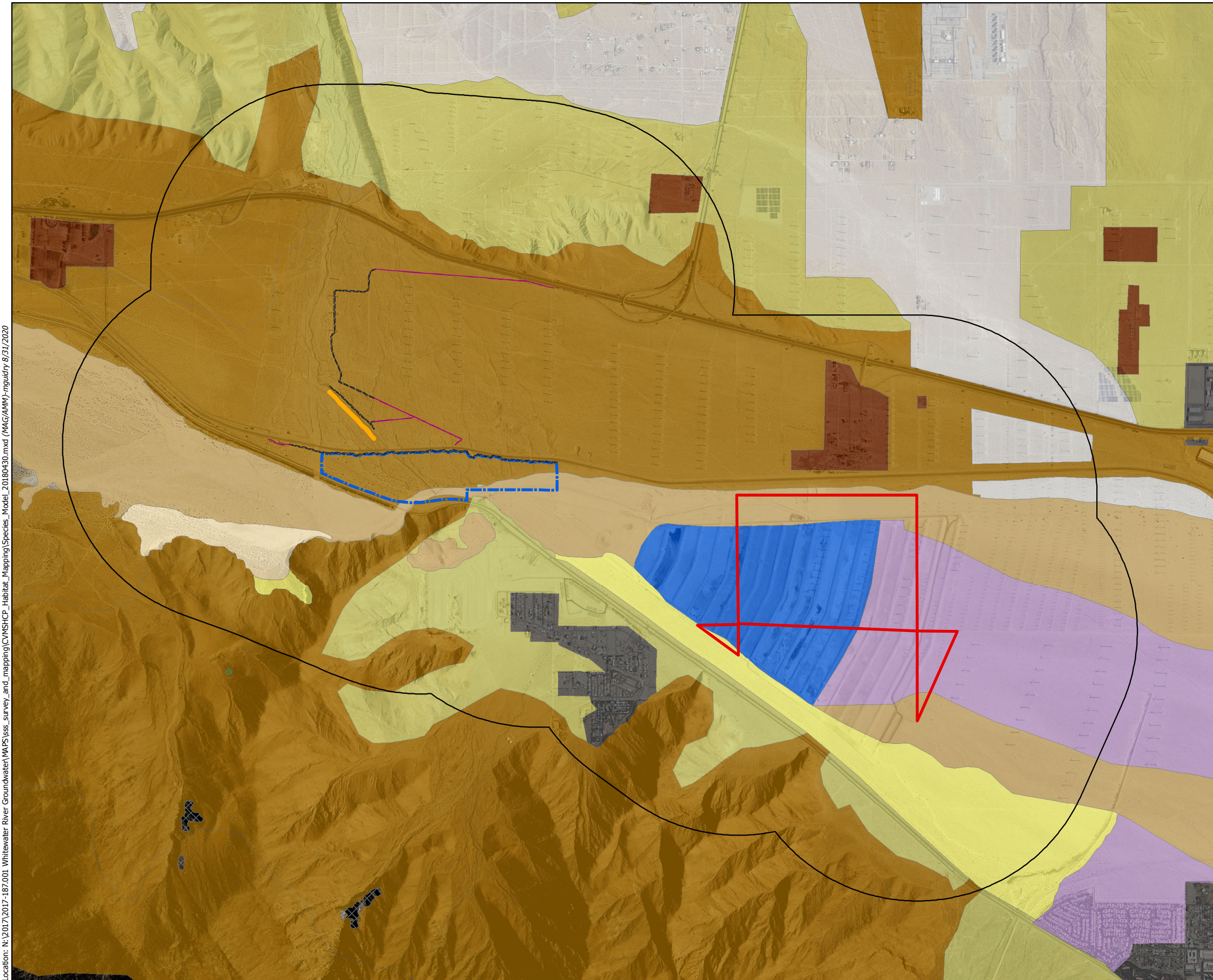
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/AMM)-ngudry 8/31/2020



Current CVMSHCP Species Model

Summer Tanager

Sheet 13 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer


Species Model

- Summer Tanager

Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Coachella Valley Multiple Species Habitat Conservation Plan



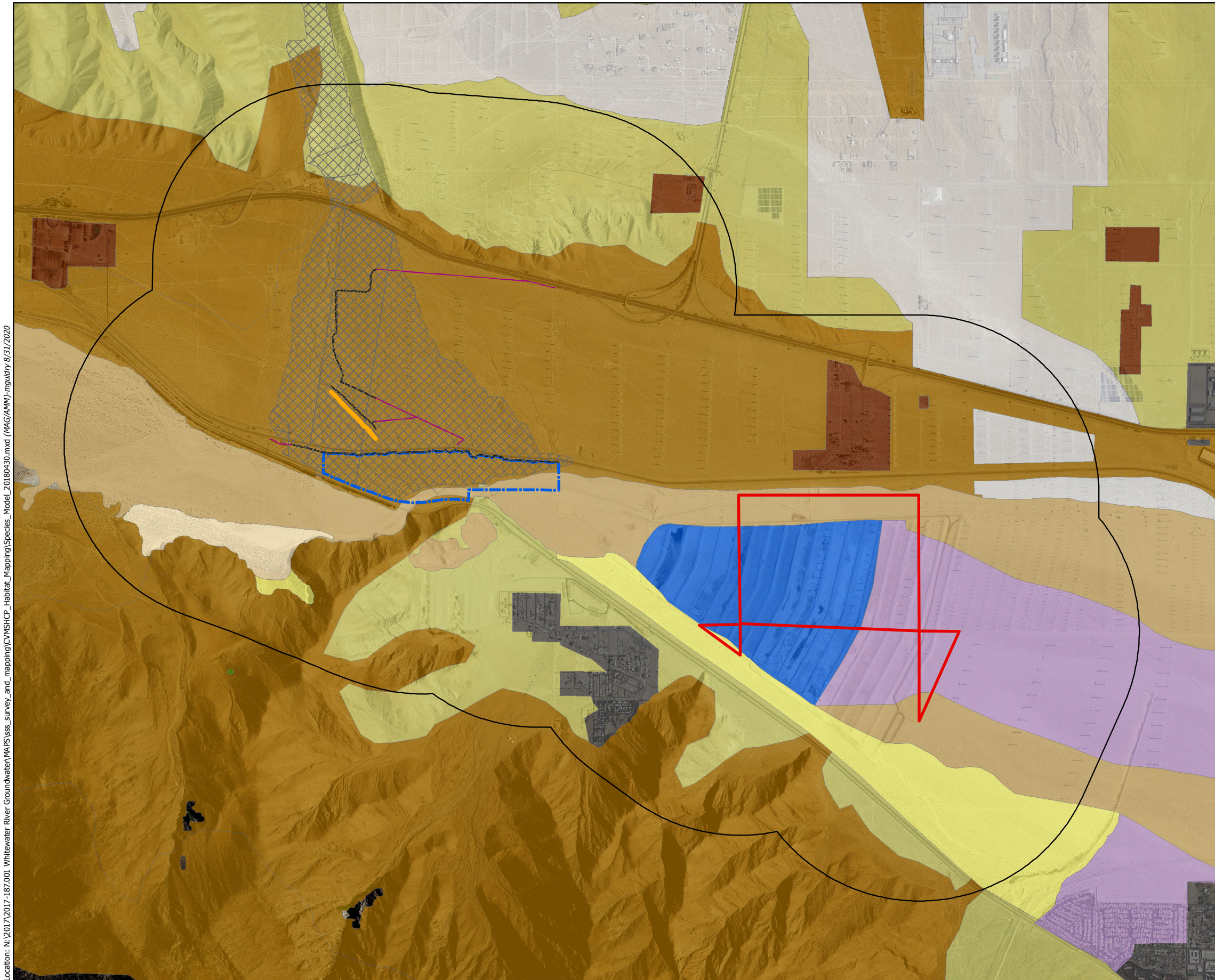
ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Photo Source: NAIP 2016

Map Date: 8/31/2020



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/MM)-ngudry 8/31/2020



Current CVMSHCP Species Model Triple-ribbed Milkvetch Sheet 14 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Triple-ribbed Milkvetch

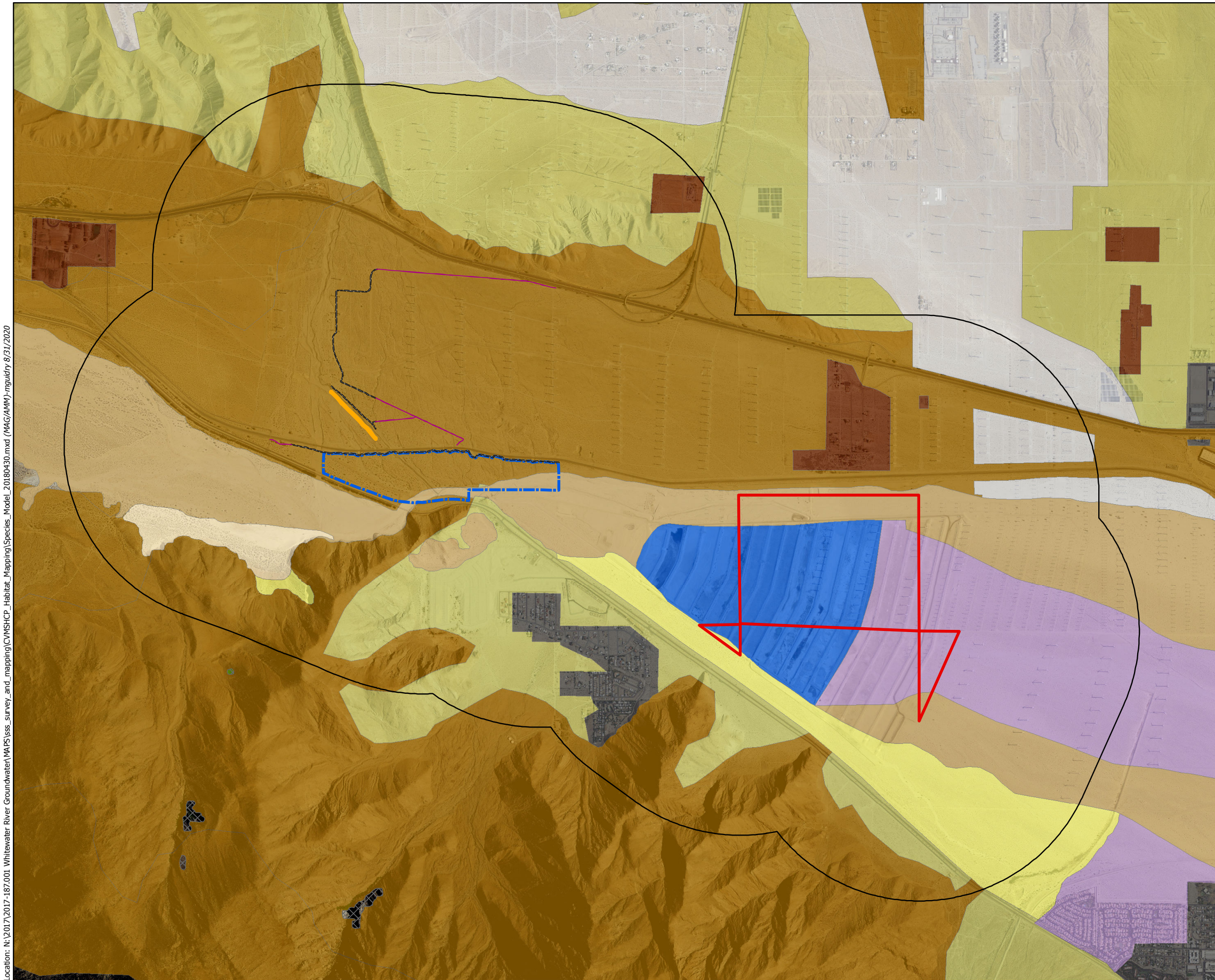
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/MM)-mgndry 8/31/2020



Current CVMSHCP Species Model Yellow-breasted Chat Sheet 15 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Yellow-breasted Chat

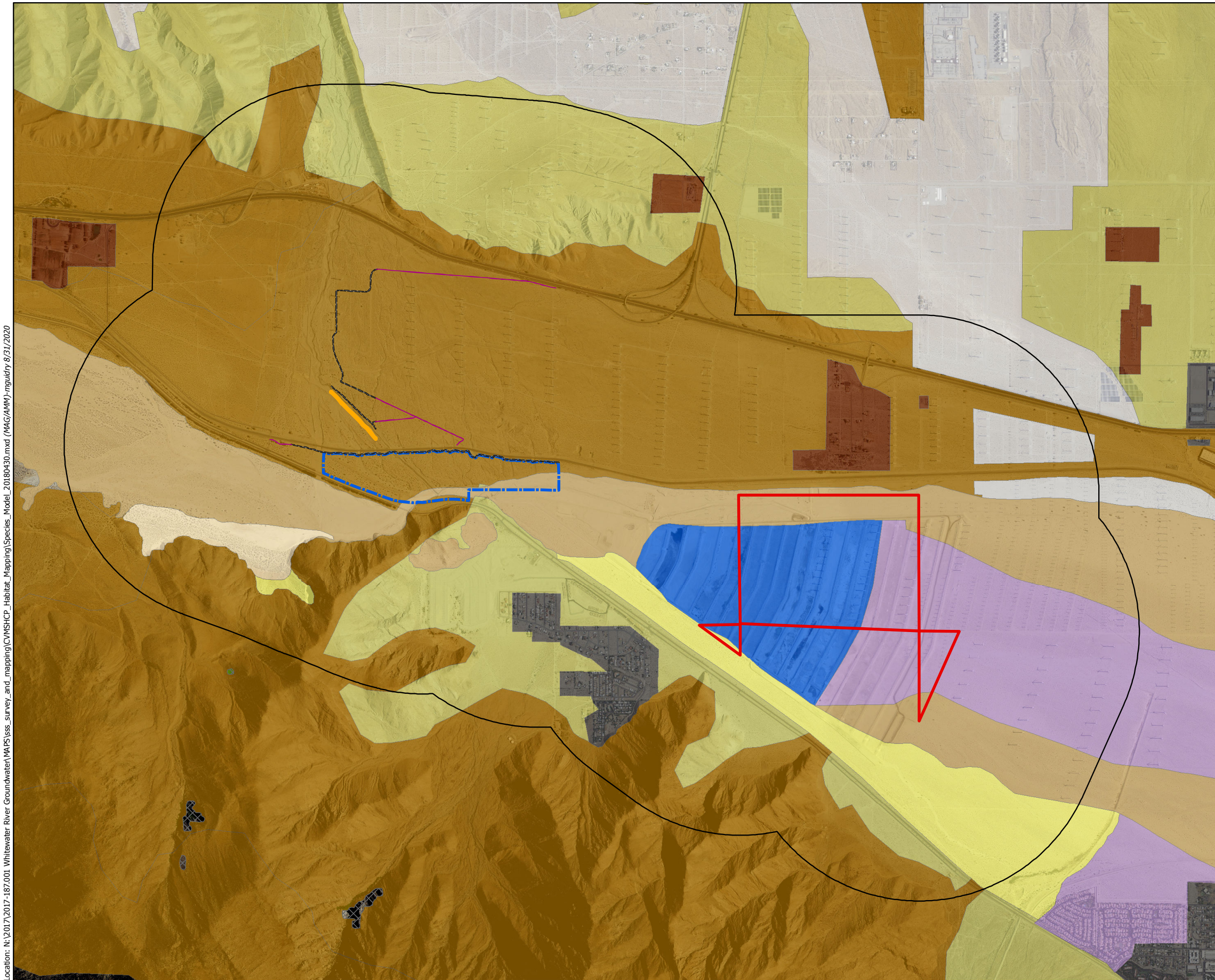
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\Species_Model_20180430.mxd (MAG/AMM)-ngudry 8/31/2020



Current CVMSHCP Species Model Yellow Warbler Sheet 16 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Yellow Warbler

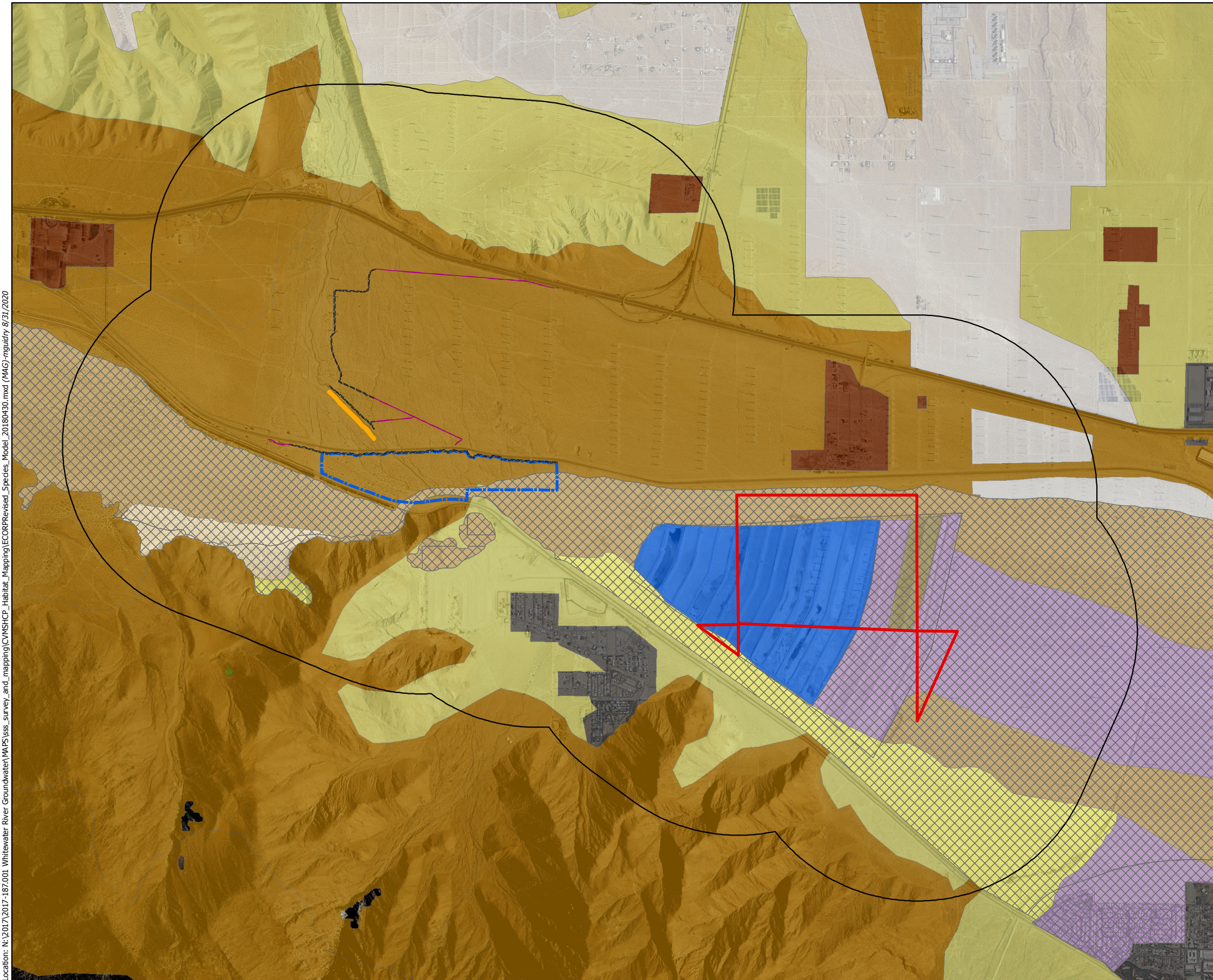
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Coachella Valley Multiple Species Habitat Conservation Plan



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\ECORPRevised_Species_Model_20180430.mxd (MAG) nguidry 8/31/2020



Revised CVMSHCP Species Model

Coachella Giant Sand Treader Cricket

Sheet 1 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer


Species Model

- Coachella Giant Sand Treader Cricket

Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

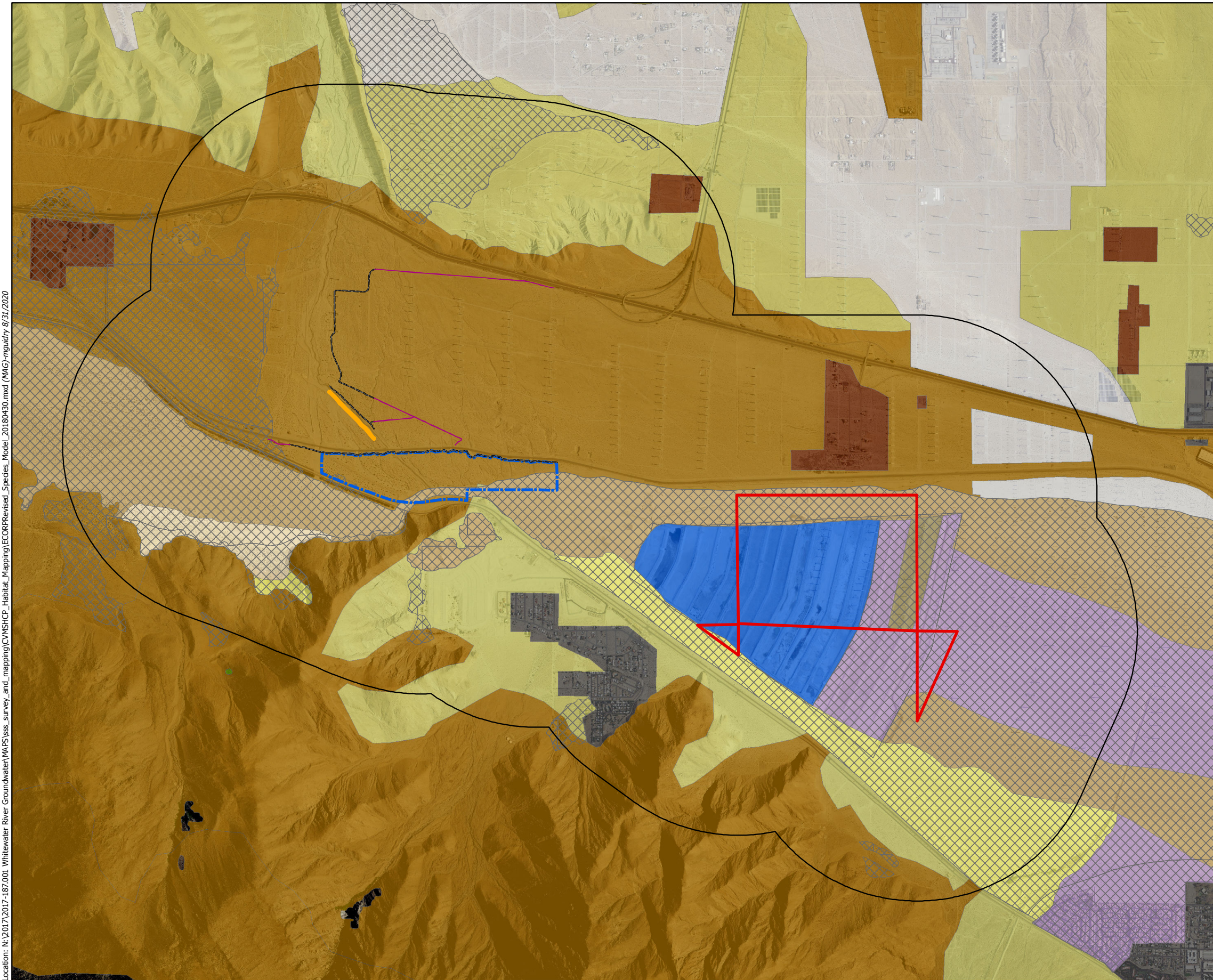
1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMShcp_Habitat_Mapping\ECORPRevised_Species_Model_20180430.mxd (MAG) nguidry 8/31/2020



Revised CVMShcp Species Model Coachella Valley Jerusalem Cricket Sheet 2 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer


Species Model

- Coachella Valley Jerusalem Cricket

Vegetation Community ¹

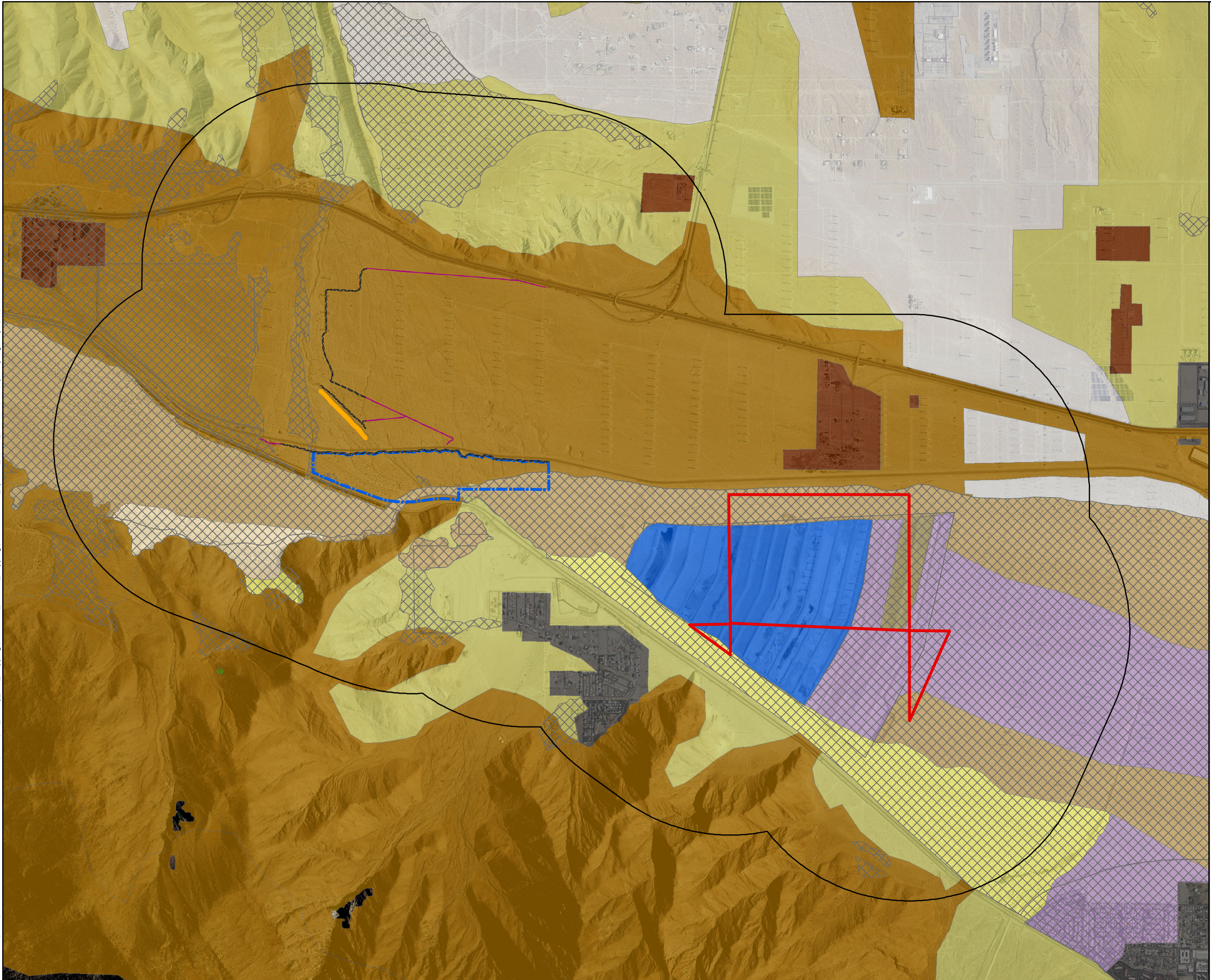
- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
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ENVIRONMENTAL CONSULTANTS



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Revised CVMSHCP Species Model

Coachella Valley Milkvetch

Sheet 3 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Coachella Valley Milkvetch

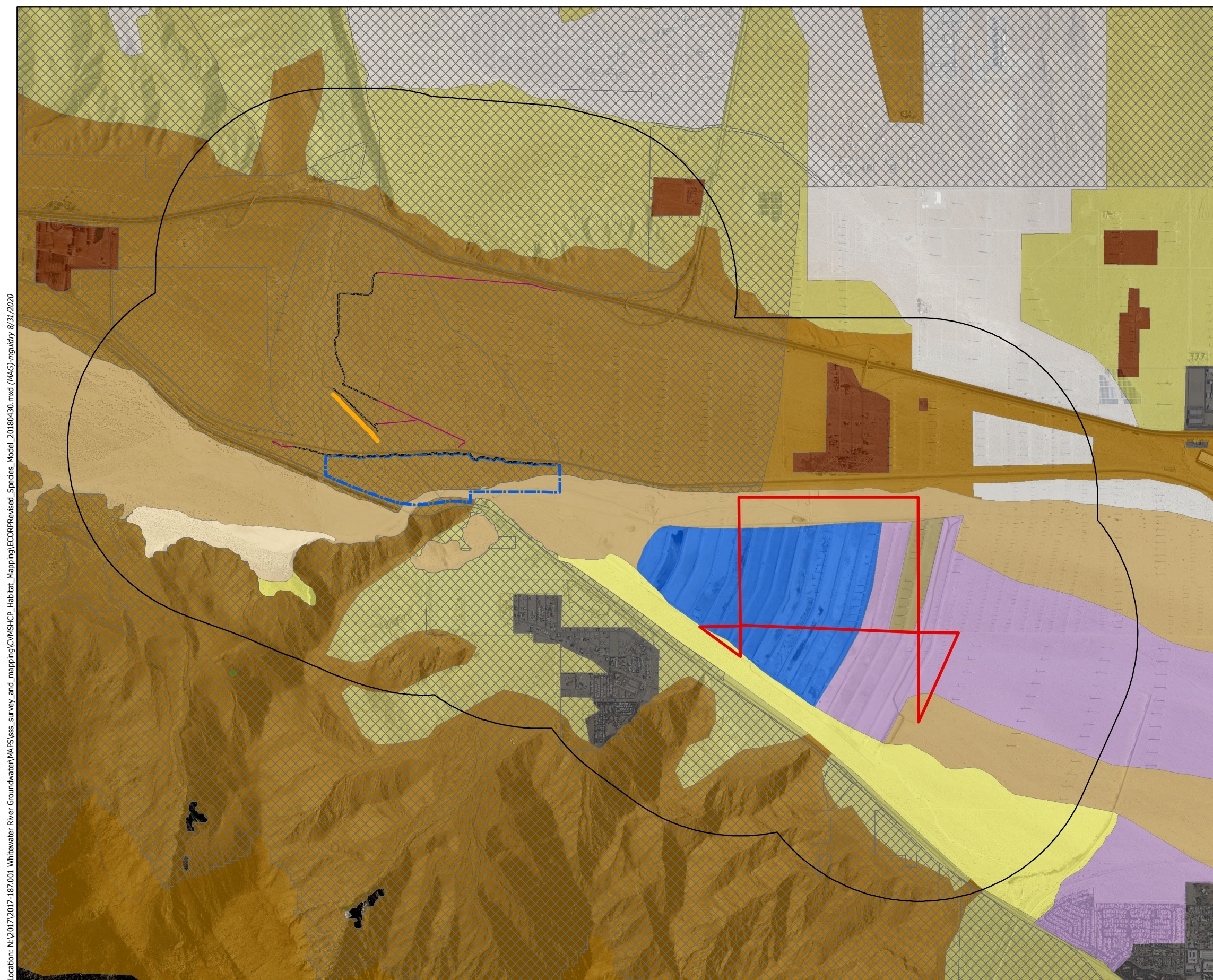
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

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Revised CVMSHCP Species Model Desert Tortoise Sheet 4 of 16

Map Contents

Project Features

-  Area A - Whitewater Facility
-  Area A - Low Flow Crossing
-  Area B
-  Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
-  Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
-  1-Mile Project Features Buffer

Species Model

-  Desert Tortoise

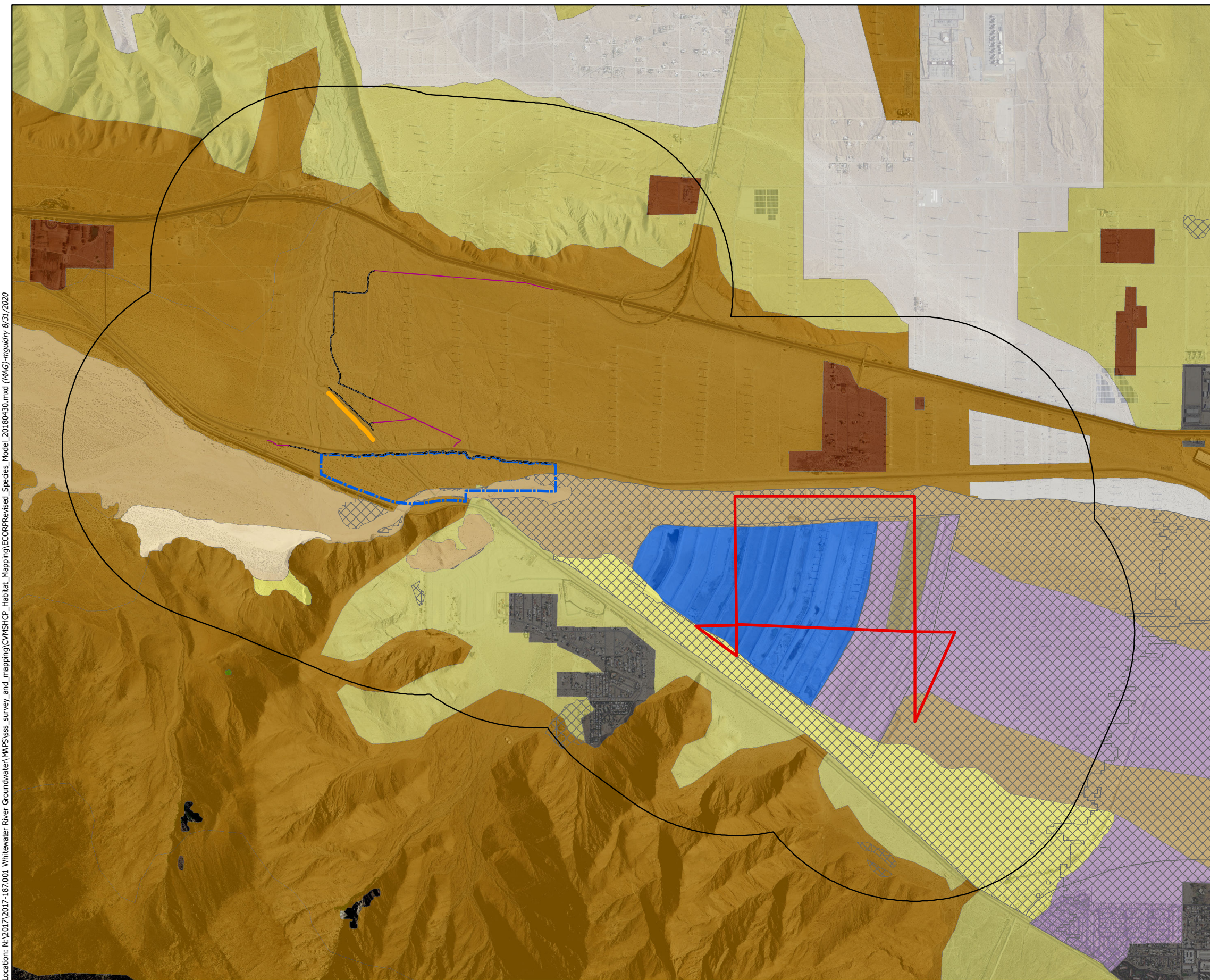
Vegetation Community ¹

-  Active desert dunes
-  Desert fan palm oasis woodland
-  Ephemeral sand fields
-  Reservoir (Recharge ponds)
-  Rural
-  Sonoran creosote bush scrub
-  Sonoran mixed woody & succulent scrub
-  Stabilized desert sand fields
-  Disturbed Stabilized shielded sand fields
-  Stabilized shielded sand fields
-  Urban
-  Wind energy

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Revised CVMSHCP Species Model Flat-tailed Horned Lizard Sheet 5 of 16

Map Contents

Project Features

-  Area A - Whitewater Facility
-  Area A - Low Flow Crossing
-  Area B
-  Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
-  Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
-  1-Mile Project Features Buffer

Species Model

-  Flat-tailed Horned Lizard

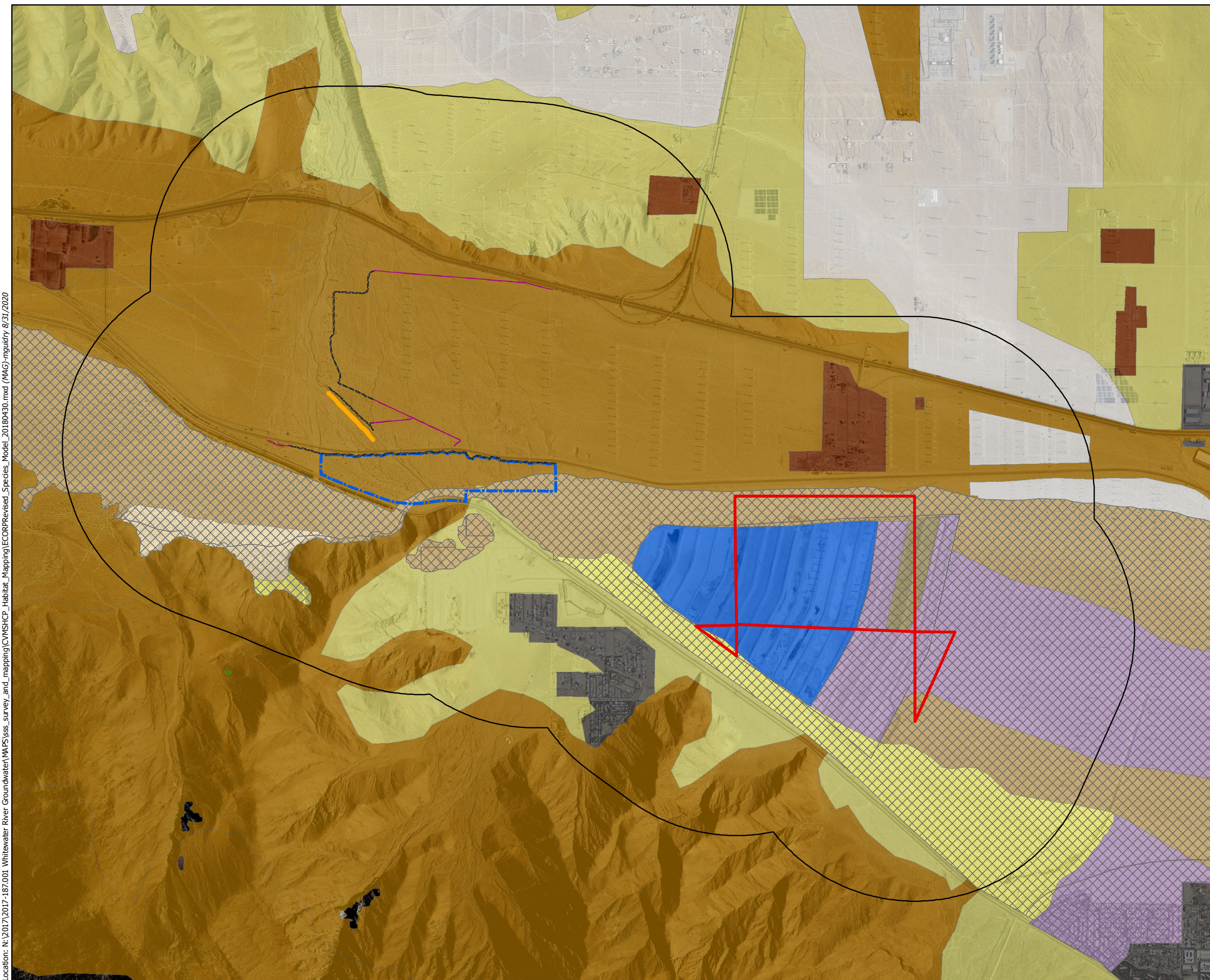
Vegetation Community ¹

-  Active desert dunes
-  Desert fan palm oasis woodland
-  Ephemeral sand fields
-  Reservoir (Recharge ponds)
-  Rural
-  Sonoran creosote bush scrub
-  Sonoran mixed woody & succulent scrub
-  Stabilized desert sand fields
-  Disturbed Stabilized shielded sand fields
-  Stabilized shielded sand fields
-  Urban
-  Wind energy

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Revised CVMSHCP Species Model Fringe-toed Lizard Sheet 6 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Fringe-toed Lizard

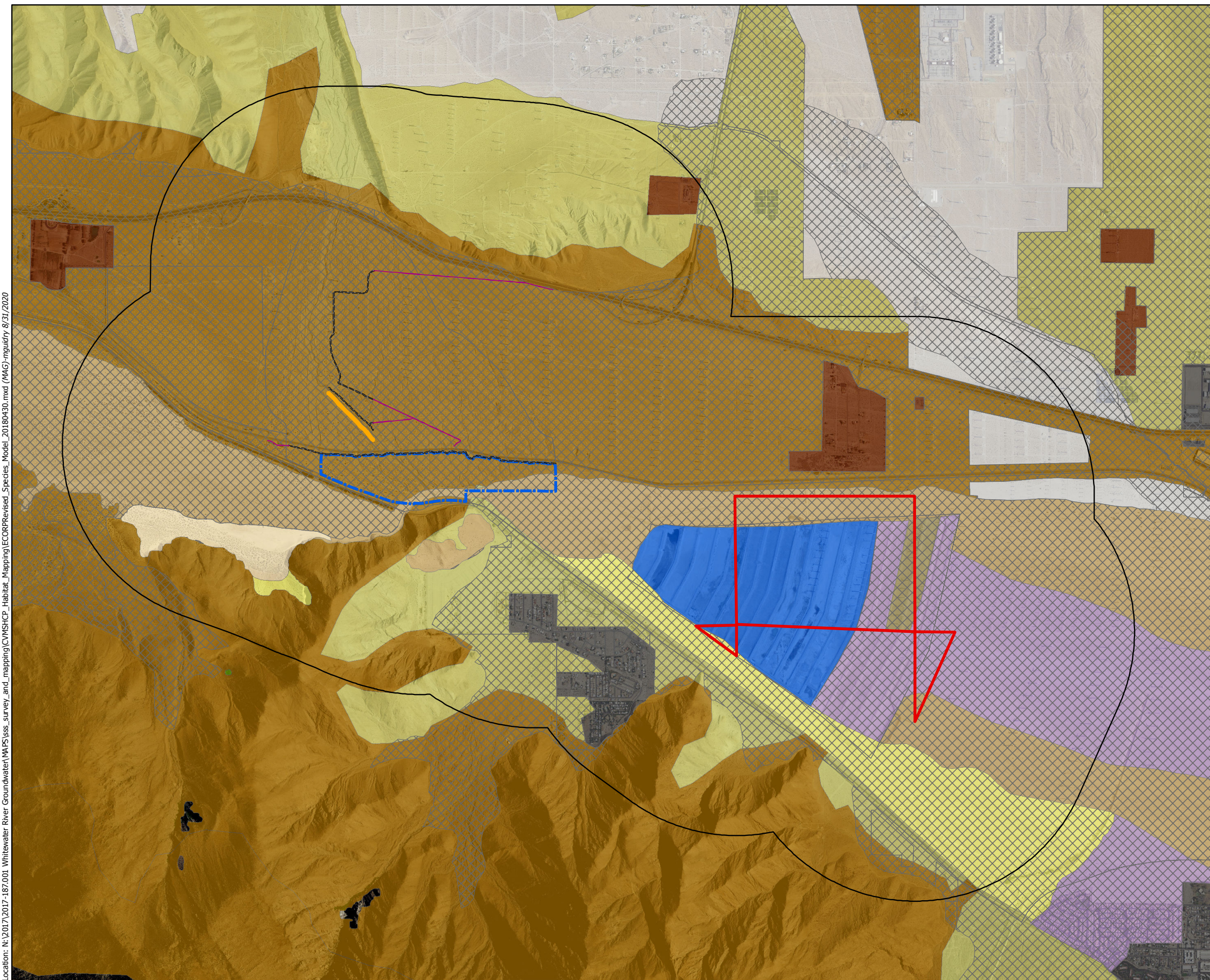
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

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Revised CVMSHCP Species Model Le Conte's Thrasher Sheet 7 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Le Conte's Thrasher

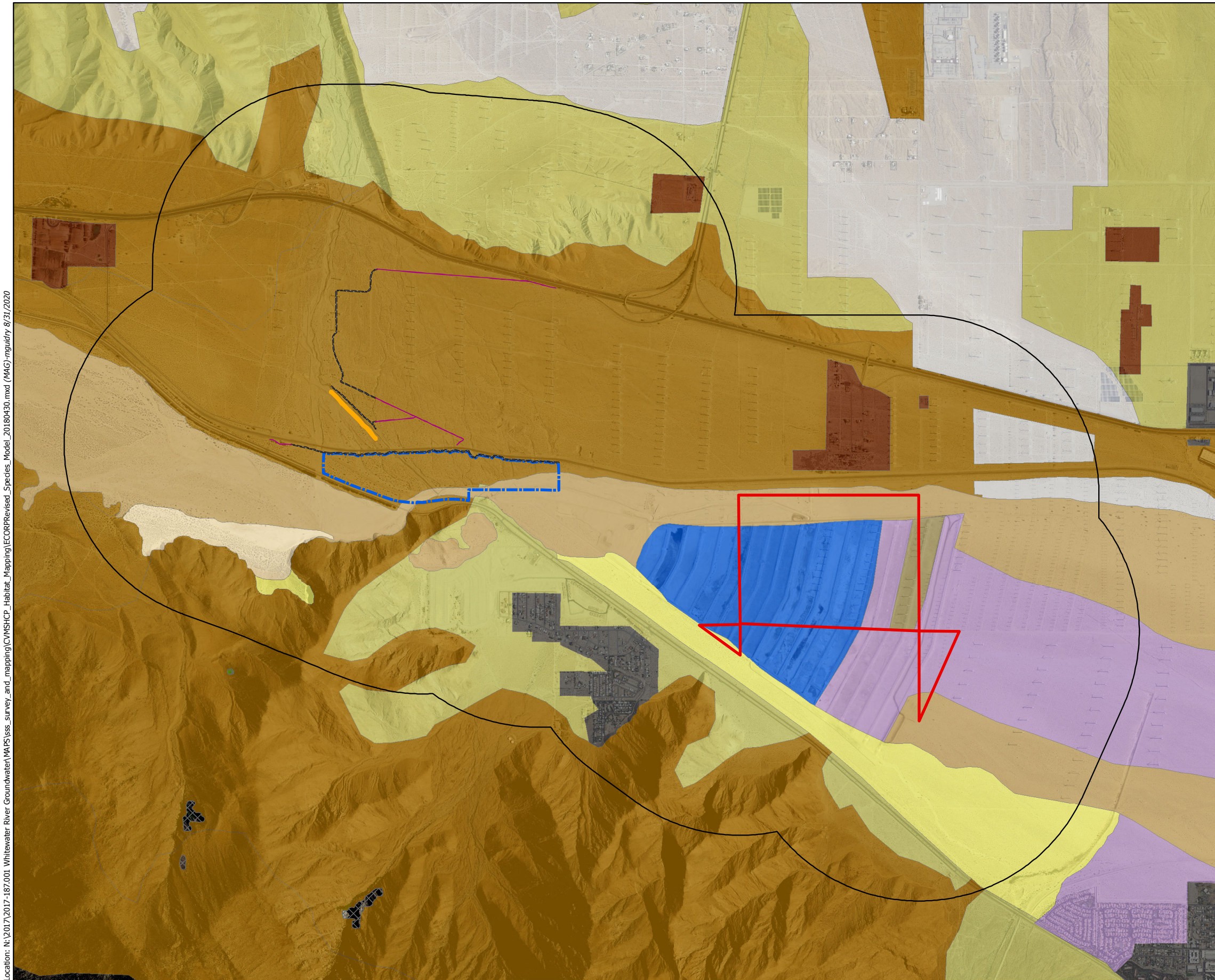
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



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Revised CVMSHCP Species Model Least Bell's Vireo Sheet 8 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Least Bell's Vireo

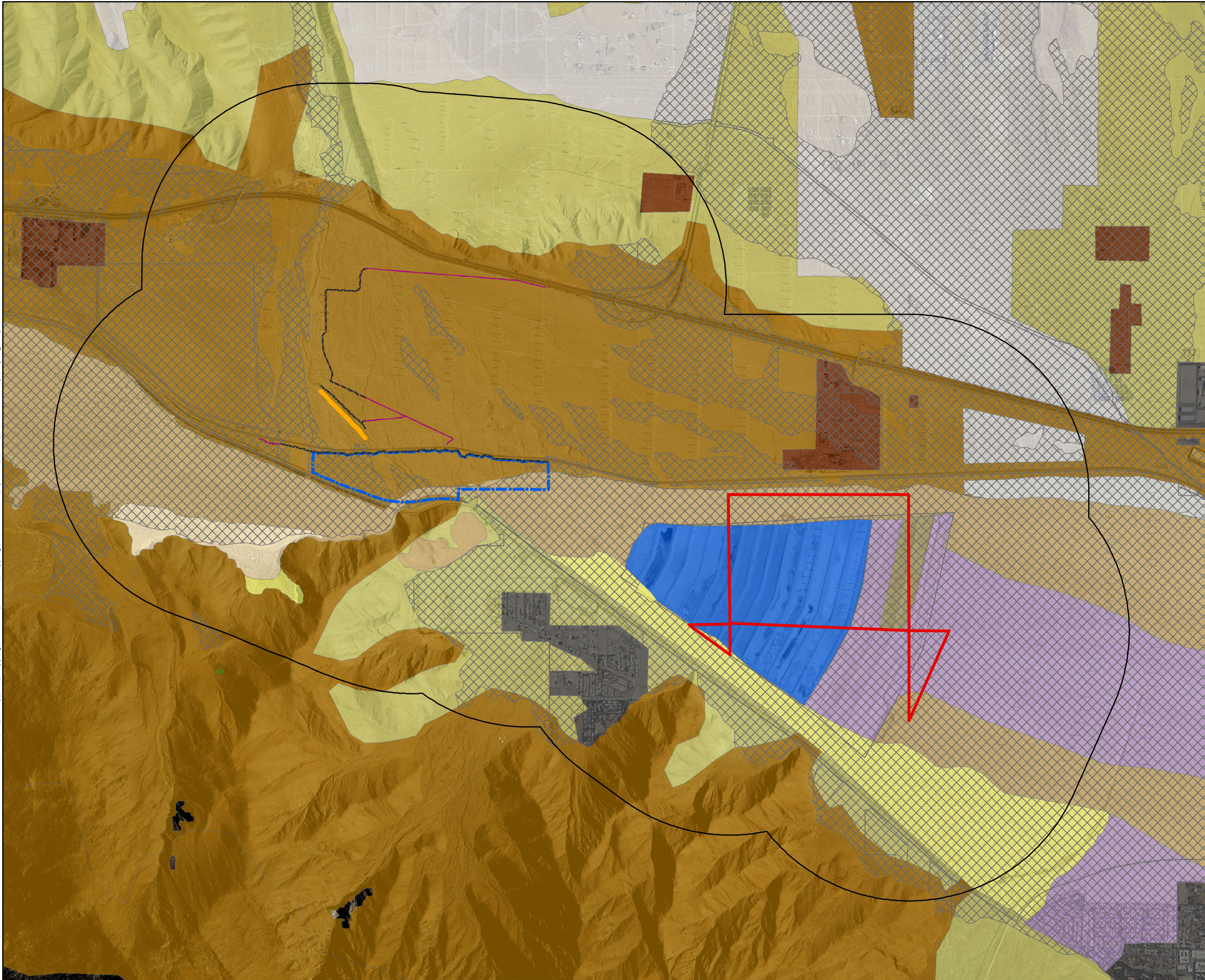
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



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Revised CVMSHCP Species Model Palm Springs Ground Squirrel Sheet 9 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Palm Springs Ground Squirrel

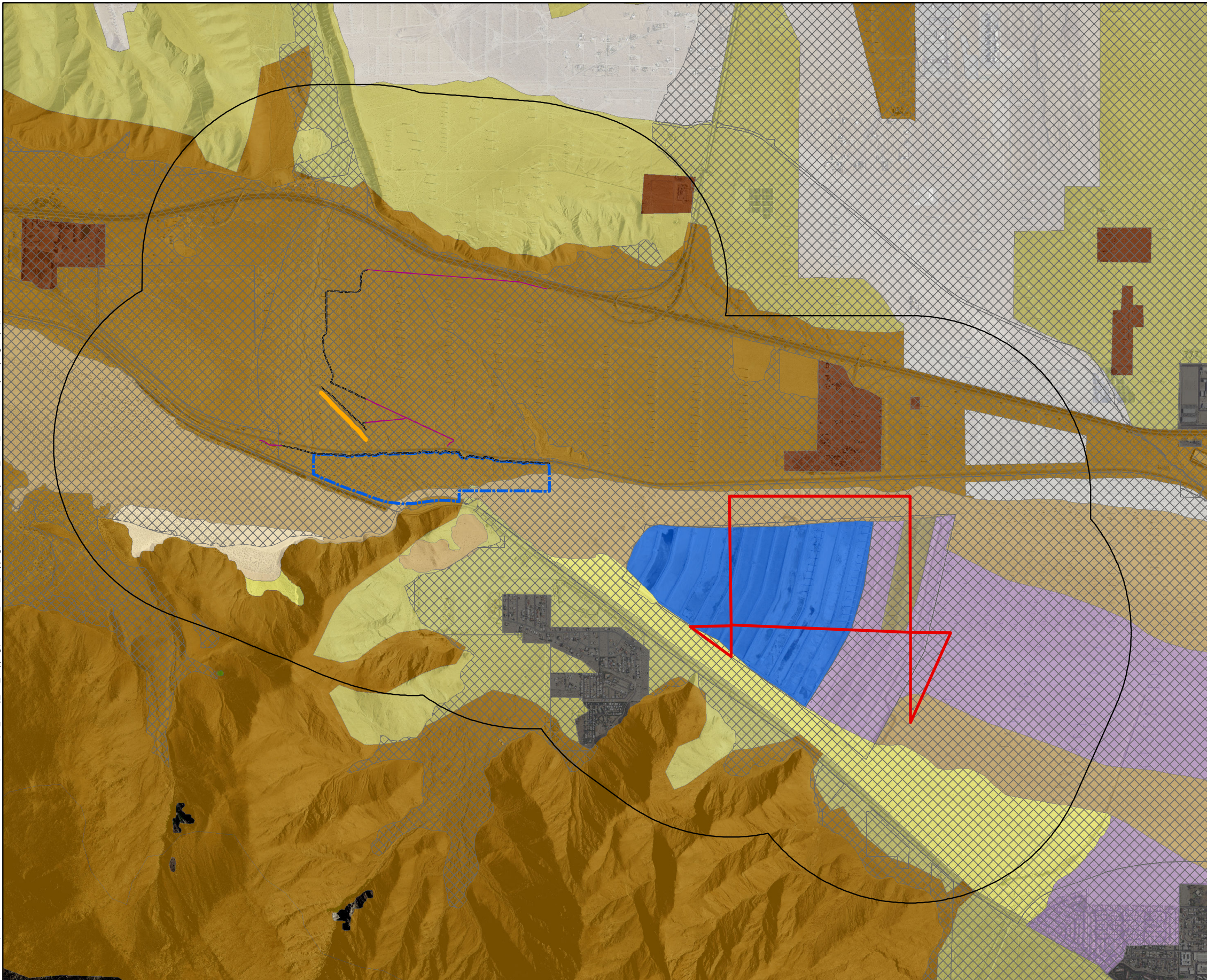
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

¹ - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



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Revised CVMShcp Species Model Palm Springs Pocket Mouse Sheet 10 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Palm Springs Pocket Mouse

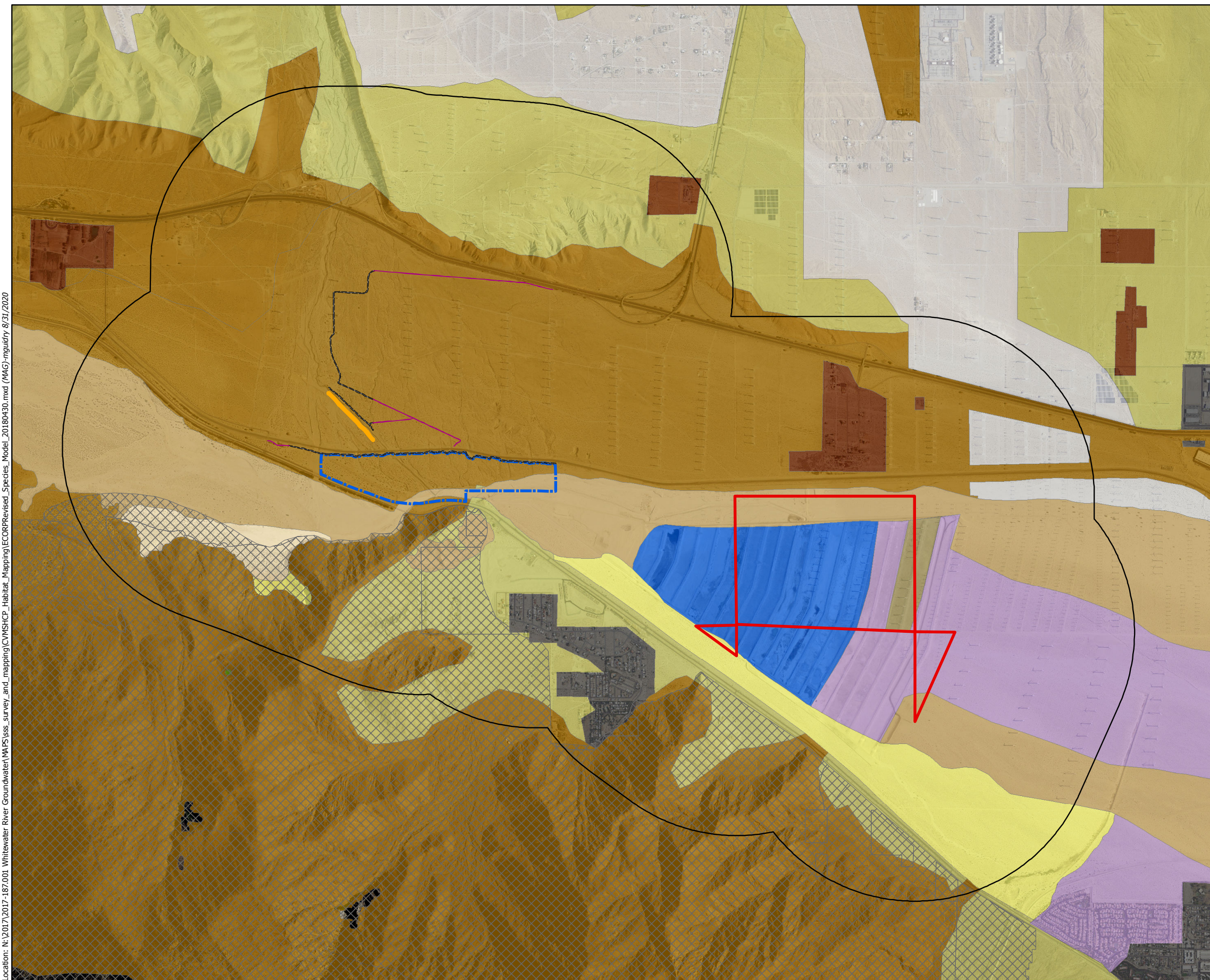
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.









Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\ECORPRevised_Species_Model_20180430.mxd (MAG) nguidry 8/31/2020




Revised CVMSHCP Species Model Peninsular Bighorn Sheep Sheet 11 of 16

Map Contents

Project Features

-  Area A - Whitewater Facility
-  Area A - Low Flow Crossing
-  Area B
-  Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
-  Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
-  1-Mile Project Features Buffer

Species Model

-  Peninsular Bighorn Sheep

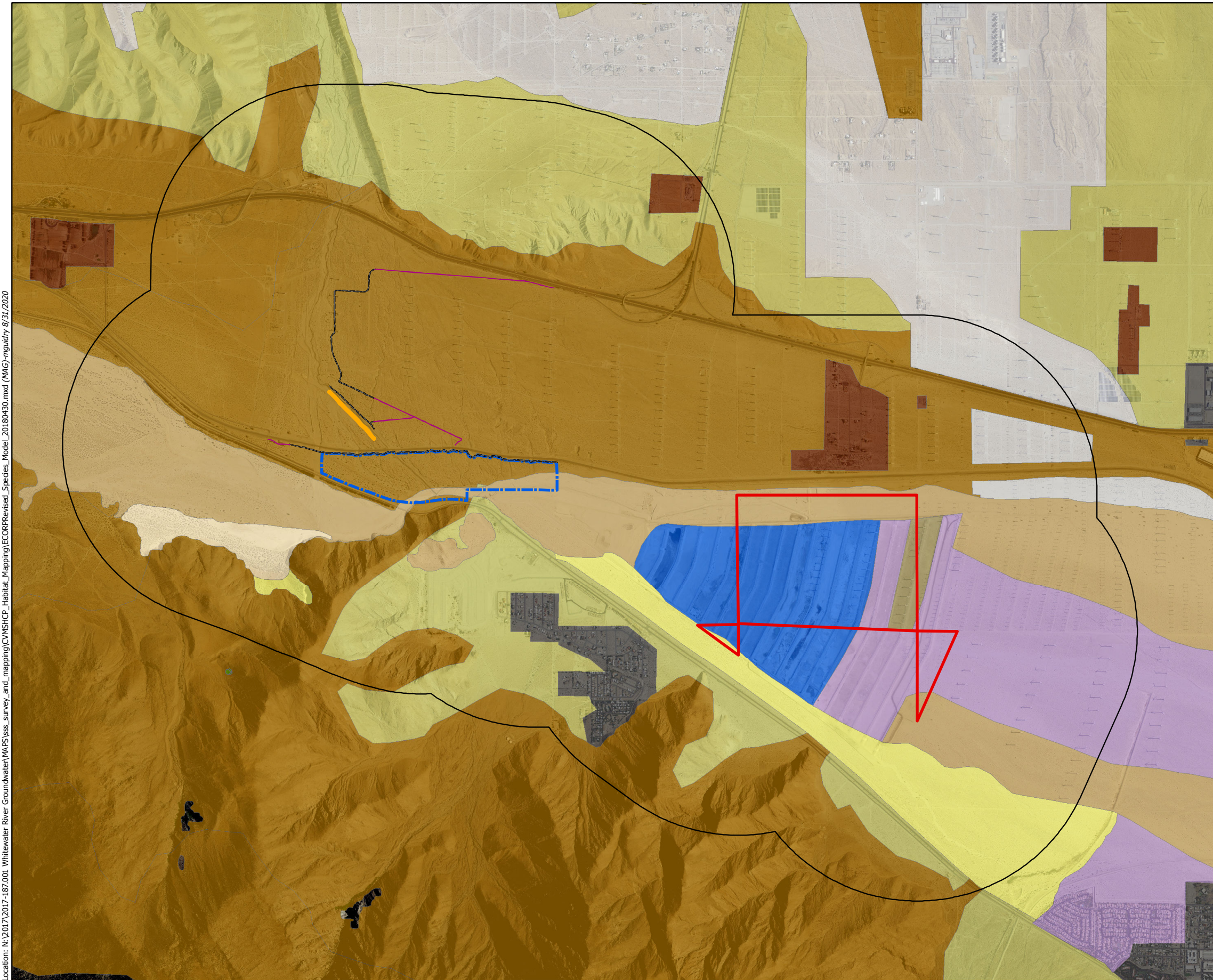
Vegetation Community ¹

-  Active desert dunes
-  Desert fan palm oasis woodland
-  Ephemeral sand fields
-  Reservoir (Recharge ponds)
-  Rural
-  Sonoran creosote bush scrub
-  Sonoran mixed woody & succulent scrub
-  Stabilized desert sand fields
-  Disturbed Stabilized shielded sand fields
-  Stabilized shielded sand fields
-  Urban
-  Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



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Revised CVMSHCP Species Model Southern Yellow Bat Sheet 12 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Southern Yellow Bat

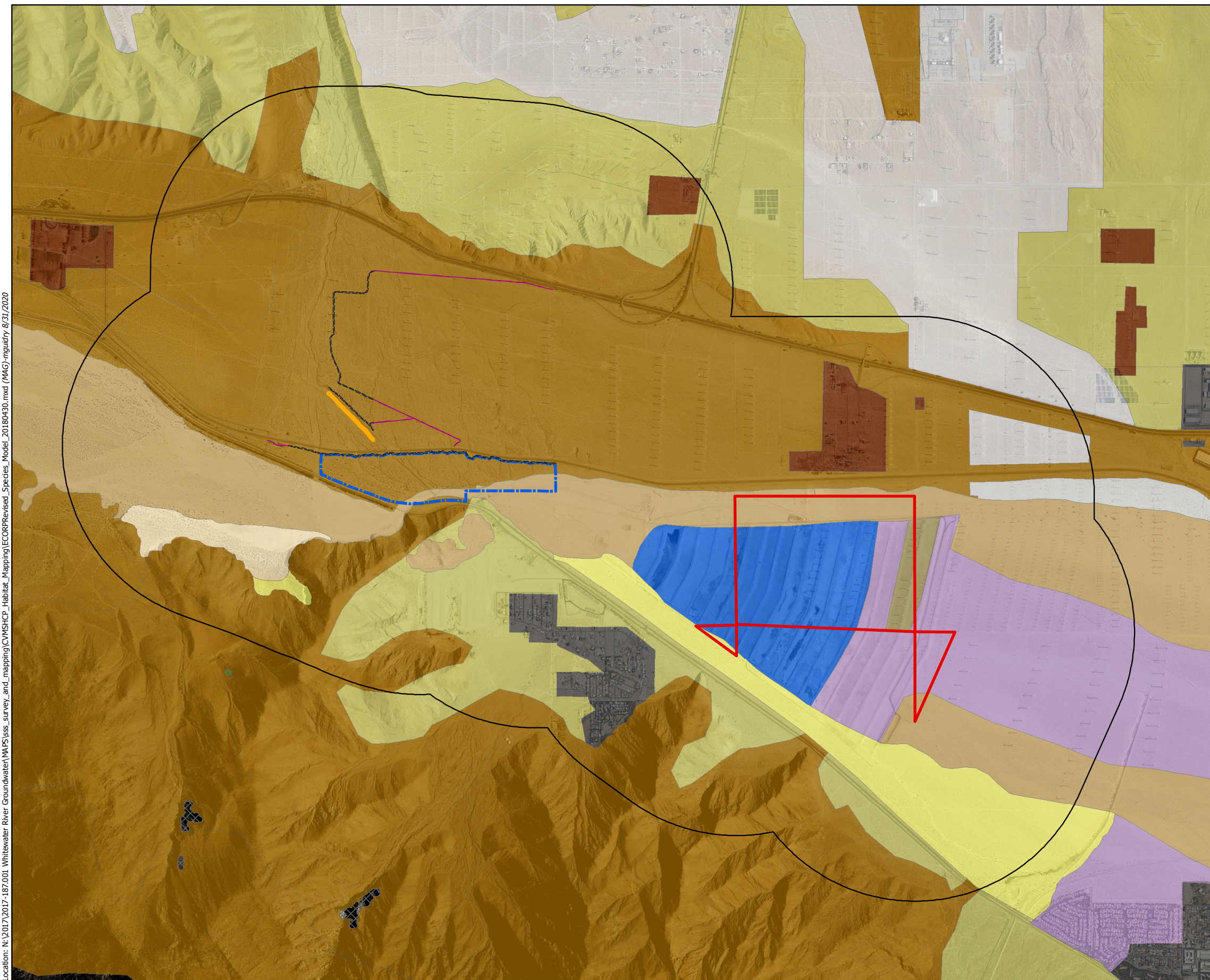
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



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Revised CVMSHCP Species Model Summer Tanager Sheet 13 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Summer Tanager

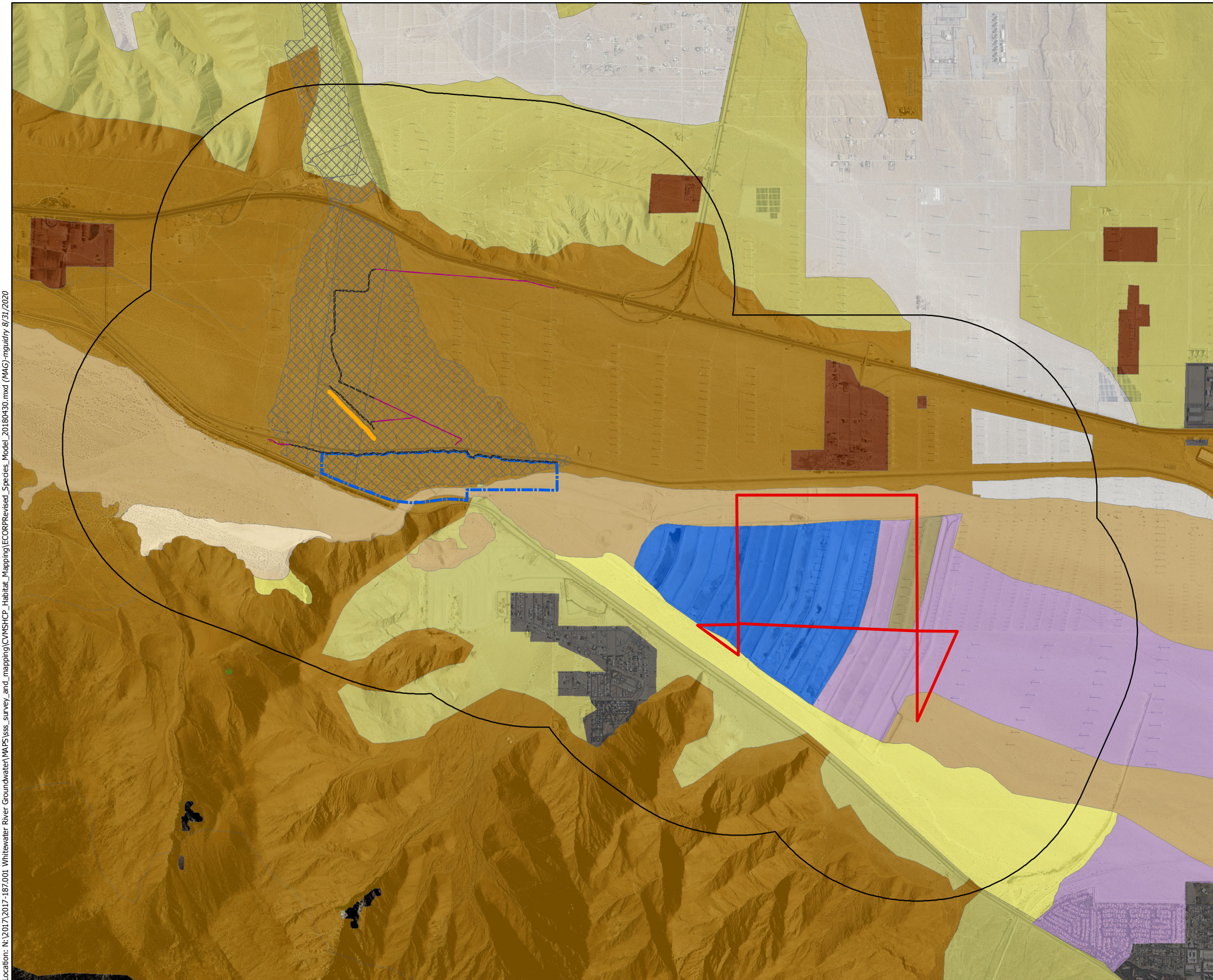
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



Location: N:\2017\2017-187.001 Whitewater River Groundwater\MAPS\ss_survey_and_mapping\CVMSHCP_Habitat_Mapping\ECORP\Revised_Species_Model_20180430.mxd (MAG) nguidry 8/31/2020



Revised CVMSHCP Species Model Triple-ribbed Milkvetch Sheet 14 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Triple-ribbed Milkvetch

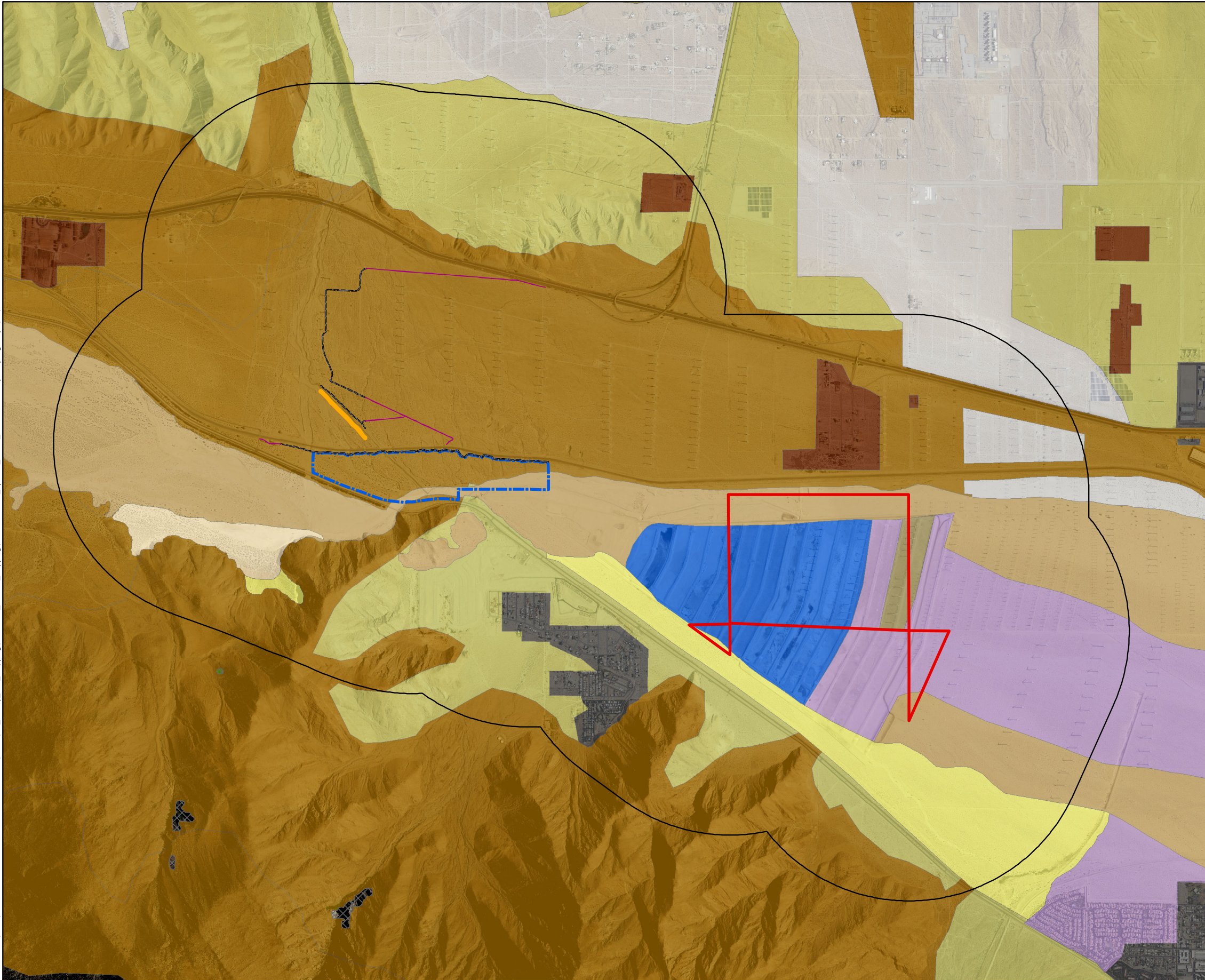
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



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Revised CVMSHCP Species Model Yellow-breasted Chat Sheet 15 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Yellow-breasted Chat

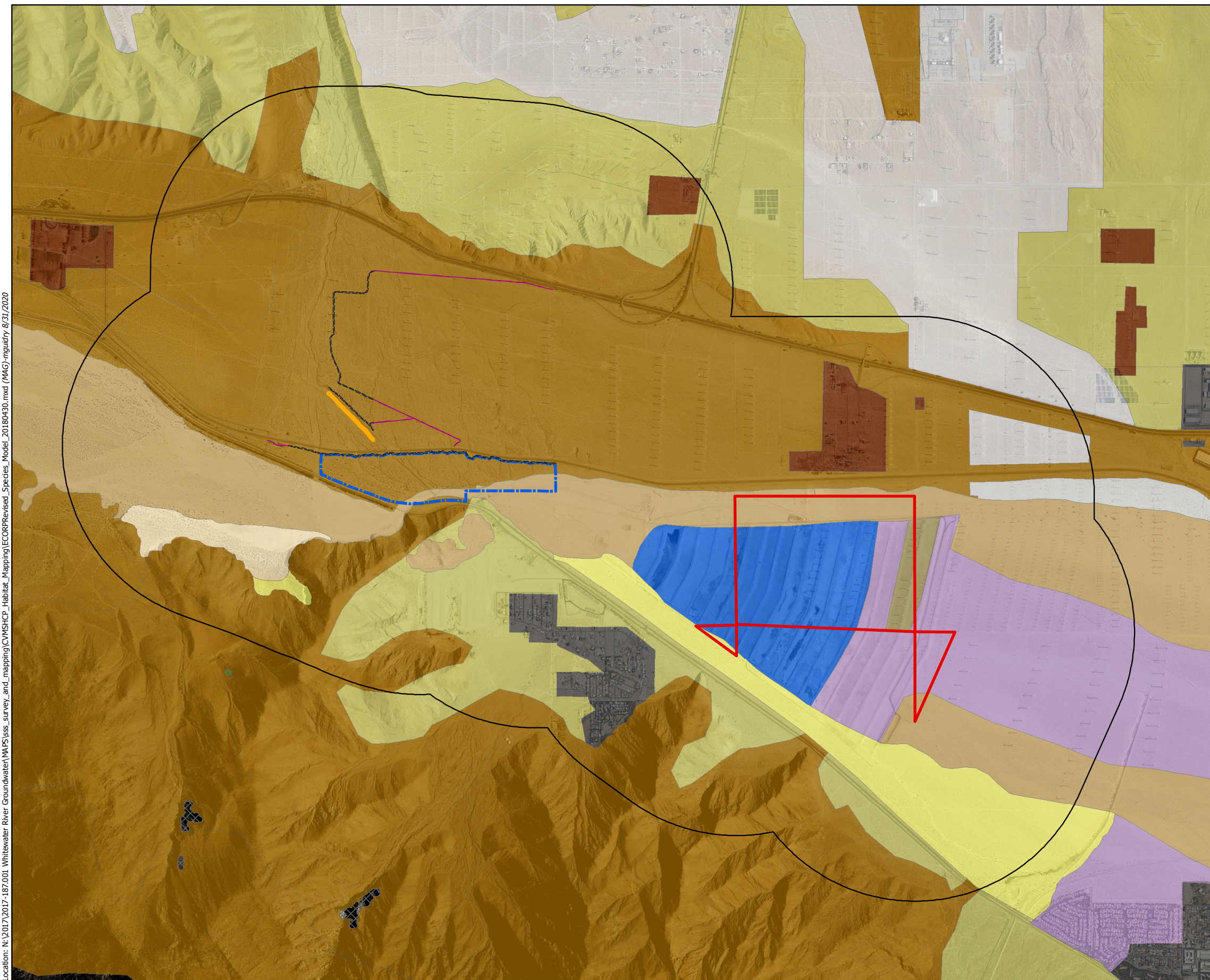
Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



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Revised CVMSHCP Species Model Yellow Warbler Sheet 16 of 16

Map Contents

Project Features

- Area A - Whitewater Facility
- Area A - Low Flow Crossing
- Area B
- Roads Outside BLM (approx. 1.95 mi. x 30'=7.09 Ac.)
- Roads Within BLM (approx. 2.97 mi. x 30'=10.83 Ac.)
- 1-Mile Project Features Buffer

Species Model

- Yellow Warbler

Vegetation Community ¹

- Active desert dunes
- Desert fan palm oasis woodland
- Ephemeral sand fields
- Reservoir (Recharge ponds)
- Rural
- Sonoran creosote bush scrub
- Sonoran mixed woody & succulent scrub
- Stabilized desert sand fields
- Disturbed Stabilized shielded sand fields
- Stabilized shielded sand fields
- Urban
- Wind energy

1 - Adapted From Coachella Valley Multiple Species Habitat Conservation Plan
- Modified by ECORP Consulting Inc.



Table 13 (continued). Whitewater Floodplain Conservation Area

SPECIES	AVOIDANCE AND MINIMIZATION MEASURE
	<ul style="list-style-type: none"> • Coordinate with the ESD staff to examine construction areas for lizards when surface temperatures exceed 30°C (86°F). • Prior to the initiation of construction activities, all construction personnel will be instructed on the protection of the CVFTL/FTHL. The training will address: life history, listing status, applicable state and federal laws, field procedures, and prohibited activities. Inspect trenches, holes, or other excavations before filling. If a CVFTL/FTHL is found, have the biological monitor relocate the lizard. • CVWD staff driving to and from facilities where these species may be present will not exceed 25 mph when onsite temperature exceeds 30°C (86°F). • Before moving, burying, or capping, inspect for CVFTL/FTHL in any construction pipes, culverts, or similar structures that are stored on the site for 1 or more nights. Alternatively, cap structures before storing on the construction site. • All movement of construction vehicles outside of the right-of-way will be restricted to pre-designated access, contractor acquired access, or public roads. • All construction sites and access roads shall be clearly marked or flagged at the outer limits prior to the onset of any surface disturbing activity. All personnel shall be informed that their activities must be confined within the marked or flagged areas. • Any excavated holes (i.e., foundations) left open overnight will be covered, and/or fencing will be installed to prevent the possibility of CVFTL/FTHL from falling into them. • During periods of high CVFTL/FTHL activity (May through September) a biologist shall be present to monitor construction activities in areas not previously cleared or stabilized. • Personnel on the right-of-way, within CVFTL/FTHL habitat, will check under their vehicles prior to moving them.
Le Contes Thrasher Burrowing Owl	<ul style="list-style-type: none"> • Contact ESD staff to perform pre-activity surveys within riparian habitats of the bird species associated with this Conservation Area prior to implementing Covered Activities to assure that no active nest or owl burrow is present. • If an active Le Conte's Thrasher nest is located, ESD will tag the tree containing the nest. All tagged trees will be left in place until the nest is determined to be inactive. • If an active BUOW burrow is located immediately stop all work within a 160 foot radius of burrow outside of the breeding season and a 250-foot radius of the burrow during the breeding season and notify the ESD staff.
Coachella Valley Round-Tailed Ground Squirrel Palm Springs Pocket Mouse	<ul style="list-style-type: none"> • If proposed covered activity will take place within a Conservation Area known to harbor PSPM, implement pre-activity surveys to determine presence. PSPM surveys will include visual surveys and an examination of BUOW scat for PSPM remains. • If proposed covered activity will take place within a Conservation Area known to harbor RTGS, implement pre-activity surveys to determine presence. RTGS surveys will include visual surveys, track detection and listening for calls. • Prior to Covered Activities, CVWD's ESD staff should assist construction crews in planning access routes to avoid impacts to occupied habitat as much as feasible (i.e., placement of preferred routes on project plans and incorporation of methods to avoid as much suitable habitat/soil disturbance as possible). • During Covered Activities, the biological monitor should ensure that connected, naturally vegetated areas with sandy soils and typical native vegetation remain intact to the extent feasible and practicable. • All temporary facilities and impacts shall be removed and restored to the preexisting conditions and contours to the extent practicable. • Covered Activities related materials and wastes shall be removed from the site upon completion of the Project.

Table 13. Whitewater Floodplain Conservation Area

SPECIES	AVOIDANCE AND MINIMIZATION MEASURE
Coachella Valley Milk-vetch Mecca Aster	<ul style="list-style-type: none"> For Covered Activities within modeled Coachella Valley Milk-vetch and Mecca Aster habitat in the Thousand Palms Conservation Area, surveys by ESD staff will be required for activities during the growing and flowering period from February 1 - May 15. Any occurrences of the species will be flagged and public infrastructure projects shall avoid impacts to the plants to the maximum extent Feasible. Limit off road vehicle travel when performing Covered Activities to avoid unnecessary take of CVM where it may occur in appropriate habitat along roads or wash bottoms. If listed plant species are found within the footprint of any covered activity contact ESD to determine if salvage of plant and/or seeds is feasible. CVWD will continue to control and manage access to CVM habitat on district owned lands within the CVMSHCP area. In addition, CVWD does not allow OHV use on its lands and prohibits public access. Avoid the use of herbicides in areas that are known to support CVM.
Coachella Valley Giant Sand-Treader Cricket	<ul style="list-style-type: none"> Control and manage activities that degrade Coachella Valley Giant Sand-Treader cricket habitat. In particular, control and manage those activities that result in sand compaction or may crush burrows, which may include OHV travel except on designated routes of travel. Restrict human access to occupied habitat during the emergence period in the winter months and during the breeding season in the spring. Control and manage activities that degrade potential Coachella Valley Giant Sand-Treader cricket habitat on CVWD lands: In particular, these activities include alteration of the natural vegetation, fragmentation, and construction equipment impacts. Restrict human access to occupied habitat during the emergence and breeding season from January through March on CVWD lands if feasible and required. Identify actions to reduce impacts from, and control where feasible, invasive species if it is determined that there are impacts to Giant Sand-Treader cricket habitat. Avoid stockpiling construction materials, lumber, or other sources of artificial cover (AC) at CVWD facilities if feasible, within the known range of this species. Maintenance activities will be designed and implemented using Best Management Practices (BMPs) in a way that minimize new disturbances, to prevent erosion, off-site degradation, and reduce direct impacts to Jerusalem cricket. All fueling and maintenance of vehicles and other equipment as well as location of staging areas shall be located as far as practicable from any potential habitat. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. No pesticide use shall occur in habitat occupied by this species. Perform pre-activity surveys for this species in areas of unpaved soil during the winter and spring emergence and breeding periods.
Flat-Tailed Horned Lizard Coachella Valley Fringe-Toed Lizard	<ul style="list-style-type: none"> If proposed covered activity will take place within a Conservation Area known to harbor these species, perform pre-activity surveys for FTHL and CVFTL. Erect exclusion fencing around trenches, pits, pipe materials and other potential hazards and provide escape ramps if feasible until excavation activities are completed.

Plant and Animal Species Potential for Occurrence

Appendix D, Table 1: BLM SENSITIVE ANIMAL SPECIES					
COMMON NAME	LATIN NAME	Occurrence in Project Area			HABITAT TYPE**
		Area A	Area B	BSA (within 1 mile)	
INVERTEBRATES					
Casey’s june beetle	<i>Dinacoma caseyi</i>	N	N	P	d
Quino checkerspot butterfly	<i>Euphydryas editha quino</i>	N	N	N	c, g
Thorne’s juniper butterfly	<i>Callophrys thornei</i>	N	N	N	mc, c
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	N	N	N	aq
San Diego fairy shrimp	<i>Branchinecta sandiegoensis</i>	N	N	N	aq
Riverside fairy shrimp	<i>Streptocephalus wootonii</i>	N	N	N	aq
AMPHIBIANS					
California red-legged frog	<i>Rana aurora draytonii</i>	N	N	N	aq
Desert slender salamander	<i>Batrachoseps major aridis</i>	N	N	N	li
Couch’s spadefoot	<i>Scaphiopus couchi</i>	N	N	N	r, aq
Arroyo toad	<i>Anaxyrus californicus</i>	N	N	N	r, aq
western spadefoot toad	<i>Spea hamondii</i>	N	N	N	w, r, aq
REPTILES					
Two-striped garter snake	<i>Thamnophis hammondi</i>	N	N	N	r, aq
Coachella Valley fringe-toed lizard	<i>Uma inornata</i>	P	P	P	d
Flat-tailed horned lizard	<i>Phrynosoma mcallii</i>	P	P	P	d
Mojave fringe-toed lizard	<i>Uma scoparia</i>	N	N	N	d
Banded gila monster	<i>Heloderma suspectum cinctum</i>	N	N	N	d (out of range)
Coronado skink	<i>Eumeces skiltonianus interparietalis</i>	N	N	N	c, wo, r, mc
Desert tortoise	<i>Gopherus agassizii</i>	P	P	P	d
Barefoot gecko	<i>Coleonyx switakii</i>	N	N	N	d (out of range)
California mountain kingsnake	<i>Lampropeltis zonata (pulchra)</i>	N	N	N	mc
Western pond turtle	<i>Emys marmorata</i>	N	N	N	r, aq
FISH					
Desert pupfish	<i>Cyprinodon macularis</i>	N	N	N	aq
Unarmored threespine stickleback	<i>Gasterosteus aculeatus williwamsoni</i>	N	N	N	aq
Santa Ana sucker	<i>Catostomus santaanae</i>	N	N	N	aq
BIRDS					
California condor	<i>Gymnogyps californianus</i>	N	N	N	w, rk, c, wo (oaks) (out of range)
Greater sandhill crane	<i>Antigone canadensis tabida</i>	N	N	N	aq, m (out of range)
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	N	N	N	r
Bald eagle	<i>Haliaeetus leucocephalus</i>	N	N	N	aq, wo
Golden eagle	<i>Aquila chrysaetos</i>	P	P	P	a, g, c, d, wo, d, rk
American peregrine falcon	<i>Falco peregrinus</i>	P	P	P	a, g, c, d, wo, d, rk

Appendix D, Table 1: BLM SENSITIVE ANIMAL SPECIES					
COMMON NAME	LATIN NAME	Occurrence in Project Area			HABITAT TYPE**
		Area A	Area B	BSA (within 1 mile)	
Gilded flicker	<i>Colaptes chrysoides</i>	N	N	N	d (out of range)
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	N	N	N	r
Coastal California gnatcatcher	<i>Poliophtila californica californica</i>	N	N	N	c (out of range)
Cooper's hawk (breeding)	<i>Accipiter cooperii</i>	N	N	P	r, mc
Swainson's hawk	<i>Buteo swainsoni</i>	N	N	N	d, wo (pj)
White-tailed kite	<i>Elanus leucurus</i>	P	P	P	g, d
Marbled murrelet	<i>Brachyramphus marmoratus</i>	N	N	N	aq, ocean
Scripp's murrelet	<i>Synthliboramphus scrippsi</i>	N	N	N	aq, ocean
Burrowing owl	<i>Athene cunicularia</i>	P	P	P	g, d, c
Elf owl	<i>Micrathene whitneyi</i>	N	N	N	d (out of range)
California brown pelican	<i>Pelecanus occidentalis californicus</i>	N	N	N	aq
Mountain plover	<i>Charadrius montanus</i>	N	N	N	g
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	N	N	N	aq
California black rail	<i>Laterallus jamaicensis coturniculus</i>	N	N	N	r, aq
Yuma Ridgeway's rail	<i>Rallus obsoletus yumaensis</i>	N	N	N	r, aq
Ashy storm-petrel	<i>Oceanodroma homochroa</i>	N	N	N	aq, ocean
Fork-tailed storm petrel	<i>Oceanodroma furcata</i>	N	N	N	aq, ocean
Bank swallow	<i>Riparia riparia</i>	N	N	N	r
California least tern	<i>Sterna antillarum browni</i>	N	N	N	aq
Bendire's thrasher	<i>Toxostoma bendirei</i>	N	N	N	d (out of range)
Arizona Bell's vireo	<i>Vireo bellii arizonae</i>	N	N	N	r (out of range)
Gray vireo	<i>Vireo vicinior</i>	N	N	N	c (out of range)
Least Bell's vireo	<i>Vireo bellii pusillus</i>	N	N	P	r
Lucy's warbler	<i>Oreothlypis luciae</i>	N	N	N	d
Gila woodpecker	<i>Melanerpes uropygialis</i>	N	N	N	r, c, wo, mc
tri-colored blackbird	<i>Agelaius tricolor</i>	N	N	N	r, m
MAMMALS					
Yuma myotis	<i>Myotis yumanensis</i>	P	P	P	d, wo
Long-eared myotis	<i>Myotis evotis</i>	N	N	N	c, wo, mc
Fringed myotis	<i>Myotis thysanodes</i>	N	N	N	r, wo, m, g, mc
Cave myotis	<i>Myotis velifer</i>	N	N	N	c, g, wo
Western small-footed myotis	<i>Myotis ciliolabrum</i>	N	N	N	wo, r, mc
Spotted bat	<i>Euderma maculatum</i>	P	P	P	d, rk
Western mastiff bat	<i>Eumops perotis californicus</i>	P	P	P	mc, wo, c, g, d, u
Pallid bat	<i>Antrozus pallidus</i>	P	P	P	d
Townsend's big-eared bat	<i>Plecotus townsendi</i>	P	P	P	

Appendix D, Table 1: BLM SENSITIVE ANIMAL SPECIES					
COMMON NAME	LATIN NAME	Occurrence in Project Area			HABITAT TYPE**
		Area A	Area B	BSA (within 1 mile)	
Palm Springs round-tailed ground squirrel	<i>Xerospermophilus tereticaudus chlorus</i>	P	P	P	d
Stephen's kangaroo rat	<i>Dipodomys stephensi</i>	N	N	N	c (out of range)
San Bernardino kangaroo rat	<i>Dipodomys merriami parvus</i>	N	N	N	c, r (out of range)
Palm Springs pocket mouse	<i>Perognathus longimembris bangsi</i>	P	P	P	d
Southern sea otter	<i>Enhydra lutris nereis</i>	N	N	N	aq, ocean
Mohave ground squirrel	<i>Xerospermophilus mohavensis</i>	N	N	N	d (out of range)
Peninsular bighorn sheep	<i>Ovis canadensis nelsoni</i>	N	N	P	c, d, rk, wo (pj), mc,
*Occurrence Information: N = Outside known distribution/range of the species. U = Occurrence of the species is unlikely based on habitat present. P = Occurrence of the species is possible; suitable habitat exists. L = Occurrence of the species is likely; suitable habitat exists and the species is known for nearby locations. Y = Species is known to occur. H = Part of the historical range but the species has been extirpated. B = Species is known or likely to nest in the area. M = The species uses the area during migration as a stopover.		**HABITAT TYPES/HABITAT COMPONENTS a = aerial; usually seen in flight, often over several habitat types r = riparian (streamside thickets and woodlands) g = grasslands, fields, and agricultural areas m = marshes, meadows; both freshwater areas and moist meadows c = chaparral and coastal sage scrub wo = woodlands; pinyon-juniper, oaks mc = mixed conifer forests; jeffrey pine, ponderosa pine, bigcone douglas fir, coulter pine, sugar pine, white fir overstory d = desert; Joshua tree woodlands, creosote bush scrub, blackbrush scrub aq = aquatic; lakes, reservoirs, ponds, vernal pools/puddles u = urbanized areas w = washes and alluvial fans rk = cliffs and rocky outcrops s = snags and cavities			

Appendix D, Table 2: THREATENED, ENDANGERED, PROPOSED, AND CANDIDATE WILDLIFE SPECIES						
COMMON NAME	LATIN NAME	Occurrence in Project Area			HABITAT TYPE**	CRITICAL HABITAT IN PROJECT AREA
		Area A	Area B	BSA (within 1 mile)		
ENDANGERED SPECIES						
Coachella Valley fringe-toed lizard	<i>Uma inornata</i>	P	P	P	d	Designated
California condor	<i>Gymnogyps californianus</i>	N	N	N	w, rk, c, wo (oaks (out of range)	
Southwestern willow flycatcher	<i>Empidonax trailii extimus</i>	Y	Y	Y	r,m	
Least Bell's vireo	<i>Vireo bellii pusillus</i>	N	Y	P	r,m	
San Bernardino kangaroo rat	<i>Dipodomys merriami parvus</i>	N	Y	Y	w	
Stephens' kangaroo rat	<i>Dipodomys stephensi</i>	N	N	L	g	
Peninsular bighorn sheep	<i>Ovis Canadensis nelsoni</i>	N	N	Y	wo, rk, d	
THREATENED SPECIES						
Santa Ana sucker	<i>Catostomus santannae</i>	N	N	N	aq	
California red-legged frog	<i>Rana draytonii</i>	N	N	N	r,aq	
desert tortoise	<i>Gopherus agassizii</i>	P	P	P	d	
coastal California gnatcatcher	<i>Polioptila californica californica</i>	N	N	N	c	
FEDERAL CANDIDATE SPECIES						
Western yellow-billed cuckoo	<i>Coccyzus americanus</i>	N	N	N	r	N/A
<u>*Occurrence Information:</u> N = Outside known distribution/range of the species. U = Occurrence of the species is unlikely based on habitat present. P = Occurrence of the species is possible; suitable habitat exists. L = Occurrence of the species is likely; suitable habitat exists and the species is known from nearby locations. Y = Species is known to occur. H = Part of the historical range but the species has been extirpated. B = Species is known or likely to nest in the area. M = The species uses the area during migration as a stopover.		<u>**HABITAT TYPES/HABITAT COMPONENTS</u> a = aerial; usually seen in flight, often over several habitat types r = riparian (streamside thickets and woodlands) g = grasslands, fields, and agricultural areas m = marshes, meadows; both freshwater areas and moist meadows c = chaparral and coastal sage scrub wo = woodlands; pinyon-juniper, oaks mc = mixed conifer forests; Jeffrey pine, ponderosa pine, big-cone douglas fir, coulter pine, sugar pine, white fir overstory d = desert; Joshua tree woodlands, creosote bush scrub, blackbrush scrub aq = aquatic; lakes, reservoirs, ponds, vernal pools/puddles u = urbanized areas w = washes and alluvial fans rk = cliffs and rocky outcrops s = snags and cavities				

APPENDIX D, TABLE 3. BLM SENSITIVE PLANT SPECIES				
Latin Name	Common Name	Occurrence in Project Area		
		Area A	Area B	BSA (Within 1 mile)
<i>Abronia villosa</i> var. <i>villosa</i>	Chaparral sand verbena	P	P	P
<i>Acanthomintha illicifolia</i>	San Diego thornmint			
<i>Allium munzii</i>	Munz's onion			
<i>Ambrosia pumila</i>	San Diego ambrosia			
<i>Arctostaphylos otayensis</i>	Otay manzanita			
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita			
<i>Astragalus douglasii</i> var. <i>peristrictus</i>	Jacumba milk-vetch			
<i>Astragalus oocarpus</i>	San Diego milk-vetch			
<i>Astragalus tricarinatus</i>	Triple-ribbed milk-vetch	P		P
<i>Astragalus brauntoni</i>	Braunton's milk-vetch			
<i>Astragalus deani</i>	Dean's milk-vetch			
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's milk-vetch			
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk-vetch	P	X	P
<i>Atriplex cooronata</i> var. <i>notatior</i>	San Jacinto Valley crownscale			
<i>Baccharis vanessae</i>	Encinitas baccharis			
<i>Berberis nevini</i>	Nevin's barberry			
<i>Bloomeria clevelandii</i>	San Diego goldenstar			
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea			
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea			
<i>California macrophylla</i>	Round-leaved filaree			
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender mariposa lily			
<i>Calochortus dunni</i>	Dunn's mariposa lily			
<i>Castilleja gleasoni</i>	Mt. Gleason paintbrush			
<i>Ceanothus cyaneus</i>	Lakeside ceanothus			
<i>Ceanothus otayensis</i>	Otay Mountain ceanothus			
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower			
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Knotweed spineflower			
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	White-bracted spineflower			
<i>Clarkia delicata</i>	Delicate clarkia			
<i>Clinopodium chandleri</i>	San Miguel savory			
<i>Comarostaphylos diversifolia</i> ssp. <i>diversifolia</i>	Summer holly			
<i>Cryptantha ganderi</i>	Gander's cryptantha			
<i>Cylindropuntia munzii</i>	Munz's cholla			
<i>Deinandra conjugens</i>	Otay tarplant			
<i>Deinandra floribunda</i>	Tecate tarplant			
<i>Deinandra mohavensis</i>	Mohave tarplant			
<i>Dodecahema leptoceras</i>	Slender-horned spineflower			
<i>Dudleya multicaulus</i>	Many-stemmed dudleya			

<i>Dudleya vareigata</i>	Vareigated dudleya			
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woolly-star			
<i>Eriastrum harwoodii</i>	Harwood's eriastrum			
<i>Ericameria palmeri</i> var. <i>palmeri</i>	Palmer's goldenbush			
<i>Euphorbia jaegeri</i>	Orocopia Mountains spurge			
<i>Fremontodendron mexicanum</i>	Mexican flannelbush			
<i>Galium californicum</i> var. <i>primum</i>	California bedstraw			
<i>Galium grande</i>	San Gabriel bedstraw			
<i>Hesperocaulis forbesii</i>	Tecate cypress			
<i>Heucura brevisteminea</i>	Mt. Laguna alumroot			
<i>Hosackia crassifolia</i> var. <i>otayensis</i>	Otay Mountain hosackia			
<i>Hulsea californica</i>	San Diego sunflower			
<i>Lepichinia ganderi</i>	Gander's pitcher sage			
<i>Limnanthes alba</i> ssp. <i>parishii</i>	Parish's meadowfoam			
<i>Linanthus maculatus</i>	Little San Bernardino Mountains linanthus			P
<i>Linanthus orcutti</i>	Orcutt's linanthus			
<i>Lupinus excubitus</i> var. <i>medius</i>	Colorado bush lupine			
<i>Monardella hypoleuca</i> var. <i>lanata</i>	Felt-leaved monardella			
<i>Monardella robinsonii</i>	Robinson's monardella			
<i>Monardella stoneana</i>	Jennifer's monardella			
<i>Nolina cismontana</i>	Peninsular beargrass			
<i>Nolina interrata</i>	Dehesa beargrass			
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Short-joint beavertail			
<i>Orcuttia californica</i>	California Orcutt grass			
<i>Packera ganderi</i>	Gander's ragwort			
<i>Ribes caanthariforme</i>	Moreno currant			
<i>Saltugilia latimeri</i>	Latimer's woodland gilia			
<i>Salvia greatae</i>	Orocopia sage			P
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom			
<i>Streptanthus campestris</i>	Southern jewelflower			
<i>Symphyotrichum greatae</i>	Greata's aster			
<i>Symphyotrichum defoliatum</i>	San Bernardino aster			
<i>Tetracoccus dioicus</i>	Parry's tetracoccus			
<i>Xylorhiza cognate</i>	Mecca aster			P

* **Presence: X=Known to occur; P=Potential occurrence.**

APPENDIX D, TABLE 4. THREATENED, ENDANGERED, PROPOSED, AND CANDIDATE PLANT SPECIES

SPECIES NAME	COMMON NAME	Occurrence on SBNF Districts*			CRITICAL HABITAT PRESENT	HABITAT TYPE
		Area A	Area B	BSA (Within 1 mile)		
ENDANGERED SPECIES						
<i>Astragalus brauntonii</i>	Braunton's milk-vetch					Limestone soils in chaparral
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk vetch	P	X	X	Designated	Sandy sonoran desert scrub
<i>Astragalus tricarinatus</i>	triple-ribbed milk-vetch	P		P		Sandy/gravel, desert margin
<i>Berberis nevinii</i>	Nevin's barberry					Clay soils/vernally wet areas
<i>Deinandra conujgens</i>	Otay tarplant					Vernal pools
<i>Docecahema leptoceras</i>	slender-horned spineflower					Alluvial scrub
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woolly-star					Alluvial scrub
<i>Xylorhiza cognata</i>	Mecca aster					Desert scrub
THREATENED SPECIES						
<i>Brodiaea filifolia</i>	thread-leaved brodiaea					Clay soils/vernally wet areas
* Presence: X=Known to occur; P=Potential occurrence.						

APPENDIX E

USFWS Species List (IPaC)

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Peninsular Bighorn Sheep <i>Ovis canadensis nelsoni</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4970	Endangered

Birds

NAME	STATUS
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered

Reptiles

NAME	STATUS
Coachella Valley Fringe-toed Lizard <i>Uma inornata</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2069	Threatened
Desert Tortoise <i>Gopherus agassizii</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4481	Threatened

Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad <i>Anaxyrus californicus</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3762	Endangered

Flowering Plants

NAME	STATUS
Coachella Valley Milk-vetch <i>Astragalus lentiginosus</i> var. <i>coachellae</i> There is final critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/7426	Endangered
Triple-ribbed Milk-vetch <i>Astragalus tricarinatus</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3370	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Coachella Valley Milk-vetch <i>Astragalus lentiginosus</i> var. <i>coachellae</i> https://ecos.fws.gov/ecp/species/7426#crithab	Final

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds
<http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Burrowing Owl *Athene cunicularia*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
<https://ecos.fws.gov/ecp/species/9737>

Breeds Mar 15 to Aug 31

Costa's Hummingbird *Calypte costae*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
<https://ecos.fws.gov/ecp/species/9470>

Breeds Jan 15 to Jun 10

Golden Eagle *Aquila chrysaetos*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
<https://ecos.fws.gov/ecp/species/1680>

Breeds Dec 1 to Aug 31

Lawrence's Goldfinch *Carduelis lawrencei*

Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9464>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

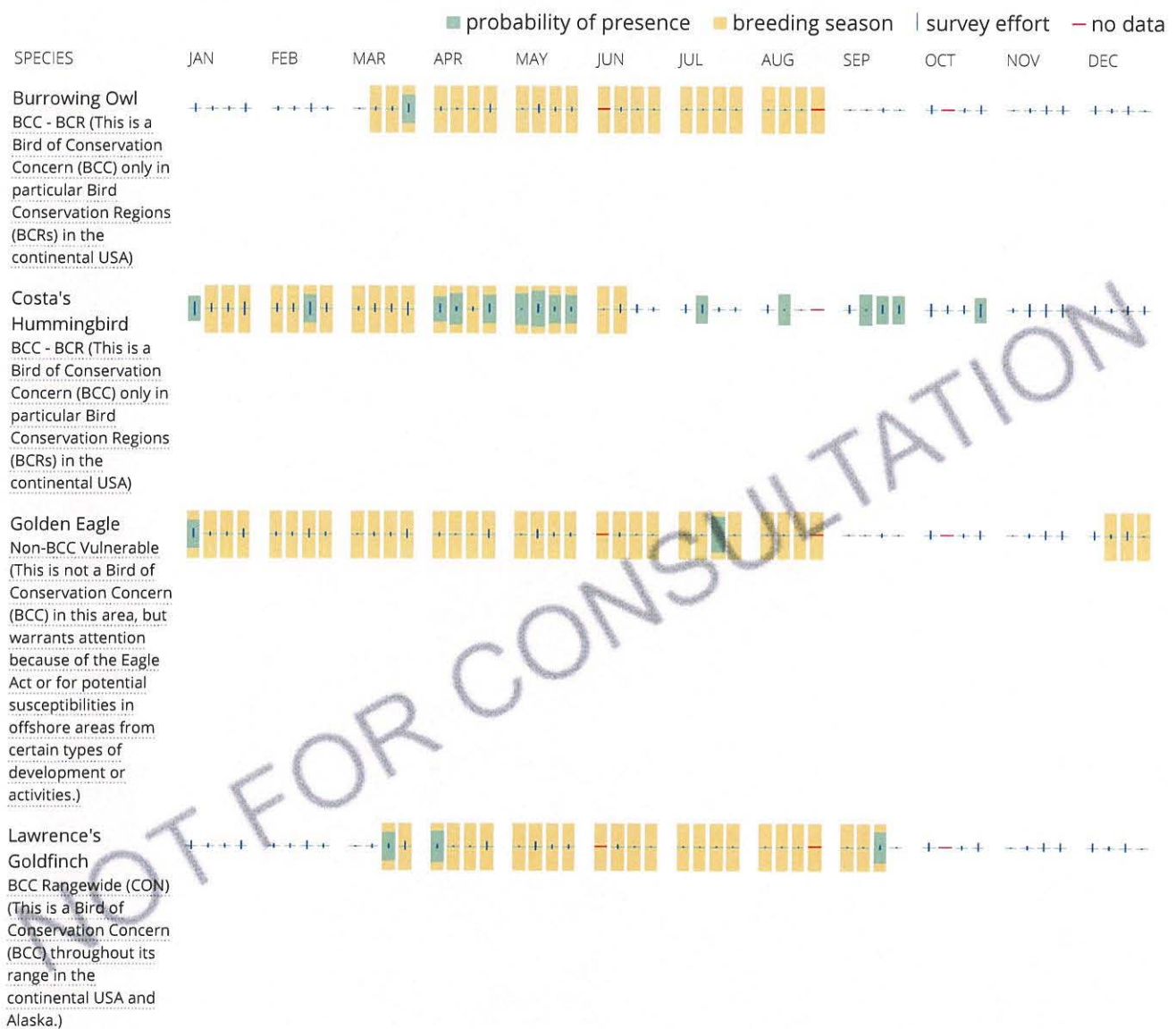
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the [Probability of Presence Summary](#). [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that

may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review.

Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER POND

[PUSC_x](#)

[PUBF_x](#)

LAKE

[L2US_{jx}](#)

RIVERINE

[R4SB_j](#)

[R4SBC](#)

[R4SBC_x](#)

[R4SB_{jx}](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Floral and Faunal Species Compendium

Scientific Name	Common Name	Amendment Area	Renewal Area	BLM Sensitive	Other Status
VASCULAR PLANTS					
GYNOSPERMS (GNETALES)					
EPHEDRACEAE	EPHEDRA FAMILY				
<i>Ephedra nevadensis</i>	Nevada jointfir	X			
ANGIOSPERMS (EUDICOTS)					
ASTERACEAE	SUNFLOWER FAMILY				
<i>Ambrosia ancanthocarpa</i>	annual bur-sage	X			
<i>Ambrosia dumosa</i>	burrobush	X	X		
<i>Ambrosia salsola</i>	cheesebush	X			
<i>Baccharis salicifolia</i>	mulefat	X			
<i>Bebbia juncea</i>	sweetbush	X			
<i>Dicoria canescens</i>	desert dicoria	X	X		
<i>Encelia farinosa</i>	brittlebush	X			
<i>Ericameria paniculata</i>	rubber rabbitbrush	X	X		
<i>Lepidospartum squamatum</i>	scalebroom	X			
<i>Malacothrix glabrata</i>	desert dandelion	X			
<i>Stephanomeria exigua</i>	small wirelettuce	X	X		
BORAGINACEAE	BORAGE FAMILY				
<i>Cryptantha micrantha</i>	purple root cryptantha	X			
<i>Cryptantha angustifolia</i>	Panamint cryptantha	X			
<i>Tiquilia plicata</i>	fanleaf crinklemat	X	X		
BRASSICACEAE	MUSTARD FAMILY				
<i>Brassica tournefortii*</i>	Saharan mustard	X	X		
<i>Hirschfeldia incana*</i>	short podded mustard	X	X		
<i>Lepidium</i> sp.	pepperweed	X			
<i>Sisymbrium irio*</i>	London rocket	X	X		
CACTACEAE	CACTUS FAMILY				
<i>Cylindropuntia echinocarpa</i>	Wiggins' cholla	X			
CHENOPODIACEAE	GOOSEFOOT FAMILY				
<i>Atriplex canescens</i>	fourwing saltbrush	X	X		
<i>Atriplex polycarpa</i>	allscale	X			
<i>Salsola tragus*</i>	Russian thistle	X	X		
CARYOPHYLLACEAE	PINK FAMILY				
<i>Achyronychia cooperi</i>	frost-mat	X			
EUPHORBIACEAE	SPURGE FAMILY				
<i>Croton californicus</i>	desert croton	X	X		
<i>Euphorbia albomarginata</i>	whitemargin sandmat	X			
<i>Stillingia spinulosa</i>	annual toothleaf	X	X		
FABACEAE	LEGUME FAMILY				
<i>Astragalus lentiginosus</i> var. <i>Coachellae</i>	Coachella Valley milk-vetch	X		X	FE/1B.2
<i>Parkinsonia florida</i>	blue paloverde	X			
<i>Psoralea argyrea</i>	indigo bush	X			
GERANIACEAE	GERANIUM FAMILY				
<i>Erodium cicutarium*</i>	redstem stork's bill	X	X		
MALVACEAE	MALLOW FAMILY				
<i>Sphaeralcea ambigua</i>	apricot mallow	X			
NYCTAGINACEAE	FOUR O'CLOCK FAMILY				
<i>Abronia villosa</i> var. <i>villosa</i>	desert sand verbena	X	X		
ONAGRACEAE	EVENING PRIMROSE				
<i>Camissonia</i> ssp	primrose	X			
<i>Oenothera deltoides</i>	birdcage evening primrose	X	X		
PLANTAGINACEAE	PLANTAIN FAMILY				
<i>Plantago ovata*</i>	plantain	X			

POLEMONIACEAE	PHLOX FAMILY				
<i>Eriastrum</i> sp.	woolly star	X			
POLYGONACEAE	BUCKWHEAT FAMILY				
<i>Eriogonum fasciculatum</i>	California buckwheat	X	X		
<i>Eriogonum</i> sp.	buckwheat	X			
SOLANACEAE	NIGHTSHADE FAMILY				
<i>Datura discolor</i>	desert thornapple	X			
<i>Nicotiana glauca</i> *	tree tobacco	X	X		
TAMARICACEAE	TAMARISK FAMILY				
<i>Tamarix aphylla</i> *	athel tamarisk		X		
<i>Tamarix ramossissima</i> *	salt cedar		X		
ZYGOPHYLLACEAE	CALTROP FAMILY				
<i>Larrea tridentata</i>	Creosote bush	X	X		
ANGIOSPERMS (MONOCOTS)					
POACEAE	GRASS FAMILY				
<i>Bromus madritensis</i> subsp. <i>rubens</i> *	red brome	X	X		
<i>Bromus tectorum</i> *	cheatgrass	X	X		
<i>Pennisetum setaceum</i> *	red fountain grass	X	X		
<i>Schismus barbatus</i> *	common Mediterranean grass	X	X		
<i>Stipa hymenoides</i>	indian ricegrass	X			

California Rare Plant Rank (CRPR):

1B: Plants rare, threatened, or endangered in California.

Federal Endangered**Species Act:**

FE: Plants that are endangered.

CRPR Threat Ranks:

0.2 Fairly threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)

* Not native to California.

Sources:

California Natural Diversity Data Base (CDFW 2018)
CNPS Rare and Endangered Plant Inventory (CNPS 2018)

Scientific Name	Common Name	Area B	Area A	BLM Sensitive	Other Status
INVERTEBRATES					
CLASS DIPLOPODA	DIPLOPODS				
<i>Orthoporus sp.</i>	Millipede	X			
CLASS INSECTA	INSECTS				
<i>Eleoides sp.</i>	darkling beetle	X	X		
<i>Tegrodera sp.</i>	blister beetle	X			
<i>Macrobaenets valgium</i>	Coachella Valley giant sand-treader cricket	X			X
CLASS LEPIDOPTERA	BUTTERFLIES				
<i>Brephidium exile</i>	pygmy blue	X	X		
REPTILES					
PHRYNOSOMATIDAE	PHRYNOSOMATID FAMILY				
<i>Uta stansburiana elegans</i>	side-blotched lizard	X	X		
<i>Sceloporus occidentalis</i>	western fence lizard	X	X		
<i>Callosaurus draconoides</i>	zebra-tailed lizard	X	X		
TEIIDAE	WHIPTAIL FAMILY				
<i>Cnemidophorus tigris</i>	western whiptail	X			
BIRDS					
ACCIPITRIDAE	HAWK FAMILY				
<i>Buteo jamaicensis</i>	red-tailed hawk	X			
ANATIDAE	DUCK FAMILY				
<i>Anas platyrhynchos</i>	mallard		X		
ARDEADAE	HERON FAMILY				
<i>Ardea alba</i>	Great egret		X		
COLUMBIDAE	DOVE FAMILY				
<i>Zenaida macroura</i>	mourning dove	X	X		
CORVIDAE	RAVEN FAMILY				
<i>Corvus corax</i>	common raven	X	X		
<i>Corvus brachyrhynchos</i>	North American crow	X			
CUCULIDAE	ROADRUNNER FAMILY				
<i>Geococcyx californianus</i>	greater roadrunner	X			
EMBERIZIDAE	SPARROW FAMILY				
<i>Amphispiza belli</i>	sage sparrow	X			
FALCONIDAE	FALCON FAMILY				
<i>Falco mexicanus</i>	prairie falcon	X			X
FRINGILLIDAE	FINCH FAMILY				
<i>Haemorhous mexicanus</i>	house finch	X	X		
LANIDAE	SHRIKE FAMILY				
<i>Lanius ludivicianus</i>	loggerhead shrike	X			X
LARIDAE	GULL FAMILY				
<i>Larus californicus</i>	California gull		X		
MIMIDAE	MIMID FAMILY				
<i>Oreoscoptes montanus</i>	sage thrasher	X			
<i>Mimis polyglottus</i>	northern mockingbird	X			
PARULIDAE	WARBLER FAMILY				
<i>Setophaga coronata</i>	yellow-rumped warbler	X	X		
RALLIDAE	RAIL FAMILY				
<i>Fulica americana</i>	American coot		X		
REMIZIDAE	PENDULINE TIT FAMILY				
<i>Auriparus flaviceps</i>	verdin	X			
THRESKIOMITHIDAE	IBIS FAMILY				
<i>Plegadis chihi</i>	white-faced ibis		X		
TROCHILIDAE	HUMMINGBIRD FAMILY				
<i>Calypte anna</i>	Anna's hummingbird	X			

TROGLODYTIDAE	WREN FAMILY				
<i>Salpinctes obsoletus</i>	rock wren	X			
TYRANNIDAE	FLYCATCHER FAMILY				
<i>Sayornis saya</i>	Say's phoebe	X	X		
MAMMALS					
CANIDAE	DOG FAMILY				
<i>Canis latrans</i>	coyote	X			
LEPORIDAE	RABBIT FAMILY				
<i>Lepus californicus</i>	black-tailed jackrabbit	X			
SCIURIDAE	SQUIRREL FAMILY				
<i>Ammospermophilus leucurus</i>	white-tailed antelope squirrel	X			

APPENDIX G

Representative Photographs

Below you will find a photo compendium containing representative photos of **Area A**, including the Low-Flow Crossing and the Replenishment Ponds **and Area B**.

Area A - Replenishment Ponds – Photopages 1 and 2

Area A – Low-Flow Crossing – Photopage 3

Area B – Photopages 4 and 5

Coachella Valley Milk-vetch – Photopage 6



Photo 1: Replenishment Pond – Western Half



Photo 2: Replenishment Pond – Western Half



Photo 3: Replenishment Pond – Eastern Half



Photo 4: Replenishment Pond – Eastern Half



Photo 5: Low-Flow Crossing



Photo 6: Low-Flow Crossing



Photo 7: Amendment Area (Snow Creek)



Photo 8: Amendment Area



Photo 9 – Amendment Area



Photo 10: Amendment Area



Photo 11: Coachella Valley Milk-vetch



Photo 12: Coachella Valley Milk-vetch