RECLAMATION

Managing Water in the West

MOHAVE VALLEY CONSERVATION AREA WETLAND INVESTIGATION

DRAFT REPORT

San Bernardino County, California

May 2015

Prepared for:

US Bureau of Reclamation
Lower Colorado Region
LC-2633
PO Box 61470
Boulder City, Nevada 89006

Prepared by:

BIO-WEST, Inc.
1063 West 1400 North
Logan, Utah 84321

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DEFINITIONS

Alluvial deposits: Land formations at the base of mountains where fast-flowing streams meet relatively flat surfaces, such as basin floors or broad valleys. As the gradient abruptly decreases, streams deposit gravel, sand, and other sediments.

Depth-to-soil saturation: The depth at which the pores between soil particles are filled with water.

Drainage patterns: A network of intermittent or perennial channels formed by local geological and soil characteristics.

Hydric soils: Soils that are flooded, ponded, or saturated long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile. These conditions can develop from continuous saturation during as little as 5 percent of the growing season.

Ordinary high-water mark: On the shoreline of a body of water, the line or marking established by the fluctuations of water and indicated by physical characteristics such as a clear and natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, and/or other indicators appropriate for the surrounding area.

Waters of the United States: "All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; All interstate waters including interstate wetlands; All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce...Wetlands adjacent to waters (other than waters that are themselves wetlands) identified above." (Definition taken from 33 CFR, Part 328.3.) "Adjacent" is defined as bordering, contiguous, or neighboring.

Wetlands: "Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." (Definition taken from 33 CFR, Part 328.3).

Limits of jurisdiction in nontidal waters:

1. in the absence of adjacent wetlands, the jurisdiction extends to the ordinary high-water mark;

2. when adjacent wetlands are present, the jurisdiction extends beyond the ordinary high-water mark to the limit of the adjacent wetlands;

3. when the Water of the United States consists only of wetlands, the jurisdiction extends to the limit of the wetland (taken from 33 CFR, Part 328.3).

1.0 INTRODUCTION

The US Bureau of Reclamation (Reclamation) contracted BIO-WEST, Inc. (BIO-WEST), to complete a wetland delineation of the Mohave Valley Conservation Area Project Area (Project Area) as part of the application for a Clean Water Act Section 404 permit. Reclamation plans to obtain a Nationwide Permit 27 (Wetland and Riparian Restoration and Creation Activities) to complete habitat restoration at the Project Area as part of the Lower Colorado River Multi-Species Conservation Program.

The Project Area is located approximately 13 miles south of the town of Needles in Mohave Valley, California (Figure 1). The northeastern corner of the Project Area is adjacent to the west bank of the Colorado River. The Project Area covers 167.2 acres in Section 36 Township 8 North Range 23 East, Section 31 Township 8 North Range 24 East, Section 6 Township 7 North Range 24 East, and Section 1 Township 7 North Range 23 East (San Bernardino Meridian) (Figure 2). Approximate coordinates in the center of the Project Area are 34°44'07.20" North and 114°31'17.26" West.

2.0 METHODS

A Project Area inspection was conducted March 17–19, 2015, to delineate jurisdictional wetland boundaries. Wetland boundaries were identified in accordance with the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Manual) (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Environmental Laboratory 2008). The routine determination method for areas larger than 5 acres was used to delineate the Project Area. The three-parameter approach (hydrology, soils, and vegetation) was typically implemented to make boundary determinations. In areas where one or more wetland parameters may have been absent or misleading, the area was mapped using mainly soil characteristics, depressional landscape position, remnant hydrophytic vegetation, and/or persistent hydrological indicators, as specified by the Manual.

Using the routine wetland delineation method described in the Manual (Environmental Laboratory 1987), a baseline was established parallel to the eastern Project Area boundary along the existing Colorado River and the historic Colorado River channel. This baseline runs the entire length of the Project Area and is approximately 5,700 feet long from north to south (Appendix A). The baseline was divided into six segments. Transect starting points were located at the midpoint of each baseline segment, spaced approximately 800 feet apart, and positioned from the north end of the established baseline moving south. The transect lines were oriented northeast to southwest running the entire width of the Project Area and were between 644 and 2,188 feet long.

Sample observation points along each transect were located where changes in vegetation communities were observed. In areas determined to represent wetland-upland interfaces, paired sample points were established to document conditions on either side of the wetland-upland boundary. Observation points were located as close to the transect lines as possible, but in some cases barriers such as impenetrable stands of dense vegetation offset the observation points from

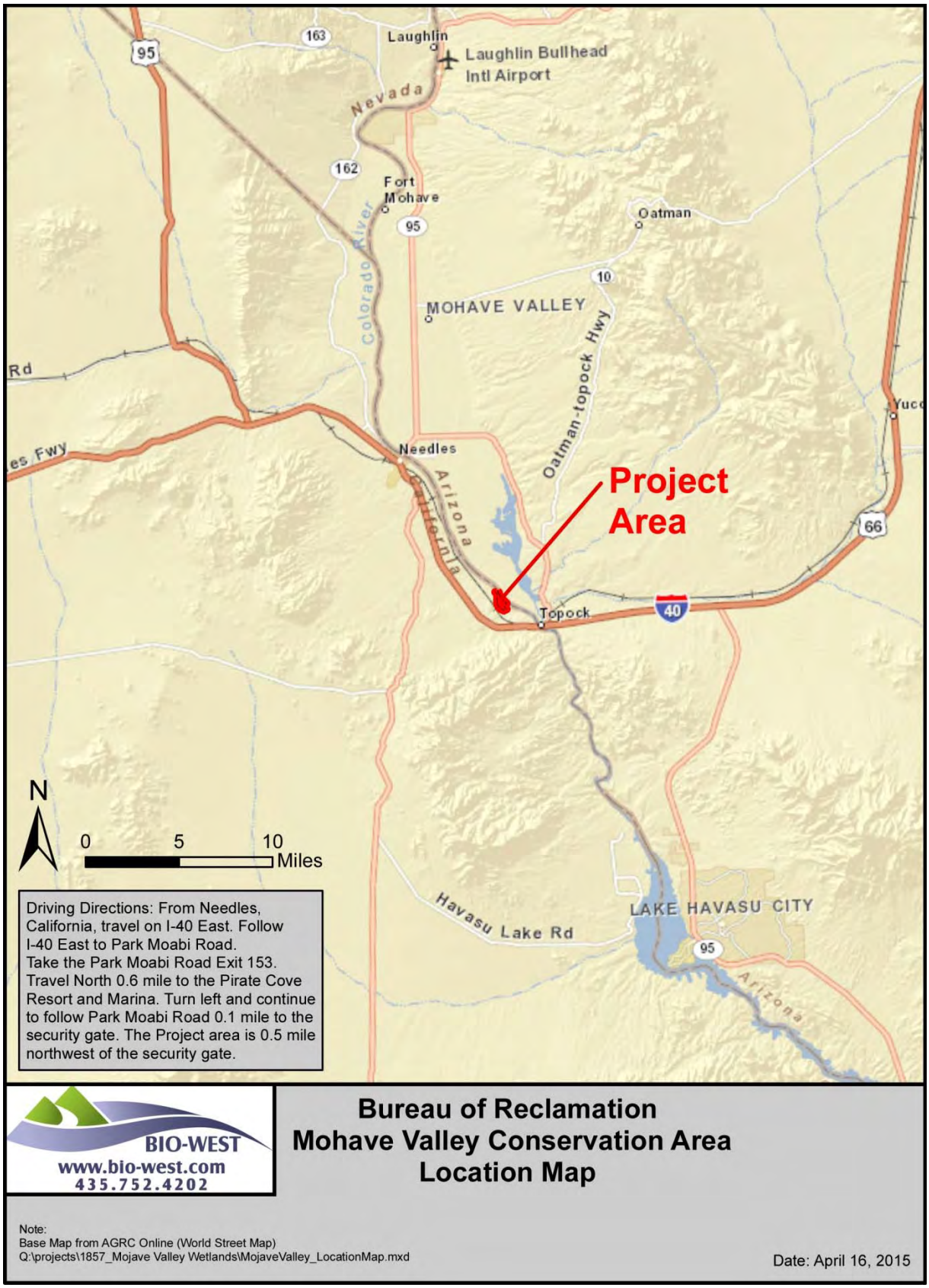

Figure 1. Project Area location map.

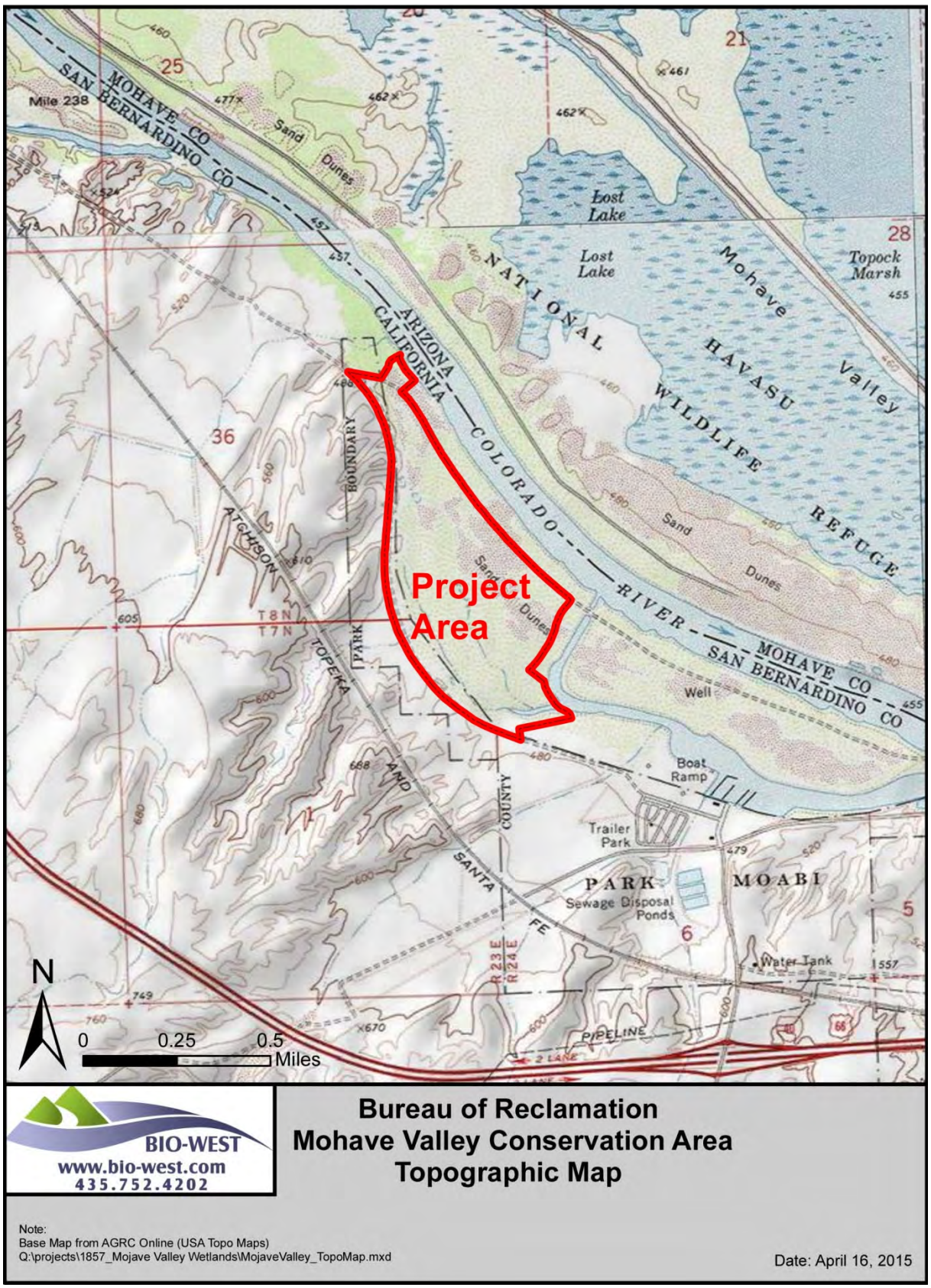

Figure 2. Project Area map.

the transect lines. Observation point data were recorded on standard Arid West Supplement data sheets (Appendix B).

The presence or absence of hydrological indicators was noted at each observation point. The determination of wetland hydrology was based on the presence of at least one positive primary indicator or two positive secondary indicators of a prolonged period of saturation. Primary hydrology indicators include surface water, high water table, soil saturation, nonriverine watermarks, nonriverine sediment deposits, nonriverine drift deposits, surface soil cracks, inundation visible on aerial imagery, water-stained leaves, salt crust, biotic crust, aquatic invertebrates, hydrogen sulfide odor, oxidized rhizospheres along living root channels, presence of reduced iron, and recent iron reduction in plowed soils. Secondary hydrology indicators include riverine water marks, riverine sediment deposits, riverine drift deposits, drainage patterns, dry season water table, thin muck surface, crayfish burrows, saturation visible on aerial imagery, shallow aquitard, and hydrophytic results from the facultative-neutral test. Environmental changes and the topographic position of the sample points relative to observed water tables were also noted.

When possible, soil pits were dug at each sample point to a depth of 18 inches to characterize soil profiles and soil/water conditions. At least one positive hydric soil indicator was required at each sample point to classify a soil as hydric. For example, soils in prolonged anaerobic conditions undergo chemical reduction, thereby producing lighter soil colors. During the field survey, the colors of the soil profile matrix and mottles were identified using Munsell® soil color charts (Kollmorgen Instruments 1990). Soil horizonation, texture, moisture content, and depth–to-soil saturation and/or standing water were noted. The presence or absence of particulate organic matter, organic matter staining, concretions, mottling, and gleying was also noted. Selected soils samples were collected for laboratory analysis. These samples consisted of a mixture of the upper 18 inches of soil within a sample pit. The samples were labeled, iced, and shipped to a certified laboratory for analysis.

The Natural Resources Conservation Service Web Soil Survey website (NRCS 2015) indicated that Project Area soils were not mapped; therefore, this resource could not be used during the delineation. Significant portions of the Project Area contain a surface salt crust and salt concretions within the soil. According to the US Army Corps of Engineers (USACE), “In the Arid West, salt content is a common cause of high soil pH” (Environmental Laboratory 2008). In areas containing a salt crust and/or salt concretions within the soil, determination of hydric soils followed guidance provided in the *Regional Supplement of the Corps of Engineers Wetland Delineation Manual: Arid West Region* (specifically, Problematic Hydric Soils, Section 1, Moderately to Very Strongly Alkaline Soils) (Environmental Laboratory 2008). According to this guidance, redoxomorphic features may not form in alkaline wetland soils. The most common example of this noted on the Project Area is the lack of a sufficiently reduced soil matrix. Specifically, Project Area wetland soils commonly form distinct or prominent soil mottling; however, the matrix chroma of these soils is not low enough to meet the F3 reduced matrix or the S5 sandy redox hydric soil indicators. In these situations the presence of soil mottling, wetland vegetation, and wetland hydrology, as well as landscape position, was used to determine the status of a particular observation point.

For a site to be classified as having hydrophytic vegetation, dominant plant species must have certain characteristics. On the data forms in Appendix B, BIO-WEST recorded the tree species that occurred within a 50-foot radius of each sample point. The shrub and herbaceous layer species that occurred within a 5-foot radius of each sample point were recorded. Absolute cover of each species was visually estimated and recorded. Species composing 20 percent or more of the total areal cover per stratum were considered dominant, following the guideline of the USACE's 50/20 rule (Environmental Laboratory 1987). The wetland-indicator status of vegetation observed was noted according to the *U.S. Army Corps of Engineers National Wetlands Plant List* (Lichvar et al. 2014).

Of the dominant plant species recorded, more than 50 percent must have an indicator status of facultative (33–67 percent probability of occurring in wetlands), facultative wetland (greater than 67–99 percent probability of occurring in wetlands), or obligate wetland (greater than 99 percent probability of occurring in wetlands) for a site to be classified as having hydrophytic vegetation for wetland delineation purposes.

Thirty-three sample points were established to characterize existing hydrological, soil, and vegetative conditions within the Project Area. In some cases, paired sample points were collected away from established transect lines to determine the extent of wetland boundaries. The sample points were marked in the field by pink pin flags labeled "WETLAND DELINEATION" with the sample point number written on the flag. Photos of sample points were taken during the Project Area inspection (Appendix C).

Based on the sample point data, wetland boundaries were determined and marked in the field with plastic flagging tape. The delineated wetland boundaries and sample points were surveyed using a GPS with submeter accuracy. The survey data were downloaded into a computer-aided drafting and design program to produce a map showing the delineated wetland boundaries, sample point locations, and wetland acreage as depicted in Appendix A.

3.0 GENERAL CONDITIONS

The Project Area was inspected during March 2015. Vegetation in the Project Area was actively growing and identifiable with the exception of a few small herbaceous plants. Vegetation within the Project Area was dominated by shrub arrowweed (*Pluchea sericea*) and saltcedar (*Tamarix* sp.). The Project Area consists of upland shrub communities, barren upland sand dunes, and wetland swales associated with the historic Colorado River channel. The Project Area has been altered by construction of roadways around the entire perimeter. The Project Area is located within the historic floodplain of the Colorado River but does not appear to have been flooded by the river in many decades due to upstream control of river levels. Wetland hydrology appeared to be driven by surface precipitation and/or a high groundwater table. Soil textures ranged from fine sand to clay loam or silt, depending on topographic location. Areas with a salt crust surface were present within the Project Area, and soils commonly contained mottles and sometimes salt concretions.

4.0 WETLAND INVESTIGATION FINDINGS

4.1 Vegetation

Plant communities found in the Project Area included upland shrub, perennial emergent wetland, and seasonally flooded shrub wetland. Vegetation diversity was low and the majority of the Project Area was dominated by stands of arrowweed or woody shrub dominated by saltcedar. A few pockets of screwbean mesquite (*Prosopis pubescens*) were observed within the Project Area. The emergent wetland located at the southern end of the Project Area is dominated by cattail (*Typha latifolia*) with small pockets of alkali bulrush (*Schoenoplectus maritimus*). The emergent wetland exhibited a thin band of coyote willow (*Salix exigua*) around some areas of the wetland perimeter. The dominant plant species observed in the Project Area are included in Table 1.

Table 1. Dominant plant species observed in the Project Area.

COMMON NAME	SCIENTIFIC NAME	INDICATOR STATUS[a]
shrub arrowweed	*Pluchea sericea*	FACW
saltcedar	*Tamarix* sp.	FAC
screwbean mesquite	*Prosopis pubescens*	FAC
cattail	*Typha latifolia*	OBL

[a] FACW = facultative wetland species, FAC = facultative species, and OBL = obligate wetland species.

The majority of the uplands in the Project Area were dominated by saltcedar and shrub arrowweed with occasional occurrences of screwbean mesquite. Wetlands in the Project Area were dominated by saltcedar, shrub arrowweed, and cattail, and usually occurred in depressional swale areas.

Vegetation communities in the Project Area fell within the following three categories:

- ***Seasonally Flooded Shrub Wetland***
  These areas were dominated by shrub arrowweed and saltcedar and contained alkaline soils. Some shrub wetlands contained dense stands of shrub arrowweed. Saltcedar and shrub arrowweed alternated in dominance and some locations contain homogenous stands. These wetlands occurred as low swales within the landscape and were usually bordered by berms and quickly transitioned to uplands. Numerous ephemeral washes drained into these wetlands from the offsite hills west of the Project Area.

- ***Perennial Emergent Wetland***
  This wetland community was dominated by cattails and contains pockets of alkali bulrush. Coyote willows were found along parts of the perimeter of the wetland in a thin band.

- ***Weedy Shrub Upland***
  These upland vegetation communities included saltcedar flats, shrub arrowweed sandbars, and disturbed areas such as roadside fill slopes.

4.2 Soils

Wetlands within the Project Area contained a surface salt crust and sometimes salt concretions within the soil. According to USACE, "[i]n the Arid West, salt content is a common cause of high soil pH" (Environmental Laboratory 2008). In areas containing a salt crust and/or salt concretions within the soil, determination of hydric soils followed guidance provided in the *Regional Supplement of the Corps of Engineers Wetland Delineation Manual: Arid West Region* (specifically, Problematic Hydric Soils, Section 1, Moderately to Very Stongly Alkaline Soils) (Environmental Laboratory 2008). According to this guidance, redoxomorphic features may not form in alkaline wetland soils. The most common example of this in the Project Area was the lack of a sufficiently reduced soil matrix. Project Area wetland soils commonly formed distinct or prominent soil mottling; however, the matrix chroma of these soils was not always low enough to meet the F3 reduced matrix or the S5 sandy redox hydric soil indicators. In these situations the presence of soil mottling, wetland vegetation, and wetland hydrology, as well as landscape position, was used to determine the status of a particular observation point. In wetland soils where redoxomorphic features were apparent, hydric soil indicators included depleted matrix and sandy redox.

4.3 Hydrology

The current course of the Colorado River borders the Project Area to the east. The river is incised within the current channel and a roadway berm separates the river from most of the Project Area, preventing surface flooding of the Project Area by the river. The majority of the Project Area wetlands appear to be seasonally flooded by ephemeral washes that drain into the Project Area from the offsite hills to the west. These wetlands are depressional swales located between upland communities. These wetland swales appear to be remnant river floodplain areas and possibly historic river channels. The emergent wetland at the south side of the Project Area is a depressional swale that is flooded by an existing backwater connected to the Colorado River. The emergent wetland appears to be continuously flooded. Hydrologic indicators observed in Project Area wetlands include saturated soils, surface water flooding, surface salt crust, and surface soil cracks.

4.4 Wetlands

The Project Area contains two seasonally flooded shrub wetlands and one perennially flooded emergent wetland as identified in Table 2. Project Area wetlands include swales that appear to be remnant Colorado River floodplain features. Saltcedar and shrub arrowweed were the dominant wetland vegetation, ranging from moderately dense to dense stands. A perennial emergent wetland is located at the southern end of the Project Area. The emergent wetland is connected to a surface backwater of the Colorado River. The investigation revealed 33.8 total acres of wetlands within the Project Area. Project Area wetlands are illustrated as individual polygons in Appendix A and the centroid locations of these polygons are listed in Table 3.

Table 2. Project Area wetland summary.

WETLAND ID (APPENDIX A)	WETLAND TYPE	ACRES
Wetland A	Seasonally Flooded Shrub	0.2
Wetland B	Seasonally Flooded Shrub	31.7
Wetland C	Perennially Flooded Emergent	1.9
Total Wetland Area		**33.8**

Table 3. Wetland locations in the Project Area.

WETLAND POLYGON IDENTIFIER[a]	CENTROID LOCATION (LATITUDE/LONGITUDE [WGS 1984[b]])	
	Latitude North	Longitude West
A	114.525307°	34.738611°
B	114.522694°	34.733892°
C	114.519053°	34.731283°

[a] Appendix A.
b World Geodetic System.

5.0 SOIL SAMPLING RESULTS

Seventy-eight soil samples were collected during the wetland investigation. Sixty-eight of these samples were collected from Project Area wetlands and 10 were collected from Project Area uplands. The samples were placed on ice and taken to the Utah State University Analytical Laboratory for analysis. Analysis included soil pH, salts (ECe), phosphorus (P), potassium (K), texture-by-feel, nitrogen in the nitrate form (NO3-N), zinc (Zn), iron (Fe), copper (Cu), manganese (Mn), sulfate sulfur (SO4-S), and organic matter. The soil sampling results are included in Appendix D.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The investigation revealed 133.4 acres of uplands and 33.8 acres of seasonally flooded shrub wetland and perennially flooded emergent wetland within the Project Area. The wetlands in the Project Area have the necessary characteristics to be considered jurisdictional water bodies that can be regulated by USACE. However, the USACE has final jurisdiction over determining whether a water body or wetland is subject to interstate commerce and is, therefore, a “Water of the United States.”

7.0 REFERENCES

Environmental Laboratory. 2008. Regional Supplement of the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Vicksburg (MS): U.S. Army Corps of Engineers Engineer Research and Development Center. Technical Report ERDC/EL TR-08-28.

Environmental Laboratory. 1987. U.S. Army Corps of Engineers Wetlands Delineation Manual. Vicksburg (MS): U.S. Army Waterways Experiment Station. Technical Report Y-87-1.

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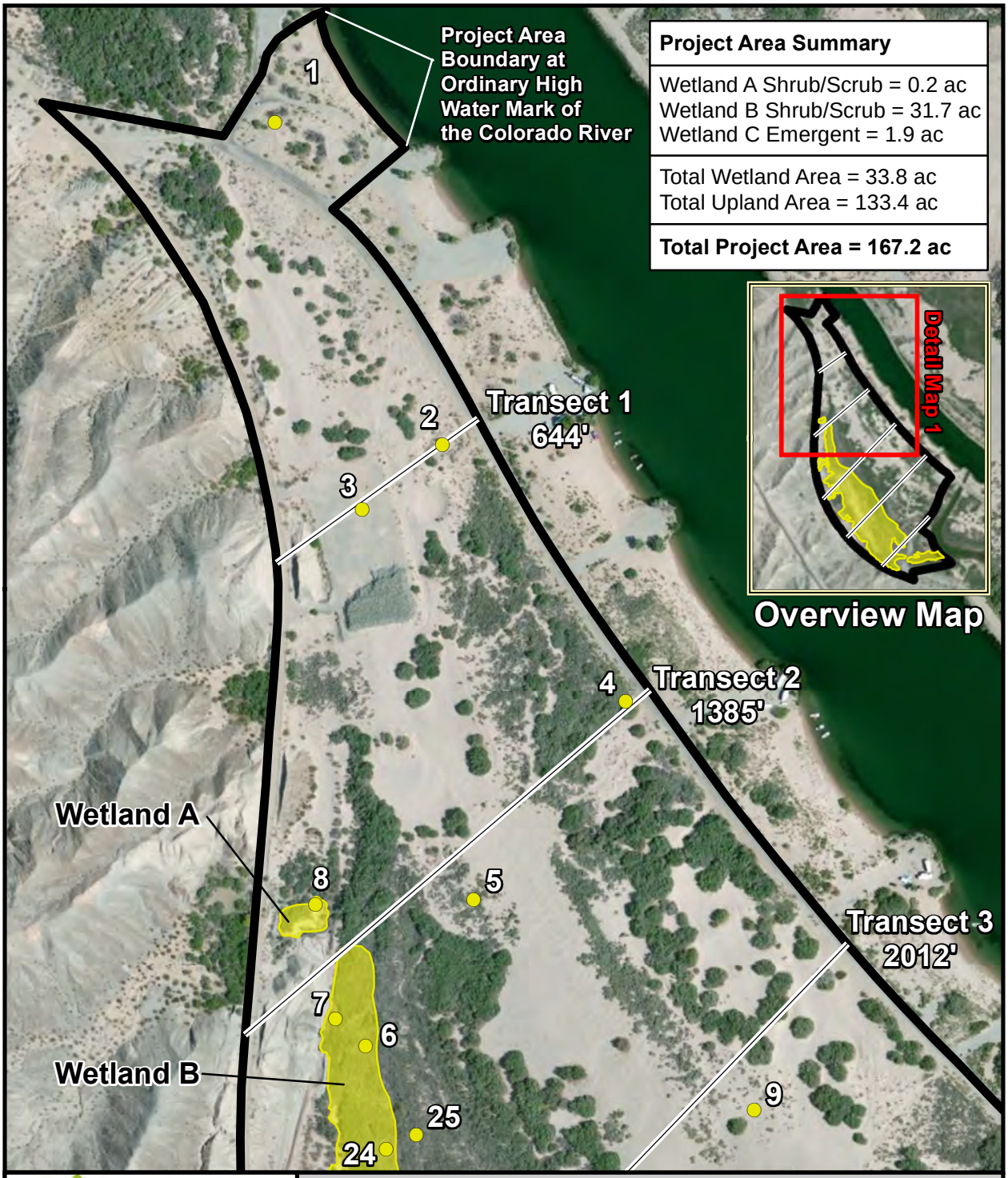
Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. U.S. Army Corps of Engineers North American Digital Flora: National Wetlands Plant List, Version 3.2 (https://wetland_plants.usace.army.mil). Hanover (NH): U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory; and Chapel Hill (NC): BONAP.

[NRCS] Natural Resources Conservation Service. 03/01/2015. Web Soil Survey 2.0. Location: www.nrcs.gov.

APPENDIX A: TRANSECT AND WETLAND LOCATION MAP SET



Project Area Summary
Wetland A Shrub/Scrub = 0.2 ac Wetland B Shrub/Scrub = 31.7 ac Wetland C Emergent = 1.9 ac
Total Wetland Area = 33.8 ac Total Upland Area = 133.4 ac
Total Project Area = 167.2 ac

BIO-WEST
www.bio-west.com
435.752.4202

Bureau of Reclamation
Mohave Valley Conservation Area
Wetland Delineation
Detail Map 1

Sample Point
Transect
Wetlands
Project Boundary

N
0 400 800 Feet

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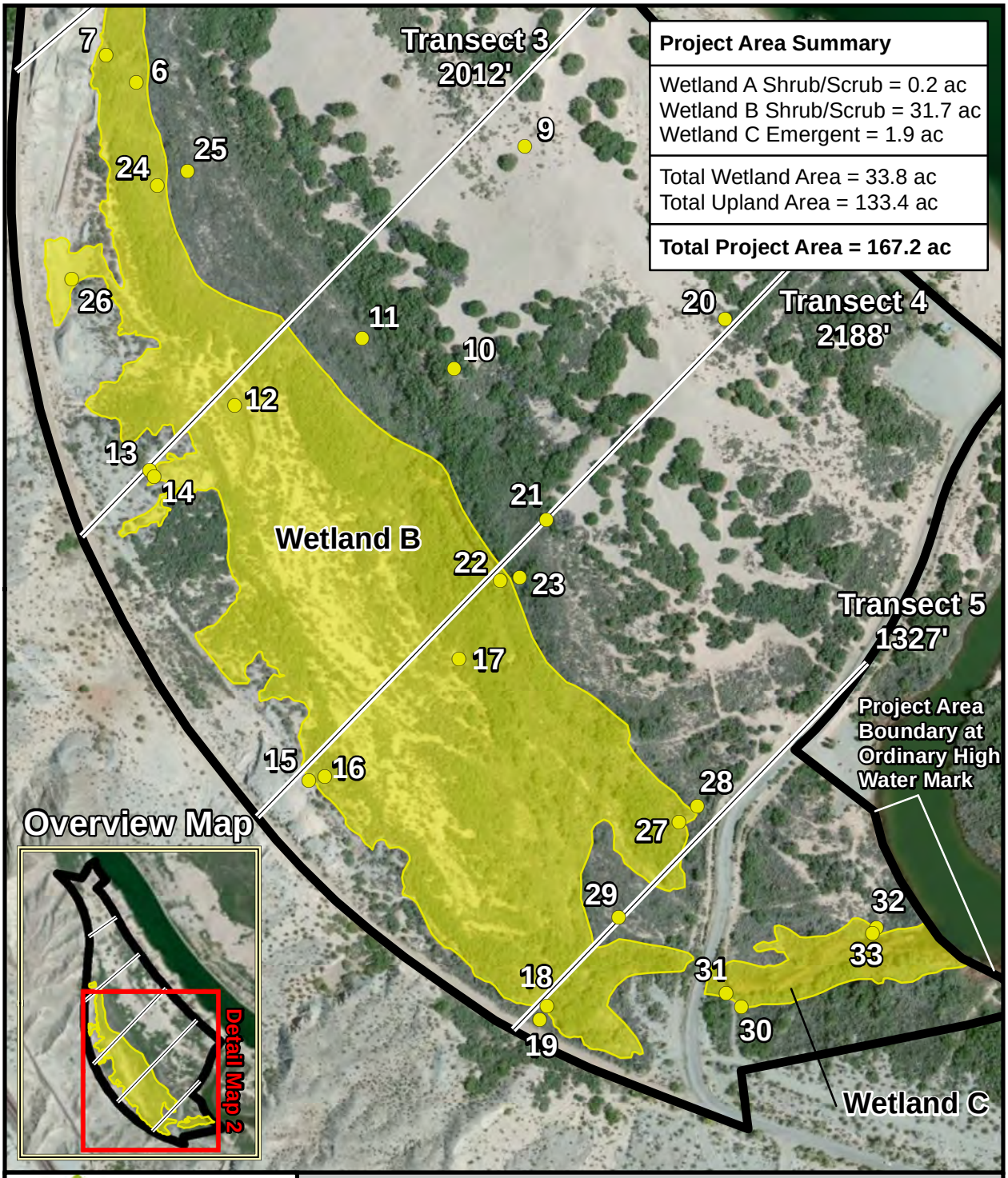
Date: April 16, 2015



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435.752.4202

Bureau of Reclamation
Mohave Valley Conservation Area
Wetland Delineation
Detail Map 2

Sample Point
Transect
Wetlands
Project Boundary

N
0 400 800 Feet

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Date: April 16, 2015

APPENDIX B: ARID WEST SUPPLEMENT DATA SHEETS

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Valley Wetlands City/County: Needles/San Bernardino Sampling Date: 3/17/2015
Applicant/Owner: BOR State: CA Sampling Point: 1
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): convex Slope (%): 1
Subregion (LRR): D UTM X: -114.525223 UTM Y: 34.744535 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	30	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 30%			

Herb Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Poa sp.*	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 15%			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			
% bare ground in herb stratum: 85%			
% cover of biotic crust: N/A			

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	2	(A)
Total number of dominant species across all strata?	2	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-8 in	10 YR 5/3	100					Sand	1/8" crust on top
2. 8-15 in	10 YR 4/3	100					Moist sand	5% clay inclusion
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/17/2015
Applicant/Owner: BOR State: CA Sampling Point: 2
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR): D UTM X: -114.524037 UTM Y: 34.741952 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	10	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 10			

Herb Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Poa sp.*	3	Y	FAC
2. *Unknown*	1	Y	NA
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 4			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			
% bare ground in herb stratum: 96%			
% cover of biotic crust:			

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	2	(A)
Total number of dominant species across all strata?	2	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-4 in	10YR 6/4	100					sand	
2. 4-8 in	10 YR 6/3	100					Moist sand	
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/17/2015
Applicant/Owner: BOR State: CA Sampling Point: 3
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Rock fill Local Relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): D UTM X: -114.524748 UTM Y: 34.741501 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, No soil, Yes or hydrology No significantly disturbed? ___ Are "normal circumstances" present? Yes
Are vegetation, ___ soil, ___ or hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks: This area is some type of gravel stockpile area that is disturbed.		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover =			

Herb Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Poa* sp.	10	y	FAC
2. *Unknown*	5	Y	NA
3. *Descurainia sophia*	1	N	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover = 16			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			
% bare ground in herb stratum: 84%			
% cover of biotic crust:			

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-2 in	10 YR 5/3	100					Sand	Too rocky to dig deeper soil pit
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks: Point is in a rock pile/fill area

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/17/2015
Applicant/Owner: BOR State: CA Sampling Point: 4
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR): D UTM X: -114.522505 UTM Y: 34.740084 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	65	Y	FACW
2. *Tamarix* sp.	1	N	FAC
3.			
4.			
5.			
Total Cover = 66			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Lots of dead organic debris but no herb layer

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-2 in	10 YR 5/4	100					Sand-surface crust	
2. 2-10 in	10 YR 6/4	100					Sand	
3. 10 +	10 YR 6/4	100					Moist sand	
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/17/2015
Applicant/Owner: BOR State: CA Sampling Point: 5
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Sand dune Local Relief (concave, convex, none): Convex Slope (%): 4
Subregion (LRR): D UTM X: -114.523863 UTM Y: 34.738692 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	5	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 5%			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
____ Prevalence index is <3.0[1]
____ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
____ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Lots of dead *Pluchea*

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-18	10 YR 6/3	100					Sand	Moist at about 12 in
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/17/2015
Applicant/Owner: BOR State: CA Sampling Point: 6
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR): D UTM X: -114.524831 UTM Y: 34.737662 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks: Marginal wetland point within an old floodplain of the Colorado River.		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	50	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 50			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
____ Prevalence index is <3.0[1]
____ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
____ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-10	10 YR 5/3	95	10 YR 4/6	5	C	M	Moist sandy loam	
2. 10+	10 YR 6/2	90	10 YR 4/6	10	C	M	Moist sand	
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol	X	Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks: Very close to sandy redox indicator the soil was determined hydric based on highly saline conditions that could be preventing or interfering with normal redox reactions within a wetland soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)	X	Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks: Salt crust probably due to wicking.

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/17/2015
Applicant/Owner: BOR State: CA Sampling Point: 7
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -114.525087 UTM Y: 34.737861 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks: Marginal Wetland point in the old floodplain of the Colorado River.		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix sp.*	10	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 10			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-4 in	10 YR 3/1	100					Silt	Held together with fine, fibrous roots; lots of organic matter
2. 4-12	10 YR 7/2	80	10 YR 5/8	20	C	M	Moist sand	
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol	X	Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)		Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	X	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/17/2015
Applicant/Owner: BOR State: CA Sampling Point: 8
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): D UTM X: -114.525235 UTM Y: 34.738684 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification:
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, Y soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? No
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	No*	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks: *ORV traffic; fill berm; no veg is present around point due to ORV traffic disturbance, but veg surrounding the point is tamarix		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover Dominant Species? Indicator Status	**Dominance Test Worksheet:**
1. *N/A*		Number of dominant species that are OBL, FACW, or FAC: ____ (A)
2.		Total number of dominant species across all strata? ____ (B)
3.		Percent of dominant species that are OBL, FACW, or FAC: (A/B)
4.		
Total Cover =		

Sapling/Shrub Stratum Plot size:	Absolute % Cover Dominant Species? Indicator Status	**Prevalence Index Worksheet**:
1. *N/A*		Total % Cover of: Multiply by:
2.		OBL species x 1
3.		FACW species x 2
4.		FAC species x 3
5.		FACU species x 4
Total Cover =		UPL species x 5
		Column Totals:
		Prevalence Index = B/A =

Herb Stratum Plot size:	Absolute % Cover Dominant Species? Indicator Status	**Hydrophytic Vegetation Indicatos:**
1. *N/A*		____ Dominance test is >50%
2.		____ Prevalence index is <3.0[1]
3.		____ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
4.		X Problematic hydrophytic vegetation[1] (explain)
5.		
6.		
7.		
8.		[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*
Total Cover =		

Woody Vine Plot size:	Absolute % Cover Dominant Species? Indicator Status	Hydrophytic vegetation present? No
1. *N/A*		**Remarks:** No vegetation present within plot, but veg outside of ORV-disturbed area is tamarix sp.
2.		
Total Cover =		
% bare ground in herb stratum: 100		
% cover of biotic crust:		

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-6 in	10 YR 5/3	100					Clay	moist
2. 6-12 in	10 YR 5/1	60	10 YR 5/6	40	C	M	Clay	Moist
3. 12 +	10 YR 6/2	95	10 YR 5/6	5	C	M	Clay	saturated
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)	X	Salt Crust (B11)		Water Marks (B1) (Riverine)
X	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
X	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present?	No	Depth (inches):	
Water Table Present?	Yes	Depth (inches):	12
Saturation Present?	Yes	Depth (inches):	8

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 9
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Sand dune Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -114.521477 UTM Y: 34.737135 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	2	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 2			

Herb Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Poa sp.*	2	Y	FAC
2. Unknown	1	Y	NA
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 3			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			
% bare ground in herb stratum: 97			
% cover of biotic crust:			

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	2	(A)
Total number of dominant species across all strata?	2	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-18 in	10 YR 6/4	100					Sand	Becomes moist 3 in deep
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 10
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR): D UTM X: -114.522137 UTM Y: 34.735555 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix sp.*	30	Y	FAC
2.			
3.			
4.			
5.			
Total Cover = 30			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Bare ground with *Tamarix* litter

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-18 in	10 YR 6/4	100					Sand	Becomes moist about 1 inch deep
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 11
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -114.52293 UTM Y: 34.735794 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks: Seems to be in an old channel		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	40	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 40			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Some woody *Pluchea* debris

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-18 in	10 YR 5/4	95	10 YR 5/8	5	C	PL	Sand	moist
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 12
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): D UTM X: -114.524047 UTM Y: 34.735333 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes

Remarks: The soil was marginal but this is obviously an old channel in the floodplain of the Colorado river, exhibited strong hydrology.

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix sp.*	10	Y	FAC
2.			
3.			
4.			
5.			
Total Cover = 10			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Lots of dead standing *Tamarix*

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-1 in	10 YR 6/2	100					Clay	Surface crust
2. 1-14 in	10 YR 4/3	80	10 YR 5/6	20	C	M	Sand	Salt concentrations in matrix
3. 14+ in	10 YR 6/2	95	10 YR 5/8	5	C	M	clay	
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol	X	Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks: The soil exhibits many distinct mottles and the chroma is very close to a 2 so we called this a hydric soil. Saline soils could be interfering or preventing normal redox reactions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)		Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	X	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks: Swale or channel

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 13
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Slope Local Relief (concave, convex, none): Convex Slope (%): 2
Subregion (LRR): D UTM X: -114.524799 UTM Y: 34.734887 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? No
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	No	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
Total Cover =			

Herb Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. Unknown weed	1	N	NA
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 1			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			
% bare ground in herb stratum: 99			
% cover of biotic crust:			

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	0	(A)
Total number of dominant species across all strata?	0	(B)
Percent of dominant species that are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicatos:

- ____ Dominance test is >50%
- ____ Prevalence index is <3.0[1]
- ____ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
- ____ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? No

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-2 in	10 YR 4/2	100					Sand	
2. 2-6 in	10 YR 5/4	100					Loam	
3. 6in +	Rocky							
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 14
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -114.524759 UTM Y: 34.734838 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks: Marginal soils but this is obviously a swale that surface water flows through and ponds in.		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix sp.*	15	Y	FAC
2.			
3.			
4.			
5.			
Total Cover = 15			

Herb Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. Unknown weed	2	Y	NA
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 2			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
Total Cover =			

% bare ground in herb stratum: 98
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-1 in	10 YR 5/3	100					Clay	Surface crust
2. 1-6 in	10 YR 5/2	100					Loam	
3. 6-18 in	10 YR 5/3	95	10 YR 5/6	5	C	RC	Sand	Very moist
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol	X	Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks: Soil is very close to meeting depleted matrix and sandy redox, saline conditions may be preventing normal redox reactions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)		Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	X	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks: Obvious surface flow in this area during rain events.

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 15
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Dredge fill slope Local Relief (concave, convex, none): _____ Slope (%): 1
Subregion (LRR): D UTM X: -114.523487 UTM Y: 34.732638 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, Yes soil, Yes or hydrology Yes significantly disturbed? Yes Are "normal circumstances" present? Yes
Are vegetation, _____ soil, _____ or hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	No	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks: Large fill slope pushed into wetland		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size: _____	Absolute % Cover	Dominant Species?	Indicator Status	**Dominance Test Worksheet:**
1. *N/A*				Number of dominant species that are OBL, FACW, or FAC: _____ (A)
2.				Total number of dominant species across all strata? _____ (B)
3.				Percent of dominant species that are OBL, FACW, or FAC: (A/B)
4.				
Total Cover =				

Sapling/Shrub Stratum Plot size: _____	Absolute % Cover	Dominant Species?	Indicator Status	**Prevalence Index Worksheet**:
1. *N/A*				Total % Cover of: / Multiply by:
2.				OBL species x 1
3.				FACW species x 2
4.				FAC species x 3
5.				FACU species x 4
Total Cover =				UPL species x 5
				Column Totals:
				Prevalence Index = B/A =

Herb Stratum Plot size: _____	Absolute % Cover	Dominant Species?	Indicator Status	**Hydrophytic Vegetation Indicatos:**
1. *N/A*				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
Total Cover =				

_____ Dominance test is >50%
_____ Prevalence index is <3.0[1]
_____ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
_____ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic vegetation present? No
1. *N/A*				**Remarks:**
2.				
Total Cover = _____				
% bare ground in herb stratum: 100				
% cover of biotic crust:				

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-12 in	10 YR 5/4	100					Sand & gravel	
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 16
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -114.523348 UTM Y: 34.732662 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks: Marginal soils but this is obviously a swale that surface water flows through and ponds in.		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix sp.*	5	Y	FAC
2.			
3.			
4.			
5.			
Total Cover = 5			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-3 in	10 YR 6/3	100					Clay	Blocky cracked crust
2. 3-12 in	10 YR 5/3	90	10 YR 5/6	10	C	M	Clay	
3. 12-18 in	10 YR 6/2	95	10 YR 5/6	5	C	PL	Clay	Becomes very moist but not saturated at 12”
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks: Salt concentrations, soil is very close to meeting depleted matrix, saline conditions may be preventing normal redox reactions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)		Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	X	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 17
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): D UTM X: -114.522162 UTM Y: 34.733481 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix sp.*	5	Y	FAC
2.			
3.			
4.			
5.			
Total Cover = 5			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			
% bare ground in herb stratum: 100			
% cover of biotic crust:			

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-1 in	10 YR 6/2	100					Clay	Surface crust
2. 2-18 in	10 YR 5/2	90	10 YR 5/6	10	C	M	Sand	Wet but not saturated
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol	X	Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)	X	Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	X	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 18
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -114.521473 UTM Y: 34.730982 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, X soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks: Vegetation is all dead but did appear to be vegetated with hydrophytic vegetation in the past.		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover Dominant Species? Indicator Status	**Dominance Test Worksheet:**
1. *N/A*		Number of dominant species that are OBL, FACW, or FAC: ____ (A)
2.		Total number of dominant species across all strata? ____ (B)
3.		Percent of dominant species that are OBL, FACW, or FAC: (A/B)
4.		
Total Cover =		

Sapling/Shrub Stratum Plot size:	Absolute % Cover Dominant Species? Indicator Status	**Prevalence Index Worksheet**:
1. *N/A*		Total % Cover of: / Multiply by:
2.		OBL species x 1
3.		FACW species x 2
4.		FAC species x 3
5.		FACU species x 4
Total Cover =		UPL species x 5
		Column Totals:
		Prevalence Index = B/A =

Herb Stratum Plot size:	Absolute % Cover Dominant Species? Indicator Status	**Hydrophytic Vegetation Indicatos:**
1. *N/A*		____ Dominance test is >50%
2.		____ Prevalence index is <3.0[1]
3.		____ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
4.		X Problematic hydrophytic vegetation[1] (explain)
5.		[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*
6.		
7.		
8.		
Total Cover =		

Woody Vine Plot size:	Absolute % Cover Dominant Species? Indicator Status	Hydrophytic vegetation present? Yes*
1. *N/A*		**Remarks:** Lots of dead *Pluchea sericea* stems laying across the ground; point is in a channel feature, all the *Pluchea* in the channel are dead
2.		
Total Cover =		
% bare ground in herb stratum: 100		
% cover of biotic crust:		

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-1/2 in	10 YR 6/3	100					Clay	Surface crust
2. ½-12 in	10 YR 5/2	95	10 YR 6/6	5	C	M	Clay	Moist with salt concentrations
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)		Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	X	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 19
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex Slope (%): 7
Subregion (LRR): D UTM X: -114.521537 UTM Y: 34.730884 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	10	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 10			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-1/2 in	10 YR 2/1	100					Loam	Organic matter
2. ½-15	10 YR 6/6	95	10 YR 5/4	5	RM	M	Loam	
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks: Fill slope from the road

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 20
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Sand dune Local Relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR): D UTM X: -114.519783 UTM Y: 34.735866 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	5	Y	FAC
2.			
3.			
4.			
5.			
Total Cover = 5			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-15 in	10 YR 6/4	100					Sand	Moist at 6”
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 21
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Convex Slope (%): 3
Subregion (LRR): D UTM X: -114.521374 UTM Y: 34.734464 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	5	Y	FACW
2. *Tamarix sp.*	10	Y	FAC
3.			
4.			
5.			
Total Cover = 15			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	2	(A)
Total number of dominant species across all strata?	2	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Lot of litter

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-18 in	10 YR 6/4	100					Sand	Moist at 3 in
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 22
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Old channel Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -114.521782 UTM Y: 34.734037 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix sp.*	5	Y	FAC
2.			
3.			
4.			
5.			
Total Cover = 5			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Lots of *Tamarix* litter

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-12 in	10 YR 4/2	85	10YR 5/6	15	C	RC	Clay	Very saturated and sticky
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)	X	Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)		Salt Crust (B11)		Water Marks (B1) (Riverine)
X	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
X	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present?	No	Depth (inches):	
Water Table Present?	Yes	Depth (inches):	2 inches
Saturation Present?	Yes	Depth (inches):	Surface

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks: Surface water pool with cattails about 10 ft away

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 23
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR): D UTM X: -114.521617 UTM Y: 34.734052 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix sp.*	50	Y	FAC
2. *Pluchea sericea*	5	N	FACW
3.			
4.			
5.			
Total Cover = 55			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Covered with *Tamarix* litter

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-1/2 in	-	-	-	-	-	-	*Tamarix* needles, organic matter	
2. ½-5 in	10 YR 5/4	100					Sand	
3. 5-12 in	10 YR 4/4	100	10 YR 6/8	5	C	RC	Clay	Platy structure
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 24
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -114.524673 UTM Y: 34.736919 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	40	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 40			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Lots of dead *Pluchea* stems and litter

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-1/4 in								Organic matter and salt crust
2. 1/4-15 in	10 YR 5/2	75	10 YR 5/6	25	C	M	Sand with some clay	Moist throughout
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol	X	Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)	X	Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)	X	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks: Minor salt crust

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 25
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Slope Local Relief (concave, convex, none): Convex Slope (%): 2
Subregion (LRR): D UTM X: -114.524409 UTM Y: 34.73702 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	25	Y	FACW
2. *Tamarix sp.*	2	N	FAC
3.			
4.			
5.			
Total Cover = 27			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 0
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-8 in	10 YR 6/4	100					Sand	
2. 8-15 in	10 YR 6/4	70	10 YR 6/8	30	C	RC	sand	
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

Marginal

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 26
Investigator(s): BT, MC Section, Township, Range: S36 T8N R23E
Landform (hillslope, terrace, etc.): Basin/depression Local Relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): D UTM X: -114.525432 UTM Y: 34.736264 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, Yes soil, Yes or hydrology Yes significantly disturbed? ___ Are "normal circumstances" present? Yes
Are vegetation, ___ soil, ___ or hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks: OHV have significantly disturbed this area, it was considered a wetland because it clearly contains standing water for significant prolonged periods based on hydrology indicators.		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	**Dominance Test Worksheet:**	
1. *N/A*				Number of dominant species that are OBL, FACW, or FAC:	(A)
2.				Total number of dominant species across all strata?	(B)
3.				Percent of dominant species that are OBL, FACW, or FAC:	(A/B)
4.					
Total Cover =					

Sapling/Shrub Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	**Prevalence Index Worksheet**:	
1. *N/A*				Total % Cover of:	Multiply by:
2.				OBL species	x 1
3.				FACW species	x 2
4.				FAC species	x 3
5.				FACU species	x 4
Total Cover =				UPL species	x 5
				Column Totals:	
				Prevalence Index = B/A =	

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	**Hydrophytic Vegetation Indicatos:**
1. *N/A*				___ Dominance test is >50%
2.				___ Prevalence index is <3.0[1]
3.				___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
4.				X Problematic hydrophytic vegetation[1] (explain)
5.				
6.				
7.				
8.				
Total Cover =				

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic vegetation present? Yes
1. *N/A*				**Remarks:** OHV use is extreme enough to kill all veg & prevent new veg colonization – without disturbance would likely be *Tamarix* dominated
2.				
Total Cover =				
% bare ground in herb stratum: 100				
% cover of biotic crust:				

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-2 in	10 YR 6/3	100					Clay	Surface crust
2. 2-15 in	10 YR 5/3	100					Clay	Heavy salt concentrations
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)	X	Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks: OHV have mixed the soil profile and created significantly disturbed conditions that are likely preventing hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)		Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks: Clearly floods at some point – OHV tracks clearly indicate mud, salt has wicked up a line of wooden fence posts

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 27
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -114.520286 UTM Y: 34.732271 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes

Remarks: Marginal soils and hydrology but the soil did exhibit significant redox features and the area appears to hold standing water for prolonged periods.

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	5	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 5			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-1/4 in								Salt crust
2. ¼-3 in	10 YR 4/3	100					Moist sand	
3. 3-16 in	10 YR 5/3	75	10 YR 6/8	25	C	M	Sand	Very moist
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol	X	Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks: Marginal hydric soils but there are prominent redox features, base chroma color may be affected by saline soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
	Surface Water (A1)	X	Salt Crust (B11)		Water Marks (B1) (Riverine)
	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)		Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
X	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks: Soil is very close to saturated at 20 in.

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 28
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Slope Local Relief (concave, convex, none): Convex Slope (%): 2
Subregion (LRR): D UTM X: -114.520127 UTM Y: 34.732387 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	40	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 40			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-10 in	10 YR 6/6	100					Sand	
2. 10-16 in	10 YR 6/6	80	10 YR 5/8	20	C	M	Sand	Moist at 6 in
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/18/2015
Applicant/Owner: BOR State: CA Sampling Point: 29
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -144.520834 UTM Y: 34.731603 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	30	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 30			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-16 in	10 YR 6/4	100					Sand	Moist at 8”
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/19/2015
Applicant/Owner: BOR State: CA Sampling Point: 30
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Slope Local Relief (concave, convex, none): Convex Slope (%):
Subregion (LRR): D UTM X: -144.519789 UTM Y: 34.730944 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Upland
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	80	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 80			

Herb Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover =			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 100
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	1	(A)
Total number of dominant species across all strata?	1	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks:

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-1							Leaf litter/organic matter	
2. 1-3	10 YR 4/4	100					Sandy loam	
3. 3-16 in	10 YR 5/3	95	10 YR 5/6	5	C	M	Sand	moist
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks: Close to hydric on redox features but no wetland hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site:	Mohave Wetlands	City/County:	Needles/San Bernardino	Sampling Date:	3/19/2015
Applicant/Owner:	BOR	State:	CA	Sampling Point:	31
Investigator(s):	BT, MC	Section, Township, Range:	S1 T7N R23E		
Landform (hillslope, terrace, etc.):	Floodplain	Local Relief (concave, convex, none):	Concave	Slope (%):	1
Subregion (LRR):	D	UTM X: -114.519916	UTM Y: 34.731044	Datum:	NAD 83
Soil Map Unit Name:	Not mapped	NWI Classification:	Freshwater emergent		

Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)

Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes

Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum	Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*				
2.				
3.				
4.				
	Total Cover =			

Sapling/Shrub Stratum	Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix exigua*		30	Y	FACW
2. *Pluchea sericea*		20	Y	FACW
3. *Tamarix sp.*		20	Y	FAC
4.				
5.				
	Total Cover = 70			

Herb Stratum	Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Typha latifolia*		2	Y	OBL
2.				
3.				
4.				
5.				
6.				
7.				
8.				
	Total Cover = 2			

Woody Vine	Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*				
2.				
	Total Cover =			

% bare ground in herb stratum: 98

% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	4	(A)
Total number of dominant species across all strata?	4	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X Dominance test is >50%
- ____ Prevalence index is <3.0[1]
- ____ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
- ____ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Lots of woody deadfall

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-12 in	10 YR 4/1	100					Sand with gravel	Strong Hydrogen Sulfide Odor
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol		Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
X	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks: Strong hydrogen sulfide odor indicating anaerobic conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)	
X	Surface Water (A1)		Salt Crust (B11)		Water Marks (B1) (Riverine)
X	High Water Table (A2)		Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)
X	Saturation (A3)		Aquatic Invertebrates (B13)		Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)	X	Hydrogen Sulfide Odor (C1)		Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)		Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)		Crayfish burrows (C8)
	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)		Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)
	Water-Stained Leaves (B9)				FAC-Neutral Test

Field Observations:

Surface Water Present? Yes Depth (inches): 4

Water Table Present? Yes Depth (inches): 3

Saturation Present? Yes Depth (inches): surface

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks: Part of backwater coming in from river

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/19/2015
Applicant/Owner: BOR State: CA Sampling Point: 32
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Convex Slope (%): 1
Subregion (LRR): D UTM X: -114.518601 UTM Y: 34.731485 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification:
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	No	
Is wetland hydrology present?	No	**Is the sampled area within a wetland?** No
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	10	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 10			

Herb Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Poa sp.*	1	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 1			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			
% bare ground in herb stratum: 99			
% cover of biotic crust:			

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	2	(A)
Total number of dominant species across all strata?	2	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
____ Prevalence index is <3.0[1]
____ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
____ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Woody debris and litter

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			REDOX FEATURES					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-16 in	10 YR 6/4	90	10 YR 5/8	10	C	RC	Moist sand	
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

____ Histosol	____ Sandy Redox (S5)	____ 1 cm Muck (A9) (LRR C)
____ Histic Epipedon (A2)	____ Stripped Matrix (S6)	____ 2 cm Muck (A10) (LRR B)
____ Black Histic (A3)	____ Loamy Mucky Mineral (F1)	____ Reduced Vertic (F18)
____ Hydrogen Sulfide (A4)	____ Loamy Gleyed Matrix (F2)	____ Red Parent Material (TF2)
____ Stratified Layers (A5) (LRR C)	____ Depleted Matrix (F3)	____ Other (Explain in Remarks)
____ 1 cm Muck (A9) (LRR D)	____ Redox Dark Surface (F6)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
____ Depleted below Surface (A12)	____ Depleted Dark Surface (F7)	
____ Thick Dark Surface (A12)	____ Redox Depressions (F8)	
____ Sandy Mucky Mineral (S1)	____ Vernal Pools (F9)	
____ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (two or more required)
____ Surface Water (A1)	____ Salt Crust (B11)	____ Water Marks (B1) (Riverine)
____ High Water Table (A2)	____ Biotic Crust (B12)	____ Sediment Deposits (B2) (Riverine)
____ Saturation (A3)	____ Aquatic Invertebrates (B13)	____ Drift Deposits (B3) (Riverine)
____ Water Marks (B1) (Nonriverine)	____ Hydrogen Sulfide Odor (C1)	____ Drainage Patterns (B10)
____ Sediment Deposits (B2) (Nonriverine)	____ Oxidized Rhizospheres along Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3) (Nonriverine)	____ Presence of Reduced Iron (C4)	____ Crayfish burrows (C8)
____ Surface Soil Cracks (B6)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Water-Stained Leaves (B9)		____ FAC-Neutral Test

Field Observations:

Surface Water Present? No Depth (inches):

Water Table Present? No Depth (inches):

Saturation Present? No Depth (inches):

Wetland Hydrology Present? No

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

WETLAND DELINEATION FORM – Arid West Region

Project/Site: Mohave Wetlands City/County: Needles/San Bernardino Sampling Date: 3/19/2015
Applicant/Owner: BOR State: CA Sampling Point: 33
Investigator(s): BT, MC Section, Township, Range: S1 T7N R23E
Landform (hillslope, terrace, etc.): Floodplain Local Relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): D UTM X: -144.518636 UTM Y: 34.731448 Datum: NAD 83
Soil Map Unit Name: Not mapped NWI Classification: Freshwater emergent
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (*If no, explain in Remarks.*)
Are vegetation, ____ soil, ____ or hydrology ____ significantly disturbed? No Are "normal circumstances" present? Yes
Are vegetation, ____ soil, ____ or hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach map showing sampling point locations, transects, important features, etc.

Is hydrophytic vegetation present?	Yes	
Are hydric soils present?	Yes	
Is wetland hydrology present?	Yes	**Is the sampled area within a wetland?** Yes
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
Total Cover =			

Sapling/Shrub Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pluchea sericea*	25	Y	FACW
2.			
3.			
4.			
5.			
Total Cover = 25			

Herb Stratum Plot size: 5' radius	Absolute % Cover	Dominant Species?	Indicator Status
1. *Eleocharis palustris*	70	Y	OBL
2. *Paspalum dilatatum*	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover = 90			

Woody Vine Plot size:	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
Total Cover =			

% bare ground in herb stratum: 10
% cover of biotic crust:

Dominance Test Worksheet:

Number of dominant species that are OBL, FACW, or FAC:	3	(A)
Total number of dominant species across all strata?	3	(B)
Percent of dominant species that are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1
FACW species	x 2
FAC species	x 3
FACU species	x 4
UPL species	x 5
Column Totals:	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance test is >50%
___ Prevalence index is <3.0[1]
___ Morphological adaptations[1] (Provide supporting data in Remarks or on a separate sheet.)
___ Problematic hydrophytic vegetation[1] (explain)

[1] *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.*

Hydrophytic vegetation present? Yes

Remarks: Dead or dormant *Typha latifolia* not included in vegetation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

MATRIX			**REDOX FEATURES**					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type [1]	Location [2]	Texture	Remarks
1. 0-12 in	10 YR 5/2	90	10 YR 5/8	10	C	RC	sand	
2.								
3.								
4.								
5.								
6.								
7.								
8.								

[1]Type: C= concentration, D=depletion, RM=reduced matrix, CS=covered or coated sand grains. [2]Location: PL=pore lining, M=matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol	X	Sandy Redox (S5)		1 cm Muck (A9) (LRR C)
	Histic Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
	Black Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Vertic (F18)
X	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Stratified Layers (A5) (LRR C)		Depleted Matrix (F3)		Other (Explain in Remarks)
	1 cm Muck (A9) (LRR D)		Redox Dark Surface (F6)		
	Depleted below Surface (A12)		Depleted Dark Surface (F7)		*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.*
	Thick Dark Surface (A12)		Redox Depressions (F8)		
	Sandy Mucky Mineral (S1)		Vernal Pools (F9)		
	Sandy Gleyed Matrix (S4)				

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)				Secondary Indicators (two or more required)
X	Surface Water (A1)		Salt Crust (B11)	Water Marks (B1) (Riverine)
X	High Water Table (A2)		Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)
X	Saturation (A3)		Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)
	Water Marks (B1) (Nonriverine)	X	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
	Sediment Deposits (B2) (Nonriverine)		Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
	Drift Deposits (B3) (Nonriverine)		Presence of Reduced Iron (C4)	Crayfish burrows (C8)
	Surface Soil Cracks (B6)		Recent Iron Reduction in Tilled Soils (C6)	Saturation visible on Aerial Imagery (C9)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)	Shallow Aquitard (D3)
	Water-Stained Leaves (B9)			FAC-Neutral Test

Field Observations:

Surface Water Present?	Yes	Depth (inches):	1-2 in
Water Table Present?	Yes	Depth (inches):	surface
Saturation Present?	Yes	Depth (inches):	surface

Wetland Hydrology Present? Yes

Describe Recorded Data (stream, gauge, monitoring well, aerial photos, previous inspections) if available:

Remarks:

APPENDIX C: SAMPLE POINT PHOTOS

Northeastern project boundary at the Colorado River.

Sample point 1.

Sample point 2.

Sample point 3.

Sample point 4.

Sample point 5.

Sample point 6.

Sample point 7.

Sample point 8.

Sample point 9.

Sample point 10.

Sample point 11.

Sample point 12.

Sample point 13.

Sample point 14.

Sample point 15.

Sample point 16.

Sample point 17.

Sample point 18.

Sample point 19.

Sample point 20.

Sample point 21.

Sample point 22.

Sample point 23.

Sample point 24.

Sample point 25.

Sample point 26.

Sample point 27.

Sample point 28.

Sample point 29.

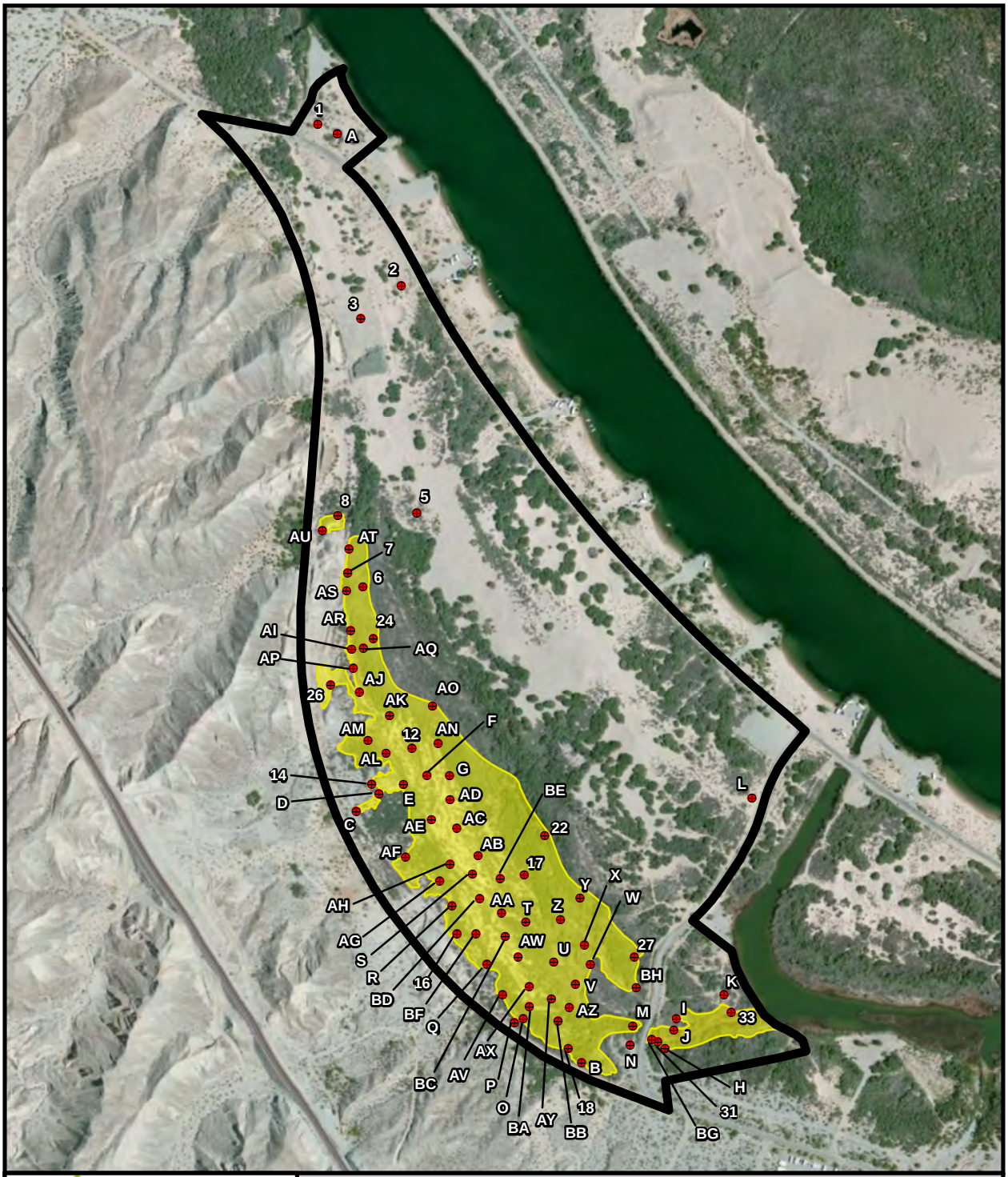
Sample point 30.

Sample point 31.

Sample point 32.

Sample point 33.

APPENDIX D: SOIL SAMPLE LOCATION MAP AND SOIL SAMPLING REPORT



BIO-WEST
www.bio-west.com
435.752.4202

Bureau of Reclamation
Mohave Valley Conservation Area
Soil Sampling Map

Soil Sample
Wetlands
Project Boundary

N
0 800 1,600
Feet

Q:\projects\1857_Mojave Valley Wetlands\MojaveValley_SoilsMap.mxd

Date: April 17, 2015

UtahStateUniversity
USU ANALYTICAL LABORATORIES

Physical Address: 1541 North 800 East, North Logan
Mailing Address: 9400 Old Main Hill, Logan, UT 84322 – 9400
Phone: (435) 797– 2217 • Fax: (435) 797 – 2117
Web: usual.usu.edu

4/17/2015

Bob Thomas
Bio-West, Inc.
1063 West 1400 North
Logan, UT 84321

Samples Received: 3/20/2015

USU ID	Identification	Texture	pH	Salinity dS/m	Phosphorus	Potassium	Nitrate-Nitrogen mg/kg	Zinc	Iron	Copper	Manganese	Sulfate-Sulfur mg/kg	Organic Matter %
					----------mg/kg----------			----------mg/kg----------					
0891	A	Loamy Sand	7.7	21.1	8.1	229	17.9	0.96	15.5	0.48	3.36	147	1.4
0892	B	Clay	7.6	21.2	10.5	504	17.2	1.31	18.1	2.26	1.94	329	2.3
0893	C	Clay	8.0	1.29	11.4	515	15.8	0.89	5.12	1.01	1.58	28.5	1.4
0894	D	Silty Clay	7.6	6.66	5.2	477	26.1	0.31	3.43	0.78	1.30	102	1.1
0895	E	Clay	7.7	26.8	7.9	514	90.5	0.52	4.98	1.20	1.06	385	1.5
0896	F	Loamy Sand	8.4	33.2	2.2	95.4	3.86	1.44	20.8	0.86	3.47	543	<1.0
0897	G	Sandy Loam	8.2	111	15.4	529	75.1	2.04	9.28	0.97	2.23	4122	1.9
0898	H	Sandy Loam	7.7	36.4	7.5	706	1.62	1.99	19.8	1.62	4.42	361	2.1
0899	I	Loamy Sand	7.9	3.58	1.4	36.1	0.40	0.45	11.4	0.23	1.24	35.7	1.1
0900	J	Sand	8.2	1.84	0.3	40.7	1.20	0.32	10.0	0.30	0.77	24.4	<1.0
0901	K	Sand	8.7	0.50	1.9	39.0	0.16	0.11	2.45	0.12	0.58	2.15	<1.0
0902	L	Sand	8.7	0.47	1.7	114	0.57	0.17	2.90	0.09	0.77	3.81	<1.0
0903	M	Clay	7.9	4.43	1.6	614	0.22	0.76	30.5	2.39	6.42	662	1.8
0904	N	Loamy Sand	8.3	11.9	8.4	408	1.24	0.27	2.02	0.44	2.70	20.9	1.1
0905	O	Clay	7.7	8.62	5.4	460	2.76	0.67	11.8	1.55	4.73	193	1.3
0906	P	Sandy Loam	7.8	19.4	24.3	299	23.8	1.12	3.58	0.51	1.10	181	1.4
0907	Q	Clay	7.7	15.0	12.2	527	32.5	0.56	9.89	1.09	4.09	95.8	1.4
0908	R	Sandy Loam	8.0	31.0	4.6	310	4.53	0.31	6.90	0.61	2.25	315	1.0
0909	S	Loamy Sand	8.1	18.9	11.0	298	22.4	0.49	7.89	0.71	1.25	244	<1.0
0910	T	Sand	8.1	1.07	10.0	167	9.07	0.76	7.38	0.28	0.96	32.3	<1.0
0911	U	Loamy Sand	8.7	83.5	5.4	282	5.65	0.98	11.0	1.15	0.46	2180	1.0
0912	V	Sand	8.7	1.35	2.4	79.6	4.23	0.12	3.52	0.09	0.76	27.6	<1.0
0913	W	Sand	8.9	41.5	1.7	198	1.73	0.13	6.25	0.42	1.13	1347	<1.0
0914	X	Sand	8.7	3.09	3.8	118	0.19	0.13	2.72	0.07	0.71	15.8	<1.0
0915	Y	Sandy Clay Loam	10.0	42.5	8.4	252	1.66	0.56	40.9	2.05	3.16	1645	<1.0
0916	Z	Sandy Loam	8.9	55.2	5.7	499	1.75	0.44	17.6	1.84	0.71	4092	<1.0
0917	AA	Loamy Sand	7.8	25.6	8.1	265	14.4	0.44	4.30	0.34	1.12	290	<1.0
0918	AB	Loamy Sand	8.4	39.8	9.2	266	34.7	0.34	4.99	0.48	0.64	567	<1.0
0919	AC	Loamy Sand	8.5	44.4	3.8	135	72.3	0.53	5.77	0.84	0.66	697	<1.0
0920	AD	Loamy Sand	8.2	15.7	13.3	263	29.2	0.51	8.01	0.55	1.37	527	<1.0
0921	AE	Loamy Sand	7.5	29.1	11.8	312	42.4	1.51	11.4	1.05	6.01	249	1.3
0922	AF	Clay	7.4	48.5	9.2	500	30.3	0.82	4.97	1.41	4.94	433	1.0
0923	AG	Clay	7.8	6.68	10.8	527	13.0	0.69	26.0	2.46	4.42	204	1.1
0924	AH	Loamy Sand	7.7	15.2	7.9	255	10.7	0.59	5.03	0.60	3.79	137	<1.0
0925	AI	Sand	8.2	14.2	2.5	87.6	4.72	0.34	3.60	0.32	0.98	251	<1.0
0926	AJ	Sand	8.1	11.6	3.7	98.3	2.91	0.32	3.62	0.23	0.74	84.2	<1.0
0927	AK	Sand	8.4	4.38	11.6	174	11.4	0.47	4.27	0.19	1.17	46.1	<1.0
0928	AL	Clay	7.9	1.42	6.5	503	6.69	0.42	12.3	1.56	3.75	34.5	<1.0
0929	AM	Clay	7.7	1.12	8.7	508	3.12	0.68	17.2	2.22	4.56	27.8	1.1
0930	AN	Loamy Sand	8.4	92.9	35.1	496	36.2	0.91	7.51	0.67	1.24	2388	1.3
0931	AO	Sand	8.5	3.04	2.7	93.8	0.33	0.25	7.34	0.09	1.06	80.0	<1.0
0932	AP	Sand	7.9	3.83	3.7	152	1.02	0.18	3.35	0.24	1.11	127	<1.0
0933	AQ	Loamy Sand	8.1	30.0	30.5	644	15.5	2.39	12.5	0.27	2.62	531	3.4
0934	AR	Sand	8.2	11.5	4.8	107	4.63	0.28	3.16	0.22	1.46	104	<1.0
0935	AS	Silty Clay	7.5	58.1	3.2	538	5.88	0.35	1.32	0.78	0.95	360	<1.0
0936	AT	Sandy Loam	7.7	102	17.3	497	64.2	0.88	4.75	0.58	3.29	696	1.6
0937	AU	Sandy Loam	7.8	153	4.1	313	24.9	0.58	3.05	0.88	3.32	641	<1.0
0938	AV	Loamy Sand	8.1	14.1	5.2	159	1.41	0.15	2.18	0.36	1.03	11.4	<1.0

Plant Analysis Lab
Soil Testing Lab
Feed Anaysis Lab
Irrigation Water Analysis Lab
Manure Analysis Lab

TE

UtahStateUniversity
USU ANALYTICAL LABORATORIES

Physical Address: 1541 North 800 East, North Logan
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Web: usual.usu.edu

4/17/2015

Bob Thomas
Bio-West, Inc.
1063 West 1400 North
Logan, UT 84321

Samples Received: 3/20/2015

USU ID	Identification	Texture	pH	Salinity dS/m	Phosphorus	Potassium	Nitrate-Nitrogen mg/kg	Zinc	Iron	Copper	Manganese	Sulfate-Sulfur mg/kg	Organic Matter %
					----------mg/kg---------			----------mg/kg----------					
0939	AW	Sand	8.5	25.8	4.9	98.8	15.6	0.37	4.38	0.34	0.50	459	<1.0
0940	AX	Sandy Loam	8.4	118	4.1	303	37.0	0.41	8.21	0.74	1.67	3315	1.1
0941	AY	Sandy Loam	8.2	74.0	6.5	280	21.0	0.44	8.03	0.92	2.47	696	1.0
0942	AZ	Sandy Loam	8.4	81.9	10.4	661	1.02	0.85	6.51	1.01	4.23	2945	2.5
0943	BA	Sandy Loam	8.1	20.9	7.6	309	7.67	0.43	5.30	0.80	1.37	284	<1.0
0944	BB	Clay	7.8	18.0	10.2	497	1.14	0.46	9.04	1.38	4.73	652	1.0
0945	BC	Sand	8.1	5.91	8.0	80.6	0.99	0.21	5.70	0.18	0.96	23.0	<1.0
0946	BD	Sandy Clay	7.5	34.0	9.6	393	16.9	0.72	6.89	1.05	6.47	267	1.2
0947	BE	Sand	7.7	89.6	8.5	230	95.2	0.62	5.31	0.45	1.39	617	1.0
0948	BF	Loamy Sand	8.2	128	5.8	178	5.09	0.22	6.07	0.50	0.81	1435	<1.0
0949	BG	Loamy Sand	7.7	2.58	10.2	115	1.99	4.49	91.62	0.89	9.62	63.0	5.3
0950	BH	Sand	7.8	1.99	2.8	69.7	6.21	0.88	4.36	0.11	0.95	35.2	<1.0
0951	1	Sand	7.9	8.78	3.9	140	22.1	0.59	3.14	0.17	1.25	41.8	<1.0
0952	2	Sand	8.0	0.82	3.5	49.4	3.09	0.14	1.75	0.05	0.95	11.5	<1.0
0953	3	Sand	8.0	1.58	1.4	83.3	1.98	0.09	2.17	0.10	1.19	18.2	<1.0
0954	5	Sand	7.4	1.35	3.6	38.4	5.69	0.39	2.83	0.07	1.93	26.1	<1.0
0955	6	Sandy Loam	8.4	49.0	0.9	230	0.55	0.97	23.6	1.63	1.17	726	<1.0
0956	7	Sandy Loam	7.4	102	20.2	484	14.9	1.91	9.55	0.69	5.68	1062	2.1
0957	8	Clay	8.4	72.7	9.6	523	4.62	0.85	25.8	2.43	8.12	5045	1.3
0958	12	Sandy Clay	7.9	25.8	6.8	271	8.08	0.71	13.0	0.81	1.46	1250	1.1
0959	14	Sandy Clay	7.6	18.9	7.9	365	23.9	0.40	7.10	0.80	1.33	57.9	1.0
0960	16	Clay	7.9	19.9	15.1	526	13.6	0.83	30.0	3.21	5.80	1426	1.3
0961	17	Loamy Sand	8.6	89.7	3.6	113	4.87	0.17	6.14	0.35	0.86	1345	<1.0
0962	18	Clay	7.7	19.8	6.5	538	3.66	0.96	10.8	1.47	3.62	728	1.6
0963	22	Clay	8.7	22.1	6.5	453	0.85	2.87	151	8.56	17.9	2788	3.0
0964	24	Sandy Loam	8.4	79.2	5.7	356	1.59	1.26	11.2	1.19	1.76	3648	2.1
0965	26	Clay	8.1	29.7	10.7	519	42.1	0.47	12.6	1.72	2.96	1139	<1.0
0966	27	Sand	8.6	58.7	1.1	74.1	0.30	0.09	2.44	0.14	1.20	955	<1.0
0967	31	Loamy Sand	7.7	3.66	2.4	130	1.44	1.12	23.2	0.50	10.8	36.2	2.0
0968	33	Sand	7.9	4.97	0.8	26.5	1.05	0.19	4.61	0.22	1.23	24.2	<1.0

Plant Analysis Lab
Soil Testing Lab
Feed Anaysis Lab
Irrigation Water Analysis Lab
Manure Analysis Lab