# APPENDIX C: ARID WEST SUPPLEMENT DATA SHEETS

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/12/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-1 |
| Investigator(s): AT, SH, BT, KC | Section, Township, Range: Section 31, Township 6 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87161 / Long: 114.46158 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? No | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? No | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima (*salt cedar) | 35 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 35 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Atriplex lentiformis spp lentiformis* (quail bush) | 10 | Yes | FACW |
| 2. *Pluchea sericea* (arrow weed) | 15 | Yes | FAC |
| 3. *Tamarix ramosissima (*salt cedar) | 5 | No | FACW+ |
| 4. | | | |
| 5. | | | |
| Total Cover: | 30 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/12/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-2 |
| Investigator(s): AT, SH, BT, KC | Section, Township, Range: Section 36, Township 6 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Swale | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87154 | Long: 114.46345 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? No | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? No | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Marginal area at the northern tip of wetland. Landscape position along with adjacent wetland points suggest this area should be included in the northern tip of the wetland. Topography to the north rises. Dry season delineation in alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Prosopis glandulosa* (Honey mesquite) | 10 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 10 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 70 | Yes | FAC |
| 2. *Baccharis emoryi* (Emory Baccharis) | 10 | No | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 80 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | | Multiply by: |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 70 | x 3 = | 210 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 10 | x 5 = | 50 |
| Column Totals: | 90 (A) | | 280 (B) |

Prevalence Index = B/A = 3.1

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| | Dominance Test is >50% |
| X | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

## SOIL

Sampling Point: A-2

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | | | | | | | | Dry organic matter |
| 2-8 | 10YR 5/4 | | | | | | sand | |
| 8-18 | 10YR 6/4 | | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils in a marginally wet area near the north end of the wetland. Landscape position along with adjacent wetland sampling points suggest this area should be included.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

Heavy vegetation could be masking hydrology indicators from wetter times of the year.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/12/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-3 |
| Investigator(s): AT, SH, BT, KC | Section, Township, Range: Section 36, Township 6 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87137 / Long: 114.46397 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? No | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? No | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

**Alkaline conditions have prevented normal hydric soil formation. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 20 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 75 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 75 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-0.5 | | | | | | | Dry Crust | |
| 0.5-18 | 10YR 5/3 | 90 | 10YR 6/8 | 10 | C | M | Silty Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented the normal level of depletion required to meet the reduced matrix criteria. On this site soils with strong mottling that contain hydrophytic vegetationa nd wetland hydrology indicators were considered hydric.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | X | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Thin organic crust and freshwater mussels shells. The mussels do not appear to be remnant as they still have the exterior shell coating intact.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/12/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-4 |
| Investigator(s): AT, SH, BT, KC | Section, Township, Range: Section 36, Township 6 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87138 | Long: 114.46417 Datum: WGS 84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 50 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 50 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 50 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 20 | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 7/3 | | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/12/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-5 |
| Investigator(s): AT, SH, BT, KC | Section, Township, Range: Section 36, Township 6 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87158 / Long: 114.46290 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline conditions have prevented normal hydric soil formation. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 20 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 50 | Yes | FAC |
| 2. *Baccharis sarothroides* (desert broom) | 5 | No | FAC- |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 55 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 30 % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/4 | | 10YR 6/8 | 1 | C | M | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented the normal level of depletion required to meet the reduced matrix criteria. On this site soils with strong mottling that contain hydrophytic vegetationa nd wetland hydrology indicators were considered hydric. At 6" soil becomes moist.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) | | Water Marks (B1) **(Riverine)** |
| | High Water Table (A2) | | Biotic Crust (B12) | | Sediment Deposits (B2) **(Riverine)** |
| | Saturation (A3) | X | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Recent freshwater mussell shells.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/12/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-6 |
| Investigator(s): AT, SH, BT, KC | Section, Township, Range: Section 36, Township 6 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87155 / Long: 114.46274 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation X , Soil , or Hydrology significantly disturbed? Y | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | |
| Hydric Soil Present? | Yes | | No | **X** |
| Wetland Hydrology Present? | Yes | | No | **X** |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**Appears to have been bulldozed.**
**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 15 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 15 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Atriplex lentiformis* | 35 | Yes | FACW |
| 1. *Atriplex canescens* | 5 | No | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 60 % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/4 | | | | | | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ___ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No ___ Depth (inches) ___

Water Table Present? Yes ___ No ___ Depth (inches) ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches) ___

**Wetland Hydrology Present?** Yes ___ No X

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

Remarks:

Mussell shells were noted, however the recent heavy equipment work appears to have uncovered remnant shells.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/12/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-7 |
| Investigator(s): AT, SH, BT, KC | Section, Township, Range: Section 36, Township 6 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Remnant floodplain swale | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87147 / Long: 114.46742 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Upland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? Yes X | No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 20 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 1. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1.Tiquilia plicata (crinkle mat) | 5 | Yes | Not Listed |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 5 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 95 | % 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: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | | Multiply by: |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 20 | x 2 = | 40 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals: | 25 (A) | | 65 (B) |
| Prevalence Index = B/A = | | | 2.6 |

**Hydrophytic Vegetation Indicators:**

- Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/3 | | | | | | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ___ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No ___ Depth (inches) ___

Water Table Present? Yes ___ No ___ Depth (inches) ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches) ___

**Wetland Hydrology Present?** Yes ___ No X

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

Remarks:

Remnant Mussell shells, bleached white with no individuals having a colored recent shell covering.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/12/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-8 |
| Investigator(s): AT, SH, BT, KC | Section, Township, Range: Section 36, Township 6 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87169 / Long: 114.46503 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 60 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 60 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 60 | Yes | FAC |
| 1. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 60 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/3 | | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/12/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-9 |
| Investigator(s): AT, SH, BT, KC | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Remant Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84669 | Long: 114.45581 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline conditions have prevented normal hydric soil formation. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 45 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 45 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 1. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 55 | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 6/3 | | | | | | sand | |
| 6-18 | 10YR 5/4 | 10 | 10YR 5/8 | 10 | C | M | clay | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented the normal level of depletion required to meet the reduced matrix criteria. On this site soils with strong mottling that contain hydrophytic vegetationa nd wetland hydrology indicators were considered hydric.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-10 |
| Investigator(s): BT, AT | Section, Township, Range: Section 13, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.8278 / Long: 114.46691 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Upland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 45 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 45 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 1. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 55 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-10

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-4 | 10YR 4/2 | 95 | 10YR 4/6 | 5 | C | M | loam | |
| 4-18 | 10YR 5/2 | 90 | 10YR 4/6 | 10 | C | M | loam | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | X | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

salt concretions throughout

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| X | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | Depth (inches) | |
| Water Table Present? | Yes | | No | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-11 |
| Investigator(s): BT, AT | Section, Township, Range: Section 13, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82811 / Long: 114.47036 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: upland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline conditions have prevented normal hydric soil formation. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 50 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 1. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 50 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

All juvenile tamarisk

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 4/4 | | | | | | sand | |
| 5-18 | 10YR 3/3 | | 10YR 4/6 | 15 | C | M | loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented the normal level of depletion required to meet the reduced matrix criteria. On this site soils with strong mottling that contain hydrophytic vegetationa nd wetland hydrology indicators were considered hydric. Test pit soils contained salt concretions throughout.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| X | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| X | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) |
| Water Table Present? | Yes | | No | | Depth (inches) |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-12 |
| Investigator(s): BT, AT | Section, Township, Range: Section 13, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82773 / Long: 114.47453 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline conditions have prevented normal hydric soil formation. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 55 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 55 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 1. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 45 | % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-7 | 10YR 5/4 | | | | | | sand | |
| 7-18 | 10YR 5/3 | | 10YR 5/8 | 10 | C | M | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented the normal level of depletion required to meet the reduced matrix criteria. On this site soils with strong mottling that contain hydrophytic vegetationa nd wetland hydrology indicators were considered hydric.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| X | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| X | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

minor cracking , some areas of surface salt crusts

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-13 |
| Investigator(s): BT, AT | Section, Township, Range: Section 13, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): marsh | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82794 | Long: 114.47732 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: water | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 15 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 15 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Schoenoplectus acutus* (bulrush) | 50 | Yes | OBL |
| 2. *Arundo donax* (giant reed) | 40 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 90 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

40% of bulrush is dead

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | | | | | | | organic matt | |
| 2-18 | 10YR 5/1 | | | | | | wet sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | X | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

standing water at 7"

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| X | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | X | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | 7 |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-14 |
| Investigator(s): BT, AT | Section, Township, Range: Section 13, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): edge of small dredged berm | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82805 | Long: 114.47660 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: freshwater shrub | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes | No X |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline conditions have prevented normal hydric soil formation. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 50 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 75 | Yes | FAC |
| 1. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 75 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | | | | | | | organic matt | mostly tamarix needles and scales |
| 3-18 | 10YR 6/3 | | 10YR 5/6 | 15 | C | M | sand | moist |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented the normal level of depletion required to meet the depleted matrix criteria. On this site soils with strong mottling that contain hydrophytic vegetationa nd wetland hydrology indicators were considered hydric.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- X Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No ___ Depth (inches) ___

Water Table Present? Yes ___ No ___ Depth (inches) ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches) ___

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Dense tamarisk needles have covered any evidence of wetland hydrology. Landform and adjacent marsh suggest this is a wetland on the edge of a small dredge pile from the canal.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-15 |
| Investigator(s): BT, AT | Section, Township, Range: Section 13, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): TERRACE | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82596 | Long: 114.47880 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation x , Soil x , or Hydrology x significantly disturbed? Y | Are "Normal Circumstances" present? Yes | No X |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | | No | X |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | X | No | |

**Is the Sampled Area within a Wetland?** Yes **X** No

Remarks:

**This is a recently disturbed wetland that has been cleared of vegetation.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 1. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- ____ Dominance Test is >50%
- ____ Prevalence Index is ≤ 3.0[1]
- ____ Morphological Adaptaions[1] (Provide supporting data in Remarks or on a separate sheet.)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes No X

Remarks:

Vegetation has been recently cleared. Salt cedar is beginning to grow back but not in the sample point area.



### SOIL

Sampling Point: A-15

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/3 | 98 | 10YR 4/6 | 2 | C | M | loam | sandy |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | X | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-16 |
| Investigator(s): BT, AT | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Marsh | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84240 / Long: 114.45875 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW+ |
| 2. *Prosobis glandulosa* (honey mesquite) | 50 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| Total Cover: | 70 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Phragmites australis* (common reed) | 80 | Yes | FACW |
| 1. *Pluchea sericea* (arrow weed) | 10 | No | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 90 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR 5/4 | | | | | | | |
| 3-18 | 10YR 2/1 | 70 | 10YR 4/3 | 30 | C | M | Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | X | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| X | Surface Water (A1) | | Salt Crust (B11) |
| X | High Water Table (A2) | | Biotic Crust (B12) |
| X | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | X | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | X | No | | Depth (inches) | 2 |
| Water Table Present? | Yes | X | No | | Depth (inches) | surface |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | surface |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-17 |
| Investigator(s): BT, AT | Section, Township, Range: Section 29, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84258 | Long: 114.47400 Datum: WGS84 |
| Soil Map Unit Name: Not mapped | NWI classification: Upland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes | No X |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Dry season delineation. Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 60 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 60 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Dead pluchea | 0 | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 0 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-17

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 4/3 | 97 | 10YR 2/1 | 3 | C | M | silt | |
| 5-18 | 10YR 6/4 | | | | | | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

minor crust, pluechea all dead ( flooding?) Dry season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-18 |
| Investigator(s): BT, AT | Section, Township, Range: Section 29, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84242 / Long: 114.47272 | Datum: WGS84 |
| Soil Map Unit Name: Not mapped | NWI classification: Upland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? Yes X | No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Dry season delineation. Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 75 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 75 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 10 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-18

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | ash | | | | | | ash | |
| 2-6 | 10YR 4/3 | | | | | | loam | |
| 6-16 | 10YR 4/3 | | | | | | loam | salt concretions |
| 16-18 | 10YR 6/4 | 60 | 10YR4/3 | 40 | C | M | clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix. Marginal soils when compared to other alkaline wetland areas. Mottling occurs near the limits of hydric soil requirements.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) |
| Water Table Present? | Yes | | No | | Depth (inches) |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

Dry season delineation. minor crust, tamarisk needles

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-19 |
| Investigator(s): BT, AT | Section, Township, Range: Section 29, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84255 | Long: 114.47184 Datum: WGS84 |
| Soil Map Unit Name: Not mapped | NWI classification: Upland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes | No X |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Alkaline soils. Dry season delineation. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 85 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 85 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-19

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR4/4 | 97 | 10YR 4/2 | 3 | C | M | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | X | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

Minor crust, dry season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-20 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Historic Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84234 / Long: 114.46958 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soil conditions. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 70 | | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 70 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-20

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/3 | 97 | 10YR 5/8 | 3 | C | M | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soil conditions are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery | X | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | X | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Tamarisk needles are masking hydrology indicators.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-21 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): arrowweed sandbar | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84258 / Long: 114.46902 | Datum: WGS84 |
| Soil Map Unit Name: Not mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? No | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? No | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 85 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 85 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/3 | | | | | | | Salt concretions |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-22 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Historic Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84235 / Long: 114.46657 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? No | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? No | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 30 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 30 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 85 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 85 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-22

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-4 | 10YR 3/3 | | | | | | loam | |
| 4-10 | 10YR 4/3 | 80 | 10YR 5/4 | 20 | C | M | clay | |
| 10-18 | 10YR 5/4 | 90 | 10YR 4/6 | 10 | C | M | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) |
| Water Table Present? | Yes | | No | | Depth (inches) |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-23 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84363 / Long: 114.46450 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils. Appears to have burned at some point. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 75 | Yes | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 5 | No | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 80 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 4/3 | 97 | 10YR 5/8 | 3 | C | M | sand | |
| 6-18 | 10YR 4/4 | 70 | 10YR 5/4 | 30 | C | M | loam | salt concretions |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) | | Secondary Indicators (2 or more required) | | |
| | High Water Table (A2) | | Biotic Crust (B12) | | | | Water Marks (B1) **(Riverine)** |
| | Saturation (A3) | | Aquatic Invertebrates (B13) | | | | Sediment Deposits (B2) **(Riverine)** |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) | | | | Drift Deposits (B3) **(Riverine)** |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) | | X | | Drainage Patterns (B10) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) | | | | Dry-Season Water Table (C2) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | | | Thin Muck Surface (C7) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) | | | | Crayfish Burrows (C8) |
| | Water-Stained Leaves (B9) | | | | | | Saturation Visible on Aerial Imagery |
| | | | | | | | Shallow Aquitard (D3) |
| | | | | | X | | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Biotic crust appears to be forming.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-24 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84225 / Long: 114.46119 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation Y , Soil N , or Hydrology N significantly disturbed? | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Large tamarisks are burned. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 5 | No | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 40 | Yes | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 45 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-24

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 4/3 | | | | | | loam | ash layers |
| 5-18 | 10YR 5/4 | 95 | 10YR 5/8 | 5 | C | M | sand | salt concretions |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soil conditions are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Thick raised salt crust

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-25 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Marsh | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84250 / Long: 114.46005 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 5 | No | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 20 | No | FACW+ |
| 3. *Arundo donax* (giant reed) | 30 | Yes | FACW |
| 4. *Typha latifolia* (cat tails) | 70 | Yes | OBL |
| 5. | | | |
| Total Cover: | 125 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-25

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 5/3 | 85 | 10YR 6/4 | 15 | C | M | sand | saturated |
| 5-18 | 10YR 4/2 | 97 | 10YR 6/4 | 3 | C | M | sand | depleted area |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| X | High Water Table (A2) | | Biotic Crust (B12) |
| X | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | X | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | X | No | | Depth (inches) | 9 |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | 9 |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Surface water nearby.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-26 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84249 / Long: 114.46012 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW+ |
| 2. *Prosobis glandulosa* (honey mesquite) | 15 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| Total Cover: | 35 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 80 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 80 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | 3 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 66 | (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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-26

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 6/4 | 90 | 10YR 5/8 | 10 | C | M | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) | | Sediment Deposits (B2) **(Riverine)** |
| | High Water Table (A2) | | Biotic Crust (B12) | | Drift Deposits (B3) **(Riverine)** |
| | Saturation (A3) | | Aquatic Invertebrates (B13) | X | Drainage Patterns (B10) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) | | Dry-Season Water Table (C2) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) | | Thin Muck Surface (C7) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) | | Crayfish Burrows (C8) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Saturation Visible on Aerial Imagery |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) | | Shallow Aquitard (D3) |
| | Water-Stained Leaves (B9) | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

| | |
|---|---|
| X | Water Marks (B1) **(Riverine)** |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-27 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): drainage way | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84956 / Long: 114.46061 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils and evidence of fire. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Tamarix ramosissima* (salt cedar) | 40 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-27

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/4 | 97 | 10YR 5/8 | 3 | C | M | sand | moist |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) |
| Water Table Present? | Yes | | No | | Depth (inches) |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Raised salt crust

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-28 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84960 | Long: 114.46140 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Shrub Scrub | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 80 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-28

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | 95 | 10YR 6/4 | 5 | C | M | silty loam | salt concretions |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| X | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-29 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): sand dune | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84960 | Long: 114.46388 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 50 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 50 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | | | | | | sand | fine |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-30 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84968 / Long: 114.46524 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Alkaline soils, dry season delineation. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 25 | Yes | FACW+ |
| 2. *Prosobis glandulosa* (honey mesquite) | 10 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| Total Cover: | 35 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 10 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-30

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/3 | 99 | 10YR 5/8 | 1 | C | M | silt | very fine |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery (C9) |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

Minor salt crust, dry season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-31 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84978 / Long: 114.46788 | Datum: WGS84 |
| Soil Map Unit Name: Not mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 20 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-31

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/3 | | | | | | silt | very fine |
| | | | | | | | | salt concretions |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-32 |
| Investigator(s): BT, AT | Section, Township, Range: Section 20, Township 15 South, Range 22 East | |
| Landform (hillslope, terrace, etc.): historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84982 / Long: 114.46992 | Datum: WGS84 |
| Soil Map Unit Name: Not mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Dry season delineation in alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 20 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-32

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 3/4 | | | | | | silt | |
| 6-18 | 10YR 5/3 | | 10YR 5/6 | 10 | C | M | sand | fine |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No ___ Depth (inches) ___

Water Table Present? Yes ___ No ___ Depth (inches) ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches) ___

**Wetland Hydrology Present?** Yes No X

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

Remarks:

Dry season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-33 |
| Investigator(s): BT, AT | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): terrace next to marsh | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84656 | Long: 114.45793 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes | No X |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 30 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 30 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. *Distichlis spicata* (salt grass) | 90 | Yes | FACW |
| 2. *Phragmites australis* (common reed) | 10 | No | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 100 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-33

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-1 | | | | | | | | salt layer |
| 0-11 | 10YR 4/3 | 90 | 10YR 4/6 | 10 | C | M | sand | saturated |
| 11-18 | 10YR4/1 | | | | | | sand | saturated |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) | | Water Marks (B1) **(Riverine)** |
| | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery (C9) |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | surface |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-34 |
| Investigator(s): BT, AT | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): terrace above marsh | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84640 | Long: 114.45763 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima (*salt cedar) | 15 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 15 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Tamarix ramosissima (*salt cedar) | 15 | Yes | FACW+ |
| 2. *Pluchea sericea* (arrow weed) | 75 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 90 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-34

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR6/4 | 90 | 10YR 5/8 | 10 | C | M | sand | moist |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No ___ Depth (inches) ___

Water Table Present? Yes ___ No ___ Depth (inches) ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches) ___

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-35 |
| Investigator(s): BT, AT | Section, Township, Range: Section6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): terrace next to marsh | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84946 | Long: 114.45513 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima (*salt cedar) | 30 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 30 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Tamarix ramosissima (*salt cedar) | 40 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-35

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-11 | 10YR4/3 | 97 | 10YR 5/8 | 3 | C | M | sand | moist, fine |
| 11-18 | 10YR5/3 | | | | | | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11)covered with tamarisk needles |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-36 |
| Investigator(s): BT, AT | Section, Township, Range: Section6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84962 | Long: 114.45433 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: upland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | | | | |
| Hydric Soil Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

**Alkaline soils. Point is next to road. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima (*salt cedar) | 30 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 30 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 15 | Yes | FAC |
| 2. *Baccharis sarothroides* (desert broom) | 20 | Yes | FAC- |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 35 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-36

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR5/6 | | | | | | sand | |
| 6-18 | 10YR4/2 | 97 | 10YR 5/8 | 3 | C | M | loam | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No ___ Depth (inches) ___

Water Table Present? Yes ___ No ___ Depth (inches) ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches) ___

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-37 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85692 / Long: 114.46655 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 50 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-37

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR3/6 | | | | | | sand | |
| 6-18 | 10YR5/3 | 95 | 10YR 5/8 | 5 | C | M | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) thin | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) thin |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-38 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Historic Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85692 / Long: 114.46655 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 50 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 15 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 15 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks: salix exigua 100 ft away 12 m tall



### SOIL

Sampling Point: A-38

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR4/4 | 97 | 10YR 5/8 | 3 | C | M | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) thin | | 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) | | Thin Muck Surface (C7) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery (C9) |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-39 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): marsh | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85686 | Long: 114.46532 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima (*salt cedar) | 50 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Phragmites aurstralis* (Common Reed) | 100 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 100 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No



### SOIL

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-7 | 10YR4/3 | | | | | | clay | saturated |
| 7-18 | 10YR4/2 | | 10YR 5/8 | 3 | C | M | clay | saturated |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| X | Saturation (A3) to surface | X | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | 0 |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Live mussels found in soil.

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-40 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): edge of road fill | Local relief (concave, convex, none): None | Slope %): 0 |
| Subregion (LRR): LRR D | Lat: 32.86445 | Long: 114.47176 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation Y , Soil Y , or Hydrology Y significantly disturbed? | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**This point is located on the edge of road fill. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 10 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 10 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 40 | Yes | FAC |
| 2. *Atriplex lentiformis* (big salt brush) | 10 | No | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

## SOIL

Sampling Point: A-40

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR4/4 | | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-41 |
| Investigator(s): BT, AT | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86442 | Long: 114.47108 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater scrub | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? Y | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | |
| Hydric Soil Present? | Yes | **X** | No | |
| Wetland Hydrology Present? | Yes | | No | **X** |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**Marginal alkaline soils and no wetland hydrology. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 30 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

old bulldozer tracks and evidence of fire

## SOIL

Sampling Point: A-41

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/3 | 95 | 10YR 4/6 | 5 | C | M | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No ___ Depth (inches) ___

Water Table Present? Yes ___ No ___ Depth (inches) ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches) ___

**Wetland Hydrology Present?** Yes No X

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-42 |
| Investigator(s): BT, AT | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Historic Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86429 / Long: 114.46958 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater scrub | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? Y | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Bulldozed salt cedar piles present- evidence of fire. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 30 | Yes | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 10 | Yes | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

## SOIL

Sampling Point: A-42

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/2 | 95 | 10YR 5/8 | 5 | C | M | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | X | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| X | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-43 |
| Investigator(s): BT, AT | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Historic Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86436 / Long: 114.46970 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater scrub | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? Y | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**Earth moving and fire evidence. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 30 | Yes | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 10 | Yes | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

bulldozer and fire evidence



### SOIL

Sampling Point: A-43

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/3 | | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-44 |
| Investigator(s): BT, AT | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86427 | Long: 114.46810 Datum: WGS84 |
| Soil Map Unit Name: Not mapped | NWI classification: Freshwater scrub | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? Y | Are "Normal Circumstances" present? Yes | No X |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | | | |
| Hydric Soil Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** No |
| Wetland Hydrology Present? | Yes | **X** | No | | | |

Remarks:

**Evidence of earthmoving and fire. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima (*salt cedar) | 10 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 10 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 30 | Yes | FAC |
| 2. *Tamarix ramosissima (*salt cedar) | 10 | Yes | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

bulldozer and fire evidence



### SOIL

Sampling Point: A-44

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-1 | | | | | | | | dry ash |
| 1-18 | 10YR 5/2 | | 10YR 4/6 | 20 | C | M | sand | moist |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | X | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| X | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

willows (salix exigua) present

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-45 |
| Investigator(s): BT, AT | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Historic Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86427 | Long: 114.46810 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater scrub | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? Y | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**Bulldozer and fire evidence. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 5 | Yes | FACW+ |
| 2. *Salix exigua* (willow) | 5 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| Total Cover: | 10 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 70 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

Willow is near adjacent wetland edge.



### SOIL

Sampling Point: A-45

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-46 |
| Investigator(s): BT, AT | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): slew | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86434 | Long: 114.46681 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater scrub | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? Y | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Bulldozer and fire evidence. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Prosobis glandulosa (*honey mesquite*)* | 5 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 5 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 30 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 30 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | 2 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 50 | (A/B) |

**Prevalence Index worksheet:**

| Total % Cover of: | | | Multiply by: | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 30 | x 3 = | 90 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 5 | x 5 = | 25 | |
| Column Totals: | 35 | (A) | 115 | (B) |

Prevalence Index = B/A = 3.3

**Hydrophytic Vegetation Indicators:**

- Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[1] (Provide supporting data in Remarks or on a separate sheet.)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

Salt cedar has been cleared, this combined with the presence of a few mesquite has created problematic hydrophytic vegetation. If the salt cedar had not been cleared vegetation would easily meet wetland requirements.



### SOIL

Sampling Point: A-46

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1-18 | 10YR 4/3 | | 10YR5/6 | | C | M | sand | |
| 0-1 | | | | | | | | ash |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | ___ | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | ___ | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | ___ | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Freshwater mussels.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-47 |
| Investigator(s): BT, AT | Section, Township, Range: Section 16, Township 6South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86433 | Long: 114.46476 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**Evidence of fire. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 90 | Yes | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 10 | No | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 100 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-47

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | | | | | | sand | dry |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-48 |
| Investigator(s): BT, AT | Section, Township, Range: Section 16, Township 6South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Historic floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86421 / Long: 114.46134 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 50 | Yes | |
| 2. *Tamarix ramosissima* (salt cedar) | 5 | No | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 55 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

bulldozer and fire evidence

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | | | | | | sand | dry |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-49 |
| Investigator(s): BT, AT | Section, Township, Range: Section 16, Township 6South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Historic Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86434 | Long: 114.45981 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? Y | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**Evidence of fire. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Atriplex lentiformis* (big salt brush) | 10 | No | FACW |
| 2. *Tamarix ramosissima (*salt cedar) | 70 | Yes | FACW+ |
| 3. *Allenrolfea occidentalis* (iodine bush) | 5 | No | FACW |
| 4. | | | |
| 5. | | | |
| Total Cover: | 85 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

fire evidence



### SOIL

Sampling Point: A-49

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/6 | | | | | | loam | silty |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/16/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-50 |
| Investigator(s): BT, AT | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Sandy Upland Flat | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85720 / Long: 114.46089 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Upland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? No | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? No | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Prosopis pubescens* (screwbean mesquite) | 50 | Yes | FACW- |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Tamarix ramosissima* (salt cedar) | 80 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 80 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-50

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/3 | 92 | 10YR4/6 | 8 | C | M | loam | silty |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline conditions preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | X | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Remnant floodplain soil- strong modeling and old mussel shells

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/16/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-51 |
| Investigator(s): BT, AT | Section, Township, Range: Section 20, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): marsh | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86136 / Long: 114.47360 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 45 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 45 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Baccharis sarothroides* (desert broom) | 30 | Yes | FAC- |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 30 | | |
| **Herb Stratum** | | | |
| 1. *Typha latifolia* (cattails) | 20 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 20 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

all herbaceous layer is cattail detritus



### SOIL

Sampling Point: A-51

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/2 | | 10YR4/6 | 10 | C | M | sand | saturated |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | X | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| X | Saturation (A3) | | Aquatic Invertebrates (B13) |
| X | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| X | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | 0 |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/16/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-52 |
| Investigator(s): BT, AT | Section, Township, Range: Section 20, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): marsh | Local relief (concave, convex, none): concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86135 | Long: 114.47365 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**This point was taken on the edge of the road fill at the project boundary. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima (*salt cedar) | 20 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 20 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Baccharis sarothroides* (desert broom) | 20 | No | FAC- |
| 2. *Pleuchea sericea* (arroweed) | 85 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 105 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

## SOIL

Sampling Point: A-52

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-53 |
| Investigator(s): BT, AT | Section, Township, Range: Section 20, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85315 / Long: 114.46833 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 40 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 40 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



## SOIL

Sampling Point: A-53

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-4 | 10YR 2/1 | | | | | | silty | ash |
| 4-18 | 10YR 4/2 | 95 | 10YR 5/8 | 5 | C | M | sand | silty |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | X | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Ash layer

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| X | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-54 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84717 / Long: 114.46853 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pleuchea sericia* (arroweed) | 20 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 20 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

Fire evidence



**SOIL** Sampling Point: A-54

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | | | | | | | ash | salt concretions |
| 3-18 | 10YR 5/4 | | 10YR 5/8 | 10 | C | M | sand/silt | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing sandy redox.

Ash layer

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| X | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Raised salt/ash crust

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-55 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84717 | Long: 114.46853 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | Total Cover: | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | Total Cover: | | |
| **Herb Stratum** | | | |
| 1. *Pleuchea sericia* (arroweed) | 60 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | Total Cover: 60 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-55

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR 3/4 | | | | | | sand | |
| 3-18 | 10YR 4/4 | | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-56 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83952 / Long: 114.46877 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pleuchea sericia* (arroweed) | 50 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-56

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-7 | 10YR 4/2 | | 10YR 5/6 | 3 | C | M | loam | |
| 7-18 | 10YR6/3 | | 10YR 5/6 | 2 | C | M | sand/silt | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| X | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-57 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83992 / Long: 114.46913 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**Fire evidence**

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pleuchea sericia* (arroweed) | 25 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 25 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | | | | | | sand | dry |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-58 |
| Investigator(s): BT, AT | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84709 / Long: 114.463234 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Fire evidence**

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima (*salt cedar) | 20 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 20 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pleuchea sericia* (arroweed) | 15 | Yes | FAC |
| 2. *Tamarix ramosissima (*salt cedar) | 10 | Yes | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 25 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 6/2 | | 10YR 5/8 | 30 | C | M | silty sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | X | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-59 |
| Investigator(s): BT, AT | Section, Township, Range: Section , Township South, Range | |
| Landform (hillslope, terrace, etc.): historic CO river bed | Local relief (concave, convex, none): concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85435 | Long: 114.46377 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | | | |
| Hydric Soil Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes **X** | No |
| Wetland Hydrology Present? | Yes | **X** | No | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima (*salt cedar) | 30 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 30 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Arundo donax* (Giant reed) | 90 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 90 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

10 to 15 foot drop to channel



### SOIL

Sampling Point: A-59

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/2 | 97 | 10YR 4/6 | 3 | C | M | clay | 100%- dense |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) | | Water Marks (B1) **(Riverine)** |
| | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery (C9) |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | 2 |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Floating clay plates on saturated soil

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-60 |
| Investigator(s): BT, AT | Section, Township, Range: Section , Township South, Range | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85428 | Long: 114.46378 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pleuchea sericia* (arroweed) | 85 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



### SOIL

Sampling Point: A-60

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | | | | | | sand | dry |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches) ____

Water Table Present? Yes ____ No ____ Depth (inches) ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches) ____

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-61 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): marsh | Local relief (concave, convex, none): concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85160 | Long: 114.45984 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Prosobis glandulosa* (honey mesquite) | 20 | Yes | FACU |
| 2. *Tamarix ramosissima (*salt cedar) | 20 | Yes | FACW+ |
| 3. | | | |
| 4. | | | |
| Total Cover: | 40 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1.*Typha latifolia* (cattail) | 60 | Yes | OBL |
| 2.*Juncus balticus* (baltic rush) | 50 | Yes | OBL |
| 3.Unknown forbe | 25 | No | NI |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 135 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | 3 | (A) |
| Total Number of Dominant Species Across All Strata: | 4 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 75 | (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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

Mesquite was growing in adjacent area and overhanging marsh. Most diversity of entire project site



### SOIL

Sampling Point: A-61

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 6/2 | | 10YR 5/6 | 10 | C | M | sand | saturated |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | X | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| X | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | 6 |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-62 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): sand ridge | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85158 | Long: 114.45998 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pleuchea sericia* (arroweed) | 1 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 1 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

Dead arroweed not counted



### SOIL

Sampling Point: A-62

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | 97 | 10YR 4/6 | 3 | C | M | sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented sandy redox formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No ___ Depth (inches) ___

Water Table Present? Yes ___ No ___ Depth (inches) ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches) ___

**Wetland Hydrology Present?** Yes No X

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

Remarks:

Dry season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: A-63 |
| Investigator(s): BT, AT | Section, Township, Range: Section 27, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85160 / Long: 114.46013 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? Yes X | No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Evidence of Fire. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Tamarix ramosissima* (salt cedar) | 25 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 25 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:



**SOIL** Sampling Point: A-63

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR 2/2 | | | | | | silty sand | ash and salt concretions |
| 6-18 | 10YR 5/3 | 97 | 10YR 5/6 | 3 | C | M | silty sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline conditions are preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- X Drift Deposits (B3) **(Nonriverine)**
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County | Sampling Date: 09/30/2010 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-64 |
| Investigator(s): BT, ND | Section, Township, Range: Section 31, Township 15S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82820 / Long: 114.48898 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**Old equipment tracks, metal scraps, appears to have been disturbed in the past.**

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 55 | Yes | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 25 | Yes | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 80 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 20 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-3.0 | 10YR 3/3 | 100 | | | | | Fine Sand | |
| 3.0-6.0 | NA | | NA | | | | NA | Metal Scrap |
| 6.0-18.0 | 10YR 6/4 | 100 | | | | | Fine Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | X | Depth (inches) ____ |
| Water Table Present? | Yes | ____ | No | X | Depth (inches) ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | X | Depth (inches) ____ |

**Wetland Hydrology Present?** Yes ____ No x

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County | Sampling Date: 09/30/2010 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-65 |
| Investigator(s): BT, ND | Section, Township, Range: Section 31, Township 15S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82796 / Long: 114.48680 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:
**Cleared salt cedar that has regrown in arrowweed, old equipment tracks are visible. Area burned in the past, ash layer in soil profile.**

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 90 | Yes | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 2 | Yes | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 92 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 8 % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-1.0 | NA | | | | | | Ash Layer | |
| 1.0-3.0 | 10YR 5/3 | | NA | | | | Loam | |
| 3.0-10.0 | 10YR 5/3 | 98 | 10YR 4/6 | 2 | C | M | Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ___ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) ___ |

**Wetland Hydrology Present?** Yes ___ No x

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

Remarks:

Minor cracking of burn area.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County | Sampling Date: 09/30/2010 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-66 |
| Investigator(s): BT, ND | Section, Township, Range: Section 32, Township 15S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82820 / Long: 114.48376 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**Cleared salt cedar that has regrown in arrowweed. Burn area in the past.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 80 | Yes | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 14 | No | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 94 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 20 % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-2.0 | NA | | | | | | Ash Layer | |
| 2.0-18.0 | 7.5YR 5/4 | 97 | 10YR 6/8 | 3 | C | M | Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ___ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) ___ |

**Wetland Hydrology Present?** Yes ___ No x

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

Remarks:

Debris but does not appear flood related.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County | Sampling Date: 09/30/2010 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-67 |
| Investigator(s): BT, ND | Section, Township, Range: Section 32, Township 15S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82798 | Long: 114.48362 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil X , or Hydrology X naturally problematic? Y | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Landscape position and a change in the vegetation community indicate that a wetland marsh begins in the vicinity of this sample point. The delineation was performed during the dry season.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 25 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 25 | | |
| **Herb Stratum** | | | |
| 1. *Arundo donax* (giant reed) | 65 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 65 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-18.0 | 10YR 5/4 | 98 | 10YR 5/8 | 2 | C | M | Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes x No

Remarks:

Landscape position indicates that this is a wetland marsh.
Strongly alkaline soils likely. Soil matrix is not reducing as is typical.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- X Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) ___ |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Heavy layer of dead reeds on ground, difficult to see hydrology indicators. Delineation performed during the dry season.
Landscape position indicates that a wetland marsh that is saturated at some point during the year, begins in the area of this data point.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County | Sampling Date: 09/30/2010 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-68 |
| Investigator(s): BT, ND | Section, Township, Range: Section 32, Township 15S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83225 / Long: 114.48420 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No X

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 85 | Yes | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 5 | No | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 90 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-0.5 | NA | | | | | | Ash Layer | |
| 0.5-18.0 | 10YR 5/3 | | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ___ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes ___ No x

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

Remarks:

Minor cracking likely due to wind action.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County | Sampling Date: 09/30/2010 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-69 |
| Investigator(s): BT, ND | Section, Township, Range: Section 32, Township 15S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83242 / Long: 114.48289 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:
**Area of innundated salt cedar. The soils appear very alkaline, with evidence of surface inundation.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 45 | Yes | FAC |
| 2. *Tamarix ramosissima* (salt cedar) | 35 | Yes | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 80 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 20 | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-4.0" | 10 YR 2/2 | | | | | | loam | salt concentrations |
| 0.4-18.0 | 7.5YR 4/4 | 98 | 7.5YR 5/8 | 2 | | | sand | salt concentrations |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Landscape position indicates that this is an area that is innundated frequently..
Strongly alkaline soils likely. Soil matrix is not reducing as is typical.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | 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) |
| X | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery (C9) |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Woody debris deposited on areas positioned higher in the landscape, indicative of surface innundation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County | Sampling Date: 09/30/2010 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: A-70 |
| Investigator(s): BT, ND | Section, Township, Range: Section 32, Township 15S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83008 / Long: 114.48378 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:
**Marginal upland with evidence of past disturbance.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW+ |
| 2. *Pluchea sericea* (arrowweed) | 15 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 35 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 65 | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-10 | 7.5YR 5/4 | | | | | | Sand | |
| 10-18.0 | 7.5YR 2.5/2 | 98 | 7.5YR 5/8 | 2 | C | M | Sand with clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) ___ |

**Wetland Hydrology Present?** Yes No x

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

Remarks:

Minor cracking likely due to wind action.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-1 |
| Investigator(s): SH, KC | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): none | Slope (%): |
| Subregion (LRR): LRR D | Lat: 32.83477 | Long: 114.46019 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 40 | D | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 40 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. *Phragmites australis* (common reed) | 5 | N | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 5 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | 0 | | |
| % Bare Ground in Herb Stratum 95 | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0 | Salt Crust Surface | | | | | | | |
| 0.0-0.5 | 10YR 6/3 | 100 | | | | | Sand | |
| 0.5-2.0 | 10YR 4/2 | 100 | | | | | Clay | |
| 2.0-18.0 | 10YR 4/3 | 97 | 10YR 3/4 | 3 | C | M | Clay | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Soil Sample

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-2 |
| Investigator(s): SH, KC | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): Flat | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83513 | Long: 114.46091 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation N , Soil N , or Hydrology N significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation N , Soil N , or Hydrology N naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline Soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 85 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 85 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0 | Salt Crust Surface | | | | | | | |
| 0.0-2.0 | 10YR 4/2 | 100 | | | | | Silty loam | |
| 2.0-18.0 | 10YR 5/3 | 85 | 10YR 5/8 | 15 | C | M | Silty loam | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Soil Sample

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-3 |
| Investigator(s): SH, KC | Section, Township, Range: Section 12, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): flat | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83509 | Long: 114.46377 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes X | No |
| Hydric Soil Present? | Yes | X | No | | | |
| Wetland Hydrology Present? | Yes | X | No | | | |

Remarks:
Alkaline soils.

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 40 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 40 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 30 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:
Tamarix has thinned from B-2

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-2.0 | 10YR 3/2 | 100 | | | | | Silt | |
| 2.0-5.0 | 10YR 5/2 | | | | | | Silt | |
| 5.0-18.0 | 10YR 6/3 | 98 | 10YR 5/6 | 2 | | | Silt | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented depleted matrix. Point on small rise. Very marginal soil.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Soil Sample. Salt Crust thin and soft.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-4 |
| Investigator(s): SH, KC | Section, Township, Range: Section 12, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): Old Wash | Local relief (concave, convex, none): Concave | Slope (%): 1 |
| Subregion (LRR): LRR D | Lat: 32.83533 | Long: 114.46483 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 15 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 15 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 40 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. *Phragmites australis* (common reed) | 60 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 60 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-1.0 | Leaf Litter | | | | | | | |
| 1.0-18.0 | 10YR 4/3 | 95 | 10YR 5/8 | 5 | C | M | Silt | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix formation. Marginal soils. Mottles present in swale-type feature.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| X | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| X | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-5 |
| Investigator(s): SH, KC | Section, Township, Range: Section 12, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): marsh | Local relief (concave, convex, none): concave | Slope (%): 1 |
| Subregion (LRR): LRR D | Lat: 32.83624 | Long: 114.46395 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. *Phragmites* (common reed) | 15 | No | FACW |
| 2. *Schoenoplectus acutus* (bulrush) | 85 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 100 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum N % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0 | 10YR 2/1 Muck Surface | | | | | | | |
| 0.0-18.0 | 10YR 2/1 | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| X | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| X | Surface Water (A1) | | Salt Crust (B11) |
| X | High Water Table (A2) | | Biotic Crust (B12) |
| X | Saturation (A3) | | Aquatic Invertebrates (B13) |
| X | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | X | No | | Depth (inches) | 3 in. |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | 0.0-18 |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-6 |
| Investigator(s): SH, KC | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84215 / Long: 114.45729 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | |
| Hydric Soil Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** Yes **X** No |
| Wetland Hydrology Present? | Yes | **X** | No | |

Remarks:

**Alkaline soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 60 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 60 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0 | Salt Crust Surface | | | | | | | |
| 0.0-3.0 | 10YR 4/2 | 100 | | | | | Sand | |
| 3.0-5.0 | 10YR 4/4 | 100 | | | | | Sand | |
| 5.0-9.0 | 10YR 3/3 | 80 | 10YR 3/6 | 20 | | | Clay | |
| 9.0-18.0 | 10YR 4/3 | 85 | 10YR 5/8 | 15 | | | Silty loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: Clay

Depth (inches): 5.0-9.0 inches

**Hydric Soil Present?** Yes X No

Remarks:

Salt concreations in 5.0-6.0 in. Alkaline soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-7 |
| Investigator(s): SH, KC | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84234 | Long: 114.45857 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Alkaline soils have prevented normal hydric soils formation. Landscape position used to delineate wetland point.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 5 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 5 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 70 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-18.0 | 10YR 5/3 | 100 | | | | | Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented sandy redox.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | ___ | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | ___ | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | ___ | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

Dry season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-8 |
| Investigator(s): SH, KC | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84239 / Long: 114.45801 | Datum: WGS84 |
| Soil Map Unit Name: salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Alakaline soils have prevented normal hydric soil formation. Landscape position used to delineate wetland point.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 50 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-18.0 | 10YR 4/3 | 100 | | | | | Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils have prevented sandy redox formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

Dry season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-9 |
| Investigator(s): SH, KC | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): | Slope (%): |
| Subregion (LRR): LRR D | Lat: 32.84242 | Long: 114.45784 Datum: WGS84 |
| Soil Map Unit Name: salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

**Alkaline soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 75 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 75 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 35 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0 | Salt Surface Crust | | | | | | | |
| 0.0-2.0 | 10YR 3/1 | | | | | | Loam | Charcoal component |
| 2.0-18.0 | 10YR 6/3 | 95 | 10YR 5/6 | 5 | C | PL | Silty loam | muttles in lower 6.0 inches of layer |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Salt Concretions. Alkaline soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/13/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-10 |
| Investigator(s): SH, KC | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.84203 | Long: 114.45633 Datum: WGS84 |
| Soil Map Unit Name: salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Alkaline soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 80 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 80 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 20 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0 | Salt Surface Crust | | | | | | | |
| 0.0-3.0 | 10YR 4/2 | | | | | | Sand | |
| 3.0-5.0 | 10YR 3/2 | | | | | | Silt | |
| 5.0-9.0 | 10YR 2/1 | 20 | | | | | Loam | |
| 5.0-9.0 | 10YR 4/3 | 80 | | | | | Loam | |
| 9.0-18.0 | 10YR 4/4 | 90 | 10YR 4/4 | 10 | C | M | Clay Loam | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| X | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-11 |
| Investigator(s): SH, KC | Section, Township, Range: Section 29, Township 15S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83540 / Long: 114.48053 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:
**Alkaline Soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 15 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 15 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 55 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 55 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 30 | % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-5.0 | 10YR 5/3 | 100 | | | | | Sand | |
| 5.0-9.0 | 10YR 5/3 | 90 | 10YR 4/6 | 10 | C | M | Silt | |
| 9.0-18.0 | 10YR 4/3 | 90 | 10YR 3/4 | 10 | C | M | Silt | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Salt concretions in 5.0-9.0 inches. Marginal soil with stronger mottles towards bottom. Alkaline soils preventing depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) ___ |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-12 |
| Investigator(s): SH, KC | Section, Township, Range: Section 29, Township 15 S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83534 | Long: 114.47933 Datum: WGS84 |
| Soil Map Unit Name: salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation Y , Soil Y , or Hydrology Y significantly disturbed? | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation N , Soil N , or Hydrology N naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:
**Tamarix removal graded area with alkaline soils. Disturbed wetland.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 15 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 15 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 55 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 55 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 85 | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-5.0 | 10YR 4/4 | 100 | | | | | Sand | |
| 5.0-10.0 | 2.5Y 4/3 | 97 | 10YR 4/6 | 3 | | | Clay | |
| 10.0-18.0 | 10YR 4/4 | 100 | | | | | Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-13 |
| Investigator(s): SH, KC | Section, Township, Range: Section 29, Township 156, Range 24 East | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83483 / Long: 114.47819 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | |

Remarks:

**Alkaline Soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 100 | D | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 100 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 2 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0 | Organic Salty Crust Surface | | | | | | Sand | |
| 0.0-18.0 | 7.5Y 6/6 | 93 | 7.5YR 4/6 | 7 | C | M | Silt | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline conditions preventing deplted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | ___ | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | ___ | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | ___ | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Marginal

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-14 |
| Investigator(s): SH, KC | Section, Township, Range: Section 29, Township 15 S, Range 24 East | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): concave | Slope (%): 1 |
| Subregion (LRR): LRR D | Lat: 32.83491 / Long: 114.47675 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

**Alkaline soils and heavy salt cedar needles.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 100 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 100 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-2.0 | Undecayed organic matter (*tamarix* needles) | | | | | | | |
| 3.0-4.0 | 10YR 2/2 | | | | | | Silt | |
| 4.0-6.0 | 10YR 5/3 | | | | | | Fine Sand | |
| 6.0-18.0 | 10YR 5/3 | 85 | 10YR 5/6 | 15 | C | M | Fine Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline Soils preventing sandy redox.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| X | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

No surface hydro indicators

Masked by needles.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-15 |
| Investigator(s): SH, KC | Section, Township, Range: Section 29, Township 15S, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): none | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83715 | Long: 114.47764 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Alkaline soils and late season delineation. No visible hydrology indicators at this point.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 15 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 15 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrowweed) | 25 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 25 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 40 % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0.0-18.0 | 10YR 4/3 | 80 | 10YR 5/6 | 20 | C | M | Fine Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing sandy redox.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) ___ |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

No indicators. Slight salt crust. Late season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-16 |
| Investigator(s): SH, KC | Section, Township, Range: Section 29, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83706 | Long: 114.47751 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | | | |
| Hydric Soil Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** No |
| Wetland Hydrology Present? | Yes | **X** | No | | | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 40 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 40 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | Surface Salt Crust |
| 0-3 | 10YR 3/3 | 100 | | | | | | Loam |
| 3-6 | 10YR 5/4 | 40 | 10YR 2/2 | 30 | | | | Clay Loam |
| | | | 10YR 5/6 | 30 | | | | |
| 6-18 | 10YR 4/2 | 50 | 7.5 YR 5/6 | 50 | | | | Clay |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | X | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| X | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| X | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-17 |
| Investigator(s): SH, KC | Section, Township, Range: Section 29, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83825 / Long: 114.47475 | Datum: WGS84 |
| Soil Map Unit Name: Not mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | |
| Hydric Soil Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** Yes **X** No |
| Wetland Hydrology Present? | Yes | **X** | No | |

Remarks:
Marginal Wetland

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 80 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 80 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 20 % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | 10YR 3/1 | 100 | | | | | | Fine Sand |
| 2-18 | 10YR 4/3 | 93 | 10YR 5/8 | 7 | C | M | | Fine Sand |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing sandy redox.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Dry Soils

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-18 |
| Investigator(s): SH, KC | Section, Township, Range: Section 29, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83850 / Long: 114.47226 | Datum: WGS84 |
| Soil Map Unit Name: Holtville clay | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 60 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 60 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 20 | % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 3/3 | 100 | | | | | | Fine Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-19 |
| Investigator(s): SH, KC | Section, Township, Range: Section 29, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83855 / Long: 114.47232 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

**Late season delineation with leaf litter and alkaline soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 40 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 40 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 60 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 60 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 20 % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-4 | 10YR 4/4 | 100 | | | | | | Fine Sand |
| 4-18 | 10YR 4/4 | 90 | 10YR 5/8 | 10 | | | | Sand |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing sandy redox.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Surface covered with leaf litter, late season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-20 |
| Investigator(s): SH, KC | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83880 / Long: 114.46758 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:
Marginal Wetland

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 70 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 3/2 | 100 | | | | | | Sand |
| 5-18 | 10YR 3/2 | 90 | 10YR 6/6 | 10 | C | M | | Sand |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | X | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| X | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Surface covered with leaf litter, late season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-21 |
| Investigator(s): SH, KC | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83788 / Long: 114.47106 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No X

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 10 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 10 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 65 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 65 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 20 % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/4 | 100 | | | | | | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Water Table Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | X | Depth (inches) | ____ |

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/14/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-22 |
| Investigator(s): SH, KC | Section, Township, Range: Section 28, Township 7 South, Range 22 West | |
| Landform (hillslope, terrace, etc.): floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83774 / Long: 114.47108 | Datum: WGS84 |
| Soil Map Unit Name: Not mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 60 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 60 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 40 % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | Surface Salt Crust |
| 0-4 | 10YR 5/3 | | | | | | | Sand |
| 4-18 | 10YR 4/2 | 80 | 10YR 4/4 | 20 | C | M | | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | X | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-23 |
| Investigator(s): SH, KC | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85640 | Long: 114.45634 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No X

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 50 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 60 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 60 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 40 % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | 100 | | | | | | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Water Table Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | X | Depth (inches) | ____ |

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-24 |
| Investigator(s): SH, KC | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85659 | Long: 114.45726 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Late season delineation with alkaline soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 85 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 85 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 3/3 | 85 | 10YR 5/6 | 15 | C | M | Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline Soils preventing sandy redox.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) ___ |

**Wetland Hydrology Present?** Yes ___ No X

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

Remarks:

No indicators, late season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-25 |
| Investigator(s): SH, KC | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85677 | Long: 114.45725 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No X

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 40 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 40 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Atriplex lentiformes* (quail bush) | 10 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 10 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/3 | 100 | | | | | | Fine Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ___ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes ___ No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-26 |
| Investigator(s): SH, KC | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85671 / Long: 114.45787 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Alkaline soils and a dry season delineation.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 45 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 45 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 30 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 30 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum  % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/3 | 99 | 10YR 5/8 | 1 | C | RC | | Fine Sand |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing sandy redox. Faint concentrations in last 8 inches.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | | | |
|---|---|---|---|---|---|
| | 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) | | Thin Muck Surface (C7) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) | | Crayfish Burrows (C8) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) | | Saturation Visible on Aerial Imagery (C9) |
| | Water-Stained Leaves (B9) | | | | Shallow Aquitard (D3) |
| | | | | | FAC-Neutral Test (D5) |

Secondary Indicators (2 or more required)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

Dry season delineation.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-27 |
| Investigator(s): SH, KC | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85671 / Long: 114.45787 | Datum: WGS84 |
| Soil Map Unit Name: salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | X | No | |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes X No

Remarks:

**Alkaline soils and a late season delineation.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 100 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 100 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum  % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-1 | | | | | | | | Leaf Litter |
| 1-3 | 10YR 7/3 | | | | | | | Silt |
| 3-18 | 10 YR 4/3 | 95 | 7.5 YR 4/6 | 5 | C | RC / M | | Silty Clay |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes No X

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

Remarks:

No hydrology indicators. Late season delineation and large amounts of salt cedar needle litter.

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-28 |
| Investigator(s): SH, KC | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.85665 / Long: 114.45828 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 35 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 35 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Atriplex lentiformes* | 10 | Yes | FACW |
| 2. *Pluchea sericea* (arrow weed) | 10 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 20 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10 YR 5/3 | 100 | | | | | | Sand |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

Rocky later 0-4"

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Water Table Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | X | Depth (inches) | ____ |

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-29 |
| Investigator(s): SH, KC | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86206 / Long: 114.46066 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids. | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:
**Alkaline Soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 35 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 35 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Atriplex lentiformes* | 5 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 5 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 60 | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | 10 YR 3/1 | | | | | | | Silt |
| 2-4 | 10YR 4/2 | | | | | | | Sand |
| 5-7 | 10YR 3/4 | | | | | | | Loam |
| 7-10 | 10YR 3/2 | | | | | | | Clay |
| 10-18 | 10YR 4/3 | 80 | 10 YR 4/6 | 20 | | | | Silt |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix. Charcoal layer 5-7"

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Topographically low area.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-30 |
| Investigator(s): SH, KC | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86022 | Long: 114.46329 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 20 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 70 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | Organic Matter Leaf Litter |
| 0-3 | 10YR 5/3 | | | | | | Sand | |
| 3-18 | 10YR 5/3 | 95 | 10YR 5/6 | 5 | C | M | Silt | Layered Blocky Structure |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Very large cracks.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-31 |
| Investigator(s): SH, KC | Section, Township, Range: Section 6, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86004 | Long: 114.46322 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**Higher landscape position than surrounding points.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 50 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10 YR 5/3 | 100 | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Water Table Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | X | Depth (inches) | ____ |

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperail County CA | Sampling Date: 11/16/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-32 |
| Investigator(s): SH, KC | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87170 / Long: 114.46993 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 70 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-4 | 10 YR 4/2 | 100 | | | | | Sand | |
| 4-18 | 10YR 4/2 | 99 | 10 YR 4/4 | 1 | C | M | Loam | Slightly Moist |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

Marginal Soil, small discontinous depression.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Water Table Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | X | Depth (inches) | ____ |

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

Dredge material, dry bleached mussell shells.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/16/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-33 |
| Investigator(s): SH, KC | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): borrow pit | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87110 | Long: 114.46955 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

**Borrow pit with alkaline soils.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Prosopsis glandulosa* (Honey Mesquite) | 1 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 1 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 15 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 15 | | |
| **Herb Stratum** | | | |
| 1. *Phragmites australis* (Common reed) | 95 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 95 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10 YR 6/3 | 98 | 10 YR 5/8 | 2 | C | M | Sand | Wet Soil |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing sandy redox.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | X | Aquatic Invertebrates (B13) |
| X | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | X | No | | Depth (inches) | Surf. |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | Surf. |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Open water within 10 feet of sample point.

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperail County CA | Sampling Date: 11/16/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-34 |
| Investigator(s): SH, KC | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Edge of Borrow pit | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87123 / Long: 114.46952 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | X | No | |

**Is the Sampled Area within a Wetland?** Yes No X

Remarks:

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 55 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 55 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 20 % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10 YR 5/4 | 100 | | | | | Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ___ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Water Table Present? | Yes | ___ | No | X | Depth (inches) | ___ |
| Saturation Present? (includes capillary fringe) | Yes | ___ | No | X | Depth (inches) | ___ |

**Wetland Hydrology Present?** Yes X No ___

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

Remarks:

Invertebrates could be from dredge material, unknown.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/16/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-35 |
| Investigator(s): SH, KC | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Borrow Pit | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87194 | Long: 114.46995 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 10 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 10 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 20 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 20 | | |
| **Herb Stratum** | | | |
| 1. *Phragmites australis* (Common Reed) | 90 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 90 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | Salt Crust |
| 0-18 | 10 YR 5/4 | 85 | 10 YR 4/6 | 15 | C | M | Sand | Moist Soil |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline Soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/16/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-36 |
| Investigator(s): SH, KC | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87184 | Long: 114.46996 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No X

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 10 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 10 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 60 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 60 | | |
| **Herb Stratum** | | | |
| 1. *Phragmites australis* (Common Reed) | 10 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 10 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 30 % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 7.5 YR 4/4 | | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Water Table Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | X | Depth (inches) | ____ |

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-37 |
| Investigator(s): SH, KC | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87132 | Long: 114.47027 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | |
| Hydric Soil Present? | Yes | | No | X |
| Wetland Hydrology Present? | Yes | | No | X |

**Is the Sampled Area within a Wetland?** Yes No **X**

Remarks:

**Small depression that appears to catch surface runoff. No hydric soil or redoxomorphic features and no wetland hydrology.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 40 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. *Phragmites australis* (reed) | 90 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 90 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-1/2 | | | | | | | | Organic Matter |
| 1/2-18 | 10YR 6/4 | | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | ____ | Depth (inches) | ____ |
| Water Table Present? | Yes | ____ | No | ____ | Depth (inches) | ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | ____ | Depth (inches) | ____ |

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-38 |
| Investigator(s): SH, KC | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87042 | Long: 114.47039 Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Phragmites / Open Water Wetland**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. *Phragmites australis* (reed) | 90 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 90 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 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: 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | 10YR 2/1 | | | | | | Silt | High In Organic Matter |
| 2-18 | 10YR 5/3 | 50 | 5YR 3/4 | 50 | C | M | Sand | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline conditions preventing sandy redox.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| X | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | X | No | | Depth (inches) | Surface |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-39 |
| Investigator(s): SH, KC | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Convex | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.87048 / Long: 114.47049 | Datum: WGS84 |
| Soil Map Unit Name: Not Mappped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 50 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 50 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 50 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/4 | | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Water Table Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | X | Depth (inches) | ____ |

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-40 |
| Investigator(s): SH, KC | Section, Township, Range: Section 17, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86870 / Long: 114.46906 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 15 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 15 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 70 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/3 | 80 | 10YR 5/6 | 20 | C | M | Silty loam | Moist Soil |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| X | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| X | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Imperial County CA | Sampling Date: 11/15/09 |
| Applicant/Owner: Bureau of Reclamation | State: CA | Sampling Point: B-41 |
| Investigator(s): SH, KC | Section, Township, Range: Section 16, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Swale | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86596 / Long: 114.46752 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 20 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 20 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 70 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum 15 | % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-1 | 10YR 5/3 | | | | | | Silt loam | |
| 1-3 | 10YR 3/3 | 90 | 10YR 5/6 | 10 | C | M | Silt loam | |
| 3-7 | 7.5YR 4/3 | 90 | 10YR 4/6 | 10 | C | M | Silt loam | |
| 7-18 | 10YR 4/3 | | | | | | Silt loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soil is preventing depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| X | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| X | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/16/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-42 |
| Investigator(s): SH, KC | Section, Township, Range: Section 14, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Marsh | Local relief (concave, convex, none): Concave | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82533 | Long: 114.48447 Datum: WGS84 |
| Soil Map Unit Name: Indio Silt Loam | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation Y , Soil Y , or Hydrology Y significantly disturbed? | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | **X** | No | **Is the Sampled Area within a Wetland?** | Yes | **X** | No |
| Hydric Soil Present? | Yes | **X** | No | | | | |
| Wetland Hydrology Present? | Yes | **X** | No | | | | |

Remarks:

**Boat launch area.**

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. *Phragmites australis* (reed) | 5 | Yes | FACW |
| 2. *Schoenoplectus acutus* (bulrush) | 5 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 10 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 90 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

Open water on one side.

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-1 | 10YR 4/3 | 10 | | | | | Silt | |
| 1-3 | 10YR 2/1 | 60 | 10YR 3/3 | 30 | C | M | Silt | |
| | | | 7.5 YR 4/6 | 10 | C | M | Silt | |
| 4-18 | 10YR 3/4 | | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | |
|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) |
| | Black Histic (A3) | | Loamy Mucky Material (F1) |
| | Hydrogen Sulfide (A4) | | Loamy Gleyed Matrix (F2) |
| | Stratified Layers (A5) **(LRR C)** | X | Depleted Matrix (F3) |
| | 1 cm Muck (A9) **(LRR D)** | | Redox Dark Surface (F6) |
| | Depleted Below Dark Surface (A11) | | Depleted Dark Surface (F7) |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) |
| | Sandy Gleyed Matrix (S4) | | |

**Indicators for Problematic Hydric Soils[3]:**

| | |
|---|---|
| | 1 cm Muck (A9) **(LRR C)** |
| | 2 cm Muck (A 10) **(LRR B)** |
| | Reduced Vertic (F18) |
| | Red Parent Material (TF2) |
| | Other (Explain in Remarks) |

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| X | Surface Water (A1) | | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | X | Aquatic Invertebrates (B13) |
| X | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| X | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| X | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | X | No | | Depth (inches) | |
| Water Table Present? | Yes | | No | | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-43 |
| Investigator(s): SH, KC | Section, Township, Range: Section 14, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.82650 / Long: 114.47815 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

**Late season delineation in alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 75 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 75 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 15 % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

Prevalence Index is ≤ 3.0[1]

Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR 3/1 | 10 | | | | | Loam | |
| 3-18 | 10YR 4/4 | 85 | 10YR 5/6 | 15 | C | M | Loam | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline conditions preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| X | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| X | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Late season delineation with poor hydrology indicators.

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-44 |
| Investigator(s): SH, KC | Section, Township, Range: Section 12, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83051 / Long: 114.46665 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Upland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

**Late season delineation in alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 60 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 60 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/4 | 95 | 7.5YR 5/6 | 5 | C | M | Silt | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Material (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A 10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches) ___ | | |
| Water Table Present? | Yes ___ | No X | Depth (inches) ___ | | |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches) ___ | | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-45 |
| Investigator(s): SH, KC | Section, Township, Range: Section 7, Township 7 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.83278 / Long: 114.46180 | Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Hydric Soil Present? | Yes | X | No | | | | |
| Wetland Hydrology Present? | Yes | X | No | | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 60 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 60 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | (A) | | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- X Dominance Test is >50%
- Prevalence Index is ≤ 3.0[1]
- Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-8 | 10YR 4/3 | 95 | 10YR 4/6 | 5 | | | Sand | |
| 8-12 | 10YR 4/4 | | | | | | Sand | Moist |
| 12-18 | 10YR 5/2 | 80 | 5YR 3/6 | 20 | | | Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing the formation of a depleted matrix.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| X | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| X | Shallow Aquitard (D3) |
| X | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-46 |
| Investigator(s): SH, KC | Section, Township, Range: Section 16, Township 15 South, Range 24 East | |
| Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86870 / Long: 114.46576 | Datum: WGS84 |
| Soil Map Unit Name: Not Mapped | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X / No | (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? | Are "Normal Circumstances" present? Yes X No | |
| Are Vegetation , Soil , or Hydrology naturally problematic? | (If needed, explain any answers in Remarks.) | |

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes **X** | No | |
| Hydric Soil Present? | Yes | No **X** | **Is the Sampled Area within a Wetland?** Yes No **X** |
| Wetland Hydrology Present? | Yes | No **X** | |

Remarks:

**The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 15 | Yes | FACW+ |
| 2. *Populus fremontii* (Cottonwood) | 30 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| Total Cover: | 45 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 40 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 20 % 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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 5/3 | 100 | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) **(LRR C)**
- ____ 1 cm Muck (A9) **(LRR D)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Material (F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

- ____ 1 cm Muck (A9) **(LRR C)**
- ____ 2 cm Muck (A 10) **(LRR B)**
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) **(Nonriverine)**
- ____ Sediment Deposits (B2) **(Nonriverine)**
- ____ Drift Deposits (B3) **(Nonriverine)**
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C6)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) **(Riverine)**
- ____ Sediment Deposits (B2) **(Riverine)**
- ____ Drift Deposits (B3) **(Riverine)**
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Thin Muck Surface (C7)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Water Table Present? | Yes | ____ | No | X | Depth (inches) | ____ |
| Saturation Present? (includes capillary fringe) | Yes | ____ | No | X | Depth (inches) | ____ |

**Wetland Hydrology Present?** Yes ____ No X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

| | | |
|---|---|---|
| Project/Site: Laguna Wetland Delineation | City/County: Yuma County AZ | Sampling Date: 11/17/09 |
| Applicant/Owner: Bureau of Reclamation | State: AZ | Sampling Point: B-47 |
| Investigator(s): SH, KC | Section, Township, Range: Section 31, Township 6 South, Range 21 West | |
| Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 0 |
| Subregion (LRR): LRR D | Lat: 32.86713 | Long: 114.46092 Datum: WGS84 |
| Soil Map Unit Name: Salorthids | NWI classification: Freshwater Scrub Wetland | |
| Are climatic/hydrologic conditions on the site typical for this time of year? | Yes X | No (If no, please explain in Remarks.) |
| Are Vegetation , Soil , or Hydrology significantly disturbed? N | Are "Normal Circumstances" present? Yes No X | |
| Are Vegetation , Soil , or Hydrology naturally problematic? N | (If needed, explain any answers in Remarks.) | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | X | No | | | |
| Hydric Soil Present? | Yes | X | No | **Is the Sampled Area within a Wetland?** | Yes | X | No |
| Wetland Hydrology Present? | Yes | X | No | | | |

Remarks:

**Alkaline soils. The site is located in the historic floodplain of the Colorado River. However, since the construction of Imperial Dam the ecosystem lacks significant spring flooding. The vegetation community has naturalized to the new hydrologic regime.**

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute %Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1. *Tamarix ramosissima* (salt cedar) | 15 | Yes | FACW+ |
| 2. *Prosopsis glandulosa* | 10 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| Total Cover: | 25 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. *Pluchea sericea* (arrow weed) | 10 | Yes | FAC |
| 2. *Allenrolfea occidentalis* | 5 | No | FACW |
| 3. *Atriplex lentiformes* | 15 | Yes | FACW |
| 4. | | | |
| 5. | | | |
| Total Cover: | 30 | | |
| **Herb Stratum** | | | |
| 1. *Phragmites australis* | 70 | Yes | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 70 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |
| % Bare Ground in Herb Stratum | % 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: | 5 | (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 80 | (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: | | (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

| | |
|---|---|
| X | Dominance Test is >50% |
| | Prevalence Index is ≤ 3.0[1] |
| | Morphological Adaptaions[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.

**Hydrophytic Vegetation Present?** Yes X No

Remarks:

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR 4/2 | 100 | | | | | Sand | |
| 3-18 | 10YR 4/3 | 73 | 10YR 4/2 | 23 | C | M | Clay | Moist Soil |
| | | | 10YR 5/8 | 4 | C | M | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C= Concentration, D= Depletion, RM= Reduced Matrix. [2]Location: PL= Pore Lining, RC= Root Channel, M= Matrix.

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

| | | | | | |
|---|---|---|---|---|---|
| | Histosol (A1) | | Sandy Redox (S5) | | 1 cm Muck (A9) **(LRR C)** |
| | Histic Epipedon (A2) | | Stripped Matrix (S6) | | 2 cm Muck (A 10) **(LRR B)** |
| | Black Histic (A3) | | Loamy Mucky Material (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 Dark Surface (A11) | | Depleted Dark Surface (F7) | | |
| | Thick Dark Surface (A12) | | Redox Depressions (F8) | | |
| | Sandy Mucky Mineral (S1) | | Vernal Pools (F9) | | |
| | Sandy Gleyed Matrix (S4) | | | | |

**Indicators for Problematic Hydric Soils[3]:**

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type:

Depth (inches):

**Hydric Soil Present?** Yes X No

Remarks:

Alkaline soils preventing depleted matrix formation.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

| | | | |
|---|---|---|---|
| | Surface Water (A1) | X | Salt Crust (B11) |
| | High Water Table (A2) | | Biotic Crust (B12) |
| | Saturation (A3) | | Aquatic Invertebrates (B13) |
| | Water Marks (B1) **(Nonriverine)** | | Hydrogen Sulfide Odor (C1) |
| | Sediment Deposits (B2) **(Nonriverine)** | | Oxidized Rhizospheres along Living Roots (C3) |
| | Drift Deposits (B3) **(Nonriverine)** | | Presence of Reduced Iron (C4) |
| | Surface Soil Cracks (B6) | | Recent Iron Reduction in Plowed Soils (C6) |
| | Inundation Visible on Aerial Imagery (B7) | | Other (Explain in Remarks) |
| | Water-Stained Leaves (B9) | | |

Secondary Indicators (2 or more required)

| | |
|---|---|
| | Water Marks (B1) **(Riverine)** |
| | Sediment Deposits (B2) **(Riverine)** |
| | Drift Deposits (B3) **(Riverine)** |
| | Drainage Patterns (B10) |
| | Dry-Season Water Table (C2) |
| | Thin Muck Surface (C7) |
| | Crayfish Burrows (C8) |
| | Saturation Visible on Aerial Imagery (C9) |
| | Shallow Aquitard (D3) |
| | FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | | | |
|---|---|---|---|---|---|---|
| Surface Water Present? | Yes | | No | X | Depth (inches) | |
| Water Table Present? | Yes | | No | X | Depth (inches) | |
| Saturation Present? (includes capillary fringe) | Yes | | No | X | Depth (inches) | |

**Wetland Hydrology Present?** Yes X No

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

Remarks:

Wetland appears to be drying out.