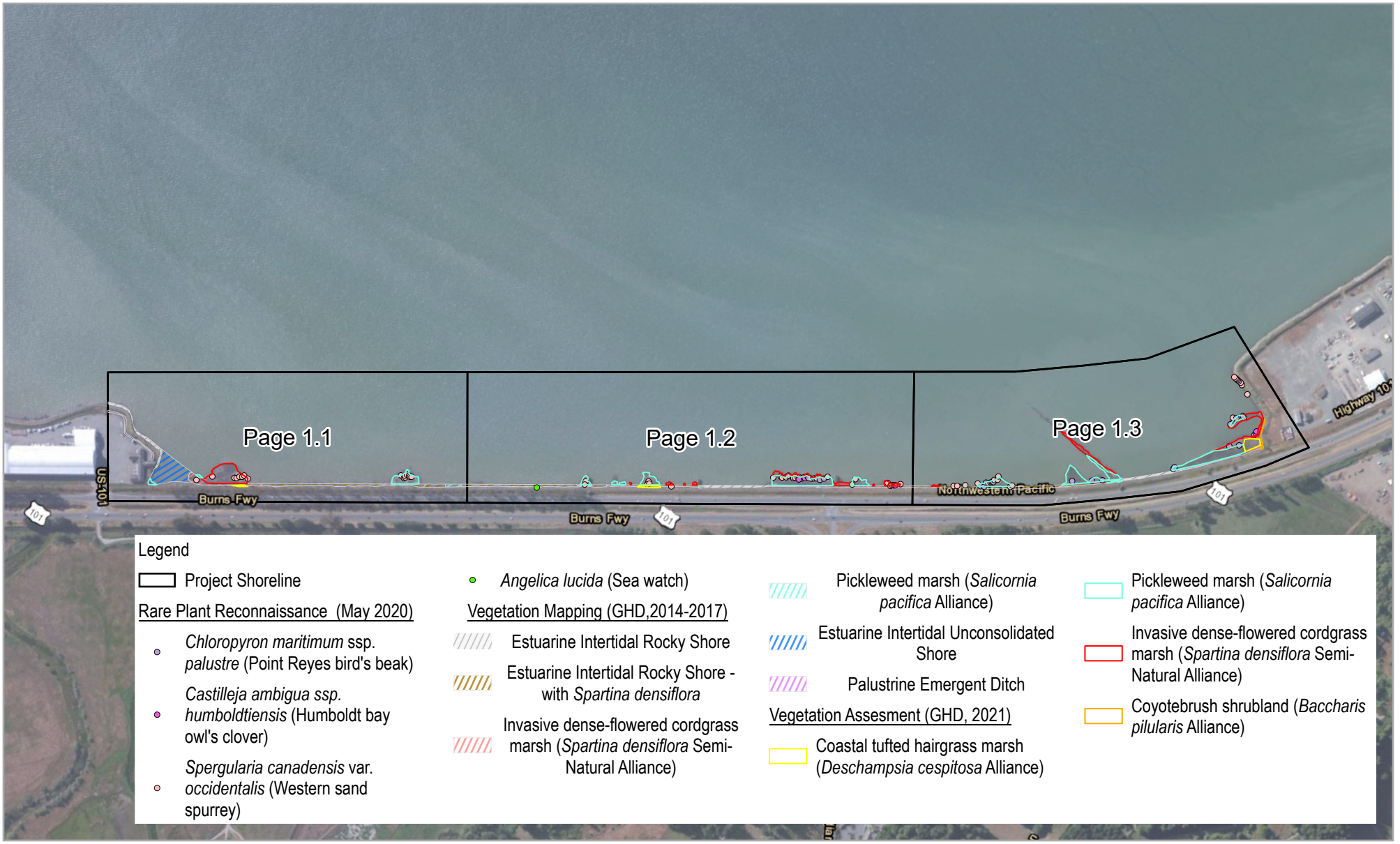

Legend

Project Shoreline

Rare Plant Reconnaissance (May 2020)

- *Chloropyron maritimum* ssp. *palustre* (Point Reyes bird's beak)
- *Castilleja ambigua ssp. humboldtiensis* (Humboldt bay owl's clover)
- *Spergularia canadensis* var. *occidentalis* (Western sand spurrey)
- *Angelica lucida* (Sea watch)

Vegetation Mapping (GHD,2014-2017)

- Estuarine Intertidal Rocky Shore
- Estuarine Intertidal Rocky Shore - with *Spartina densiflora*
- Invasive dense-flowered cordgrass marsh (*Spartina densiflora* Semi-Natural Alliance)
- Pickleweed marsh (*Salicornia pacifica* Alliance)
- Estuarine Intertidal Unconsolidated Shore
- Palustrine Emergent Ditch

Vegetation Assesment (GHD, 2021)

- Coastal tufted hairgrass marsh (*Deschampsia cespitosa* Alliance)
- Pickleweed marsh (*Salicornia pacifica* Alliance)
- Invasive dense-flowered cordgrass marsh (*Spartina densiflora* Semi-Natural Alliance)
- Coyotebrush shrubland (*Baccharis pilularis* Alliance)

Paper Size ANSI A

0 200 400 600 800

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Humboldt County Department of Public Works
Humboldt Bay Natural Shoreline Infrastructure

Vegetation Mapping
Project Shoreline Overview

Project No. **11214987**
Revision No. **-**
Date **June 2021**

FIGURE 1

\\ACV-SVR-001\Projects$
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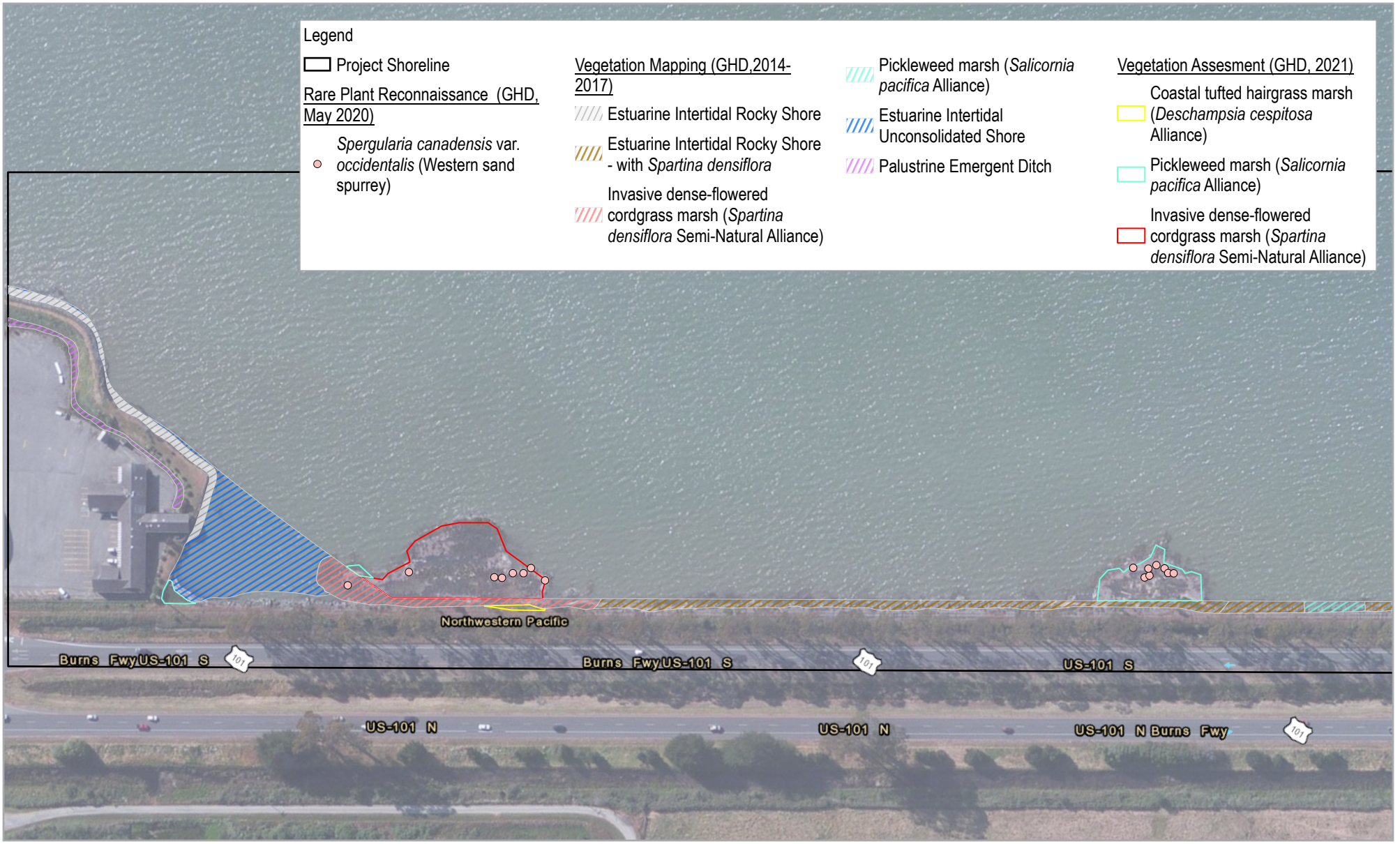

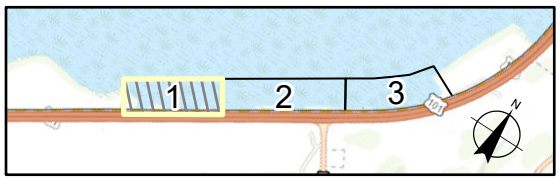

Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Humboldt County Department of Public Works
Humboldt Bay Natural Shoreline Infrastructure

Project No. **11214987**
Revision No. **-**
Date **June 2021**

Vegetation Mapping

FIGURE 1.1

\\ACV-SVR-001\Projects$
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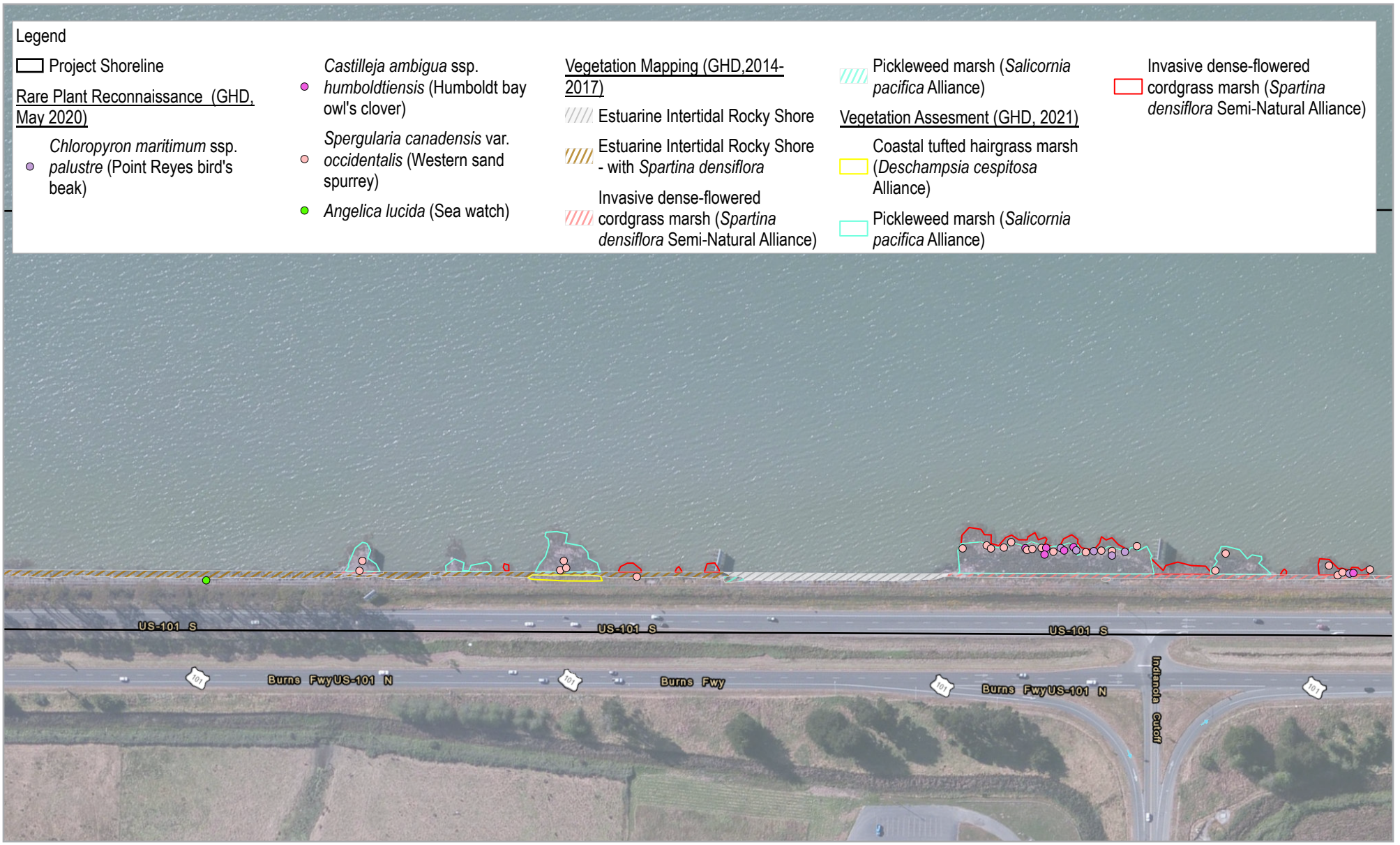
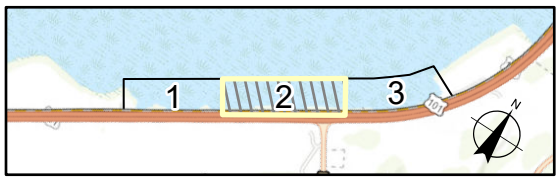




Paper Size ANSI A

0 100 200 300

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

GHD

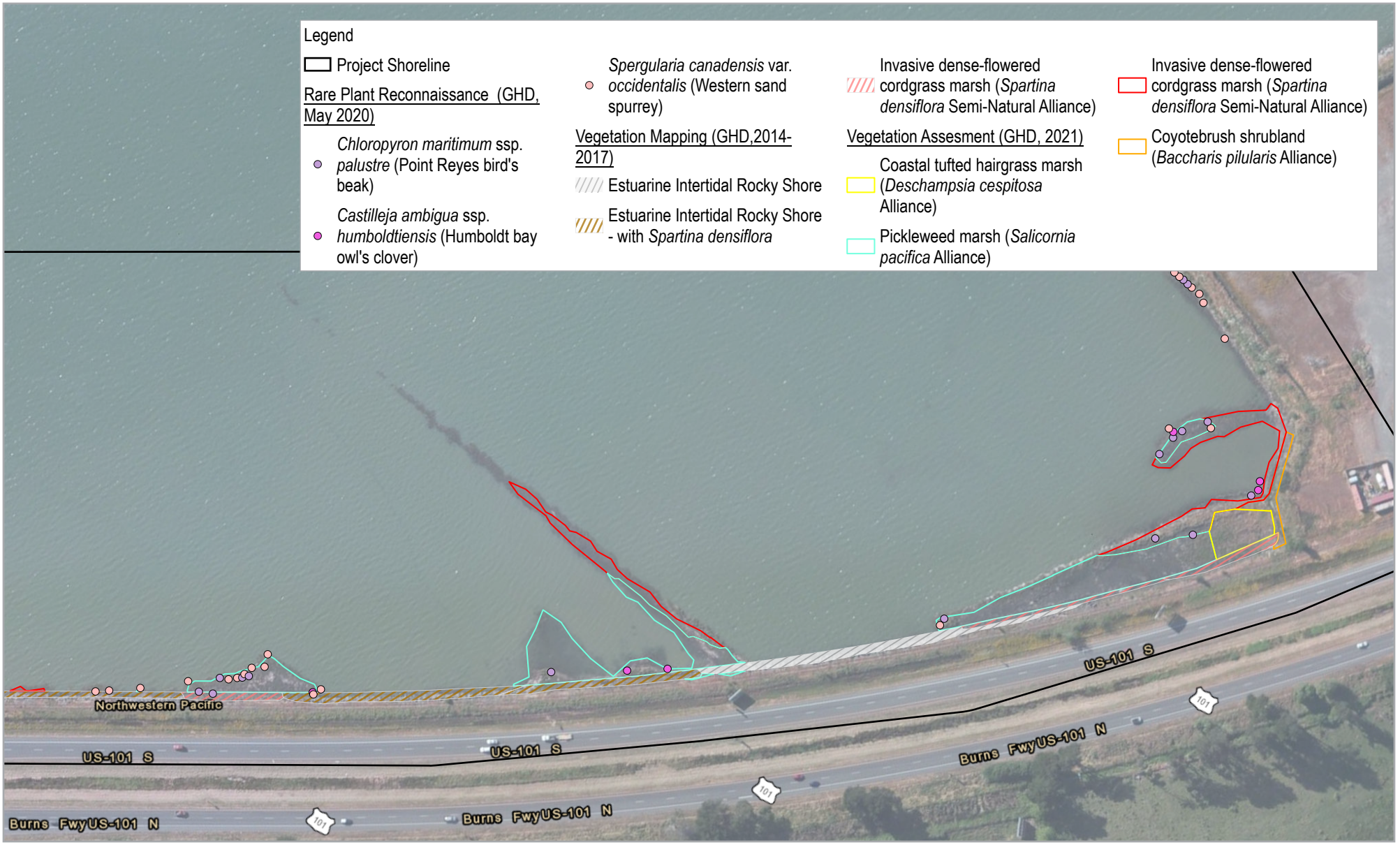
Humboldt County Department of Public Works
Humboldt Bay Natural Shoreline Infrastructure

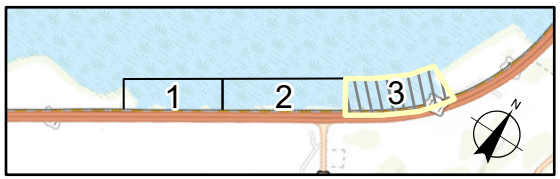
Project No. **11214987**
Revision No. **-**
Date **June 2021**

Vegetation Mapping

FIGURE 1.2

\\ACV-SVR-001\Projects$
\561\11214987\GIS\Maps\Deliverables\Vegetation_Mapping\11214987_Vegetation_Mapping\11214987_Vegetation_Mapping_V2.aprx
Print date: 18 Jun 2021 - 08:53





Paper Size ANSI A

0 100 200

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Humboldt County Department of Public Works
Humboldt Bay Natural Shoreline Infrastructure

Project No. **11214987**
Revision No. **-**
Date **June 2021**

Vegetation Mapping

FIGURE 1.3

\\ACV-SVR-001\Projects$
\561\11214987\GIS\Maps\Deliverables\Vegetation_Mapping\11214987_Vegetation_Mapping\11214987_Vegetation_Mapping_V2.aprx
Print date: 18 Jun 2021 - 08:53

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance Association

I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION — circle: Relevé or (RA)

Database #:	Date:	Name of recorder: Chelsey McDonald
NSIP001	3/30/21	Other surveyors:
	UID:	Location Name: Bracut Fringe Marsh

GPS name: Arrow — For Relevé only: Bearing°, left axis at ID point ____ of Long / Short side

UTME ____ UTMN ____ Zone: 11 NAD83 GPS error: ft./ m./ PDOP ____

Decimal degrees: LAT ____ . ____ LONG ____ . ____

GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) ____ bearing ° ____ inclination ° ____

and record: Base point ID ____ Projected UTMs: UTME ____ UTMN ____

Camera Name: iphone Cardinal photos at ID point: NESW 0942

Other photos:

Stand Size (acres): (<1,) 1-5, >5 | Plot Area (m²): 100 / ____ | Plot Dimensions ____ x ____ m | RA Radius ____ m

Exposure, Actual °: ____ NE (NW) SE SW Flat Variable | Steepness, Actual °: ____ 0° (1-5°) >5-25° >25

Topography: Macro: top upper mid (lower) bottom | Micro: convex flat concave (undulating)

Geology code: ____ Soil Texture code: Silt | Upland or (Wetland/Riparian) (circle one)

% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)

H_20: 2 BA Stems: 50 Litter: 30 Bedrock: - Boulder: . Stone: - Cobble: - Gravel: - Fines: 18 =100%

% Current year bioturbation ____ Past bioturbation present? Yes / (No) | % Hoof punch ____

Fire evidence: Yes / (No) (circle one) If yes, describe in Site history section, including date of fire, if known.

Site history, stand age, comments: Fringe saltmarsh just north of Bracut industrial area. Spergularia canadensis var. occidentalis previously observed in area in summer 2020 recon. Low marsh with thick wrackline in center of stand (dry eelgrass & spartina wrack). Patches of pickleweed & bare mudflat. Undercut erosive banks observed on N. & S. side of vegetated peninsula.

Disturbance code / Intensity (L,M,H): ____/____ ____/____ ____/____ ____/____ ____/____ "Other" ____/____

II. HABITAT DESCRIPTION

Tree DBH : T1 (<1" dbh), T2 (1-6" dbh), T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover)

Shrub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead)

Herbaceous: H1 (<12" plant ht.) (H2) (>12" ht.)

Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)

Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)

III. INTERPRETATION OF STAND

Field-assessed vegetation Alliance name: Spartina densiflora

Field-assessed Association name (optional): ____

Adjacent Alliances/direction: Eucalyptus / E, mudflat / W

Confidence in Alliance identification: L (M) H Explain: Invaded with many native species

Phenology (E,P,L): Herb E Shrub ____ Tree ____ Other identification or mapping information:

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

SPECIES SHEET

Database #: NSIPCC1

IV. VEGETATION DESCRIPTION

% NonVasc cover: 2 **Total % Vasc Veg cover:** ~70

% Cover - **Conifer tree / Hardwood tree:** —/— **Regenerating Tree:** — **Shrub:** — **Herbaceous:** 70

Height Class - Conifer tree / Hardwood tree: ____/____ **Regenerating Tree:** ____ **Shrub:** ____ **Herbaceous:** 1

Height classes: 1=<1/2m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10=>50m

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

Stratum	Species	% cover	C	Final species determination
H	Spartina densiflora	40		
	Silicornia pacifica	25		
	Triglochin maritima	<1		
	Algae	2		
	Distichlis spicata	3		
	Parapholis incurva	<1		
	*Too early in season to observe rare annuals			

Unusual species: _____

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance Association

I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION — circle: Relevé or (RA)

Database #:	Date:	Name of recorder: Kelsey McDonald
NSIP002	3/30/21	Other surveyors:
	UID:	Location Name: Central Biscuit - Brainard Marsh

GPS name: Arrow — For Relevé only: Bearing°, left axis at ID point____ of Long / Short side

UTME ___ UTMN ___ Zone: 11 NAD83 GPS error: ft./ m./ PDOP ____

Decimal degrees: LAT ___ . ___ LONG ___ . ___

GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) ____ bearing ° ____ inclination ° ____

and record: Base point ID _____ Projected UTMs: UTME ___ UTMN ___

Camera Name: iphone Cardinal photos at ID point: NESW1034

Other photos:

Stand Size (acres): <1, 1-5, >5 | Plot Area (m²): 100 / _____ | Plot Dimensions ____ x ____ m | RA Radius entire stand ____ m

Exposure, Actual °: _____ NE (NW) SE SW Flat Variable | Steepness, Actual °: _____ 0° (1-5°) >5-25° >25

Topography: Macro: top upper mid (lower) bottom | Micro: convex flat concave (undulating)

Geology code: _____ Soil Texture code: _____ | Upland or (Wetland/Riparian) (circle one)

% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)

H2O: 5 BA Stems: 40 Litter: 22 Bedrock: Boulder: Stone: Cobble: Gravel: | Fines: 32 =100%

% Current year bioturbation _____ Past bioturbation present? Yes / No | % Hoof punch _____

Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.

Site history, stand age, comments: Low marsh peninsula w/ ~ 50/50 relative dominance of pickleweed & spartina. ~20% bare mud w/ponding water. Thick wrackline along riprap. Patchy pickleweed & Spartina along riprap & rail prism. Vegetative annual Spergularia sp. just starting to come up.

Disturbance code / Intensity (L,M,H): ___/___ ___/___ ___/___ ___/___ ___/___ "Other" _____/___

II. HABITAT DESCRIPTION

Tree DBH : T1 (<1" dbh), T2 (1-6" dbh), T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover)

Shrub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead)

Herbaceous: H1 (<12" plant ht.), H2 (>12" ht.)

Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)

Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)

III. INTERPRETATION OF STAND

Field-assessed vegetation Alliance name: Pickleweed Alliance

Field-assessed Association name (optional): _____

Adjacent Alliances/direction: _____/_____, _____/_____

Confidence in Alliance identification: L (M) (H) Explain: _____

Phenology (E,P,L): Herb E Shrub ___ Tree ___ Other identification or mapping information:

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

SPECIES SHEET

Database #: NSLP002

IV. VEGETATION DESCRIPTION

% NonVasc cover: 8 Total % Vasc Veg cover: 65

% Cover - Conifer tree / Hardwood tree: — / — Regenerating Tree: — Shrub: — Herbaceous: 65

Height Class - Conifer tree / Hardwood tree: — / — Regenerating Tree: — Shrub: — Herbaceous: 1

Height classes: 1=<1/2m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10=>50m

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

Stratum	Species	% cover	C	Final species determination
H	Salicornia pacifica	30		
	Spartina densiflora	25		
	Spergularia sp.	2		- Spergularia occidentalis/marina
	Triglochin maritima	<1		
	Distichlis spicata	2		(mostly higher elev)
	Algae sp.	5		

Unusual species: Spergularia occidentalis var. canadensis previously observed at this site (summer 2020)

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance Association

I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION circle: Relevé or (RA)

Database #:	Date:	Name of recorder: Kelsey McDonald
NSIPCC03	3/31/21	Other surveyors:
	UID:	Location Name: Bracut to Brainard Marsh

GPS name: Arrow For Relevé only: Bearing°, left axis at ID point____ of Long / Short side

UTME ___ UTMN ___ Zone: 11 NAD83 GPS error: ft./ m./ PDOP ____

Decimal degrees: LAT ___ . ___ LONG ___ . ___

GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) ____ bearing ° ____ inclination ° ____

and record: Base point ID ____ Projected UTMs: UTME ___ UTMN ___

Camera Name: iphone Cardinal photos at ID point: NESW 1236

Other photos:

Stand Size (acres): (<1,) 1-5, >5 | Plot Area (m²): 100 / ____ | Plot Dimensions ____ x ____ m | RA Radius entire marsh m

Exposure, Actual °: ____ NE NW SE SW (Flat) (Variable) | Steepness, Actual °: ____ 0° (1-5°) >5-25° >25

Topography: Macro: top upper mid (lower) bottom | Micro: convex flat concave (undulating)

Geology code: ____ Soil Texture code: ____ | Upland or (Wetland/Riparian) (circle one)

% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)

H_2O: 5 BA Stems: 40 Litter: 15 Bedrock: Boulder: Stone: Cobble: | Gravel: | Fines: 38 =100%

% Current year bioturbation ____ Past bioturbation present? Yes / No | % Hoof punch ____

Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.

Site history, stand age, comments: Patch of 99% native saltmarsh in higher elevation center fades to ~50%/50% relative Spartina dominance along eastern mudflat channels and ~80% rel. dominance of spartina along (small) eroding fingers to west/northwest. Classifying entire saltmarsh patch south west of billboard.

Disturbance code / Intensity (L,M,H): ___/___ ___/___ ___/___ ___/___ ___/___ "Other" ____/___

II. HABITAT DESCRIPTION

Tree DBH : T1 (<1" dbh), T2 (1-6" dbh), T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover)

Shrub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead)

Herbaceous: H1 (<12" plant ht.), H2 (>12" ht.)

Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)

Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)

III. INTERPRETATION OF STAND

Field-assessed vegetation Alliance name: Pickleweed marsh

Field-assessed Association name (optional): ____

Adjacent Alliances/direction: ____/____, ____/____

Confidence in Alliance identification: L M (H) Explain: ____

Phenology (E,P,L): Herb ___ Shrub ___ Tree ___ Other identification or mapping information:

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

SPECIES SHEET

Database #: NSIP003

IV. VEGETATION DESCRIPTION

% NonVasc cover: 5 Total % Vasc Veg cover: 75 ☐

% Cover - Conifer tree / Hardwood tree: ____/____ Regenerating Tree: ____ Shrub: ____ Herbaceous: 75 ☐

Height Class - Conifer tree / Hardwood tree: ____/____ Regenerating Tree: ____ Shrub: ____ Herbaceous: 1 ☐

Height classes: 1=<1/2m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10=>50m

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

Stratum	Species	% cover	C	Final species determination
H	Salicornia pacifica	50		
	Spartina densiflora	25		
	Spergularia sp.	1		
	Triglochin maritima	1		
	Distichlis spicata	5		

Unusual species: ______________________

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance Association

I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION — circle: Relevé or (RA)

Database #:	Date:	Name of recorder: Kelsey McDonald
NSIPC041	3/31/21	Other surveyors:
	UID:	Location Name: Bracut Marsh

GPS name: Arrow — For Relevé only: Bearing°, left axis at ID point____ of Long / Short side

UTME ___ UTMN ___ Zone: 11 NAD83 GPS error: ft./ m./ PDOP ____

Decimal degrees: LAT ___ . ___ LONG ___ . ___

GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) ____ bearing ° ____ inclination ° ____

and record: Base point ID ____ Projected UTMs: UTME ___ UTMN ___

Camera Name: iphone Cardinal photos at ID point: NESW1345

Other photos: NW

Stand Size (acres): (<1,) 1-5, >5 | Plot Area (m²): 100 / ____ | Plot Dimensions ____ x ____ m | RA Radius 10 m

Exposure, Actual °: ____ NE NW SE SW Flat Variable | Steepness, Actual °: ____ (0° 1-5°) >5-25° >25

Topography: Macro: top upper mid (lower) bottom | Micro: convex flat concave (undulating)

Geology code: ____ Soil Texture code: ____ | Upland or (Wetland)/Riparian (circle one)

% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)

H20: 5 BA Stems: 40 Litter: 35 Bedrock: Boulder: Stone: Cobble: Gravel: Fines: 20 =100%

% Current year bioturbation ____ Past bioturbation present? Yes / No | % Hoof punch ____

Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.

Site history, stand age, comments: Low elevation pickleweed marsh in lee of old dike. Wrack and algae overlain on pickleweed. Sparse spartina

Disturbance code / Intensity (L,M,H): ____/____ ____/____ ____/____ ____/____ ____/____ "Other" ____/____

II. HABITAT DESCRIPTION

Tree DBH : T1 (<1" dbh), T2 (1-6" dbh), T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover)

Shrub: S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead)

Herbaceous: (H1) <12" plant ht.), H2 (>12" ht.)

Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)

Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)

III. INTERPRETATION OF STAND

Field-assessed vegetation Alliance name: Pickleweed marsh

Field-assessed Association name (optional): ____

Adjacent Alliances/direction: ____/____, ____/____

Confidence in Alliance identification: L M (H) Explain: ____

Phenology (E,P,L): Herb (-) Shrub ____ Tree ____ Other identification or mapping information: ____

Combined Vegetation Rapid Assessment and Relevé Field Form
(Revised March 27, 2018)
SPECIES SHEET

Database #: NS1POC41

IV. VEGETATION DESCRIPTION

% NonVasc cover: 20 **Total % Vasc Veg cover:** 80

% Cover - **Conifer tree / Hardwood tree:** ____/____ **Regenerating Tree:** ____ **Shrub:** ____ **Herbaceous:** 80

Height Class - **Conifer tree / Hardwood tree:** ____/____ **Regenerating Tree:** ____ **Shrub:** ____ **Herbaceous:** 1

Height classes: 1=<1/2m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10=>50m

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular
% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

Stratum	Species	% cover	C	Final species determination
H	Salicornia pacifica	70		
	Spartina densiflora	10		
	Atriplex prostrata	<1		
	Triglochin maritima	<1		

Unusual species: Black bellied plovers seeking shelter from wind & high tide

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance Association

I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION — circle: Relevé or RA

Database #:	Date:	Name of recorder: Kelsey McDonald
NSIP005	3/31/21	Other surveyors:
	UID:	Location Name: Bracut high marsh

GPS name: _____ For Relevé only: Bearing°, left axis at ID point____ of Long / Short side

UTME _____ UTMN _____ Zone: 11 NAD83 GPS error: ft./ m./ PDOP ____

Decimal degrees: LAT ___.___ LONG ___.___

GPS within stand? (Yes) / No If No, cite from GPS to stand: distance (m) ____ bearing ° ____ inclination ° ____

and record: Base point ID _____ Projected UTMs: UTME _____ UTMN _____

Camera Name: phone Cardinal photos at ID point: NESW1443

Other photos:

Stand Size (acres): <1, 1-5, >5 | Plot Area (m²): 100 / _____ | Plot Dimensions ____ x____ m | RA Radius____ m

Exposure, Actual °: _____ NE NW SE SW Flat Variable | Steepness, Actual °: _____ 0° 1-5° >5-25° >25

Topography: Macro: top (upper) (mid) lower bottom | Micro: convex flat concave undulating

Geology code: _____ Soil Texture code: _____ | Upland or Wetland/Riparian (circle one)

% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)

H_2O: 0 BA Stems: 60 Litter: 25 Bedrock: Boulder: Stone: Cobble: Gravel: Fines: 15 =100%

% Current year bioturbation _____ Past bioturbation present? Yes / No | % Hoof punch _____

Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.

Site history, stand age, comments: Upper berm and slope south of Bracut industrial area.

Disturbance code / Intensity (L,M,H): ____/____ ____/____ ____/____ ____/____ ____/____ "Other" _____/____

II. HABITAT DESCRIPTION

Tree DBH : T1 (<1" dbh), T2 (1-6" dbh), T3 (6-11" dbh), T4 (11-24" dbh), T5 (>24" dbh), T6 multi-layered (T3 or T4 layer under T5, >60% cover)

Shrub: S1 seedling (<3 yr. old), S2 young (<1% dead), (S3) mature (1-25% dead), S4 decadent (>25% dead)

Herbaceous: H1 (<12" plant ht.), H2 (>12" ht.)

Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)

Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)

III. INTERPRETATION OF STAND

Field-assessed vegetation Alliance name: Deschampsia cespitosa

Field-assessed Association name (optional): _____

Adjacent Alliances/direction: Spartina densiflora / LWS, upland/developed / NE

Confidence in Alliance identification: L (M) H Explain: low shrub cover

Phenology (E,P,L): Herb E Shrub ____ Tree ____ Other identification or mapping information:

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

Database #: NSIPOC05 SPECIES SHEET

IV. VEGETATION DESCRIPTION

% NonVasc cover: ____ **Total % Vasc Veg cover:** 95

% Cover - **Conifer tree / Hardwood tree:** —/— **Regenerating Tree:** — **Shrub:** 10 **Herbaceous:** 85

Height Class - Conifer tree / Hardwood tree: ____/____ **Regenerating Tree:** ____ **Shrub:** 4 **Herbaceous:** 2

Height classes: 1=<1/2m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10=>50m

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

Stratum	Species	% cover	C	Final species determination
S	Baccharis pilularis	8		
	Frangula purshiana	1		
	Lonicera involucrata	1		
H	Deschampsia cespitosa	70		
	Distichlis spicata	5		
	Juncus lescurii	2		
	Anthoxanthum odoratum	2		
	Achillea millefolium	<1		
	Dipsacus fullonum	<1		
	Spartina densiflora	2		
	Cortaderia jubata	2		

Unusual species: _____

Appendix C. Photo Index

Photo 1. Looking north from the salt marsh near Brainard.

Photo 2. Gravel and larger substrates along the lower unvegetated edge of the rail prism.

Photo 3. Undercut eroding salt marsh at low tide.

Photo 4. Patchy vegetated salt marsh with dense-flowered cordgrass.

Photo 5. Eroding fringe salt marsh.

Photo 6. Eroding fringe salt marsh.

Photo 7. The undercut rail line.

Photo 8. The central portion of the study area at high tide.

Photo 9. Old dock structure and salt marsh.

Photo 10. Low elevation pickleweed marsh with high cover of eelgrass wrack and sparse dense-flowered cordgrass south of the dock structure.

Photo 11. Low elevation pickleweed marsh south of the dock structure becoming inundated with the rising tide.

Photo 12. The former dock structure, invaded by dense-flowered cordgrass on northern (windward) side, and pickleweed dominant to the south.

Photo 13. Coyotebrush scrub on top of an artificial berm.

Photo 14. Salt marsh peninsula south of Bracut.

Photo 15. Western sand-spurrey, with winged seeds measuring ~1m.

Photo 16. Western sand-spurrey, a rare annual plant.

Photo 17. Intermixed Humboldt Bay owl's clover and Point Reyes bird's beak in diverse high marsh.

Photo 18. Point Reyes bird's beak and western sand-spurrey near Bracut.

Photo 19. Unusual salt marsh zonation in central study area with diverse native high marsh and rare plants in the foreground, and dense-flowered cordgrass dominating the area along the rail prism and portions of the outer fringe.

Photo 20. Tufted hairgrass along the mid to upper rail prism.

Photo 21. Tufted hairgrass with San Francisco rush and other species in high marsh near Bracut