

## Basic Information Sheet: Bar-built Estuarine Wetlands

<b>Assessment Area Name:</b>		
<b>Project Name:</b>		
<b>Assessment Area ID #:</b>		
<b>Project Site ID #:</b>	<b>Date:</b>	
<b>Assessment Team Members for This AA</b>		
<b>Center of AA:</b>		
<b>Latitude:</b>	<b>Longitude:</b>	<b>Datum:</b>
<b>AA Category:</b>		
<input type="checkbox"/> Restoration <input type="checkbox"/> Mitigation <input type="checkbox"/> Impacted <input type="checkbox"/> Ambient <input type="checkbox"/> Reference <input type="checkbox"/> Training		
<input type="checkbox"/> Other:		
<b>AA Encompasses:</b>		
<input type="checkbox"/> entire wetland <input type="checkbox"/> portion of the wetland		
<b>What best describes the tidal stage over the course of the time spent in the field?</b> Note: It is recommended that the assessment be conducted during low tide.		
<input type="checkbox"/> high tide <input type="checkbox"/> low tide		
<b>What best describes the condition of the mouth of the estuary over the course of the time spent in the field?</b>		
<input type="checkbox"/> fully open to tidal inputs <input type="checkbox"/> partially open to tidal inputs or overwash of waves		
<input type="checkbox"/> closed to tidal inputs		
<b>Please indicate of your aerial image the location of the mouth if it is not correctly depicted.</b>		

**Photo Identification Numbers and Description:**

	<b>Photo ID No.</b>	<b>Description</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Datum</b>
1		North			
2		South			
3		East			
4		West			
5					
6					
7					
8					
9					
10					

**Site Location Description:**

**Comments:**

**Scoring Sheet: Bar-built Estuarine Wetlands**

<b>AA Name:</b>	<b>Date:</b>
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Attributes and Metrics		Scores		Comments	
<b>Attribute 1: Buffer and Landscape Context (pp. 8-18)</b>					
<i>Aquatic Area Abundance Submetric 1: Stream Corridor Continuity</i>	<i>Alpha</i>	<i>Numeric</i>			
<i>Aquatic Area Abundance Submetric 2: Adjacent Aquatic Area</i>					
<i>Aquatic Area Abundance Submetric 3: Marine Connectivity</i>					
<i>Buffer submetric A: Percent of AA with Buffer</i>					
<i>Buffer submetric B: Average Buffer Width</i>					
<i>Buffer submetric C: Buffer Condition</i>					
<b>Raw Attribute Score</b> = $((1+2+3)/3)+[C \times (A \times B)^{1/2}]^{1/2}$				<b>Final Attribute Score</b> = (Raw Score/24)100	
<b>Attribute 2: Hydrology (pp. 19-22)</b>					
	<i>Alpha</i>	<i>Numeric</i>			
Water Source					
Hydroperiod					
Hydrologic Connectivity					
<b>Raw Attribute Score</b> = sum of numeric scores				<b>Final Attribute Score</b> = (Raw Score/36)100	
<b>Attribute 3: Physical Structure (pp. 23-30)</b>					
	<i>Alpha</i>	<i>Numeric</i>			
Structural Patch Richness					
Topographic Complexity					
<b>Raw Attribute Score</b> = sum of numeric scores				<b>Final Attribute Score</b> = (Raw Score/24)100	
<b>Attribute 4: Biotic Structure (pp. 31-41)</b>					
<i>Plant Community submetric A: Number of Plant Layers</i>	<i>Alpha</i>	<i>Numeric</i>			
<i>Plant Community submetric B: Number of Co-dominant species</i>					
<i>Plant Community submetric C: Percent Invasion</i>					
Plant Community Metric (average of submetrics A-C)					
Horizontal Interspersion					
Vertical Biotic Structure					
<b>Raw Attribute Score</b> = sum of numeric scores				<b>Final Attribute Score</b> =(Raw Score/36)100	
<b>Overall AA Score</b> = Average of four final Attribute Scores					

**Worksheet for Submetric 1 of Aquatic Area Abundance Metric for Bar-built Estuarine wetlands**

<b>Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA</b>	
Segment No.	Length (m)
1	
2	
3	
4	
5	
Upstream Total Length	

**Worksheet for Submetric 2 of Aquatic Area Abundance for Bar-built Estuarine wetlands**

<b>Percentage of Transect Lines that Contains an Aquatic Feature of Any Kind</b>	
Segment Direction	Percentage of transect length that is an Aquatic Feature
Line 1	
Line 2	
Line 3	
Line 4	
Average Percentage of Transect Length that is an Aquatic Feature <b>*Round to the nearest integer*</b>	

**Percent of AA with Buffer Worksheet.**

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.

Percent of AA with Buffer: \_\_\_\_\_ %

**Worksheet for calculating average buffer width of AA**

<b>Line</b>	<b>Buffer Width (m)</b>
<b>A</b>	
<b>B</b>	
<b>C</b>	
<b>D</b>	
<b>E</b>	
<b>F</b>	
<b>G</b>	
<b>H</b>	
<b>Average Buffer Width</b> <b>*Round to the nearest integer*</b>	

## Structural Patch Type Worksheet for Bar-built Estuarine wetlands

Check each type of patch that is observed in the AA and enter the total number of observed patches in Table 16 below. Each patch should occupy in aggregate at least 3 m<sup>2</sup> of area in the AA.

*\*Please refer to the CRAM Photo Dictionary at [www.cramwetlands.org](http://www.cramwetlands.org) for photos of each of the following patch types.*

<b>STRUCTURAL PATCH TYPE (check for presence)</b>	<b>Bar-built Estuarine</b>
<b>Minimum Patch Size</b>	<b>3 m<sup>2</sup></b>
Abundant wrackline or organic debris in channel, on floodplain, or across depressional wetland plain	
Animal mounds and burrows	
Backwater habitats	
Bank slumps or undercut banks in channels or along shoreline	
Cobble and/or Boulders	
Debris jams	
Filamentous macroalgae or algal mats	
Large woody debris in channel exposed above high water	
Large woody debris on marsh plain	
Non-vegetated flats or bare ground (sandflats, mudflats, gravel flats, etc.)	
Pannes or pools on floodplain/off channel habitats	
Plant Hummocks/Sediment mounds	
Point bars and in-channel bars	
Pools in channels/ residual embayment	
Riffles or rapids (wet channel) or planar bed (dry channel)	
Submerged aquatic vegetation	
Secondary channels on floodplains or along shorelines	
Soil cracks	
Standing snags (at least 3 m tall)	
Swales on floodplain or along shoreline	
Variiegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	
Vegetated islands (mostly above high-water)	
<b>The following can be located in the AA or wetland and upland outside the AA within 250m:</b>	
Concentric or parallel high water marks	
Upland habitat safe from flooding	
<b>Total Possible</b>	<b>24</b>
<b>No. Observed Patch Types (enter here and use in Table 16)</b>	

### Worksheet for AA Topographic Complexity

At two locations in the AA, make a sketch of the profile from the AA boundary to AA boundary. Try to capture the major channels, slopes and intervening micro-topographic relief. Based on these sketches and the profiles in Figure 11, choose a description in Table 18 that best describes the overall topographic complexity of the AA.

Profile 1

Profile 2

**Plant Community Metric Worksheet: Co-dominant species richness**  
 (A dominant species represents  $\geq 10\%$  *relative* cover)

Special Note:

*\* Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

Floating	Invasive?	Short (<0.3 m)	Invasive?
Medium (0.3-1 m)	Invasive?	Tall (1-3 m)	Invasive?
Very Tall (>3 m)	Invasive?		
		Total number of co-dominant species for all layers combined (enter here and use in Table 20)	
		Percent Invasion *Round to the nearest integer* (enter here and use in Table 20)	



**Horizontal Interspersion Worksheet.**

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Based on the sketch, and the diagrams in Figure 7, choose a description in Table 21 that best describes the overall interspersion of plant zones in the AA.

	<p><b>Assigned zones:</b></p> <p>1)</p> <p>2)</p> <p>3)</p> <p>4)</p> <p>5)</p> <p>6)</p>
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**Worksheet for Wetland disturbances and conversions.**

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	bar-built estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

## Stressor Checklist Worksheet

<b>HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)</b>	<b>Present</b>	<b>Significant negative effect on AA</b>
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)		
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)		
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees		
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
<b>Comments</b>		

<b>PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)</b>	<b>Present</b>	<b>Significant negative effect on AA</b>
Filling or dumping of sediment or soils ( <b>N/A for restoration areas</b> )		
Grading/ compaction ( <b>N/A for restoration areas</b> )		
Plowing/Discing ( <b>N/A for restoration areas</b> )		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed		
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)		
Trash or refuse		
<b>Comments</b>		

<b>BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)</b>	<b>Present</b>	<b>Significant negative effect on AA</b>
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., <i>Virginia opossum</i> and domestic predators, such as feral pets)		
Tree cutting/sapling removal		
Removal of woody debris		
Treatment of non-native and nuisance plant species		
Pesticide application or vector control		
Biological resource extraction or stocking (fisheries, aquaculture)		
Excessive organic debris in matrix (for vernal pools)		
Lack of vegetation management to conserve natural resources		
Lack of treatment of invasive plants adjacent to AA or buffer		
<b>Comments</b>		

<b>BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)</b>	<b>Present</b>	<b>Significant negative effect on AA</b>
Urban residential		
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
<b>Comments</b>		