

Standard Operating Procedures: Tidal Restriction Assessment

Appendix D: Tidal Restriction Data Sheet

Version 1.0 June 2009

- Complete one Tidal Restriction Data Sheet for each potential tidal restriction sampled (include data collected both upstream and downstream).
- Attach all associated materials, including Site Reconnaissance Sheet.

Site ID: _____ Town: _____
Date: _____ Street (in closest proximity): _____
Time of Reading: ____:____ Latitude: N _____
Evaluators: _____ Longitude: W _____
Photo ID(s): _____ Comments: _____

Crossing Information:

- Length (culvert) or width (bridge) of structure from seaward to upstream openings: _____ ft

Type of restricting structure: (circle a number and follow respective instructions)

1. Bridge: (circle one) does or does not span across entire channel
2. Road: # of lanes _____; width _____ ft; (circle one) paved or dirt; culvert or no culvert
 - a. If culvert is present, record its material (e.g. concrete, corrugated metal) at the downstream (seaward) and upstream openings: DS _____, US _____
 - b. Size of culvert opening (pipe diameter / box culvert height x width) _____
 - c. Culvert broken: (circle one) yes or no
 - d. Culvert clogged with debris: (circle one) yes or no
3. Railroad
4. Other _____

Condition of crossing structure: _____ Key: 1=excellent 2=good 3=fair 4=poor 5=need immediate repair

Estimated width of channel (fixed distance from opening):

Downstream _____ ft upstream _____ ft

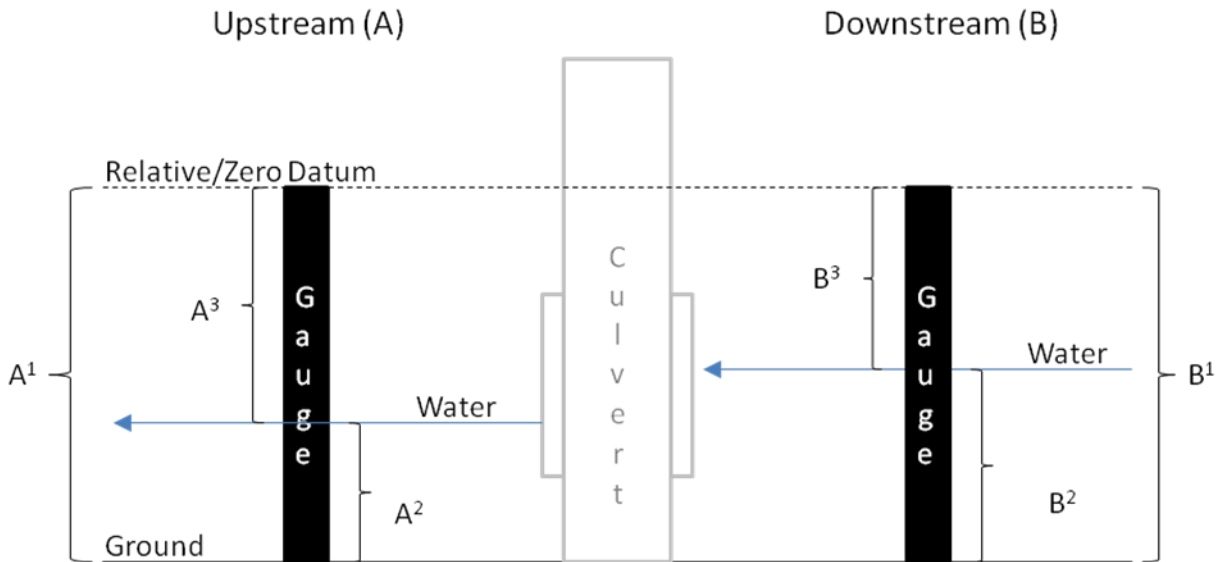
Visual Indicators

If yes, rank its presence: 1. Dominant/Major; 2. Significant; 3. Minor.

- *Phragmites australis* (Common Reed): downstream _____; upstream _____
- *Typha angustifolia* or *latifolia* (Cattail spp.): downstream _____; upstream _____
- Scouring Basin: downstream _____; upstream _____
- Bank Erosion: downstream _____; upstream _____

- Low marsh slumping: downstream _____; upstream _____
- Vegetation die back: downstream _____; upstream _____
- Impounded water by restriction: downstream _____; upstream _____

Water level height measurements:



A^1 = instrument height at A

A^2 = water level height at A

A^3 = relative tide elevation at A

B^1 = instrument height at B

B^2 = water level height at B

B^3 = relative tide elevation at B

TR = Tidal Restriction

1. Measure the instrument height / "line of sight" from the optical level to the stadia rod to establish a relative elevation for each gauge.

Upstream relative elevation (A^1): _____ ft

Downstream relative elevation (B^1): _____ ft

Date established: _____

2. Measure the height of the cork dust mark from the base of each tide gauge's inner wooden slat.

Upstream (toward headwaters) water level height (A2): _____.____ ft

Downstream (seaward) water level height (B2): _____.____ ft

Date measured: _____

3. Subtract the water level heights from the relative elevation for the respective gauges.

Relative tide elevation at A (A^3) = $A^1 - A^2$ = _____.____ ft

Relative tide elevation at B (B^3) = $B^1 - B^2$ = _____.____ ft

4. Calculate the difference between the upstream and downstream relative tide elevations.

Tidal restriction (TR) = $A^3 - B^3$ = _____.____ ft

Sketch the site area if not completed on Site Reconnaissance Sheet. Locate the restricting structure in the center of the sketch area. Sketch the area within a 25 m buffer of the channel. Among features to include are impervious surfaces, storm drain inputs, and all visual indicators (see above) observed.