








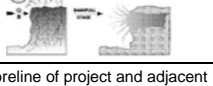

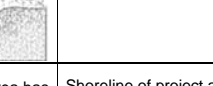


COASTAL INSTABILITY ASSESSMENT RATING DATA SHEET

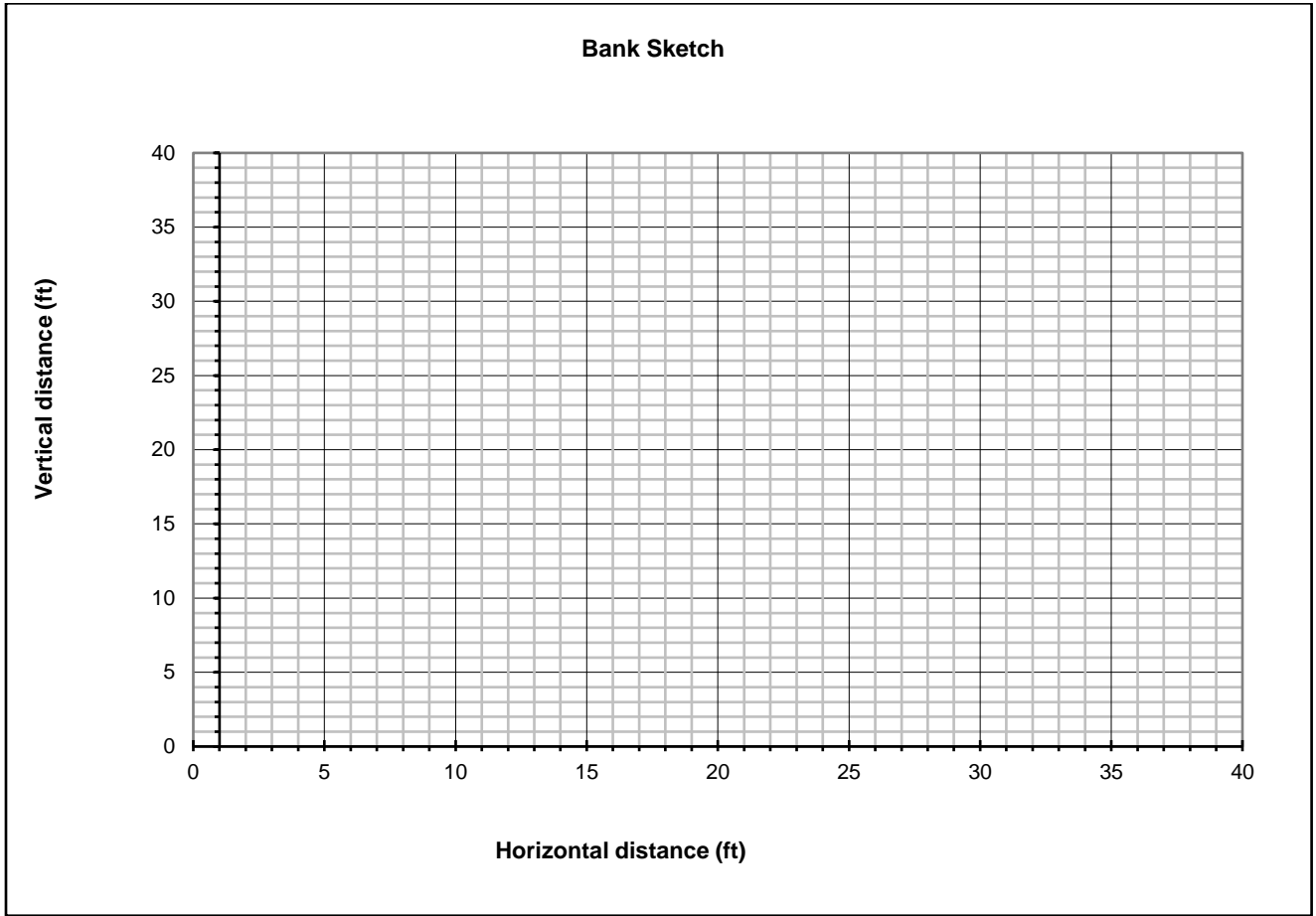
Shoreline: _____ Rater(s): _____
 Bluff/Tidal Marsh/Mud Flat/Low Bank: _____ Date: _____
 _____ Photo(s): _____

Overall Bluff Condition **Good <16** **Fair >16<25** **Poor >25**

BANK ASSESSMENT					
Category / Parameter / Measurement Method		Description of Bluff Bank Condition			Rating (1/2/3)
		Good (1)	Fair (2)	Poor (3)	
1	Hydrology / Runoff / Ponding	No alteration of upland drainage draining to project area. Drainage of bank has not been modified.	Minimal overland drainage changes above shoreline site. Does not adversely affect hydrology or result in concentrated flow (point discharge)	Surface drainage is reporting to the study site and has an adverse affect on bank site. Water is ponded above the bank. Seepage may be present.	
2	Hydrology / Runoff / Concentrated Flow	No apparent concentrated flow or channelized flow from adjacent land use	Some concentrated flow/channelizing directed to site, however, measures are in place to protect resources	Concentrated flow/channelization to bank site and no treatments are in place	
3	Hydrology / Runoff / Land Use Change	Upland area is primarily native vegetated (>70%) mix of shrubbery and trees. Trees larger than 12" diameter are a minimum of 20' from top of bank.	Land development occurring or active agricultural practices occurring in upland area, vegetated area 20 - 70%. 12" diameter trees 5-20' from top of bank.	Land use is urban or primarily active agricultural practices (> 70%), vegetated area <20%. 12" diameter trees 5' or less to top of bank, roots may be exposed.	
4	Hydrology / Runoff / Distance to Roads	No roads in or adjacent to site (20' or closer). No proposed roads in or adjacent to site in 10 year plan.	No roads in or adjacent to site (20' or closer). No more than one major road proposed in 10 year plan.	Roads located in or adjacent to site boundary (5-20') and/or roads proposed.	
5	Hydrology / Runoff / Seepage	Upland runoff as a result of rainfall patterns, geology, and soils does not result in seepage in bank.	Upland runoff as a result of rainfall patterns, geology, and soils results in seepage in < 10% of the bank	Upland runoff as a result of rainfall patterns, geology, and soils is resulting in seepage from > 10% of the bank.	
6	Geomorphology / Riparian Vegetation	>80% of contributing shoreline length has >25 ft corridor width - dense vegetation	50 - 80% of contributing shoreline length has >25 ft corridor width - average vegetation	<50% of contributing shoreline length has >25 ft corridor width - low density vegetation	
7	Geomorphology / Sediment Supply	Low soil erosion - bank erosion shows no recent change or loss. There are few runnels/gulleys present on the bank face.	Moderate soil erosion. Bank erosion is occurring, visual change and loss. There are several runnels/gulleys on the bank face < 0.5' deep.	High soil erosion - bank erosion is occurring, change is measurable. There are numerous runnels/gulleys > 0.5' deep	
8	Bank Slopes	Slopes range from 3 to 8%. 	Slopes 8 to 20%. Toe erosion beginning 	Slopes 20% and greater or undercut toe. 	
9	Bank Height vs. High Tide Elevation	High Tide Elevation is at or near Top of Bank 	High Tide Elevation is 1/3 below Top of Bank 	High Tide Elevation > 1/3 below Top of Bank 	
10	Soil Properties: Particle Size / Stratification	Bedrock and boulders make up the bank. Or, cohesive soil types (sand/gravel mix) mixed evenly. 	No bedrock or boulders, cohesive soils (sand/gravel mix) are dominant and mixed equally. Clay to very stony sandy loam. 	Soils are non-cohesive and/or highly stratified. Sand/gravel mix with larger percentage of sand, sandy loam, silt. 	
11	Density of Roots/ Bank Surface Protection/ % of Total Bank Height with Roots	Surface Protection = 80-100%. Root Density in Bank = 80-100%. Root depth/Bank Height = 1.0-0.9 	Surface Protection = 55-79%; Root Density = 55-79%; Root depth/Bank Height = 0.5-0.89 	Surface Protection < 55%; Root Density < 55%; Root depth/Bank Height < 0.5 	
12	Biology / Landscape Connectivity	Shoreline of project and adjacent area to project area has native bank and vegetation materials. No rip-rap or hardened structures installed.	Shoreline of project and adjacent area has native vegetation and bank materials but is impaired by invasives and/or rip-rap and/or hardened armoring installed.	Shoreline of project and/or adjacent area is hardened by a concrete headwall, or rip-rap or other structure. Limited vegetation present.	
<p>This Instability Rating Form was developed for the Maine Coastal Program/Maine Department of Agriculture, Conservation and Forestry by the Cumberland County Soil and Water Conservation District. This work was supported by the National Oceanic and Atmospheric Administration (NOAA) Coastal Zone Management Cooperative Agreement #NA14NOS4190047 pursuant to the Coastal Zone Management Act of 1972 as amended. Note that the assessment form was further adapted for an April 6, 2018 workshop by Headwaters Hydro, LLC. For more information about the Maine Geological Survey, contact mgs@maine.gov or 207-287-2801. For more information about the MCP, visit www.maineoceanprogram.org or 207-287-2351.</p>				<h2 style="margin: 0;">Total Rating:</h2>	



COASTAL INSTABILITY ASSESSMENT RATING DATA SHEET



MLW – Mean Low Water UB – Upper Bank T- Toe ----- Soil Horizon \triangle
 HAT – Highest Avg Tide LB – Lower Bank ^^^ - Seepage Line * - >6"Tree * - <6"Tree
 C-Clay BR-Bedrock S-Sand Si-Silt L-Loam B-Boulder Co-Cobble G-Gravel

