Eureka Watershed Stormwater Resource Plan Evaluation Notes
Elk River Estuary/Inter-Tidal Wetlands Enhancement And Coastal Access Project

Project Description: The City of Eureka proposes to restore and enhance the estuary and intertidal habitats on approximately 114 acres adjacent to the Elk River and to increase public access to the Elk River Spit, Elk River, and Humboldt Bay. The project will increase resiliency of the Elk River estuary by reestablishing full tidal connectivity and allowing the salt marsh to accrete sediments and migrate to higher elevations with sea level rise (SLR). Green infrastructure will reduce flooding and stormwater runoff and maximize co-benefits through wetland restoration which improves water quality, sequesters carbon, and provides wildlife habitat. Construction of a tidal ridge/living shoreline will provide public access to the site and protect critical infrastructure from inundation. Project activities will occur in two distinct but adjacent areas: Area 1 and Area 2.

Elk River is an important habitat within Humboldt Bay, and supports several endangered, threatened, and concern status species that are vulnerable to climate change. This project provides a critical opportunity to will provide climate adaptation and resilience for wildlife in the form of habitat connectivity, improvement of habitat quality for climate vulnerable species, sea level rise adaptability, and invasive species removal. The project will decrease the climate change vulnerability of ecosystems and species important to Humboldt Bay by provide ~80 acres of enhanced salt marsh habitat, ~13 acres of open water, and ~9 acres of upland riparian (roosting and nesting) habitat to benefit marbled murrelet, bald eagle, Coho and Chinook salmon, and steelhead, Tidewater Goby, Dungeness Crab, Longfin Smelt, eelgrass, native oysters, waterfowl and shorebirds.

Table 5-8

Benefit	*Potential Score (and brief explanation)*	*Ranking*
Water Quality		
Increased filtration and/or treatment of runoff	(Wetlands play a crucial role in flood reduction as they retain and release stormwater slowly, reducing pollution through settling, filtration, and chemical detoxification.)	
Trash capture	N/A	0
EAWSWRP priority pollutant removal	(By connecting the river's lower floodplains and constructing set-back eco-levees, the site will act as a stormwater flood basin and that stores and meters fine sediment, reducing turbidity and improving water quality as it builds marsh plains and reduces flooding in adjacent, more urban areas. Additionally, wetlands function as natural water cleansing systems by spreading low velocity, shallow water through densely vegetated surfaces that meter pollution from the water column.)	4
Nonpoint source pollution control	(The site is a coastal salt marsh habitat with groundwater at 1 foot elevation at low tide, but	6

	the design and construction of the site will employ LID standards and Best Management Practices during construction. The design will prevent additional sediment from encroaching within existing floodplain and high marsh through the use of grade reversals for drainage courses, straw wattling, settling berms and filter fence. All grading activities will occur in compliance with the weather conditions required by the SWRCB. The design stipulates that all high marsh areas are only worked in during low/mid low tide and within temporary structures to prevent tidal inundation. The design preserves some existing native vegetation, eradicates invasive species to create beneficial habitat for native species, minimizes impact of existing vegetation during construction, eligible sloped areas will be planted with native stabilizing species and trees to promote bank stabilization and diverse canopy cover.)	
Conversion of pervious to impervious surface	(No impervious surfaces will be converted to pervious.)	0
Water quality monitoring and assessment	? (Water quality monitoring only during construction)	0
Water Supply		
Water conservation	(includes native plants that will utilize groundwater and surface water.)	0
Water supply reliability	• Provides groundwater recharge from storm water	2
Conjunctive use	?	
Stormwater or dry weather runoff reuse	(Removing riverfront dikes along the north end of Area 2 and constructing set-back eco-levees will allow turbid stormwater into constructed tidal channels and onto marsh plain surfaces. Stormwater will flow from Elk River into project wetlands that serve as tidal marshes and stormwater flood basins. Proposed conditions allow for drainage out into the Elk River through the proposed tidal channel mouth when the river levels recede downstream as tides drop and upstream floodwaters cease.)	6
Flood Management		
Reduced sanitary sewer overflows	N/A	2
Decreased flood risk by reducing runoff rate and/or volume	? (The eco-levees/tidal ridges can help contain flood waters. The proposed project eastern	5

	eco-levee was designed at slightly lower than highway elevations in order to decrease flood levels along the highway during extreme events.)	
Increased sea level rise resiliency	• Includes sea level rise resiliency measures (The varying elevation of tidal marsh plain hummocks and living shoreline will also support the migration of salt marsh habitat to higher elevations as sea levels rise.)	12
Environmental		
Reduced energy use	Possibly • Reduces energy use (No energy use will be associated with this enhancement project upon its completion.)	3
Reduced greenhouse gas emissions	Possibly • Reduces greenhouse gas emissions (Reductions in methane emissions are likely to result in a reduction in the GHGs emitted by the project and an increase in carbon sequestration. Over the long term, carbon sequestration in habitat restored by the project is expected to slightly reduce the impacts from the project due to construction-related GHG emissions.)	2
Provides carbon sink	• Provides carbon sink (The restored salt marsh would sequester carbon at rates likely to be higher than carbon sequestration in existing marsh and pasture habitat, which emits methane at higher rates than salt marsh. This site is also former tideland, which upon draining, releases carbon at an accelerated rate. The transition of that land back to tidally influenced wetlands will sequester much more carbon than the dryland.)	2
Reestablishment of the natural hydrograph		
Water temperature improvement	• Decreases water temperature (Increases tidal influence and creates deeper channels which could decrease water temperature.)	2
Wetland enhancement	• Enhances more than 1 acre of wetland (~80 acres of restoration)	2
Wetland creation	-	
Riparian enhancement	-	
Riparian creation	• Creates more than 0.5 acres of wetland (<1 acre existing, creating/restoring ~9 acres)	6
Fish passage improvement	• Improves fish passage (Tide gate removal along Elk River, expanded slough channels)	8

Urban green space enhancement	? (It's on existing agriculture field, so I'm not sure if this applies. It does increase access to the area through the trail extension.)	
Urban green space creation	? (Same comment as above)	
Community		
Employment opportunities provided	• Provides employment opportunities (Construction jobs and CA Conservation Corps involvement)	2
Disadvantaged community	• Provides benefit for disadvantaged community	
Public education, outreach, and involvement	• Includes public education, outreach or involvement (Interpretation Education signs along trail)	3
Public use area enhancement	• Enhances public use area (Pound Road entrance to Hikshari' trial)	2
Public use area creation	• Creates public use area (Expands Hikshari' trail 1 mile south)	3