Ecosystem Credit Calculator

Pilot Summary: Delta Ponds

A product funded by an NRCS Conservation Innovation Grant

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Project Overview and Purpose

Delta Ponds is a 150-acre waterway site consisting of numerous ponds, channels, wetlands, and associated riparian areas. This site is owned by the City of Eugene and borders the Willamette River. The Delta Ponds were formed by gravel extraction operations which provided much of the gravel for the construction of Interstate 105. The City purchased the ponds from Eugene Sand and Gravel in the late 1970s. Up until 2004, the site was largely unmanaged and the natural succession that took place created both valuable habitat for a variety of wildlife and resulted in colonization by a number of invasive species, such as Armenian blackberry.

The City of Eugene has entered into partnership with the U.S. Army Corps of Engineers to improve critical habitat at Delta Ponds for a variety of fish and wildlife species. This restoration effort has a special emphasis on declining native species such as salmon, western pond turtles, and neotropical migratory birds and focuses on creating habitat more suitable for these species.

The restoration effort for the entire Delta Ponds complex, estimated at $6.2 million, is being funded through Section 206 of the Water Resource Development Act which provides 65 percent funding for aquatic habitat restoration projects. The City will be contributing more than $2 million in land and matching funds from local stormwater user fees and the 1998 voter approved parks and open space bond measure. There is also potential to use temperature credits generated from the project as offset to Metropolitan Wastewater Management Commission's NPDES permit. The major objectives of this effort are to:

- reestablish the hydrologic connection between the Willamette River and Delta Ponds during winter high water;
- create more gradually sloped riparian benches along the banks of the ponds;
- replace invasive, non-native vegetation with native vegetation;
- enhance habitat for juvenile Chinook salmon, western pond turtles, and neotropical migratory birds; and
- provide recreational and educational opportunities for the community, while limiting habitat impacts.

Anticipated Credit Types

□ Wetlands X Salmonids □ Prairie X Water temperature

X Other Potential Credits: Carbon, Pond Turtle

Project Map

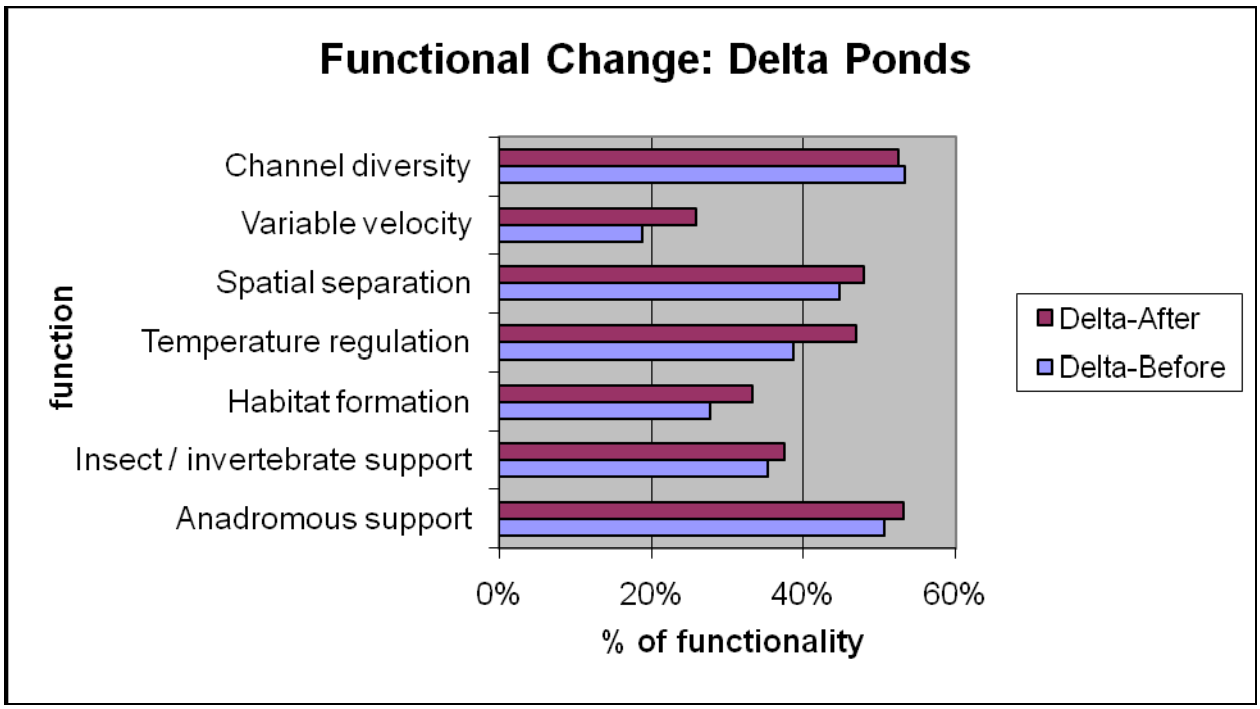
Baseline Conditions

Baseline conditions were assessed for the only one portion of the overall Delta Ponds project that still needs restoration. The project site is bounded to the south by Goodpasture Road to the east and north by Delta Highway as water leaves the ponds complex to the north through Dedrick Slough to enter the Willamette River just north of the Beltline Bridge.

The current reach in the project area includes 1400 linear feet along Dedrick Slough with no fish passage barriers. Based on the data collected for all the map units in the project area, this reach of Dedrick Slough currently provides 42% of the ideal functions needed to support salmonids. This number represents weighting for factors that support anadromous fish, habitat formation, channel diversity, and temperature regulation functions. The baseline for salmon credits includes 1400 feet of stream, but only 593.05 of functionally-weighted linear feet. Current riparian vegetation and channel structure on Dedrick Slough deflects just 4,276,370 kcal/day of the suns energy from the stream.

Post-Restoration Condition

The project plans to implement riparian re-vegetation actions to improve temperature conditions and habitat for salmon. These actions will increase the salmon function performance from 42% to 47% increasing total weighted linear feet from 593.05 to 656.78 creating 63.73 salmon credits. The riparian re-vegetation will also increase deflection of solar energy to nearly 12 million kcal/day creating nearly 7.5 million temperature credits. The table below illustrates the changes in performance functions important for salmon that will result from the planned restoration actions.



Project credits

Subtracting baseline conditions from the uplift projected from planned improvements, this project will create the portfolio of credits shown below.

Credit Type	Baseline	Post-restoration	Projected Credits
Wetland (acres)	Pending	Pending	Pending
Salmonid (wght. ln ft)	593	656.78	63.73
Prairie (acres)	N/A	N/A	N/A
Water Temp. (kcal/day)	4,376,370	11,718,145	7,441,775

Remaining work

Preliminary designs have been completed for the site and the City has begun preparation work for planting. Additional data collection for wetlands needs to be conducted. If the site is to be used for credits beyond water temperature, more work needs to be done to validate the site's eligibility. Once full designs and planting begins, an as-built credit calculation can be completed, verified, and registered.