

Background Information

Deschutes River Estuary Restoration Study

BACKGROUND

Capitol Lake used to be part of Budd Inlet, but was made part of the State Capitol Campus with the construction of the Capitol Lake dam and Deschutes Parkway in 1951.

Management challenges with the lake have reached a point where undertaking an estuary feasibility study was included as a key Management Objective in the Capitol Lake Adaptive Management Plan – 10 Year Plan, 2003 – 2013 (2002).



The exploration of returning the lake to an estuary began with the *Environmental Impact Statement (EIS) for the Capitol Lake Adaptive Management Plan* (1999). The EIS evaluated five alternatives including three fresh water options, two estuary options, and no action. The EIS also generated some surprising new information. For example, it was discovered that the 100 year flood elevation for the lake was several feet higher than without the dam. This information was refined by a *CLAMP Flood Analysis Study* (2000) and resolved by a Federal Emergency Management Agency (FEMA) study *Capitol Lake Floodplain Analysis* (2003) which found the difference in flood elevations between a lake and an estuary to be approximately one foot.

Other aspects of an estuary alternative were explored by two CLAMP funded studies. The first was a *CLAMP Hydraulic Scour Analysis* (2000) which determined that it may be possible to armor the road crossings in the basin to accommodate an estuary. However, the report also indicated that Deschutes Parkway and to a lesser degree some of the shoreline parks, might require further geotechnical study and possibly retrofit to insure structural stability in an estuarine environment. The second report, referred to as the *CLAMP Budd Inlet Water Quality Modeling Report* (2000), indicated that "a substantial water quality improvement (an increase of 1-5mg/l dissolved oxygen) is realized in south and central Budd Inlet as a result of returning Capitol Lake to a tidal estuary ... (with improvements) observed throughout the Budd Inlet, but particularly in the most water quality impaired areas in East Bay and West Bay".

PROJECT GOALS

The goals of the Capitol Lake Adaptive Management Plan (CLAMP) Estuary Feasibility Study are to:

1. Increase our understanding of the estuary alternative to a level equal to continued management of the lake.
2. Determine if it is possible to create a viable, self-sustaining estuary given all the existing physical constraints and the urban setting.
3. Identify the potential influences of flooding, existing infrastructure, sedimentation and water quality beyond Capitol Lake and into Budd Inlet.
4. Create an objective analysis of the costs and benefits of the estuary alternative in terms of social and environmental issues.
5. Provide the completed study to the CLAMP Steering Committee for scientific review which will be the basis for a recommendation on the long-term aquatic environment of the basin.

PROJECT OBJECTIVE

The objective of the CLAMP Estuary Feasibility Study is to evaluate the possibility of a restored estuary as an alternative to the continued management actions necessary to maintain a lake in this setting. This will involve evaluating the potential benefits and shortcomings of possible estuarine alternatives and identifying those alternatives which have a reasonable likelihood of success, could be permitted by the regulatory agencies, and are supported by the local community.

PROJECT STUDY TASKS

The CLAMP Estuary Feasibility Study process contains 12 study tasks which are listed below:

1. CLAMP Technical Advisory Committee Review & Steering Committee Oversight,
2. Conceptual Model of Estuarine Process and Community Values,
3. Reference Estuary Survey,
4. Bathymetric Survey,
5. Hydraulic and Sediment Transport Analysis and Modeling,
6. Biological Conditions Report,
7. Design and Preliminary Cost Estimates,
8. Net Benefit Analysis,
9. Report Development,
10. Independent Technical Review,
11. Community Review, and
12. Project Management.

SALMON RECOVERY FUNDING BOARD TASKS

In 2004 Thurston Regional Planning Council (TRPC) received funding from the Salmon Recovery Funding Board (SRFB) to address several but not all of the CLAMP Study Tasks. The SRFB grant is called the ***Deschutes River Estuary Restoration Study*** (DRERS) and will focus on data collection and modeling to determine the estuary's future biological conditions. Those study tasks to be funded by the SRFB grant (*from the complete list of study tasks listed above*) are as follows:

1. CLAMP Technical Advisory Committee Review & Steering Committee Oversight,
3. Reference Estuary Study,
5. Hydraulic and Sediment Transport Analysis and Modeling,
6. Biological Conditions Report,
10. Independent Technical Review,
11. Community Review, and
12. Project Management.

SRFB BUDGET

The SRFB grant is called the ***Deschutes River Estuary Restoration Study*** (DRERS) and has a total budget of \$330,740. Of this amount, about 67% or \$221,740 will be provided by the SRFB with the remaining \$109,000 being local match. The local match is to be provided by three entities: Washington Department of General Administration (GA) for \$69,000, Puget Sound Action Team (PSAT) for \$30,000, and the Port of Olympia for \$10,000. While the Puget Sound Action Team is not a CLAMP entity, it will be considered as such for this grant through its contribution of local match.

SRFB PROJECT MANAGEMENT

Thurston Regional Planning Council will undertake this SRFB grant on behalf of the Capitol Lake Adaptive Management Plan (CLAMP) Steering Committee and the CLAMP Technical Advisory Committee. (*See CLAMP Study Task 12 above*) TRPC will administer the SRFB grant, manage the contracts with the various consultants, and work with the CLAMP entities to review, interview and select suitable consultants. TRPC will also provide regular project updates to the CLAMP Steering Committee, State Capitol Committee, and other interested parties.

SRFB CONSULTANTS

The ***Deschutes River Estuary Restoration Study*** will require consultant contracts for three of the CLAMP Study Tasks being:

3. Reference Estuary Study,
5. Hydraulic and Sediment Transport Analysis and Modeling, and
6. Biological Conditions Report.

In 2004 the Department of General Administration (GA) contracted with the U.S. Geological Service (USGS) Coastal and Marine Geology Program for \$60,000 to initiate CLAMP Study Task 5 - Hydraulic and Sediment Transport Analysis and Modeling. Additional resources from this SRFB grant will be required to complete that task. USGS is also preparing a new Bathymetric Survey of the lake under a separate contract with the Department of Ecology which will address CLAMP Study Task 4.

Consultant proposals are being sought to complete two of the CLAMP Study Tasks for this SRFB grant. They are as follows:

3. Reference Estuary Study, and
6. Biological Conditions Report.