

**Summary of Materials and Request for Stakeholder and Community Input**  
**Capitol Lake Long-Term Management Planning**  
**Phase I Implementation – July Meeting Series**

**NEW PROVISIO ELEMENT: REVIEW OF EXISTING AND HYBRID OPTIONS**

A review of the Existing and Hybrid Options for Long-Term Management of Capitol Lake will occur in July 2016. The materials to accompany these meetings provide a graphical and written overview of the existing and hybrid options. Collectively, the long-term management options will be reviewed for consistency with project goals identified in previous meetings. The draft Purpose and Need Statement has also been revised to reflect stakeholder feedback.

**PREVIOUS PROVISIO ELEMENT: IDENTIFICATION OF HYBRID OPTIONS**

The materials prepared to identify Hybrid Options for the Long-Term Management of Capitol Lake provided an overview and description of the hybrid options. A draft Purpose and Need Statement, reflecting project goals, was prepared and reviewed with stakeholders. These materials are presented in combination with the July materials and are available for a “second touch” review.

**MATERIALS FOR REVIEW**

- Visual representation and overview of existing options for long-term management, including the Managed Lake and Restored Estuary, along with the Hybrid Options.
- Figures that overview the initial consistency of existing and hybrid options with project goals.
- A discussion-oriented table that lists potential components of a long-term management option and will be a tool for brainstorming and discussing additional option components.
- A revised draft Purpose and Need Statement that reflects stakeholder feedback.

**QUESTIONS FOR MATERIAL REVIEW AND INPUT**

1. Are you aware of additional components that should be considered for incorporation into the existing and/or hybrid long-term management options to increase consistency with project goals? How does your suggested additional component tie to the project goals?
2. Does the revised draft Purpose and Need Statement capture the majority of stakeholder feedback, and continue to reflect project goals? Are there any additional changes that should be made?

**DATES FOR COMMUNITY INPUT ON REVIEW OF EXISTING AND HYBRID OPTIONS**

Input can be provided at the Community meeting scheduled from 5:30 to 7:30 PM on July 27, 2016 at 1500 Jefferson St SE, Olympia, WA. Input on these materials and the questions above can also be submitted online from July 14, 2016 to July 28, 2016, at [www.des.wa.gov](http://www.des.wa.gov).



*Below is a revised draft Purpose and Need Statement, which has been updated to reflect feedback provided by the stakeholders of this Phase I process. Reaching broad agreement on a Purpose and Need Statement could provide the foundation for a future Environmental Impact Statement (Phase II), the process used to compare and select a long-term management option.*

### **Capitol Lake/Lower Deschutes Watershed Long-Term Management Project: Draft Purpose and Need Statement**

The purpose of the Capitol Lake/Lower Deschutes Watershed Long-Term Management Project is to identify and implement an environmentally and economically sustainable management approach that improves water quality and other ecological functions within the watershed. The work proposed as part of this project is also needed to address existing sediment accumulation and manage future sediment deposition, and to restore and enhance community use of the resource.

The Lower Deschutes Watershed has long-standing history with active use and significance to Native American tribes; although its use and conditions have changed since its construction in 1951, Capitol Lake continues to be an important regional and recreational resource. An estimated 35,000 cubic yards of sediment accumulates within the lake basin annually, resulting in increasingly shallow conditions. Capitol Lake was closed to swimming in 1985 due to high bacteria levels. Water draw-down and back-flushing to control algal blooms and freshwater plant growth continued annually until 1999 and caused temporary impacts to other recreational uses, such as boating and fishing. The presence of invasive species resulted in official closure to all public uses in 2009. Use of the waterbody continues to be restricted today.

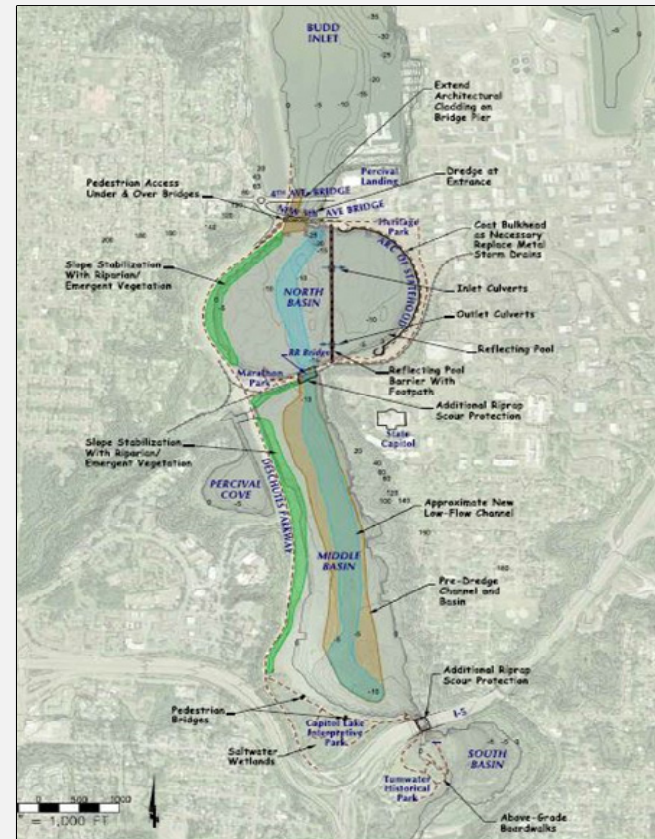
Water quality within the Capitol Lake/Lower Deschutes Watershed must be improved to meet federal law and state water quality standards, and to restore aquatic life and recreational uses, which are protected under these regulations. Improving water quality would support the ecological goal of enhancing fish and wildlife habitat. The project would additionally include elements to manage sediment within the Capitol Lake basin and in adjacent Budd Inlet and manage or eradicate invasive species. Collectively, these collaborative efforts between the Washington State Department of Enterprise Services and other stakeholders would be consistent with the on-going state-led initiatives to restore the Puget Sound.

### Hybrid Option: Dual Basin

**Adaptively Manages** the basin by establishing a tidal estuary in the western portion of the north basin, and throughout the middle and south basins. Maintains a 39-acre saltwater **Reflecting Pool** at the north end of the basin through construction of a sheet pile retaining wall. **Improves Fish and Wildlife Habitat and Ecosystem Functions** by establishing estuary marsh plants throughout the basin and creating intertidal habitat along Deschutes Parkway.

#### Additional components:

- Construction of a 500-foot opening at the current Fifth Avenue dam
- Initial dredging in Capitol Lake and maintenance dredging in Budd Inlet
- Installation of elevated boardwalks within estuary and on top of retaining wall



Source: Moffatt & Nichol 2007

### Hybrid Option: Dual Estuary/Lake Idea (DELI)

**Adaptively Manages** the basin by establishing a tidal estuary in the western portion of the north basin, and throughout the middle and south basins. Maintains a 48-acre freshwater **Reflecting Pool** at the north end of the basin through construction of a rock containment wall. **Improves Fish and Wildlife Habitat and Ecosystem Functions** through natural reestablishment of saltwater plants within the estuary and management of invasive species.

#### Additional components:

- Construction of a 500-foot opening beneath a reconstructed Fifth Avenue
- Installation of sediment trap with pumping station and annual maintenance dredging
- Construction of new public swimming area and pedestrian walkway on top of containment wall



Source: Community Member 2016

#### Notes:

1. The information included on this figure has not been modified from its original proposal, but has been summarized to fit this presentation format. This graphic represents information from the project proponents. Without design and additional technical evaluation, the Department of Enterprise Services cannot confirm its accuracy, feasibility, and validity.
2. A proposal for nutrient harvesting has been submitted and could be included as a component of the long-term management options to address existing water quality impairments in Capitol Lake and Budd Inlet.
3. A conceptual hybrid option entitled "Capitol Lagoon" has been proposed and includes brackish-lake management, modeled after a typical coastal lagoon, which would have saltwater input. This idea remains at a conceptual level without additional design components, aside from lowering of the dam in the winter, but is noted here as an additional hybrid option.
4. A conceptual hybrid option similar to the Dual Basin and the "DELI" options was proposed by another private citizen, including a reconstructed Fifth Avenue Bridge, freshwater lake with swimming area, and a wall with pedestrian path between the restored estuary. Due to the similarities of this option and "DELI," and because additional design components were not provided, it is not included in this figure, but noted here.
5. A conceptual hybrid option similar to the DELI option was proposed by another private citizen, but differs from DELI by maintaining the existing 5th Avenue (which avoids costs associated with reconstruction of this infrastructure) and slightly modifying the configuration of the berm to separate the freshwater reflecting pool and the restored estuary. The modification to this berm would also increase the size of the 48-acre reflecting pool proposed as part of DELI, and would include a raised wooden walkway extending between the east side of the Fifth Avenue dam to the eastern edge of Marathon Park.
6. A conceptual hybrid option has been proposed and focuses on the protection and expansion of freshwater habitat near the Capitol Lake Interpretive Center once tidal hydrology is restored throughout the basin. This would be achieved by limiting any mixing of marine water to this freshwater habitat and continuing input from the Deschutes River to this area of the lake.

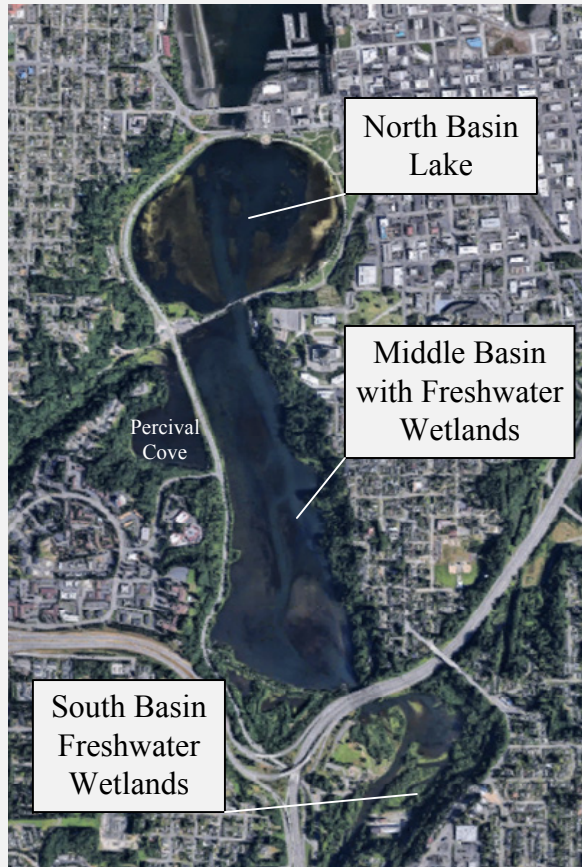


## Managed Lake

Similar to existing conditions, with additional management strategies for sediment accumulation. Maintains the historic reflecting pool and the Capitol Lake Basin. Fish and wildlife habitat would not substantially change compared to existing conditions, but a freshwater wetland habitat would develop in the South Basin.

### Additional components:

- Retains existing Fifth Avenue dam and tide gate in its existing configuration
- Maintenance dredging within the North and Middle Basins, and selective dredging within the South Basin
- Maintains existing recreational opportunities and potentially restores a boat harbor



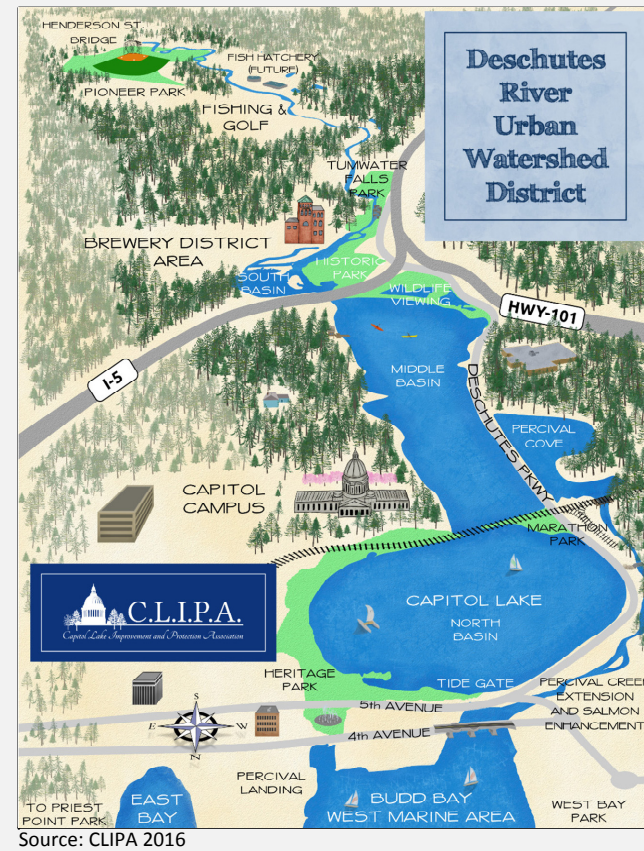
Source: Entranco, Inc., et al. 1999

## Managed Lake Sub-Option: Percival Creek Rechanneling and Salmon Habitat Rehabilitation Plan

**Adaptively Manages** the basin through selective dredging of Capitol Lake and freshwater plant harvesting. Maintains the historic **Reflecting Pool** and existing Capitol Lake and its basins. **Improves Fish and Wildlife Habitat** and **Ecosystem Functions** through construction of a new streambed west of the relocated Deschutes Parkway, removal of fish passage barriers, placement of engineered log jams and enhancement of riparian conditions.

### Additional components:

- Retains existing Fifth Avenue dam and tide gate in its existing configuration
- Periodic dredging in the middle basin and routine maintenance dredging in the north basin
- Use of Capitol Lake for public swimming and construction of a boat harbor



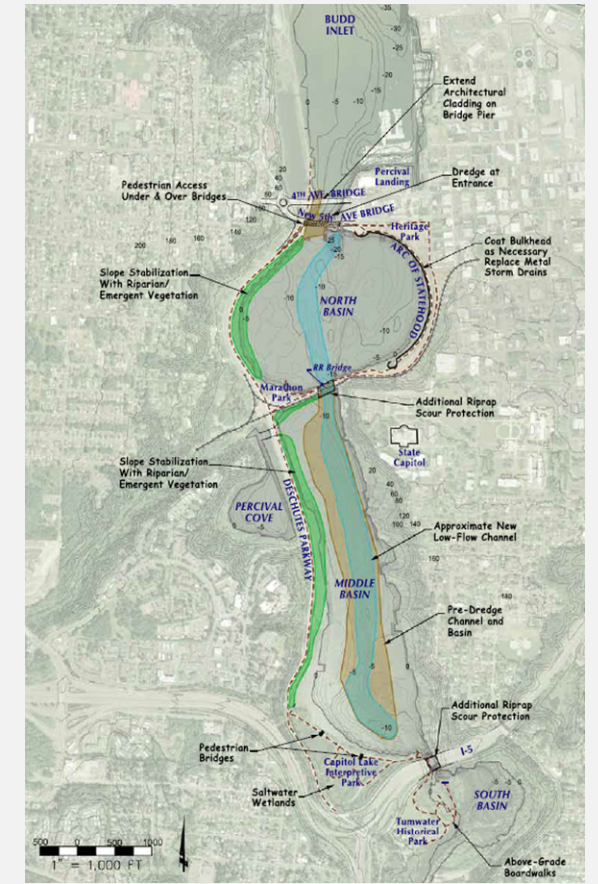
Source: CLIPA 2016

## Restored Estuary

Restores full tidal hydrology throughout the existing Capitol Lake Basin to restore estuarine conditions, and allows saltwater exchange within the newly formed intertidal mudflats of the North and Middle Basins. Removes the existing reflecting pool, but natural reflection of the Capitol would occur at 75 percent of tidal elevations. Restores fish and wildlife habitat through the establishment of estuary marsh plants and improves ecological functions that would support native invertebrate, bird, and fish populations.

### Additional components:

- Construction of a 500-ft opening at the current Fifth Avenue dam
- Initial dredging in Capitol Lake before estuary is restored
- Installation of elevated boardwalks within estuary



Source: Moffatt & Nichol, 2007

### Notes:

1. The information included on this figure has not been modified from its original proposal, but has been summarized to fit this presentation format. This graphic represents information from the project proponents. Without design and additional technical evaluation, the Department of Enterprise Services cannot confirm its accuracy, feasibility, and validity.
2. A proposal for nutrient harvesting has been submitted and could be included as a component of the long-term management options to address existing water quality impairments in Capitol Lake and Budd Inlet.
3. A conceptual variation to the Restored Estuary option has been proposed, and includes active sediment management through installation of an adjustable weir at the north end of the South Basin. The weir would capture sediment upstream of Budd Inlet and could be coupled with downstream maintenance dredging and installation of infrastructure, such as a jetty, to minimize sediment deposition near port facilities and navigational channels in Budd Inlet.
4. A proposed sub-option of a Managed Lake scenario would focus on a significant expansion to Heritage Park through increased fill in the existing Capitol Lake, and additional fill along Deschutes Parkway. The intent of this option is to increase park and outdoor space and recreational activities such as swimming. A bridge between the expanded parks could be constructed for connectivity.



The information included within this table has been provided by the option proponents, or has been populated based on existing analyses completed as part of the CLAMP process (for the Dual Basin and Managed Lake options). The information provided by the option proponents has not been verified by DES, and has been included on this table without substantive change. Without design and additional technical evaluation, DES cannot confirm the accuracy, feasibility, and validity of this information and the conclusions, and recognizes that some information presented here conflicts with existing analyses.

Conceptual Long-Term Management Option	<b>Hybrid Option: Dual Basin</b> <small>Source: Deschutes Estuary Feasibility Study</small>	<b>Hybrid Option: Dual Estuary/Lake Idea (DELI)</b> <small>Source: Community Member</small>
<b>Improve and Support Water Quality</b>	Includes engineered saltwater exchange to the reflecting pool, reducing the residence time and, therefore, increasing water quality; tidal exchange throughout the remaining portion of the basin; supports improvement in dissolved oxygen conditions in Budd Inlet	Tidal exchange throughout a majority of the Capitol Lake basin; supports improvement in dissolved oxygen conditions in Budd Inlet; introduction of artesian groundwater flows to freshwater lake and from lake to restored estuary
<b>Improve and Support Sustainable Ecosystem Functions</b>	Includes restoration of hydraulic connectivity would reestablish biological connectivity across the river-estuary-marine boundary and result in natural recruitment of estuarine plants and animals	Restoration of 80% of the Capitol Lake basin to historic tidal estuary; creates clean freshwater lake for use by water birds
<b>Improve and Support Fish and Wildlife Habitat</b>	Establishes an estuary marsh plants throughout the basin; creates an intertidal habitat along Deschutes Parkway through placement of dredged material for slope stability and establishment of intertidal, riparian vegetation	Prefers natural reestablishment of saltwater plants with back-up engineered plantings if necessary
<b>Control Invasive Species</b>	Includes efforts to eradicate New Zealand Mudsnaill <sup>1</sup>	Includes efforts to eradicate New Zealand Mudsnaill <sup>1</sup> ; back-flushing of the new lake with saltwater prior to introduction of artesian flows to control invasive species
<b>Improve and Support Sediment Management</b>	Includes initial dredging of Capitol Lake prior to estuary restoration and future maintenance dredging of areas in Budd Inlet	Initial dredging of Capitol Lake prior to estuary restoration; annual maintenance dredging from sediment trap in south end of the middle basin
<b>Manage Flood Risk</b>	Includes an improved stormwater conveyance system and enhancement of the Heritage Park berm; <sup>2</sup> construction of retaining wall at an elevation that would accommodate future flood risks	Includes an improved stormwater conveyance system and enhancement of the Heritage Park berm; <sup>2</sup> construction of retaining wall at an elevation that would accommodate future flood risks
<b>Improve and Support Recreational Opportunities</b>	Protects Heritage Park; provides 39-acre reflecting pool; includes riverine recreation in south and middle basins; includes a pedestrian path on the center line retaining wall; replaces many of the existing trails with elevated boardwalks	Protects Heritage Park; provides 48-acre reflecting pool with sandy lake bottom and public swimming area; includes riverine recreation in south and middle basins; includes a pedestrian path on the center line retaining wall
<b>Improve and Support Aesthetics and Visual Quality</b>	The Capitol would be reflected 75% of the time with restored tidal flow; provides enhanced intertidal habitat around edge of estuary, which may provide enhanced aesthetics	Cleaner surface waters of the freshwater pool would be excellent for reflecting the Capitol dome; restored estuary would not be visible from Heritage Park
<b>Support and Maintain Historical and Cultural Resources</b>	Supports salmon habitat; restores historical Tribal values; could provide restored shellfish habitat that could be used similar to historical and cultural harvesting	Supports salmon habitat and population growth; restoration of historical Tribal values; could provide restored shellfish habitat that could be used similar to historic and cultural harvesting
<b>Avoid Negative Impacts and Maximize Economic Benefits</b>	Separates estuary from Heritage Park; maintains green space and open water area; enhances an outdoor recreational site for public use and potential increased tourism	Separates estuary from Heritage Park; maintains green space and open water area; enhances an outdoor recreational site for public use and potential increased tourism
<b>Minimize Long-Term Costs</b>	Includes annual maintenance dredging in Budd Inlet with lower costs than maintenance dredging throughout lake basins <sup>3</sup>	Small-sized, annual dredging operation in south end of middle basin, will maximize minimization of sediment control costs <sup>3</sup>

Notes:  
1. The Washington Department of Fish and Wildlife has stated that eradication of the New Zealand Mudsnaill should be a component of the selected long-term management option.  
2. Stormwater conveyance system improvements and enhancement of the Heritage Park berm are presented as potential design elements of any option to address the project goals of managing flood risk and sea level rise, and are based on the evaluation and recommendation included in the *Capitol Lake Alternatives Analysis* (Herrera 2009).  
3. Long-term costs will be discussed in a forthcoming effort as part of Phase I, and further analyzed, along with potential economic impacts and benefits from the long-term management options, as part of a future Environmental Impact State in Phase II.



**Capitol Lake Long-Term Management Planning**  
Department of Enterprise Services  
Olympia, Washington

**Hybrid Long-Term Management Options:  
Review of Intended Consistency with Project Goals**

The information included within this table has been provided by the option proponents, or has been populated based on existing analyses completed as part of the CLAMP process (for the Dual Basin and Managed Lake options). The information provided by the option proponents has not been verified by DES, and has been included on this table without substantive change. Without design and additional technical evaluation, DES cannot confirm the accuracy, feasibility, and validity of this information and the conclusions, and recognizes that some information presented here conflicts with existing analyses.

Conceptual Long-Term Management Option	<b>Managed Lake</b> Source: CLAMP Alternatives Analysis	<b>Managed Lake Sub-Option: Percival Creek Rechannelization and Coho Rehabilitation Plan</b> Source: CLIPA <sup>1</sup>	<b>Restored Estuary</b> Source: DERT
<b>Improve and Support Water Quality</b>	No measureable improvements in water quality are predicted <sup>2</sup>	Existing lake intercepts Deschutes River nitrogen; prevents degradation from dissolved oxygen in Budd Inlet; <sup>3</sup> maintains high dissolved oxygen in the basin and sustains fair dissolved oxygen levels in Budd Inlet; traps “clean” sediment in Capitol Lake	Supports goals of achieving water quality standards, now marine standards under an estuary system; improves dissolved oxygen conditions in Budd Inlet
<b>Improve and Support Sustainable Ecosystem Functions</b>	Eventually develops freshwater wetland habitat in the South Basin; retains existing nearshore wetlands (previously created to mitigate impacts of park construction)	Maintains freshwater aquatic insects, waterfowl, wildlife populations; reintroduces limited tidal processes through rechanneling; enables selective harvesting of aquatic plants to improve water quality	Restores 100% of the Capitol Lake basin to tidal estuary; restores plants and animals that thrive in marine, estuarine waters; restores native organisms in sediments that serve as the basis of the marine food chain
<b>Improve and Support Fish and Wildlife Habitat</b>	Maintains habitat for freshwater-dependent species; continues removal of noxious weeds along the shoreline and milfoil from the lake	Creek rechanneling supports estuarine, riverine, and nearshore quality juvenile Chinook salmon rearing; improves Coho and other salmonid rearing and spawning habitat; increases stray juvenile access to rearing habitat; could encourage growth of kelp and eelgrass	Restores 260 acres of intertidal nursery areas for juvenile salmon; reestablishes 6.5 miles of marine shorelines; increases salt marsh habitat (WRIA 13 habitat limiting factors)
<b>Control Invasive Species</b>	Includes efforts to eradicate New Zealand Mudsnaill <sup>4</sup>	Includes efforts to eradicate New Zealand Mudsnaill; <sup>4</sup> includes potential for native species to control invasive species	Includes efforts to eradicate New Zealand Mudsnaill; <sup>4</sup> reduces or eliminates freshwater invasive species due to introduction of tidal flows
<b>Improve and Support Sediment Management</b>	Includes maintenance dredging in the North and Middle Basins (not within 100 feet of the shoreline), and selective dredging in the South Basin	Provides initial maintenance dredging of northern basins using installed hydraulic dredge system; reuses sediment for landscaping; avoids mixing lake sediments with contaminated sediments in Budd Inlet; minimizes sediment accumulation in Budd Inlet and navigational channel	Proposes sediment management upstream in the watershed, with mechanism to capture sediment in the estuary and deflected westward below the current dam and bridges
<b>Manage Flood Risk</b>	Includes an improved stormwater conveyance system and enhancement of the Heritage Park berm, <sup>5</sup> and manual lowering of water levels at the Fifth Avenue dam prior to major storm events	Includes an improved stormwater conveyance system and enhancement of the Heritage Park berm; <sup>5</sup> uses the Fifth Avenue dam to manage Capitol Lake levels during major storm events, which mitigates flood risks and impacts from sea level rise	Improves stormwater conveyance system and enhancement of the Heritage Park berm; <sup>5</sup> promotes management through restoration of natural system; eliminates required management of the existing Fifth Avenue dam during major storm events
<b>Improve and Support Recreational Opportunities</b>	Maintains existing recreational activities; constructs a pedestrian bypass around the Fifth Avenue dam; restores boat launch in the South Basin	Promotes long needed freshwater public swimming area; provides boat harbor; maintains attractiveness for basin’s shoreline for recreational activities such as running, walking, dog walking, volleyball, soccer, etc.	Maintains passive activities that exist above the tideline (walking, bird watching, bicycling, picnicking, etc.); enhances water-related activities (kayaking, swimming, etc.) by eliminating invasive species; restores natural beaches (beach combing, etc.)
<b>Improve and Support Aesthetics and Visual Quality</b>	Maintains existing views and reflection of the Capitol within the Capitol Lake basin	Maintains Thurston County’s #1 “Aesthetic Wonder” view; returns Capitol Lake to its pristine nature by dredging and harvesting undesirable aquatic plants; preserves popular returning Chinook “welcome home” viewing and outreach area	The Capitol would be reflected 75% of the time with restored tidal flow; enhances aesthetics by eliminating algal mats that currently form during the summer months; introduces dynamic visual change with estuary conditions
<b>Support and Maintain Historical and Cultural Resources</b>	Maintains civic pride in the Capitol area and historical use of the last half-century; does not support Tribal and pre-lake construction historical values	Consistent with federal and state historic preservation of the designated National Historic Landmark based on the Wilder and White and Olmsted Brothers design of the State Capitol Campus	Restores historic Deschutes Estuary; supports salmon habitat; restores historical Tribal values; supports treaty rights; could provide restored shellfish habitat that could be used similar to historical and cultural harvesting; restores water access to brewery
<b>Avoid Negative Impacts and Maximize Economic Benefits</b>	<i>Identified data gap</i> <sup>6</sup>	Avoids impacts to the revenue-generating and economically stimulating activities such as recreational marine boating, Port of Olympia Marine Terminal, and the West Bay Waterfront	Implements the long-term management plan that was determined to be the lowest cost by CLAMP; enhances an outdoor recreational site for public use and potential increased tourism; increases potential for federal matching grant funds
<b>Minimize Long-Term Costs</b>	<i>Identified data gap</i> <sup>6,7</sup>	Minimizes public expenditures and debt and protects funding for other needs <sup>7</sup>	Off-sets the initial construction cost by reducing on-going costs in later years for dam maintenance and continued maintenance dredging; designs with nature to reduce costs <sup>7</sup>

Notes:

- The Percival Creek Rechannelization and Coho Rehabilitation Plan represents a sub-option to the Managed Lake option; it is consistent with the approach and components of the Managed Lake option, but would provide additional benefits to fish and wildlife habitat and ecological functions through its proposed creek rechanneling and habitat restoration. This sub-option has been proposed by CLIPA and the associated information represents the conclusions of this private citizen group.
- The CLAMP Alternative Analysis concluded that with a Managed Lake Alternative there were no predicted changes in dissolved oxygen conditions from current conditions and that there would be no measureable improvement in water quality associated with the dredging of sediments containing phosphorus as the majority of the phosphorus supply to the lake basins would still be generated by the Deschutes River/watershed source.
- This conclusion regarding dissolved oxygen in Budd Inlet conflicts with published findings by the Washington State Department of Ecology and analyses performed as part previous CLAMP processes (which are the basis of findings related to water quality for the Managed Lake option); however, the stated conclusion is supported by findings from Dr. David Milne.
- The Washington Department of Fish and Wildlife has stated that eradication of the New Zealand Mudsnaill should be a component of the selected long-term management option. For that reason, it is included as a component that would be incorporated into the long-term management options.
- Stormwater conveyance system improvements and enhancement of the Heritage Park berm are presented as potential design elements of any option to address the project goals of managing flood risk and sea level rise, and are based on the evaluation and recommendation included in the *Capitol Lake Alternatives Analysis* (Herrera 2009).
- Identified data gaps will be evaluated as part of the future Environmental Impact Statement in Phase II, and do not preclude the long-term management option from consideration or discussion as part of Phase I. In fact, data gaps exist for all long-term management options due to the lack of preliminary or advanced design.
- Long-term costs will be discussed in a forthcoming effort as part of Phase I, and further analyzed, along with potential economic impacts and benefits from the long-term management options, as part of a future Environmental Impact State in Phase II.

Abbreviations: CLAMP = Capitol Lake Adaptive Management Plan; CLIPA = Capitol Lake Improvement and Protection Association; DERT = Deschutes Estuary Restoration Team; WRIA = Water Resource Inventory Areas

 <p>Washington State Department of <b>Enterprise Services</b> <b>FLOYD   SNIDER</b> strategy ■ science ■ engineering</p>	<p><b>Capitol Lake Long-Term Management Planning</b> Department of Enterprise Services Olympia, Washington</p>	<p><b>Existing Long-Term Management Options and Sub-Option: Review of Intended Consistency with Project Goals</b></p>
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**For Discussion: Potential Components of Conceptual Long-Term Management Options**

POTENTIAL COMPONENT <sup>1</sup>	BENEFIT OF INCORPORATION AND/OR INCREASED CONSISTENCY WITH PROJECT GOALS <sup>2</sup>
<b>Example and Potential Components provided by Floyd   Snider</b>	
Efforts to eradicate New Zealand Mudsnaill <sup>3</sup>	Eradicating the New Zealand Mudsnaill would improve fish and wildlife habitat and ecological functions, and could also result in restored opportunities for aquatic recreation
Control of the resident Canada Goose population	Controlling the resident Canada Geese to a population of no more than 100 would improve ecological functions and may also improve water quality
Improvement of stormwater conveyance system and Heritage Park berm <sup>4</sup>	Improving the stormwater conveyance system and enhancing the berm in Heritage Park would minimize potential flood risks and other impacts associated with sea level rise
Initial dredging of existing sediment deposition within the lake	Dredging of the existing sediment accumulation could be the initial phase of a sediment management strategy and would minimize initial sediment transport into Budd Inlet if the Fifth Avenue dam is removed
Nutrient harvesting from surface waters <sup>5</sup>	Implementing mechanized (Rotating Photo Bioreactor) removal of soluble phosphorus and dissolved nitrogen from surface waters would improve water quality and ecological functions within the watershed
Installation of an adjustable weir for sediment management <sup>6</sup>	Installing an adjustable weir at the north end of the South Basin would minimize the current rate of downstream sediment accumulation and could be coupled with the installation of infrastructure in Budd Inlet to avoid sediment deposition near marine facilities and navigational channels
Installation of interpretative signage at the shoreline	Installing interpretative signage along the shoreline would provide educational opportunities about the past and present use of the resource, and could reflect the related cultural and historical values
<b>Additional Components provided by the Technical Committee</b> <i>to be populated during the Technical Committee meeting on July 14</i>	
<i>Placeholder</i>	
<b>Additional Components provided by the Executive Work Group</b> <i>to be populated during the Executive Work Group meeting on July 22</i>	
<i>Placeholder</i>	
<b>Additional Components provided by the Community</b> <i>to be populated during the Community meeting on July 27</i>	
<i>Placeholder</i>	

- Notes:
- 1 This table is intended to generate discussion regarding potential components of conceptual long-term management options that would increase consistency with identified project goals. The information currently included in the table is provided by Floyd|Snider for example, is based on feedback already received during this Phase I process, or is sourced from earlier project documents. The placeholders will be updated after discussion with the stakeholders, and will ultimately reflect feedback from the Technical Committee, Executive Work Group, and the Community.
  - 2 Without design and/or additional technical evaluation, the Department of Enterprise Services cannot confirm the accuracy, feasibility, and validity of this information and the conclusions.
  - 3 The Washington Department of Fish and Wildlife stated during the June input period that eradication of the New Zealand Mudsnaill should be a component of the selected long-term management option. It is included on the table due to its potential to control invasive species if incorporated as part of the long-term management options.
  - 4 Stormwater conveyance system improvements and enhancement of the Heritage Park berm are presented as potential design elements of any option to address the project goals of managing flood risk and sea level rise, and are based on the evaluation and recommendation included in the *Capitol Lake Alternatives Analysis* (Herrera 2009).
  - 5 Potential component provided by a Community member during the June input period, and is included on the table due to its potential to improve and support water quality if incorporated as part of the long-term management options.
  - 6 Potential component provided by an Executive Work Group member during the June input period, and is included on the table due to its potential to manage sediment if incorporated as part of the long-term management options.