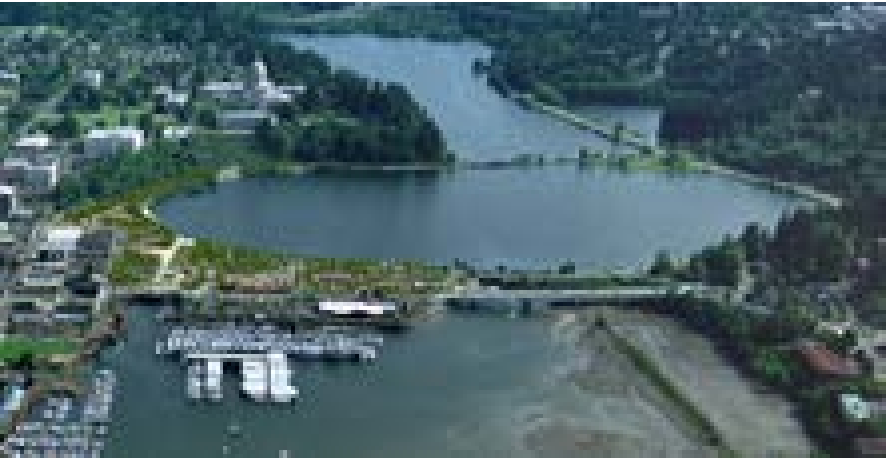

CLIPA PRESENTATION TO DES EXECUTIVE WORK GROUP, MAY 2016

ROBERT HOLMAN COMMENTS

INTRODUCTION

To present the most relevant information regarding the long term management for Capitol Lake, we have chosen to use the DES/Floyd Snyder Summary of Goals that you are most familiar with. This is Figure 3, which you all have, and is posted on the wall. In particular, we want to move beyond the incomplete and now outdated CLAMP report, and focus on the most recent information, as well as include areas that weren't addressed in the earlier reports.

But first, a little context. We all know that our community faces some very significant social problems, infrastructure needs and unmet maintenance issues. Problems such as education, drug addiction, homelessness, global warming and economic development are continually in the news. We are all searching for solutions to these problems. However, in the case of the management of Capitol Lake, we have just the opposite. Those who advocate for removal of the dam, either to create an estuary or a dual basin, have a solution, but are still looking for the problem. What we have is the tail wagging the dog. Clearly, there are many issues that need to be addressed regarding the management of Capitol Lake. But the critical question is, do any of these issues rise to such a level that the community should invest the enormous resources and take the many risks of untested assumptions and unpredictable outcomes to make such a fundamental change in this urban area, which is irreversible. We believe that an incremental approach, taking advantage of the many benefits of Capitol Lake, and working to improve in areas where we can best direct our limited resources is the most prudent. We believe this is the essence of "adaptive management".

SEDIMENT MANAGEMENT

Looking at the identified goals (yellow circles) on Figure 3, I would like to first address sediment management: in particular, the need for an initial dredge. We have placed this topic first, because it is probably the one where we have the most agreement. Regardless of position on estuary, dual basin or lake retention, most agree that, at least an initial dredge, must be the first step in the process. This year marks thirty years since the last dredging. Each year, about 35,000 cubic yards of sediment are transported to the Capitol Lake Basin and Lower Budd Inlet, most of it in a handful of storm events each winter. If we retain Capitol Lake, dredging is necessary if we want to develop recreational opportunities and ultimately avoid creating a freshwater swamp. If the choice is made to remove the tide lock, failure to first dredge at least a portion of the accumulated sediment would be disastrous for the Olympia waterfront and Port. The Corps of Engineers estimates that approximately six feet of sediment will accumulate every ten years in lower Budd Inlet without dredging. We now have thirty years of accumulated sediment in the Capitol Laker basin. You can do the math.

With this background, we suggest that this initial dredge be moved to a "fast track" position, and not wait for final consensus on all the long term management planning, which DES estimates will take several more years. This is an area where even "controversy averse" agency personnel and elected officials could move forward with minimal exposure.

As for the larger question of the goal of improving long-term sediment management, let's examine the alternatives of lake versus estuary. We maintain that using Capitol Lake as a sediment trap is preferable to eliminating the dam, removing portions of the isthmus and letting the sediment pulse into lower Budd Inlet. There are at least two reasons. First, the cost of dredging in Capitol Lake is a fraction of the cost of dredging in the boat basins, port area and around the various parks on lower Budd Inlet. Also impacting dredging costs are disposal options, which are more restrictive with the potentially contaminated sediments in Budd Inlet versus the relatively clean sediments in Capitol Lake. Second, and probably even more important, is the ability of a sediment trap to hold the material until the most convenient time for removal. Allowing these large quantities of sediment to pulse into lower Budd Inlet would require more immediate action and exposure to legal challenges, resulting in higher costs and potential for putting lower Budd Inlet off limits until dredging is completed.

FLOOD RISK/SEA LEVEL RISE

Reducing flood risk has been identified as an important infrastructure goal. I will now discuss the current measures taken by DES to minimize flooding impacts and how this might relate to the longer term issue of sea level rise.

First of all, although we refer to the "dam" at Fifth Avenue, it was actually designed as a "tide lock" rather than a traditional river dam. Currently, using this "tide lock" function, DES manages the Capitol Lake level to reduce the potential for flooding. This potential occurs when the combination of high rainfall in the Deschutes Watershed and high tides in Budd Inlet create conditions that can result in the tide backing up the stormwater in Capitol Lake. To mitigate this potential for flooding, DES has developed procedures to open the Fifth Avenue dam to lower the Capitol Lake level prior to the high tide. This allows Capitol Lake to absorb the stormwater flow during the period of time that the tide is at its highest level.

Using a typical winter storm, lowering the lake by two feet provides about one and one-half hours to refill. Combining this with the additional three feet to the top of the Arc of Statehood wall, provides nearly four hours before flooding would occur.

Whether the time to refill the lake is sufficient to mitigate an entire flood event, or only a portion will depend on the height and timing of the high tide. But, it is important to note that one of the highest flows was recorded on February 18, 2014, and the high tide that morning was a relatively high 15.4 feet. In this instance, DES was able to lower the lake level in anticipation of the high flows and avoid any flooding in the downtown area.

It probably should go without saying, but the alternative of eliminating the dam and Capitol Lake would also eliminate the possibility of any flood control for the downtown area, as Olympia would be completely and immediately at the mercy of the tide level during significant storm events.

The Olympia City Council has recognized that sea level rise will increase the risk of downtown flooding, and is beginning a planning process to address the risk. The DES use of Capitol Lake will continue to provide some mitigation, but long term, it will not have the capacity to be effective. Before that time occurs, Olympia will face the difficult choice, as will many other cities, of choosing to either protect or abandon the downtown area. But, realistically, Olympia has already chosen their course. Locating City Hall, new LOTT treatment facilities, the Children's Museum, waterfront park development and new market rate housing all point to Olympia's commitment to the downtown area. This leads to the conclusion that protection, likely in the form of dikes, tide gates or other barriers, will be required. And this leads to the further question, why would we incur the enormous expense to remove this existing protection in the form of the Fifth Avenue tide lock, when longer term we will need these resources to develop sea rise protection for downtown Olympia?

INVASIVE SPECIES – NEW ZEALAND MUD SNAILS

One final topic I would like to address is the issue of invasive species, in particular the presence of New Zealand Mud Snails in Capitol Lake. First, a little history. The NZMS first appeared in the US in the late 1980's, in the Snake River in Idaho. Since then, they have spread throughout the Western US and the Great Lakes region. They are now found in most Western Rivers, the Grand Canyon, Yellowstone; and more locally, in Lake Washington and the Columbia River. They are also found in many marine environments along the Pacific Coast. This last point is most important. Converting the Capitol Lake Basin to an estuary will not kill off the mud snails. They survive in many estuaries, including the Chehalis River surge plain in Grays Harbor County. In fact, DNR manages a recreation site in this area including a canoe launch site. Perhaps DES could work with DNR to figure out how to remove the quarantine of Capitol Lake and initiate recreational opportunities there.

SUMMARY

Together with Dr. Milne's comments on water quality and ecosystem functions, Denis, Jack and I have tried to provide the most current information for the identified goals of the DES Phase 1 Implementation Plan. We are in full agreement that an adaptive management approach promises to be most effective. We interpret this as making positive incremental changes to optimize the existing Deschutes River/Capitol Lake/Budd Inlet watershed, while retaining the many benefits to the community of this asset.

DESCL Talk (15 minutes)

Jack Havens - SPSSEG, SSEA, Stream Team, Capitol Land Trust, Western Rivers Conservancy, among others.

1) **PSNERP decision** 2)strategies to **increase salmon numbers**, and 3) our plan to restore and maintain **recreational opportunities** around Capitol Lake –in particular freshwater swimming.

PSNERP Decision to Not Fund the Deschutes Estuary Restoration Project:

Study Partnership between WDFW and ACOE.

It's a **group of experts** who have meticulously studied Puget Sound Nearshore ecology since 2001.

Like Dr. Milne, PSNERP's greatest values include its independence, its objectivity, and its degree of expertise.

Its **mission includes evaluating** significant ecosystem degradation and recommending only those selected for funding.

While we value estuaries in general and recognize that there are some benefits to the Deschutes Estuary Restoration, we have to agree with PSNERP which has rejected this project twice for funding.

For me and many others, the most meaningful reason supporting this rejection is the **project's cost-benefit ratio**. Funding could not be justified given the limited environmental benefits received. **(Govt. carpools and Teslas)**The inference is that alternative projects would be far better investments for improving Puget Sound. Investments like **stormwater run-off abatement** (recognized as the #1 problem in Puget Sound), reduction of **pharmacologicals and other toxins** flowing into the Sound and damaging our Orcas, seals, sea otters, salmonids, and ultimately we humans, particularly children.

One of the most **fundamental principles** of any **effective management team** is its ability to appreciate and utilize expertise. Our experts have been clear.

Understanding the Relationship Between Capitol Lake and its Chinook Salmon:

Columbia River dams have been blamed for being detrimental to juvenile salmon due to their tall spillways and turbine intakes. **We must all understand** that Capitol Lake's tidelock has neither. So it seems probable that the tidelock has little effect on these fish.

But how about the Lake itself (being a lake)? Over the years, we have been led to believe that the lake had a negative effect on these juvenile salmon. It was just **common knowledge**.

So let's consider the following scientifically derived information:

Lake Washington has characteristics similar to Capitol Lake. Both are in an **urbanized area**, add immensely to the community's quality of life, both **produce substantial populations** of aquatic insects, and **both produce hatchery Chinook**. (By the way – both systems contain the New Zealand Mudsnail.)

In 2006 an article was published by the American Fisheries Society entitled "Diet and Bioenergetics of Lake-Rearing Juvenile Chinook salmon in Lake Washington". Six researchers representing The University of Washington, NOAA Fisheries, and WDFW (David Seiler) authored this study using over 60 references in its writing. Allow me to read the following excerpts from this article: (By the way - we have found no recognition of this work in CLAMP's bibliography)

1. "Despite the heavily altered nature of Lake Washington and the relatively short time Chinook salmon have used this system, [like Capitol Lake] feeding and growth performance of juvenile salmon in littoral **habitats** [lake bottom receiving sunlight] of Lake Washington were comparable to those for Chinook salmon rearing in estuarine and riverine environments." (Predicted by Dr. Milne – Cap. Lake should do an excellent job of supporting juvenile fish and bats)

2. "Efforts to rebuild Chinook populations in this basin should therefore focus on the influence of other lake-related factors, such as predation.....etc." (In other words, don't focus on the habitat being a lake – that's okay. Focus on predation.)

We all need to recognize that removing the tidelock would **triple the number of predation compression points which I'll show you in a moment.**

Six Strategies to Increase Salmon Numbers While Retaining Capitol Lake: (See Pictorial)

(Most strategies will involve one or a combination of WDFW, SPSSEG, Capitol Land Trust, Squaxin Tribe, City of Olympia Parks and Recreation, and Thurston County)

1. Limit predation compression points to one (with the Lake) instead of 3 (with intertidal mudflat).
2. Adopt and modify CLIPA's Percival Creek Rechanneling Project to more easily allow ingress and egress of wild and hatchery salmon on tidal flows. (Helps address access to rearing areas by stray juvenile salmon)
3. Continue pursuing riparian and instream salmon habitat restoration projects in the upper 52 miles of the Deschutes River, (such as our current Pioneer Park Project), in the creeks flowing into Budd Inlet, and in Percival Creek (which be used to establish a sustainable wild or hatchery coho run. (explain natural spawning hx in Percival Cr.)
4. Dredge Capitol Lake to make it even more compatible to salmonids. Dredging is 25 years overdue. A dredged Lake is more beneficial to salmon than an un-dredged Lake.
5. Provide for maximum aquatic freshwater insect populations by retaining the dam. (Helps bats, too)
6. Proceed with the Hatchery at Pioneer Park. * With the following understanding –

   It seems questionable (and certainly inconsistent) to industrialize the lower Deschutes River with hatchery infrastructure and its further threats to water quality while at the same time advocating

for the removal of Capitol Lake, with its significant benefits to water quality and to the hundreds of thousands in our community who enjoy it. We should share this marvelous asset – and continue its use for all of us in a responsible manner.

Maintaining and Restoring Recreation Using Capitol Lake (See Pictorial)

Statements and Observations:

It's commonly accepted that walking increases longevity in humans. (American Cancer Society)

Capitol Lake attracts a very high number of walkers, runners, and dog walkers.

I'm guessing here, but I don't think I see even 5% of these Capitol Lake numbers at Mud Bay or East Bay.

Non-motorized boating probably has similar benefits.

Regarding Swimming:

By a huge margin, the #1 question asked us about the status of Capitol Lake by community residents is, "When can we swim again in the Lake?" (A premier amenity for social cohesion)

Olympia and Thurston County have no centrally located public freshwater swimming areas.

The community wants more parks and recreational facilities as evidenced by the passage of the recent funding initiative. (Thanks, Selby and Miller)

Re-establishing the Capitol Lake swimming (and non-motorized boating) facility is a reasonable undertaking for the enjoyment and health of our citizenry. Thanks to more effective stormwater run-off management we now understand that this project is within our grasp. All bacterial counts over the last 14 years have been acceptable for swimming. Re-establishing this facility in the northern basin would be of enormous benefit to our community.

PRESENTATION TO CAPITOL LAKE DESCHUTES ESTUARY

Executive Work Group

May 27, 2016

ESTIMATED COST OF ALTERNATIVES AND RELATED ECONOMIC IMPACT

Denis Curry, CLIPA

ESTIMATED 20 YEAR COST OF ALTERNATIVES:

Creation of Estuary.....$264 million

Creation of Dual Basin.....$296.9 million

Managed Capitol Lake.....$ 43.5 million

ESTIMATED ANNUAL ECONOMIC VALUE OF A WORKING WEST BAY WATERFRONT:

Amounts that would be lost if dam is removed and there is no program of regular Budd Bay dredging:

Economic Value of Recreational Marine Boating.....$29 million

Economic Value of Port Of Olympia Marine Terminal.....$100 million

Total Annual Economic Value of West Bay Waterfront.....$129 million

ESTIMATED COSTS TO MAINTAIN CAPITOL LAKE

Cost estimates are based on the CLIPA white paper updated in March 2011. Adjustments for construction cost increases and inflation are based on the factor used by CLAMP engineering consultant Moffatt & Nichol Engineers (M&N). Permitting costs are based on a study completed for the Department of Enterprise Services by Floyd – Snider in 2015 (midpoint estimate) adjusted forward to a 2017 start date.

First Biennium Costs:

Assuming that the State Capitol Committee and the Legislature approve a program to maintain the Lake, this biennium's cost would include funds for permitting, staging, an initial maintenance dredge of 175,000 cubic yards plus taxes for a total of $6.6 million

First 10 Year Costs:

Including the first biennium cost, the 10 year cost would include approximately $2 million for dam maintenance and upgrades and dredging of an additional 305,000 cubic yards for a ten year total of .....**$21.5 million**

Second 10 Year Costs:

During the second ten years, two dredges of 205,000 cubic yards each would occur for a ten year total of .....**$22 million**

20 Year Costs:

The above program would dredge 890,000 cubic yards over 20 years and ensure that the tide-lock dam was maintained for a total expenditure of ...**$43.5 million**

NOTE : It should be understood the above amounts are based on a mitigated determination of non significance (as was the case with the new planned Deschutes hatchery). Should a full EIS be required prior to a first maintenance dredge, costs could increase by approximately $2.0 million and the project would be delayed by two to three years adding to project costs due to further inflation. The amounts are not broken down by fund source. Sources could include state, federal, city, county, and port funds and business contributions.

ESTIMATED COSTS TO CREATE AN ESTUARY

Cost estimates are based on engineering data provided to CLAMP by their consultant, Moffatt & Nichol Engineers (M&N) in 2007. Those estimates were adjusted using inflation factors suggested by M&N, bridge cost estimates by Charles Gloyd, state bridge engineer (retired) to complement the 4th Ave. bridge, and dredging estimates by PSNERP. Budd Inlet dredging costs are based on 2015 experience of the Olympia Yacht Club. Data assume authorization in 2017 and project start in 2021.

1. **PUBLIC PROCESS, PERMITTING AND ENGINEERING:**
   Based on national data for this type of project, the consultants suggested a 4-5 year period for engineering assessments, permitting and an extensive and contentious environmental impact process. They estimated that by 2021 costs will total.....$14.4 million

2. **CONSTRUCTION COSTS INCLUDING OVERSIGHT, TAXES, ETC.**[1]
   Assuming a project start in 2021, costs will include project mobilization, dredging of 487,000 cubic yards in the lake, rerouting and upgrading the infrastructure of Deschutes Parkway, protection of the I-5 and 4th Avenue bridges, demolition of the tide-lock and the railway bridge and construction of a new, wider railroad bridge and a new 5th Avenue bridge similar in design to the 4th Avenue bridge.....$172.2 million

   TOTAL PROJECT COSTS .....$186.6 million

3. **ONGOING BUDD INLET DREDGING**[2]**:**
   Dredging of Budd Inlet from 2023 to 2033 to account for the silt that will be deposited in the inlet by the Deschutes River.....$77.4 million

4. For a 20 year cost totaling.....**$264 million**

NOTE : It should be understood the above amounts, while based on previous engineering estimates, are subject to change based on new estimates that would be made as a part of initial project phases. The amounts are not broken down by fund source. Sources could include state, federal, city, county, port and tribal funds and business contributions.

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[1] In-lake dredging costs are based on CLAMP assumptions and a recognition that "in-lake" sediment does not include dioxin contaminants that marine waters does. Actual recent Budd Inlet dredge costs were over three times higher due to increased disposal costs of polluted sediments.

[2] It is clear from the Corps of Engineers decision not to support funding for the project that a regular program of Budd Inlet dredging will be required for them to allow a permit. Although noted by the consultants, this aspect of the project was not included in the CLAMP estimates.

ESTIMATED COSTS OF A DUAL BASIN ALTERNATIVE

As in the case of estuary construction, cost estimates are based on engineering data provided to CLAMP by their consultant, Moffatt & Nichol Engineers (M&N) in 2007. Those estimates were adjusted using inflation factors suggested by M&N, bridge cost estimates by Charles Gloyd, state bridge engineer (retired) to complement the 4th Ave. bridge, and updated dredging estimates by PSNERP. In the case of the dual basin the consultants suggested to CLAMP, it was noted that both the composition of the "barrier wall" and the mechanism by which the water quality within the "reflecting pool" would be maintained.

It is clear that there are a variety of options that could ultimately be explored so the cost estimates for this alternative are more susceptible to change. The CLAMP consultants took what they considered the lowest reasonable cost approach and their project cost estimates for this alternative were 17.61% higher than creation of an estuary. Primary reasons for the higher amount are the increase in dredging and the construction of the "barrier wall".

As in the case of the estuary alternative, Budd Inlet dredging costs are based on 2015 experience of the Olympia Yacht Club. All of the estimates assume authorization in 2017 and project start in 2021.

1. **ESTIMATED ESTUARY PROJECT COST** .....**$186.6 million**
2. **CONSULTANTS ESTIMATED ADDED COST FACTOR** **17.61%**
3. **ESTIMATED DUAL BASIN PROJECT COST** .....**$219.5 million**
4. **ONGOING BUDD INLET DREDGING[1]:**
   Dredging of Budd Inlet from 2023 to 2033 .....**$77.4 million**
5. For a 20 year cost estimate totaling.....**$296.9 million**

NOTE : It should be understood the above amounts, while based on previous engineering estimates, are subject to change based on new estimates that would be made as a in initial project phases. The amounts are not broken down by fund source. Sources could include state, federal, city, county, port and tribal funds and business contributions.

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[1] It is clear from the Corps of Engineers decision not to support funding for the project that a regular program of Budd Inlet dredging will be required for them to allow a permit. Although noted by the consultants, this aspect of the project was not included in the CLAMP estimates.

SUMMARY OF ECONOMIC IMPACTS ASSOCIATED WITH A MANAGED CAPITOL LAKE

A properly managed Capitol Lake makes a significant contribution to the economic health of the local community. This can be seen from two major perspectives:

1. The economic value of the recreational marine industry that has flourished with the dam serving to keep excessive silt from entering lower Budd Inlet; and

2. The economic impact of the Port of Olympia's commercial marine terminal operations in lower Budd inlet.

Value of the Recreational Marine Boating Industry

The area of Budd Inlet immediately north of the Fifth Avenue dam contains four marinas and the Olympia Yacht Club providing a total of 879 slips for a very active recreational boating industry. BST Associates of Bothell, Washington, conducted the most pertinent study of the economic value of this type of industry for the Port of Bellingham. BST estimated both the direct and indirect economic benefits of a new marina and concluded that the direct economic value per slip was $17,000 and the total economic value was $26,250. Adjusting these amounts to reflect change in the value of the dollar (per data from the national Bureau of Economic Analysis) results in a current day value per slip of $19,935 in direct and $29,855 in total economic value.

Applying the above amounts to the 879 Olympia slips equals over **$18 million** in direct and **$28.2 million** in total annual economic benefits from the recreational marine industry in west Budd inlet. In addition, the local taxes generated are estimated to be nearly **$325,000**. Annual lease fees and other taxes approximate **$400,000** for a total economic value of **$29 Million** each year.

The Economic Impact of the Port of Olympia's Marine Terminal Operations

The largest economic engine of the Olympia waterfront is the Port of Olympia's Marine Terminal. In January,2016, Martin Associates of Lancaster, Pennsylvania completed an economic analysis of the Port of Olympia. The complete report is available from the Port.

The report concluded that in 2014, marine terminal operations were responsible for **564** jobs with a total income of **$52.6 million** annually. Businesses providing services to the cargo activity received **$33 million** of business revenue; this is direct revenue from the provision of services and does not include the value of the cargo moved via the marine terminal. In addition, local purchases totaled **$6.8 million**. Adjusting these amounts to 2016 indicates an annual total economic impact of approximately **$100 million**. In addition, in 2014 the Port paid **$4.9 million** in state and local taxes and **$9.6 million** in federal taxes.

It is clear that the approximately **$129 million** in annual economic benefits would be lost by removing the 5th Avenue dam unless a program of ongoing dredging were instituted in West Budd Inlet. The cost of such a program would be approximately **$77 million** each 10 years.

ECONOMIC IMPACTS ASSOCIATED WITH A MANAGED CAPITOL LAKE

A properly managed Capitol Lake makes a significant contribution to the economic health of the local community. This can be seen from three perspectives:

1. The investments that have been or are planned to be made that would be negatively impacted if the Capitol Lake was replaced by intertidal mudflats;

2. The economic value of the recreational marine industry that has flourished with the dam serving to keep excessive silt from entering lower Budd Inlet; and

3. The economic impact of the Port of Olympia's commercial marine terminal operations in lower Budd inlet.

Summary

1. The investments that have been or are planned to be made that would be negatively impacted if the regulating dam were removed total over $84 million;

2. The recreational marine industry in the western portion of Lower Budd Inlet generates over $28 million annually in economic benefits to the community, pays over $400,000 per year in taxes and fees and generates over $320,000 in local taxes each year;

3. The economic impact of the Port of Olympia's commercial marine terminal totals nearly $100 million annually and generates $1.3 million per year in local taxes.

Current and Planned Investments Related to Capitol Lake and Lower Budd Inlet

Capitol Lake is an integral part of the Capitol Campus and has prompted development of several public gathering places. These include Marathon Park, Heritage Park with its Arc of Statehood, and the Heritage Park Fountain.

Capitol Lake also serves to trap sediment that comes down the Deschutes River at the rate of 35,000 cubic yards annually and would otherwise have dumped six feet of sediment in lower Budd Inlet every ten years. If the Fifth Avenue regulating dam had not been built in 1951, it is likely that the lower inlet would have silted up except for a channel for the Port of Olympia. In this case it is the investments in Percival Landing and the new West Bay Park with Rotary Point never would have been made. As can be readily seen, removal of the dam would negatively impact those investments.

1. **Heritage Park**
   - **Total State of Washington investment in land acquisition and development of Heritage Park including interpretive center: $18.813 Million***
   - **Heritage Park Foundation donation of $60,000**

2. **Marathon Park**
   - **Total investment in development of Marathon Park by State of Washington: $904,000***

3. **Percival Landing**
   - **Total previous investment in Percival Landing by City of Olympia from all fund sources: $4.429 Million****

   - **Improvements from all fund sources: Phase 1: $14,020,735***** **Estimated costs of Phases 2 and 3, 40 Million****

4. **Fountain**
   - **Total Land Acquisition and Development Cost to City of Olympia: $3.0 Million****

   - **Annual Maintenance Cost to City of Olympia: $45,000****

5. **Westbay Park**
   - **Planned Expenditure by City from all fund sources: $2.5 Million for Phase 1** (No estimate is available for complete development pending completion of a master plan)**

   - **Rotary Point – Estimated cost to Rotary Clubs of South Sound: $300,000**

6. **Total Previous Investments: $41,361,735 (Including three years fountain operating costs)**
7. **Total Planned Investments: $42,800,000 (Not including future Westbay Park phased developments subject to completion of master plan)**
8. **Total Previous and Planned Waterfront Investments: $84.162 Million**

Sources:
***Nathaniel Jones, Department of Enterprise Services**
****Dave Hanna, City of Olympia, Parks Department**
*****Daily Olympian, August 26, 2011**

Note: Data are from October, 2013

It should be noted that the above amount does not include the construction and earthquake repairs to Deschutes Parkway or its value as a transportation link to Mottman Hill. Neither does it attempt to put a dollar value on the significant aesthetic improvements that came with the elimination of the previous tidal mudflats.

The Economic Value of the Recreational Marine Industry in Lower Budd Inlet

The area of Budd Inlet immediately north of the Fifth Avenue dam contains four marinas and the Olympia Yacht Club providing a total of 879 slips for a very active recreational boating industry. BST Associates of Bothell, Washington, conducted the most pertinent study of the economic value of this type of industry for the Port of Bellingham. The Port was exploring a number of options for expanding the use of their waterfront including a new marina. The BST report, *Community Economic Benefits of a New Downtown Clean Ocean Marina* estimated both the direct and indirect economic benefits of a new marina. Quoting from the report, "The proposed Marina (350–450 slips) is expected to generate approximately $6.8 million in direct and $10.5 in total output per year (in 2005 dollars) from permanent and transient use and port operations." Using a mid-point of 400 slips, the direct economic value per slip was $17,000 and the total economic value was $26,250.

Applying the BST estimated values per slip to the lower west Budd Inlet marinas (879 slips) indicates an annual economic value of $14.943 million in direct benefits and $23.074 million in total benefits to the local area. These amounts are in 2005 dollars. To calculate the present day value, it is necessary to apply the percentage change in the Implicit Price Deflator (the best index of the effect of time on the value of the dollar) since 2005. According to the Bureau of Economic Analysis of the U.S. Department of Commerce, there has been a 22.1% percent change from 2005 to 2016. This results in current day estimates of over $18 million in direct and $28.2 million in total annual economic benefits from the recreational marine industry in lower Budd inlet. In addition, the local taxes generated by this activity are estimated to be nearly $325,000.

Recreational boating is one of the more significant economic engines in the City of Olympia and Thurston County. According to Port of Olympia estimates, removal of the Fifth Avenue dam would result in an average of six feet of silt in the lower inlet every 10 years. This would definitely adversely affect the existing marinas. It is not possible to know whether the City or County would pay to dredge the area or if those costs would be borne by the marinas. If the latter, the costs could result in them going out of business at a substantial economic loss.

As with any industry, taxes on property value must be paid. In addition, use of the waters requires fees to be paid to the State Department of Natural Resources. A 2013 survey of the marinas[1] indicates a total of approximately $390,000 paid in taxes and lease fees. These taxes and fees would be lost due to added siltation.

The Economic Impact of the Port of Olympia's Marine Terminal Operations

The largest economic engine of the Olympia waterfront is the Port of Olympia's Marine Terminal. In January, 2011, Martin Associates of Lancaster, Pennsylvania completed an economic analysis of the Port of Olympia as of 2009. The complete report is available from the Port of Olympia. A similar analysis was completed in January, 2016. The results

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[1] Responses were received from three of the four marinas most directly affected (Martin Marina, Olympia Yacht Club and Fiddlehead Marina). West Bay Marina, affected to a lesser degree, also responded. One-Tree Marina's amount was estimated based on the average amount per slip of the responding marinas.

of these analyses (dealing only with commercial marine operations of the port and excluding marina operations) can be summarized as follows:

Maritime activity (cargo and vessel activity) at the Port of Olympia Marine Terminal created the following economic impacts:

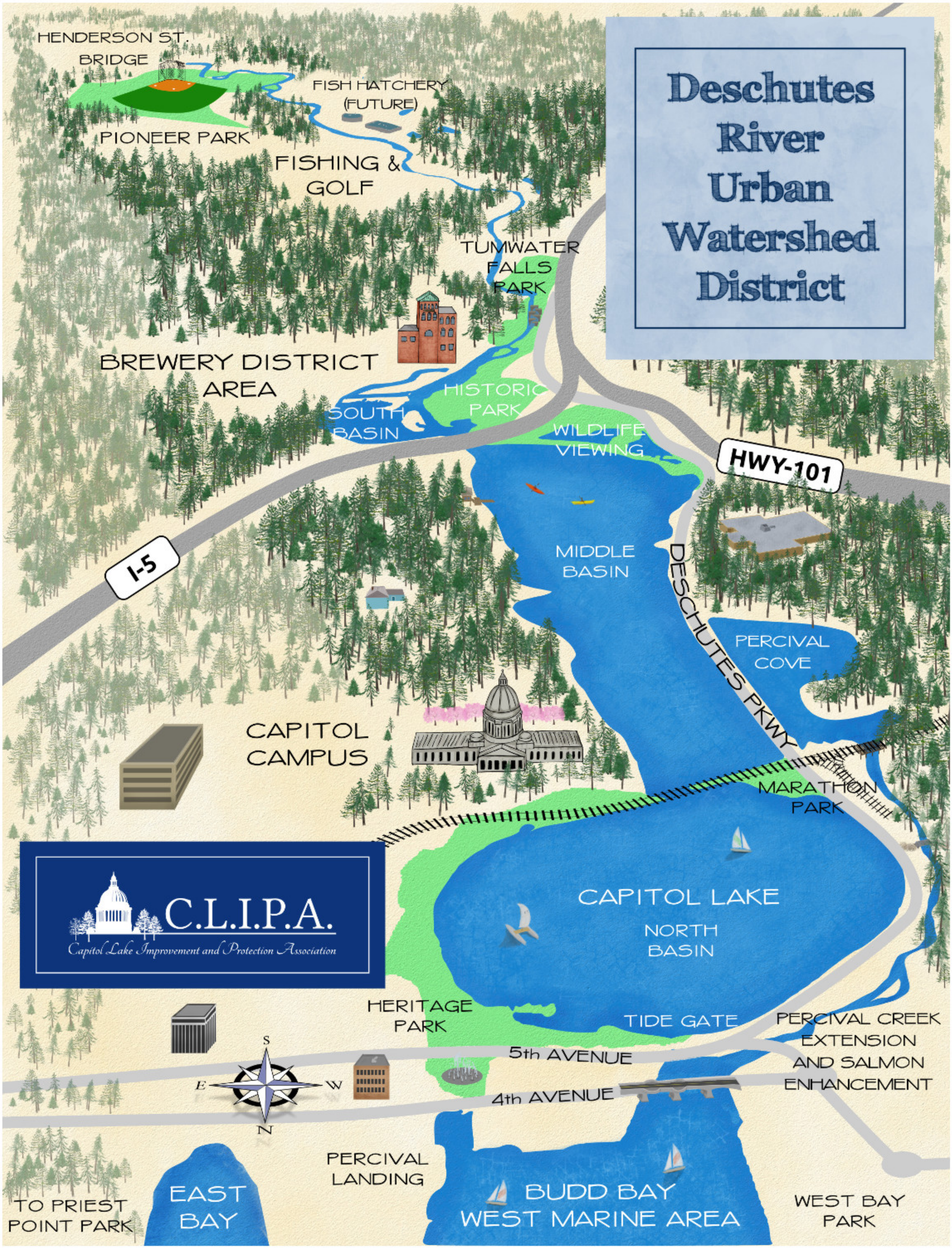
- 177 direct jobs in 2009 and 249 jobs in 2014;
- Induced jobs supported by the purchases of directly employed individuals totaled 182 in 2009 and 253 in 2014;
- In 2016, 62 indirect jobs were generated as a result of $6.8 million of local purchases by firms directly dependent upon seaport activity at the Port of Olympia marine cargo facilities for a total of 564 jobs related to Marine Terminal activity;
- The personal income associated with all Port Marine related jobs totaled $52.6 million and direct employees had an average salary of $62,249 per year which is significantly higher than the $44,926 average Thurston County wage according to the Bureau of Labor Statistics.
- Businesses providing services to the cargo activity received $33 million of business revenue; this is direct revenue from the provision of services and does not include the value of the cargo moved via the marine terminal. The value of the cargo is determined by the demand for the cargo, not the specific port used.
- A total of $4.9 million of state and local taxes were generated by seaport activity; In addition a total of $9.6 million of total Federal Taxes were collected in 2014.

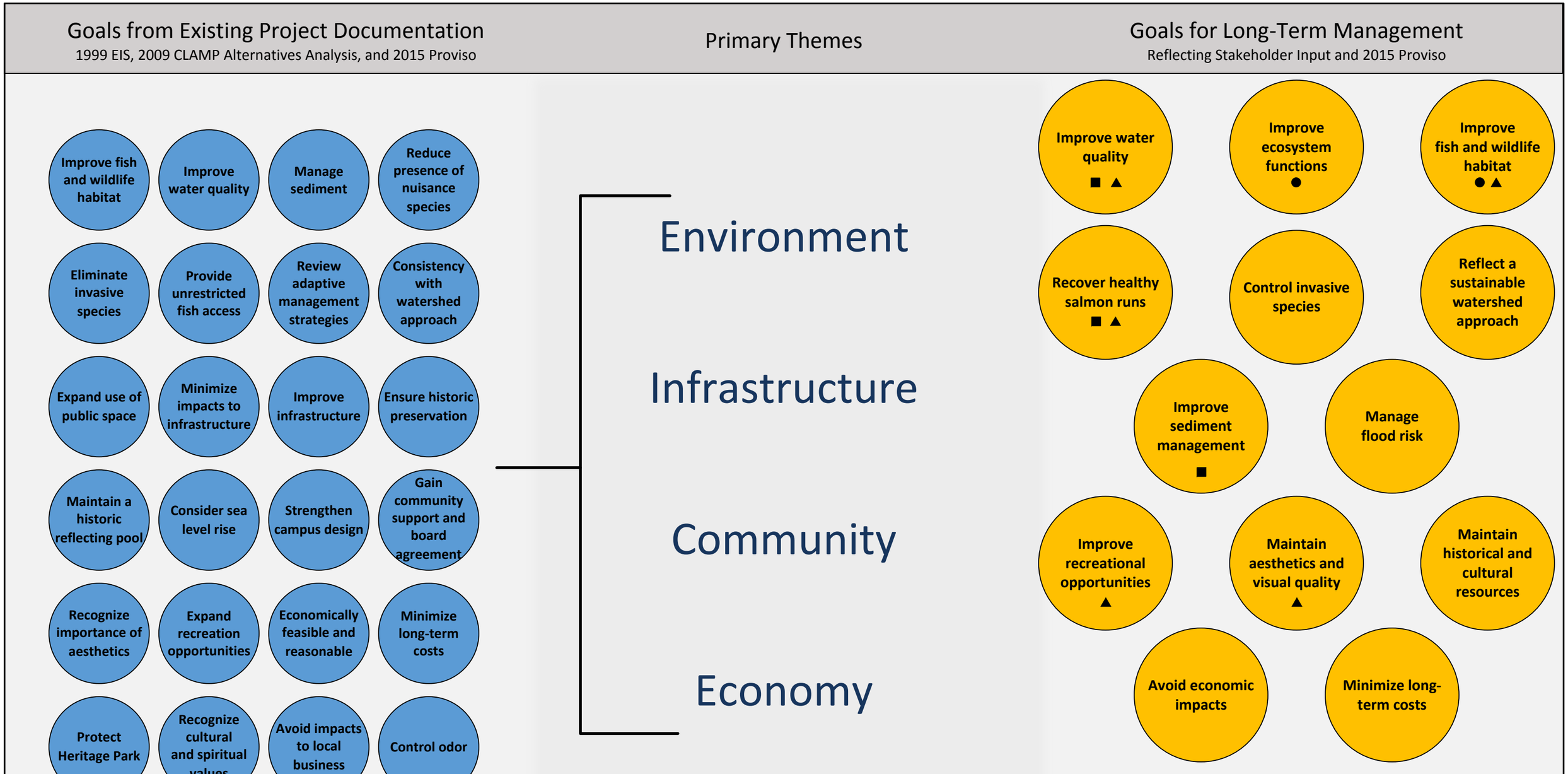
As the above summary indicates, the Marine Terminal operations of the Port of Olympia were responsible for over $92.4 million in economic benefits in 2014. Adjusting these amounts to 2016 using data from the U.S. Bureau of Economic Analysis brings the total to nearly $100 million plus approximately $1.3 million in local taxes.

EFFECT OF AN INTERTIDAL MUD FLAT ALTERNATIVE

As can be seen by the above analysis, the Capitol Lake/Lower Budd Inlet waterfront is a major contributor to the economic health of Thurston County. Removing the regulating dam (tide lock) would contribute nothing to the economy and would seriously degrade current economic benefits and the investments that have been made by the state, the city and the community. There would also be a loss of intangibles such as aesthetics and public pride as well as an adverse impact on flood control and habitat.

Removal of the regulating dam would result in an average of six feet of silt in lower Budd Inlet every 10 years. Unless a regular program of dredging in Budd Inlet were initiated (at a much higher cost than in-lake dredging) all of the benefits outlined above would be seriously degraded or lost.


Deschutes River Urban Watershed District
HENDERSON ST. BRIDGE
PIONEER PARK
FISH HATCHERY (FUTURE)
FISHING & GOLF
TUMWATER FALLS PARK
BREWERY DISTRICT AREA
HISTORIC PARK
SOUTH BASIN
WILDLIFE VIEWING
HWY-101
I-5
MIDDLE BASIN
DESCHUTES PKWY
PERCIVAL COVE
CAPITOL CAMPUS
MARATHON PARK
C.L.I.P.A.
Capitol Lake Improvement and Protection Association
CAPITOL LAKE
NORTH BASIN
HERITAGE PARK
TIDE GATE
PERCIVAL CREEK EXTENSION AND SALMON ENHANCEMENT
5th AVENUE
4th AVENUE
S
E
W
N
PERCIVAL LANDING
TO PRIEST POINT PARK
EAST BAY
BUDD BAY WEST MARINE AREA
WEST BAY PARK



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

Figure 3
Goals for Long-Term Management of Capitol Lake

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