

# Imagine the Estuary

Where the river meets the sea

A newsletter of the Deschutes Estuary Restoration Team  
Spring 2014 • Volume 1, Issue 3

## Indiegogo... GO!

### Turning the Tide with the Deschutes Estuary Restoration Team

The Deschutes Estuary Restoration Team (DERT) has launched a fund-raising campaign through the online platform Indiegogo. The campaign includes an artistic stop-motion video, created by volunteers to show the current state of Capitol Lake and a beautiful vision for the restored estuary! We have a variety of perks, including Yestuary bumperstickers, newly designed T-shirts, historic postcards (including the images in this newsletter), tickets to DamNation, and gifts from local businesses and the Squaxin Island Tribe.

<http://www.indiegogo.com/at/DERT>

Help us reach our goal of \$6,000! We are currently over 40%, with \$1,450 raised online through the website, and another \$1,050 of donations in the mail. No contribution is too small, and all are tax-deductible. Help us spread the word by sharing the page with your friends and family, and let them know why you support the restoration of the Deschutes Estuary!

The campaign ends on **June 21st**, so don't delay!

## Upcoming Events

### P.S. I Love You: Puget Sound Festival

Celebrating Puget Sound through music, food, film and fun! FREE!

**June 14: 11am-10pm**

Percival Landing and the Olympia Center Closes with a screening of 'Return of the River,' a documentary on the Elwha dam removal at 8pm.

More details: [www.psfestival.com](http://www.psfestival.com)

### DamNation

DamNation documents the growing movement to restore rivers by removing dams that can no longer justify their existence.

**June 19th, 6:30pm**

Capitol Theater



Artwork by Michael Di Marzo of 'Deschutes and Ladders'



## Deschutes River/Capitol Lake/Budd Inlet TMDL Update

By Dave Peeler

Previously we gave a brief history of the efforts by the Department of Ecology to develop water quality restoration plans for the Deschutes River, Capital Lake and Budd Inlet . These plans are called “total maximum daily loads” (TMDLs) because they provide limits to the daily load of pollutants that can be discharged to the watershed and still meet water quality standards and support healthy fish and other wildlife. Water Quality in these waters fails to meet standards during some parts of the year in many areas. Standards for pH, dissolved oxygen, temperature, fine sediment, and bacteria are frequently violated.

Ecology developed computer models to help understand the complex flows and interactions of water, sediments and pollutants, and is using the models to develop various pollution reduction scenarios. There are three models, one each for the Deschutes River above Tumwater Falls, one for Capitol Lake, and one for Budd Inlet. In addition, there is a model for South Puget Sound marine waters south of Tacoma Narrows. You might think of these as nested models, each one feeding into the other.

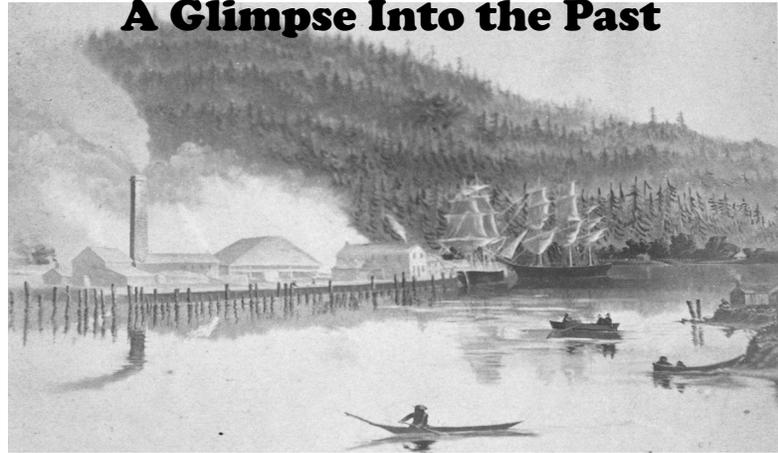
The models are built on available data on water quality, sediments, pollutant loading, streamflow, currents, and other information. The data was collected over a number of years by different organizations and agencies, and fed into the models developed by Ecology, USGS, UW and Battelle. In general, they are the most robust and cutting edge computer modeling efforts anywhere in the country. However, as Ecology tested various future scenarios (dam in, dam out, population growth, pollution increases and decreases, land use changes, etc.) they discovered a need to more fully understand some factors in the marine water models, including something called the “sediment/water flux”.

In order to sustain the progress made on the freshwater model and TMDL, Ecology recently elected to separate the freshwater and marine TMDL work. They intend to finalize the freshwater TMDL for the Deschutes River and submit it to EPA for approval later this year. They will collect more marine water and sediment samples, analyze the data and make appropriate changes to the marine water models over the next two years or so. Unfortunately, that means the Capitol Lake and Budd Inlet TMDLs will not be completed until after that additional work is done. DERT will continue to follow and comment on Ecology’s work on this, and on the restoration strategy for the river.

*You can see all of Ecology’s available material at this website:*  
<http://www.ecy.wa.gov/programs/wq/tmdl/deschutes/>

## The Deschutes Estuary:

### A Glimpse Into the Past



Olympia, west side, circa 1889., by Woodard A.B.



Olympia with Mt. Rainier in background, circa 1885-1895, by O'Connor.



Olympia Brewery, 1906-1913, photographer unknown.



Olympia, view of Sylvester Park and Capitol Way , 1900-1920, unknown.

All photos courtesy of the State Library Photograph Collection, 1851-1990, Washington State Archives, Digital Archives, <http://www.digitalarchives.wa.gov>, retrieved June 2014.

# Restoring the Deschutes Estuary: It Starts with Dam Removal

By Sue Patnude

The EPA defines a watershed as “the area of land where all of the water that is under it or drains off it goes into the same place.” Or as John Wesley Powell, scientist geographer, says, **“that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community.”**

Before European settlers arrived in the Washington territory, Steh Chass (now Olympia) was inhabited by a community of the First People. They lived on a healthy estuary and used the waters and land for basic subsistence: hunting and gathering, shelter, clothing and tools. The Deschutes River estuary was a transition zone from river to sea, a complete watershed. As settlers moved in, the Indian communities were displaced and the demographics changed to European settlers who used the estuary for transportation and commerce, filled the water in with wood waste and dredged materials, and dammed the river, leaving us with the situation we face today: an imperiled ecosystem.

Cleaning up the upper Deschutes watershed will take monumental efforts. According to the Squaxin Island Tribe’s data collection, issues detrimental to the upper river are outlined in the South Sound Watersheds Non-point Source Pollution and Habitat Management Plan:

“...fine sediment in spawning gravels as the number one habitat impairment in the upper watershed. Warm stream temperatures (and lack of riparian cover) particularly in the middle watershed, are extremely stressful for salmon. The Deschutes Watershed also has the second fastest increase in the number of permit-exempt wells installed in the entire State of Washington and that limits ground water flow to streams and rivers.”

And these are just a few issues. The watershed is facing a serious increase in land development and on-site septic systems that contribute to heavy pollutant loading in ground water, as well as agricultural run-off and urban stormwater.

Some state that Capitol Lake and Budd Inlet could be saved, if only we cleaned up the upper watershed. However, this has been proven to be false. Cleaning up the watershed begins with removing the dam that creates Capitol Lake. In a letter from Department of Ecology in response to questions from the Depart-

ment of Enterprise Service, the idea of managing the lake back to health was answered. It was asked:

“What would be the effect of implementing both the shading improvements and the lake dredging on the lake and Budd Inlet relative to the five TMDL water quality factors (*dissolved oxygen, temperature, PH, fecal coliform bacteria and fine sediment*)?”

The answer from Ecology:

“Combining upland improvement and deepening the lake also would not resolve water quality issues within Capitol Lake... Because Capitol Lake currently and under the dredged lake alternative falls well within the eutrophic range, based on available indices, these improvements are unlikely to translate into measurable or significant lake improvements. No changes are expected in Budd Inlet either.”

As a result of the 5<sup>th</sup> Avenue dam, pollutants become trapped in the ecosystem. Capitol Lake is warm, shallow and deficient of oxygen. If a plan was to unfold to try to save the lake, Ecology stated that dredging would have to occur at a depth of 300’ to fall into the mesotrophic range, a depth that would allow the lake to clean itself. Of course, the lake would quickly fill back in as the river transports 37,000 cubic yards of sediment annually. It is not hard to imagine the ongoing strain on the economy as taxpayer burden increases to maintain the reflecting pool.

The upper watershed does contribute to Capitol Lake pollution, but the ultimate answer to restoring the watershed does not begin there. The answer, demonstrated with extensive modeling and ongoing studies, is removal of the dam. The results of the modeling studies are presented in a recent poster from the Department of Ecology, presented at the 2014 Salish Sea Conference, titled ***Anthropogenic Dissolved Oxygen Impacts in Budd Inlet: Comparing Influences from a Lake or Estuary:***

“Anthropogenic DO depletion in Budd Inlet includes the effects of point and nonpoint sources, increased organic carbon load from Capitol Lake with the dam in place, and increased stagnation in East Bay caused by flow from Capitol Lake with the dam in place. Removing the dam would increase DO in critical areas of Budd Inlet, likely through improving flushing of East Bay and reducing organic load to Budd Inlet.”

Ecology’s poster can be found at: <https://fortress.wa.gov/ecy/publications/publications/1403021.pdf>

# We are Growing our Board!

DERT is a nonprofit organization with a large following in the community, a membership of people committed to estuary restoration, and a base of dedicated volunteers, which includes our Board of Directors. Over the past five years, we have been steadily growing and evolving. We are now seeking to expand and develop our Board further our mission to **advocate for the removal of the 5th Avenue Dam and the restoration of the health of the Deschutes watershed, Budd Inlet and South Puget Sound for a vibrant ecosystem and robust economy centered on restoration.**

Board members carry the responsibility of governing the organization. We participate on committees, advocate for the estuary at every possible opportunity, and help with building awareness in the community. If you are interested in participating on a working Board as an advocate for the restoration of the Deschutes estuary, send us an e-mail at [olydert@gmail.com](mailto:olydert@gmail.com).

Some folks are fully committed to restoring the estuary, but are unable to commit their time towards making it happen. You can still help! Become a paid member of DERT to help sustain the organization. You will receive regular updates on our work and invitations to our events!



DERT has received another year of funding from the Rose Foundation Puget Sound Mitigation Fund! This \$10,000 grant is a big deal to a small nonprofit like us. It allows us to continue our programs, such as education and outreach, which includes printing this newsletter!



Students of the Citizen Action Training School of the South Puget Sound Salmon Enhancement Group, sponsored by Puget Sound Partnership, **brought an estuary to the Procession of the Species.** Working with the Deschutes Estuary Restoration Team and South Sound Estuary Association, they created a collaborative art and education project with Lincoln and ORLA Elementary schools to teach about the biodiversity, beauty and value of estuaries. Funded by the Community Sustaining Fund.



## Join DERT! Plant a seed, watch us grow.

Do you consider the health of the Deschutes watershed as a critical issue in our community? Support our work by becoming a member. You will receive our quarterly newsletter full of stories, updates and information about estuary restoration, including personal invitations to all of our upcoming events. Memberships are also received at our website:

<http://www.deschutesestuary.org/memberships>

Enclosed is a check in the amount of \$ \_\_\_\_\_

\$ \_\_\_\_\_ Membership

\$ \_\_\_\_\_ Additional donation

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Phone \_\_\_\_\_

### Annual membership dues

Student/Low Income	\$10
Individual	\$25
Organization	\$50
Family	\$75
Business	\$100

Mail to:

DERT Membership  
PO BOX 11093  
Olympia, WA 98508

*All contributions are tax deductible.*



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