

# Imagine the Estuary *Where the river meets the sea*

A newsletter of the Deschutes Estuary Restoration Team

***Our mission is to improve the health of the Deschutes watershed, Budd Inlet and South Puget Sound for a vibrant ecosystem and a robust economy centered on restoration.***

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*Welcome* to the first newsletter of the Deschutes Estuary Restoration Team (DERT), a nonprofit organization raising awareness on the Deschutes River watershed. In this newsletter you will find updates on our work, the value of estuaries and ecosystem services, and ideas for the future. The health of our watershed depends on the health of its estuary. We advocate for the removal of the 5th Avenue dam to reconnect the Deschutes River to the Salish Sea for the restoration of the estuary.

DERT formed soon after the recommendation of the Capitol Lake Adaptive Management Plan (CLAMP) committee was announced in 2009. This committee of state, local and tribal governments spent over 10 years discussing options and generating peer-reviewed studies on the state and future of the southernmost tip of South Puget Sound. After extensive review, a large majority of the committee recommended estuary restoration as the most environmentally responsible and fiscally conservative option. In 2010, CLAMP lost its funding, and the decade's worth of work was shelved.

The estuary once supported salmon, wildlife, recreation and beauty unique to Puget Sound. Our historic and natural heritage

is founded on the estuary. The decision to dam the river was based on the idea that industry could develop on the north side, a scenic parkway system on the south side, and that we no longer needed the estuary. Many Olympia and Tumwater residents disagreed then, and many still do.

Sixty years later, the lake is a failed experiment. Each year it becomes more shallow and warm, an environment conducive to poor water quality and invasive species. In violation of the Clean Water Act, Capitol Lake creates a legal liability for the state. Recent science has determined that the health South Puget Sound will only improve with the removal of the dam. As soon the river is allowed to flow into Budd Inlet, water quality and the ecosystem will begin to regenerate.

Awareness grows around restoring the Deschutes Estuary, and we find ourselves at a crossroads in history. DERT wants to stir the creativity of the community to imagine an urban estuary full of life: abundant fish and wildlife, local jobs in the restoration and tourist economies, access for recreation and tourism, and an ease to the burden on taxpayers of the state of Washington. Let's be responsible to future generations and work together to let the river flow free once again.

*An estuary is a partly enclosed coastal body of brackish water with one or more rivers or streams flowing into it, with a free connection to the open sea.*

*Sue Patnude,  
Executive Director*

*Artwork by Carrie Ziegler*

## **Water Quality and the TMDL**

Water quality in the Deschutes River, Capitol Lake and Budd Inlet fails to meet water quality standards during some parts of the year in many areas. Standards for pH, dissolved oxygen, temperature, fine sediment, and fecal coliform are frequently violated. Under the federal Clean Water Act, the state is required to develop a pollution control and reduction plan, called a "total maximum daily load" (TMDL), in order to reduce sources of pollution sufficiently to meet standards. For example, excessive nutrients cause low dissolved oxygen in the water, which can stress or kill fish and other organisms, so part of the effort is to identify and reduce sources of nutrients.

In 2003 the Dept. of Ecology began an effort to collect water quality samples to identify pollution sources and amounts. Ecology also 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. One of their key findings is that by far the most significant cause of water quality violations in Budd Inlet is the 5th Avenue dam built to create Capitol Lake. In addition, Capitol Lake itself suffers from excessive nutrients and lack of circulation causing low dissolved oxygen.

Ecology is in the final stages of completing their technical reports and preparing a draft TMDL, which when final will be submitted to EPA for approval. The TMDL will document their findings and strategies to meet standards in these three water bodies. Ecology formed an advisory committee for this project in 2009. DERT regularly participates in the committee meetings and reviews and comments on draft documents. You can see all of the available material at this website:

<http://www.ecy.wa.gov/programs/wq/tmdl/deschutes/index.html>

## **Sea Level Rise:**

### **Re-imagining the Urban Edge**

Brenda Snyder, an urban designer from Seattle, imagined Olympia a hundred years from now. She shared her ideas at our annual event on September 28th. Having grown up on the Puget Sound, she is aware of a steep decline in the health of the sea. At the University of California for her Masters of Urban Design, she had a question on her mind: How can we improve the relationship between our built environment and natural systems? For her thesis, she had her sights set on Olympia, it's shoreline built on dredgings and at great risk of rising water. In this work she presented us with some intriguing ideas for change that could spark a proactive and planned response to sea level rise. She offers ideas to re-imagine downtown Olympia, with a very specific message: to soften our edges.

Brenda's work begins with an assumption that the dam has been removed and the estuary restored. This provides the material basis for redesigning the waterfront to accommodate rising tides. Using the RAP strategy (Retreat, Adaptation and Protection), she also assumes that the Olympia will consider the historic core and the intertidal zone of equal value. She spoke about our tendency to harden our edges at the shoreline, which eliminates intertidal habitat, blocks public access, and provides a false sense of security from flooding water. The major concerns in her design are the health of the shoreline, social and economic vitality offered by the built environment, and natural processes of an estuary.



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While we don't have room to share all of the ideas offered in this design, here are a few:

- Creating "Creek Street" to daylight Moxlie Creek, designed as a pedestrian and commercial corridor.
- Aqua blocks with rain gardens that are designed to accommodate stormwater.
- Protecting the maritime industry of the Port by preserving islands for operation.
- Capitol Crest Promenade, with stretches of natural landscape parks and commercial areas.

Brenda has offered us some real gems; possibilities to come together and meet needs that often seem to conflict. Some of her ideas may not be the solution, especially without input from the community on the design, but they do help spark our imaginations as we talk about the future of downtown Olympia.

Brenda's full thesis can be found on our website at:  
<http://www.deschutesestuary.org/2013/10/brenda-snyder/>

# The Government Shutdown

## of an Estuary

### A Loss of Ecosystem Services and Potential for a Restoration Economy

During the shutdown of the federal government, the Nisqually estuary was closed. The metal gates were shut and locked, public access was denied. Restored and preserved as a National Wildlife Refuge, Nisqually was one of the many federal programs across the country that was deemed “non-essential.” Under a government shutdown, all activities and services were halted until further notice. However, while the gates to the delta were closed, the estuary continued its many beneficial services that contribute to food systems, public health, flood protection, aesthetics and an overall sense of well-being when interacting with the natural environment.

The estuary is where the river meets the sea. Estuaries offer fundamental and irreplaceable services, including filtration of pollutants from the water, natural and biodiverse habitat, buffers to stabilize shorelines, and protection of inland areas during storms and floods. They offer protective nurseries and brackish water for the salmon to transition between fresh and salt aquatic ecosystems. Estuaries create and contain habitat for many marine animals, including birds, seals and shellfish. They offer a place of beauty, refuge and recreation. They support water, vegetation, wildlife and people. Even during the government shutdown, the Nisqually estuary thrived. There is

comfort in knowing we can fall back on natural systems when our human-made systems are failing us.

But can our government shutdown these services? What happens when our human-made systems interfere with natural systems?

The loss of the Deschutes River estuary in South Puget Sound offers insight to these questions. It is a local estuary that has suffered through a shutdown of its critical ecosystem services for over 60 years. In 1951, the state of Washington dammed the Deschutes River at its mouth. Ever since, it has been filling with river sediment at a rate of 35,000 cubic yards per year. Normally, the river would carry the sediment through the estuary and to the Sound, where it would distribute to build beaches and critical habitat. Also, because of the size and shape of Capitol Lake, it has poor circulation and the water is stagnant. Algae and invasive plants and snails grow in the warm, shallow waters. When they decompose they pull oxygen out of the water. This dissolved oxygen is necessary for fish to breathe, and Capitol Lake has dangerously low levels. In fact, the dam is the main cause low dissolved oxygen in Budd Inlet, as discovered through recent studies by the Department of Ecology.

In its early days, Capitol Lake was a place for swimming and boating, but now it is a public health hazard, overcome with invasive species, and “closed until further notice.” Some people are nostalgic for the early days of the lake. They would like to see the lake healthy again to reclaim what they once had. However, the lake can not be managed back to health. The issues of

invasive species, sediment management and poor water quality will not improve with the dam in place. Studies has indicated that a much deeper lake would still not meet water quality standards. Dredging alone does not provide an answer.

Some argue that the economic impact of restoring this estuary could be harmful. While we do need to consider and plan for the increased sediment loads anticipated for the Port and marinas, we also have to look at the new economic benefits from the restoration economy. In addition to the priceless and freely given services of the ecosystem itself, we would create local job opportunities. Restoration funding from many local and national sources would stream into our community. It would create jobs for scientists, engineers, construction workers, restoration specialists and native plant cultivators. The salmon, an economic driver for the Puget Sound area, would benefit with 260-acres of critical estuarine habitat. Environmental educators would bring students of all ages to learn how to bring places back to life. It would reopen the river and estuary for recreation use, building a market for equipment sale and rental. Restoration also creates a draw for tourism, as proven by the Nisqually Delta and the Elwha River. People are eager to witness and participate in the healing of broken places.



# The Conversation Café: A Cornerstone of Volunteer Engagement



Last spring, DERT was awarded a grant from the Puget Sound Grassroots Fund of the **Rose Foundation** to create a volunteer program. This funding program is geared towards volunteer-based organizations working on water quality issues in the Puget Sound area. With this funding, we have hired a Volunteer Coordinator to develop a program to recruit, train and engage people as advocates for the restoration of the Deschutes Estuary.

*Thank you to the Rose Foundation for your generous support!*

Our first volunteer engagement event took place on November 7th, and over twenty eager people came together with a variety interests, skills and perspectives. Through a World Café collaborative dialogue, we discussed our responsibility to the place where we live. We also took a lesson from Brenda Snyder on the need to soften our edges at the shoreline (*see inside: "Sea Level Rise: Re-imagining the Urban Edge"*). We took a concept for the physical landscape (the shoreline) and applied it to our social terrain. How can we soften at the edges of conflict surrounding estuary restoration so that we can move towards a healthy ecosystem?



*DERT volunteers are engaged during the planning of the volunteer program.*

Get involved in the next **Conversation Café** on Saturday, December 7th from 2-4pm.

Register online at:

[http://www.deschutesestuary.org/  
community-conversation](http://www.deschutesestuary.org/community-conversation)

*There is no cost to participate*

That evening, we harvested fresh ideas and passionate energy.

Highlights include: community art projects, legislative strategy, addressing fears amongst various stakeholders, engaging youth, educating on the value of estuaries, re-framing our local heritage, and building a grassroots movement that aligns with the desires of our community and the Squaxin Island Tribe. The atmosphere was inspiring, and we plan to host monthly Conversation Cafés to keep the momentum going. We hope you'll join us!

*Café participants share their perspectives, take notes and illustrate ideas.*



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



Do you consider the health of the Deschutes watershed to be 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, along with personal invitations to all of our upcoming events. Memberships are also received at our website:

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

### Annual membership dues

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

*All contributions are tax deductible. If you are curious about opportunities to sponsor a specific project, let us know.*

Mail to:  
DERT Membership  
PO BOX 11093  
Olympia, WA 98508

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

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