Quick Look:

- **Erosion Study**
- **Devils Lake Revival**
- **MidCoast TMDL**

Devils Lake Water Improvement District

Post Office Box 974, 820 SE Hwy 101 Suite D, Lincoln City, Oregon 97367
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www.DLWID.org

AGENDA 2012 April 5

Regular Meeting: 6 pm, Lincoln City, Council Chambers
801 SW Hwy 101, 3rd Floor

I. Consent Agenda 6pm
- **a.** Minutes of the Previous Meetings
- **b.** Financial Report

II. Public Comment (Please limit comments to 5 minutes per person or as outlined by Chair)

III. Unfinished Business (Agenda Support Item A)
- **a.** The Devils Lake Plan
  - **i.** Septic Tank Revitalization Program (Seth Lenaerts)
  - **ii.** Save our Shoreline Campaign (Seth Lenaerts)
  - **iii.** Vegetation Management
  - **iv.** Sewer (Brian Green)
- **b.** Erosion Study
- **c.** Communications Report
- **d.** Safety Report
- **e.** MidCoast TMDL
- **f.** Glossary
- **g.** Internship – summer 2012

IV. New Business (Agenda Support Item B)
- **a.** Devils Lake Revival
- **b.** Lincoln City's Comprehensive Plan
- **c.** Water Quality
- **d.** Riparian and Wetland Protection

V. Non-agenda Items
VI. Public Comment
VII. Board Comments & Announcements
VIII. Adjournment

Meetings of DLWID are handicapped accessible under the ADA.
If special accommodations are needed, please contact the District Office at (541) 994-5330 prior to the meeting.

Staff Reports 2012-04-05 (Agenda Support Item A)
Robertson & Lenaerts

Unfinished Business

a. The Devils Lake Plan

i. Septic Tank Revitalization Program (Seth Lenaerts) No update

ii. Save our Shoreline (SOS) (Seth Lenaerts)

I will provide a verbal update on the course, Why Lakescape?

The course will take place Saturday, March 31, from 10am-12pm at Council Chambers, 3rd floor of City Hall. The course will cover the following topics:

- History of Devils Lake and Land Use
- Benefits to lakescaping
- Native plants and plant selection
- Design
- Maintenance
- Save our Shoreline and other incentives

This course is open to the public at no charge. Lunch will be provided and there will also be a free plant give away. We have Sedges, Pacific Ninebark, Crab Apple, Red Twig Dogwood and Flowering Currant available.

The flyers that we have sent out have already yielded some success. We have had three people contact us about Save our Shorelines and have conducted one site evaluation. In addition we have had three people RSVP for the course.

For those who are interested in doing a landscaping project on their shoreline property, please contact the District at 541-994-5330 or email SOS@dlwid.org. You may be eligible to have 75% of the costs covered by DLWID.

Save our Shoreline Video

I will gather cost and content information in the next week and intend to have a verbal update available at the Board Meeting.

iii. Vegetation Management:

Grass Carp: Our consultant, Max Depth Aquatics reports that his research into the grass carp impacts is progressing. Most of his work for the moth though will be being concentrated into the current week, so the update is not very lengthy. He suggests that his resaearch into salmon interactions is favorable to us. He has been trying to arrange an opportunity to meet in Newport to jointly search ODFW files for documents that might not otherwise be available. This is still the plan, but scheduling will dictate when we can achieve this. He has also requested a trip on the lake the following day, so we will surely accommodate him as best as possible. Lastly, he requested that I provide him the phytoplankton data

which he was unable to extract from the database we previously provided for one reason or another, which I have done. I also sent him exported data from the database which included the analytical parameters including Chlorophyll a, an indicator of Harmful Algal Blooms.

Modeling: The question of the value of doing a model as part of the Grass Carp Application and/or as part of a larger long-term watershed approach was briefly discussed at our last meeting. I have asked our consultant, MaxDepth Aquatics, Inc., to provide insight into the value of the model. Their comments are below:

1. Value of various models for the Grass Carp project: I had provided you with cost estimates at your request for running various models on Devils Lake or its watershed. The three models I provided cost estimates were Stella [$15,880], CE-QUAL-W2 (W2 for short) [$119,596.10], and SWAT [$45,885]. Stella is a deterministic model that I have used in the post for the Diamond Lake TMDL. I has some value for the GC project because it shows the complex interrelationships among the variable in Devil Lake. However, because it is deterministic, it doesn't tell us anything about the uncertainty in the possible outcomes. W2 is an in-lake hydrodynamic model that we are currently using to update the Diamond Lake dynamics. The hydrodynamic portion of the model is terrific. The chemistry and water quality subroutines are pretty good and improving. This model has terrific application for assessing in-lake issues, however, it has no value with regard to the GC project. The SWAT model is a watershed model (terrestrial) that is often used to help identify catchments that produce the greatest loads of sediment and nutrients. One can use the model to test how applying best management practices can be best applied. It has no value for the GC project.

2. Bayesian neural network (BNN) model. I've been investigating an alternative to Stella modeling because of the issue of determinism. Bayesian models address this problem by allowing one to input estimates of uncertainty into the causal linkages. For example, let's say I want to simulate what happens in Devils Lake if the GC go away. With a BNN model I can say that the probability of that event occurring is 95%. However, other linkages in the lake response are less well known. For example, we have a pretty god idea that the smolts are using the lake for rearing because the smolts from Devils are larger than from the Siletz. We'll assign their usage of the lake as 90% certainty. We also know that there are Largemouth bass in the lake and that that population will increase with more weeds; we'll give that probability 85%. Thus we can go through all of the known and suspected linkages, define some initial probabilities and run the model. So, the model has the benefit of being able to show all of the linkages that one would identify for the Stella model, but this time we'd have an output (or a range of outcomes) that might tell us that collectively, we believe that allowing grass carp to fade away will result in a weed-infested lake with a decline coho population. I have a demo of the model that I have been exploring, but a running version of the model costs $585. It would take me several extra days ($85/hr x 32 hrs = $2720) to apply the model to Devils Lake (I think) [approx. $3,305].

Recommendation: Authorize an additional expenditure of up to $3,500 for a Bayesian Neural Network Model specifically for the Grass Carp Application.

Diver Assisted Suction Harvesting (DASH): I have been provided a short video on DASH that I would like to play for the District at our next meeting as an introduction to further discussion and evaluation over the next months. It was provide to us by Amy Smagula, Limnologist/Exotic Species Program Coordinator, New Hampshire Department of Environmental Services.

iv. Sewer (Brian Green & Paul Robertson)

The District sent the signed letter to City Manager David Hawker regarding the proposed alternative sewer and paving project near Regatta Grounds. The letter focused on the environmental benefits of the Local Improvement District (LID) of reducing the nutrient loading from septics and the reduction in impervious surfaces over traditional development due to the narrow street footprint, but also the social and more importantly in this case the economic factors of the project. Key to the success of the project is the allowance of a phased approach to connecting to the sewer by the property owners. The case for this was well laid out in the letter specifically addressing the limits of DEQ's requirements for mandatory connection. DEQ only requires a property owner with an existing septic system to hook up to sewer when there is adequate sewer access within 300' of the property and then only when there is a permit required for the upgrade or revitalization of the existing septic system. The economic reasoning for the District's position to not require a mandatory hook up beyond what DEQ requires is that many owners may have recently invested in a septic system at great expense and would effectively loose that investment if a mandatory hook up were to be required.

b. Erosion Study: The Devils Lake Water Improvement District signed a contract with Tetra Tech, Inc. for a shoreline erosion study. This contract was issued on December 29, 2010 for $28,840. Field work for the study was conducted in the summer of 2011, and the Contractor presented their original submittals on December 1, 2011. At that meeting the District outlined very specifically the incompleteness of the project. These were broken up by tasks of which there were six. Major components of the project were not completed or addressed in the report. Tetra Tech acknowledged the District's position and committed themselves to fully completing the project in as timely as manner as possible.

The District has been receiving the final deliverables for this project over the last month. These have included the following:

- Corrected version of the inundation maps
- Movie file of Inundation maps
- Corrected, georectified historical aerial photographs
- Movie file from historical aerials
- Geographic Information Systems computer files for soils, vegetation, inundation maps, and historical aerials
- Field data sheets
- Digitized formal summary of data sheets
- A complete report that addresses the following missing from the original submission:
  - Wave Action analysis on varying lake levels
  - An expanded wave energy analysis
  - Discussion of wave impacts on riparian zones, wetlands, poorly vegetated shorelines, and various soil types.
  - A complete summary of the data and conclusions of the impact of the dam based on reservoir hydrology, vegetation distribution, herbivorous grass carp, and soil saturation during impoundment
  - Methods and approaches
  - Recommendations

DLWID staff has reviewed the submittals and done a comparison to what was requested in the original RFP and subsequently contracted. Staff has compiled this review into a presentation which will be given at the next meeting.

Recommendation: Staff believes that the contract can be ruled complete and thus full payment should be issued to Tetra Tech, Inc. Further, staff recommends to have staff, the Board, and encourage the public to take the time to make an even more detailed review of the document and the deliverables over the next month in preparation for an open discussion on the dam and lake level as it relates to the Erosion Study as well as to other components previously identified such as fish and wildlife, recreation, septic systems, Harmful Algal Blooms, vegetation, wetlands, shorelines, and water quality. When the District issued the Erosion Study RFP it did so with the pledge to consider and act on the results of the study. While it was the District's intent to have had time earlier in the year to have this discussion, the timing of the receipt of the final deliverables has made that most appropriately held in May. Given this and given the fact that the District pulses the dam, releasing water for fish passage mitigation through the end of May, and given the District has demonstrated that the full water impoundment can be achieved even if waiting until late June, Staff would recommend waiting until after the May discussion to make a decision about the use of the dam this summer and thus the installation which typically would otherwise begin around April 15.

Actions Needed:

- Decision on the completeness of the contract and payment of the contractor.
- Direction on the installation of the dam prior to the May Discussion.

c. Communications Report: (Seth Lenaerts & Paul Robertson)

- Oregon Coast Community College Course**:** The District will be offering a class as part of the Community Education Program being initiated this year. This is part of the 25 year anniversary of the college. This offering can be found at the following website by searching under course title.
- http://sharknet2.occc.cc.or.us/Schedule/

Oregon Coast Community College

Course Information

Add this class to your shopping cart

Title:	Understanding Local Water Quality: Be Part of the Solution		
CRN:	1056033	**Course ID:**	XBI0001C-Z1
Term:	Spring term 2011/12	**Credits/Hours:**	0/3T
Instructor:	S. STAFF		
Dates:	05/23/2012 - 05/23/2012	**Days:**	We
Times:	6:00PM - 8:50PM	**Location:**	NC-217
Estimated Tuition:	$0.00	**Estimated Fees:**	$25.00
Description:	An introductory course focused on the water quality of Devils Lake. Provides a basic foundation for students interested in volunteer water quality monitoring done by local watershed councils and by other non-profit organizations. Covers a basic understanding of the why, when, and how of each parameter used in the water quality monitoring process. Uses lecture materials and, in part, demonstrations and hands-on activities. May include the opportunity to calibrate meters and conduct tests of water quality.		

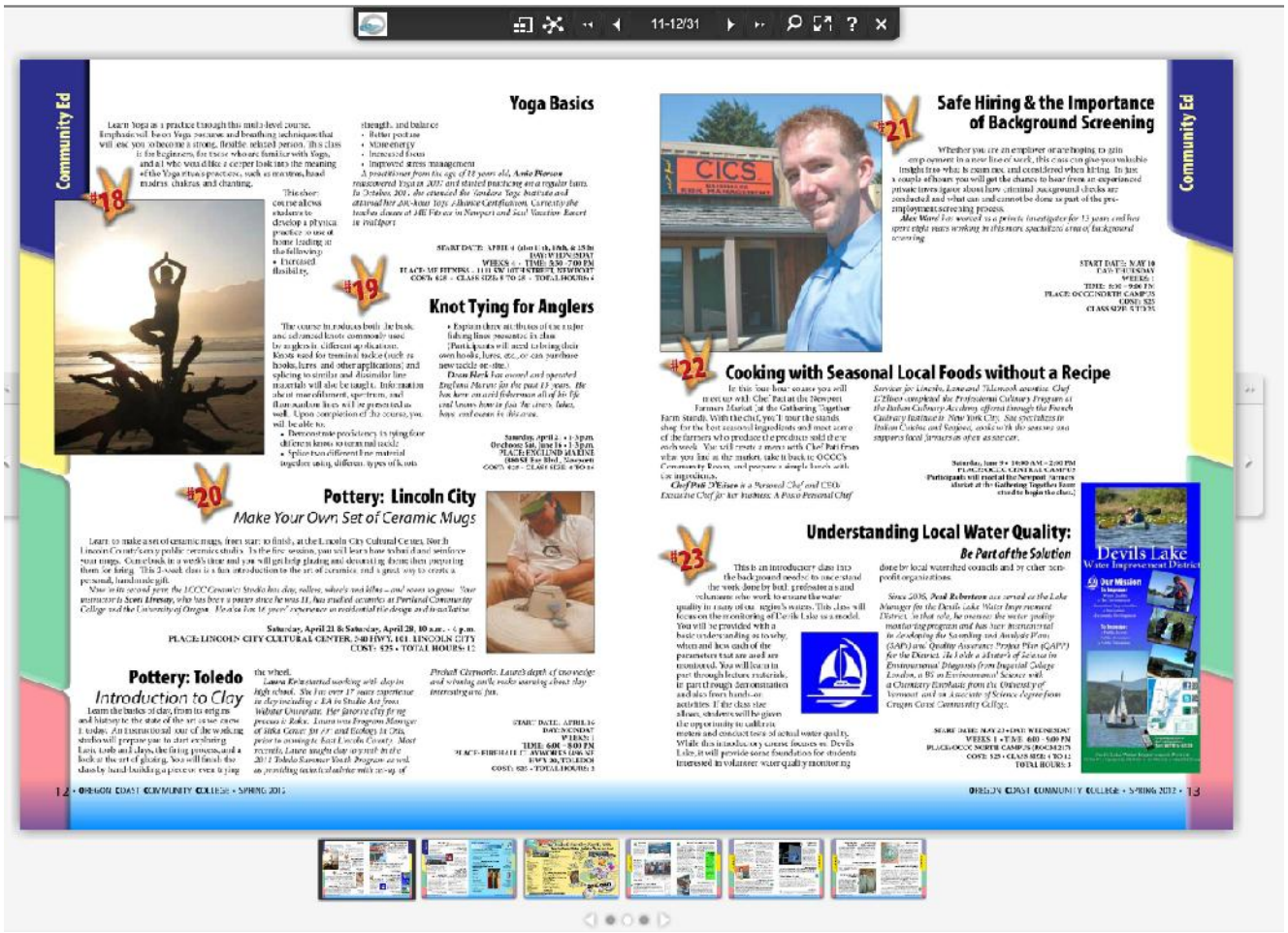
Continue Shopping | Student Resources Menu

Oregon Coast Community College, 400 SE College Way, Newport, OR 97366
(541) 265-2283; webinfo@occc.cc.or.us
1987 - 2010 Twenty-three Years of Service to Lincoln County!

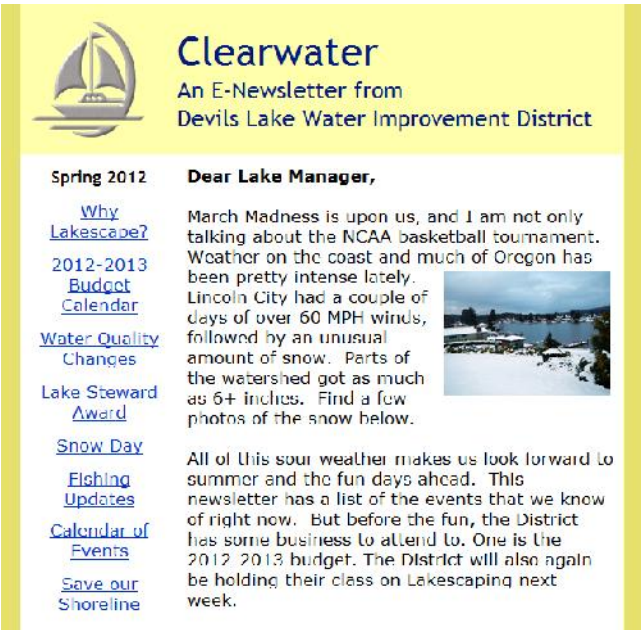
Instructor's Biography:

Since 2005, **Paul Robertson** has served as the Lake Manager for the Devils Lake Water Improvement District. In that role, he oversees the water quality monitoring program and has been instrumental in developing the Sampling and Analysis Plans (SAPs) and Quality Assurance Project Plan (QAPP) for the District. Prior to working for the District Paul worked in England as an Analytical Chemist specializing in Inductively Coupled Plasma Mass Spectrometry, worked as a Stream Surveyor in Oregon's Coast Range, and as a Pollution Abatement Operator in Vermont. He holds a Master's of Science in Environmental Diagnosis from Imperial College London, a BS in Environmental Science with a Chemistry Emphasis from the University of Vermont, and an Associate of Science degree from Oregon Coast Community College.

- See the listing in the OCCC 25 Spring 2012 Catalog
- http://digital.turn-page.com/i/59537



- KBCH Good Morning Wake Up Show: Seth, DLWID's Project Manager, was the guest of KBCH's Good Morning Wake Up program with host Roger Robertson. This program airs weekday from 6-8 am on KBCH am 1400. The District has a standing interview spot on the second Tuesday of the Month from 7:30 – 8:00 am. Podcasts of the program can generally be found at http://www.kbcham.com/home.cfm?dir_cat=99830. A copy of the February interview is currently available.



Clearwater

An E-Newsletter from
Devils Lake Water Improvement District

Spring 2012

Why Lakescape?
2012-2013 Budget Calendar
Water Quality Changes
Lake Steward Award
Snow Day
Fishing Updates
Calendar of Events
Save our Shoreline

Dear Lake Manager,

March Madness is upon us, and I am not only talking about the NCAA basketball tournament. Weather on the coast and much of Oregon has been pretty intense lately. Lincoln City had a couple of days of over 60 MPH winds, followed by an unusual amount of snow. Parts of the watershed got as much as 6+ inches. Find a few photos of the snow below.

All of this sour weather makes us look forward to summer and the fun days ahead. This newsletter has a list of the events that we know of right now. But before the fun, the District has some business to attend to. One is the 2012-2013 budget. The District will also again be holding their class on Lakescaping next week.

- <u>OCCC "on the Air":</u> As planned the Lake Manager was the guest of Interim President of OCCC Bruce Koike on the March 16, 2012 8:30am live broadcast of Oregon Coast Community College, "On the Air". This weekly program broadcasts Fridays simultaneously on KBCH 1400 am, KNPT 1310 am, and KWDP 820 am in Waldport.

- <u>Clearwater Spring e-Newsletter:</u> The Project Manager put together the most recent newsletter, released in time for Spring Break. If you missed it there is a link available here: http://t.co/RH1wk19F

d. Safety Report: Safety is no accident! No incidents.

Created a new eye wash station for the lab incorporating the existing faucet and spray nozzle. Trained staff on the use of the station. Previously the station would have required someone to go to the old station near the refrigerator, grab the sealed bottle of eye wash from its wall mounted holder, remove the seal, open the bottle (1 liter) it and then pour it on ones eye(s). This of course would be done in a time of heighten anxiety. The new station is more ready available, has a near unlimited amount of wash water, (15 minutes worth of flushing is recommended), and is in an area more familiar to the user.

e. MidCoastTMDL: Department of Environmental Quality (DEQ) has begun the planning process for developing an Implementation Ready - Total Maximum Daily Load (IR-TMDL) for 303(d) listed waterbodies in the Oregon Mid-Coast Basin. The initiation of this TMDL process has been a long-time in the works and the process itself will be lengthy stretching over the next 18 - 20 months. Devils Lake is listed for Chlorophyll a and pH and Thompson Creek is listed for fecal coliforms, and thus as a local government we have been invited to participate. Representatives from local, state and federal government, special districts, Tribal Nations, private industry, forestry, agriculture, conservation, NGOs, watershed councils, landowners, and others were also identified.

Kick Off Meeting 2012-03-20

- Over 60 people in attendance including the actual stakeholders invited and the interested public.
- This was largely an introduction to the process and scope.
- Presentation on the process were given as well as outlines of expectations and outcomes
- Stakeholders will meet monthly, tentatively scheduled for the 3rd Wed at some location up and down the coast through the 18-24 month process
- Additional meetings of specialty groups known as Technical Working Groups (TWiGs)
- Local Stakeholders invited (Short List)
    - DLWID
    - Salmon Drift Creek Watershed Council, Catherine Pruett
    - Lincoln Soil and Water Conservation District, Stacy Polkowski
    - ODFW, Bob Buckman

- Mid Coast Watershed Council, Wayne Hoffman
- Siletz Tribe, Stan van der Weting
- Siletz Tribe, Natural Resource Director Mike Kennedy
- Lincoln County Public Works Director, Jim Buisman
- Private Timber Landholders
- Private Agricultural Landholders

- A link to the meeting materials website is posted below. Materials from the meeting had not yet posted, but updates will be provided though this site.
- **http://www.deq.state.or.us/WQ/TMDLs/midcoast.htm**

f. Glossary: Additional progress was made on the glossary, and the list to date has been published on the web. The goal of having such a glossary was to promote clear, unambiguous communication between all stakeholders. The Glossary can be found on the Research Page of the District's website.

g. Intern summer 2012: We have received a number of applications to date. Interviews will be offered to a select few after the close of application period which is April 14, 2012. This internship will be a paid, 17 week program focusing on water quality and education outreach.

New Business (Agenda Support Items B)

a) Devils Lake Revival:

In late August of 2011, the District held the Devils Lake Revival - A community festival to celebrate Devils Lake and learn more about living in a watershed. The festival was a big hit, with over 200 attendees. The festival included, pontoon boat tours, kayak tours, Stand Up Paddle board demos, sailing race, live music, many interactive booths, children activities, and a raffle, which included a grand prize of a kayak, life vest and permit.

This year we want to keep all of those activities and have already been approached by the City to potentially include Stand Up Paddle Board races.

All activities at the festival were free, except the food, and the proceeds went to the Backpack program, which provides weekend food to children at local schools.

The total cost of the event was about $3,000. Last year we held the event the last weekend of August. There was talk of moving the event up to an earlier date. As of March 27, Regatta Park is available in June, July and August. I have talked with the Visitor and Convention Bureau and Chinook Winds Casino, to see which weekends would have major conflicts. After reviewing the calendar of events, it appears that August 4 may be the best alternative.

- June 23- Kite Festival
- June 30- Weekend before July 4
- July 7-Weekend after July 4
- July 21-Staff Conflict
- July 28- Basketball Tournament
- August 11-Sand Castle Contest
- August 25-Surf City Classic Car Show

Board Action: Would the District again like to hold the Devils Lake Revival, and if so would we like to move it to another date.

b) Lincoln City's Comprehensive Plan (Comp Plan): The Lincoln City Planning Commission recently placed on its agenda a discussion of the Comp Plan which is an overall planning document for the city. The document is an important one in that it provides a vision and a scope for the city as whole on the long-term horizon, 5-25 years. The City is required to periodically update the plan, which actually has been in process for some years and seemingly will continue. The Planning Director and Sr. Planner recently held a discussion with the Planning Commission on the Comp Plan and the State Wide Planning Goals which the City (and/or county, special district, and the state) must adhere to. At this meeting I provided some public comments, initially thanking the City for their role in our planning process

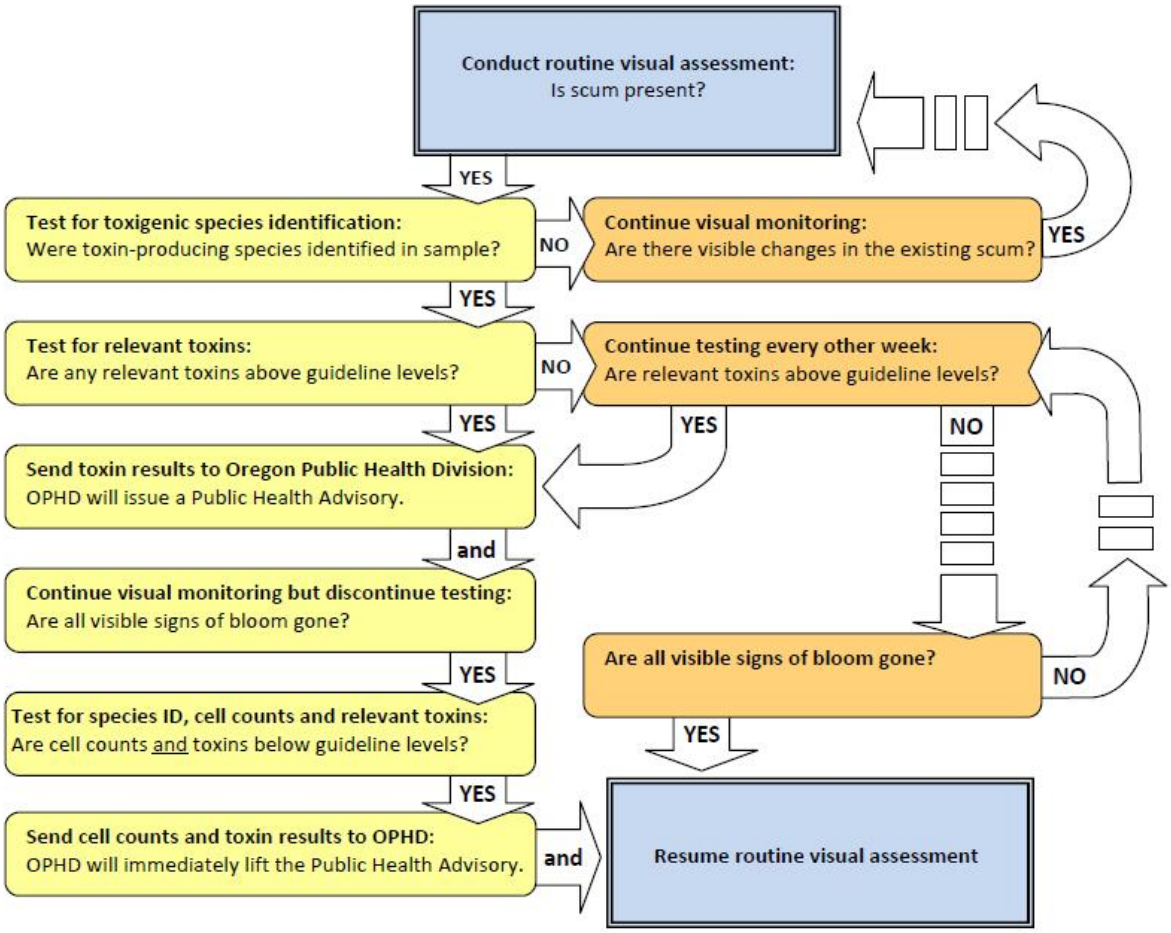
developing the Devils Lake Plan, but also focusing on our plan and how the Lincoln City Comprehensive Plan can be in alignment. As their process develops, we as a special district should, and are called to be by the state wide planning goals, involved. The focus of the comments was on sewers, septics, stormwater, wetlands, shoreline buffers, and even the prospects of a phosphate free fertilizer ordinance. These are all things in the Devils Lake Plan. As we have on staff a planner by training, I would ask the Project Manager to be the lead contact in monitoring the City's progress on any updates to their Comprehensive Plan with myself and the board participating at points along the way as suitable. This will at a minimum require staff to attend meetings periodically, provide public comment based on the District's established positions and interests, and provide back to the District as whole feedback to seek further direction.

c) Water Quality:

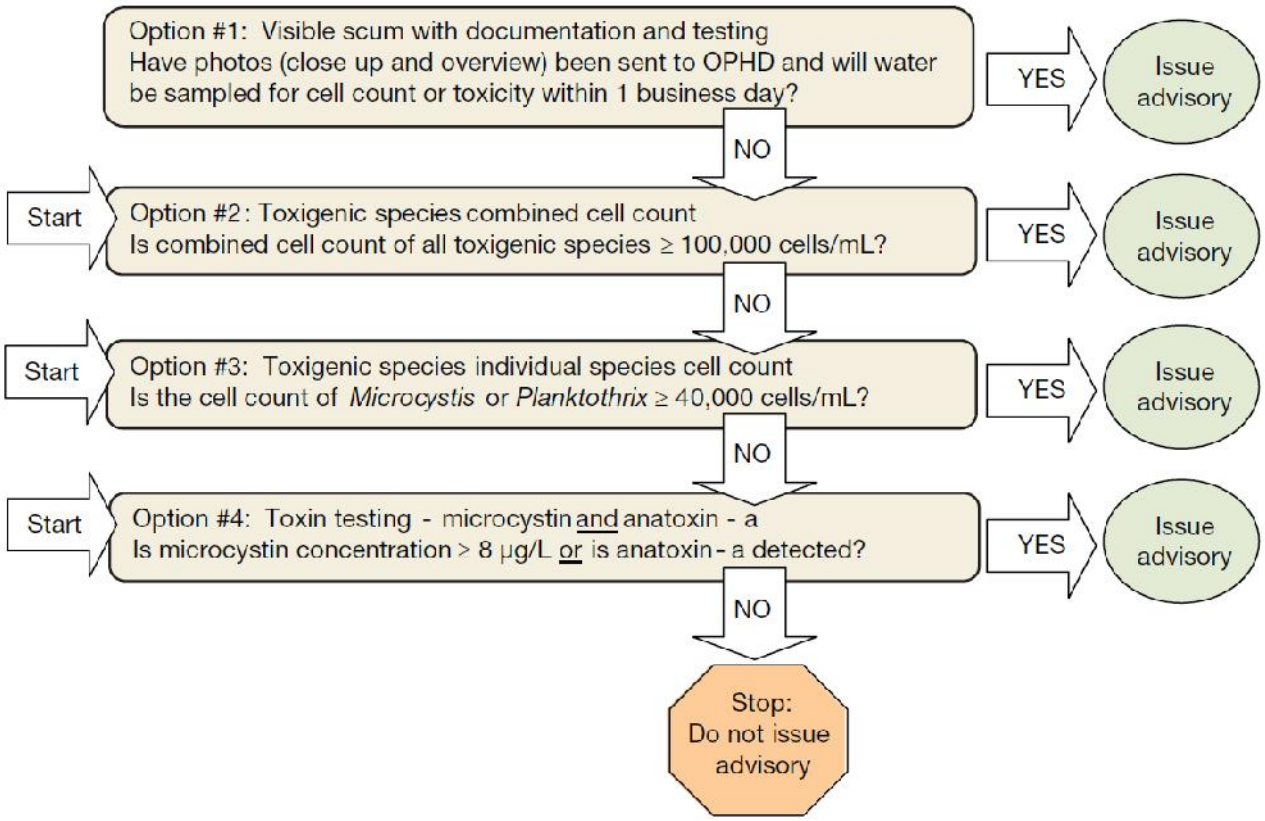
HABs & Toxin Analysis: I attended a Harmful Algal Bloom Surveillance (HABs) Stakeholder meeting put on by the Oregon Health Authority recently at Lane Community College. The meeting was attended by numerous agency folks with in the state (DEQ, most predominately) as well as natural resource managers such as the Army Corps of Engineers and the US Forest Service. The meeting focused on the updates to the HABs program for this year as available through these links.

PDF: Public Helath Advisory Guidelines Harmful Algae Blooms in Freshwater Bodies
PDF: Sampling Guidelines for Cyanobacterial Harmful Blooms in Recreational Waters

Posting guidance can be summarized by this figure.



A second flow chart outlines the thresholds within a sampling program that would have to be met to have an advisory:



The most important update was the introduction of new guidelines for toxin monitoring. The state has developed a guideline value for Anatoxin-a, and provisional guidance for the two new toxins they are requiring analysis: Cylindrospermopsin and Saxitoxin. The value for Microcystin of 8 parts per billion (ppb) remains the same.

	Anatoxin-A (µg/L)	Cylindrospermopsin (µg/L)	Saxitoxin (µg/L)	Microcystin (µg/L)
Guideline Value	20	6	100	8

What this means for the District is that if we have a bloom of a blue-green algae (Scientifically known as Cyanobacteria) that is known to produce one or more of these toxins and we go under an advisory though one of the four mechanism above, the District would be required to show that the values were below all the applicable standards before lifting an advisory. What toxins would be applicable would be determined by the blue-green algae present, and thus the toxins they are known to produce. A list of the toxin producing genera is provided below.

Typically Devils Lake may have a bloom of Gloeotrichia, a known Microcystin producer. Other blooms may consist of Anabaena which for example is a producer of Microcystin, but also Anatoxin-a, Cylindrospermopsin, and Saxitoxin. A bloom of Anabaena then would require toxin monitoring of all known toxins before lifting an advisory. While the District has internally the means to monitor Microcystin, and can acquire the means to test for Cylindrosperopsion and Saxitoxin as test kits too, in order to test for Anatoxin-a, an outside lab will have to be used. Based on the potential frequency of monitoring Saxitoxin and/or Cylindrospermopsin it also may become more economical to send those limited number of samples out verse investing time and resources into using the additional ELISA test kits.

	Hepatotoxins			Neurotoxins	
	Microcystin	Nodularin	Cylindro-spermopsin	Anatoxin-a	Saxitoxin
Anabaena	+		+	+	+
Anabaenopsis	+				
Aphanizomenon			+	+	+
Arthrospira	+				
Cyanobium	+				
Cylindrospermopsis			+		+
Gloeotrichia	+				
Hapalosiphon	+				
Limnothrix	+				
Lyngba					+
Microcystis	+			+	
Nodularia		+			
Nostoc	+				
Oscillatoria	+			+	
Phormidium	+			+	
Planktothrix	+			+	+
Raphidiopsis			+	+	
Schizothrix					
Synechocystis	+				
Umezakia			+		

King County Lab**:** I have been working with King County, Washington's lab to secure the right to send them samples at a significant savings over commercial labs. Typical cost savings would be approximately $150 - 200 per analyte, a savings of up to $1,000 per sample. Typically we might send in a few samples a year at most with a limited amount of analysis requested. Our use of the lab would likely not exceed $1,000, and might be even by zero for a season. As they too are a government, a Technical Service Agreement (a form of Intergovernmental Agreement) must be signed with stipulations of the contract. Given the unpredictability nature of these blooms, and the fact that we might have multiple blooms through the year we placed some flexibility in the contract for a total expenditure not to exceed $3,000 annually. We would be under no circumstances be required to use any of their services, but this agreement would establish the right to do so as the need arose. A copy of this agreement has been sent to the board for review which will require approval before moving forward.

2012 Price Sheet

TASK TITLE	DESCRIPTION	PRODUCT TO BE DELIVERED	DATE OF COMPLETION	COST
Algae ID	**Quantitative ID to genus and cell enumeration.**	**Data Report in Excel**	**Preliminary Data ASAP, Final data in 14 days.**	**$ 148.75**
Toxin Analysis	**Anatoxin-a by HPLC-FD**	**Data Report in Excel**	**Preliminary Data ASAP, Final data in 14 days.**	**$ 127.50**
Toxin Analysis	**Microcystins by ELISA**	**Data Report in Excel**	**Preliminary Data ASAP, Final data in 14 days.**	**$ 129.00**
Toxin Analysis	**Cylindrospermopsin by ELISA**	**Data Report in Excel**	**Preliminary Data ASAP, Final data in 14 days.**	**$ 182.50**
Toxin Analysis	**Saxitoxin by ELISA**	**Data Report in Excel**	**Preliminary Data ASAP, Final data in 14 days.**	**$ 152.50**
TOTAL				**$ 740.25**

HABs Signage: As presented last month the State has developed new permanent signage as well as a new "Green Poster". Concerns heard from the District included the use of HARMFUL ALGAE in large print at the top of the information sheet which might send a message that the lake was under a bloom, when really it was not. As the state had not printed the signs yet, they took our comments under advisement and are revising the document. Other comments they received prompted them to add information on the sheet about the signs of a toxin poisoning. Space on the sign however prompted them to remove the information I most liked which stated the something to the effect of "What can you do to prevent Blooms", which addressed septic tank inspections, fertilzer and the like... They may reinstate this, but as of yet we have not seen a third iteration. At this time however we are not going to be using their "Green sign", so modifications will not hinder our program from moving forward. This is unless we want to consider their updated sign in May. If so I would hold off on getting the vinyl coated metal signs recovered with our newly redeveloped "GREEN" informational Posting.

Additionally, I was able to obtain 8 metal flip signs as hoped. I spoke with their staff about their willingness to allow modest modifications which they were amenable. Basically we could add a logo and contact details for the District. We will hold these signs for use possibly next year unless otherwise instructed.

Other Signage: Our bacteria sign postings and the Yellow HABs posting holders are in need of a facelift. Some of the signs are 5 years old at this point and may be better off simply replaced. I have asked the lake contractor to pull them down and evaluate their condition. While the serviceable signs are being rehabbed, I would propose that the District acquire and prepare a replacement set of signs that would we put out, and then use the older, aging ones that can be rehabbed as back ups. Typically through the year a few will get worn out (bent, paint peeling, sun bleached, cracked or even vandalized), so having the old ones on as spares would be helpful and keep the face of our Water Quality efforts looking good through out the year. I notice that when I go to other lakes, if the signage is clean and current, then it actually gets looked at and is thus reaching the intended audience. Therefore I find it a good investment in the overall water quality monitoring program to keep these sign in good order.

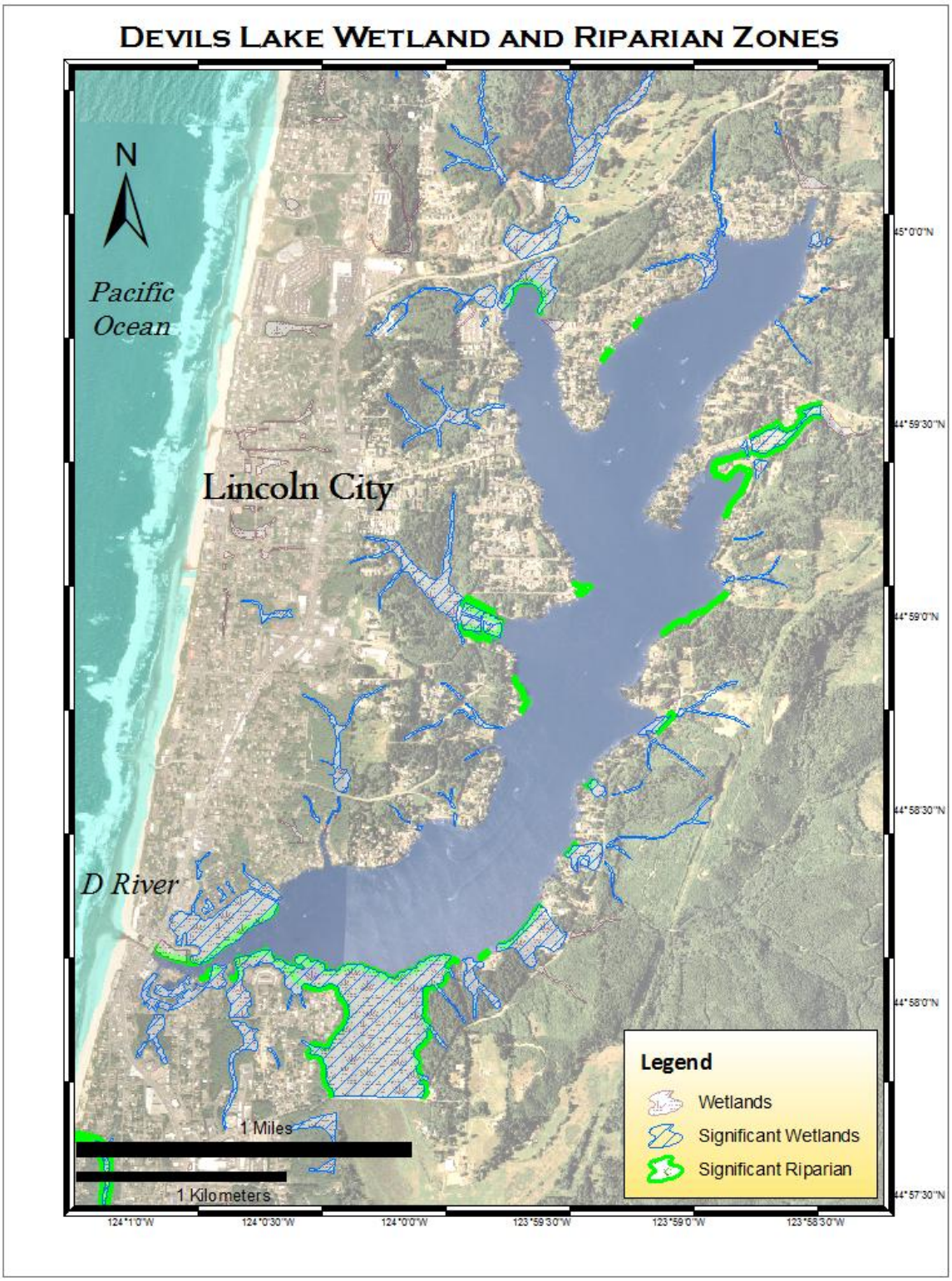
Metal Signs, cut and holes punched	$18.50	* 24	=	$444.00
Plastic covers (new and rehabbed signs)	7.49	* 48	=	$359.52
Paint (estimate)				$20.00
Misc Hardware to mount (estimate)	1.50	* 24	=	$36.00
Total				$859.52

Actions Needed:

- Approve and sign Technical Service Agreement with King County.
- Reconsider HABS signage options in light of new information if warranted.
- Approve expenditures for new signs

d) Riparian and Wetland Protection: (Seth Lenaerts)

We recently received some questions about shoreline development and building in Natural Resource Overlay zones. Specifically, in those sites that have been designated as significant wetland and riparian areas. Lincoln City code offers the following definitions, and the associated maps for where they designations apply.



Lincoln City Municipal Code 17.46.020

"Riparian area" means the area adjacent to a river, lake, or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem.

"Riparian area, significant" means a riparian area that is shown as significant on the significant natural resources maps in the comprehensive plan.

“Wetland” means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are mapped in the city’s Local Wetland Inventory (January 12, 1996).

“Wetland, significant” means a wetland shown on the significant natural resources maps in the comprehensive plan.

The questions that we received regarding what is the process that is followed in order to develop in an area that has been given one of these designations and have these guidelines been met.

Development in a Natural Resource Overlay Zone

Overlay Zone. An overlay zone is a zone or district created by the local legislature for the purpose of conserving natural resources or promoting certain types of development. Overlay zones are imposed over existing zoning districts and contain provisions that are applicable in addition to those contained in the zoning law.

Is it illegal to develop in an Overlay Zone?

No, it is not illegal to develop in an overlay zone. The accuracy of overlay zones is not 100%. In most cases a survey was conducted of an area, but the survey is often a general overview, similar to a soil survey, and wetlands are not delineated parcel by parcel.

In order to develop a property that is located in the riparian or significant wetland overlay zone, the property owner must complete a number processes. In order to determine if the property is in a wetland, a wetland delineation must be completed by a soil scientist and submitted to the City and the Department of State Lands.

The wetland delineation in intended to determine, if and where wetlands exist on the site, based on, hydrology, soil types, and vegetation. If it is determined that wetlands do not exist on the site, the property owner is free to develop. What may also happen, is that only a portion of the property is deemed wetland. In this case as long as this area is not built in, the rest of the property can be developed.

Additional Action/Discussion

To this point, we have requested to be on the City’s notification list for when an application to develop in a wetland or riparian overlay zone is submitted. At the very least this will allow the district to review wetland delineations.

Other potential actions:

- We could encourage the City to add additional requirements to existing ordinances regarding, landscaping and setbacks. The City also has a Natural Resource Overlay Zone, that the District could lobby to have additional amendments to protect the lake. Keep in mind this is City only.

- Create an informational brochure about low impact development that the Planners at City could give to people who are looking at developing around the lake.