



Devils Lake Water Improvement District

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www.DLWID.org

Quick Look:

- Aquatic Vegetation Survey
- East Devils Lake Road

AGENDA 2012 July 12

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, please note comments related to public hearings should be saved until the opening of such hearings)*
- 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. Communications Report
 - c. Safety Report
 - d. MidCoast TMDL
 - e. Internship (Alyssa Clayton)
- IV. New Business** (Agenda Support Item B)
- a. East Devils Lake Road
- V. Non-agenda Items**
- VI. Public Comment**
- VII. Board Comments & Announcements**
- VIII. Adjournment**

Unfinished Business

a. The Devils Lake Plan

- i. **Septic Tank Revitalization Program** (Seth Lenaerts) Work on the septic revitalization program continues. We are currently putting together an inspection form which will be used by service providers while they are doing inspections.

We had some delay in putting this together as we have been working with the City and the County to determine what criteria to include and what information the County would need in order to act on a potentially failing system. At the same time there were concerns over who would actually make the determination if a system is failing or not. It appears for the most part this is resolved; however, there still are some lingering concerns. I think that once an actual inspection form is created, that will help to hammer out the concerns. I am working with County and City staff, to come up with an inspection form that both entities can agree with.

According to the City Manager this issue of who makes the determination is the latest road block to moving forward on a draft ordinance.

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

Now is an ideal time to contact the District if you are interested in doing a demonstrative garden as part of the Save our Shoreline program. Planning for these plantings generally takes at least a month and often more. Please contact us now if you are interested in doing a planting for the fall. Fall is generally the best time to plant. Planting in October gives the plants a bit of time to establish before the rains. Having the winter rains also benefits the homeowners; since they do not need to water the plants and the winter will help the plants to better establish for the summer.

As a reminder the Save our Shoreline program is open to all lakefront property owners. The District will pay up to 75% of the costs of doing a native shoreline planting. Save our Shorelines is much bigger though than just the plantings. We also provide free consultations with staff and a landscaper if necessary. In addition, we can help source plants and provide plant information. Save our Shorelines also works to reduce invasive species in the watershed. We work with homeowners to eradicate native species using environmentally responsible manners that won't degrade water quality. For any homeowners who are interested please contact the District, getting started is easy.

Maintenance

We've had a nice stretch of warm weather, which means our plantings need to be watered and weeded. Alyssa and I will be spending a half day or more at the Raingardens doing weeding and watering for the upcoming month.

Video

We're looking to shoot this in the next two weeks, and aim to have a preview ready for the August meeting.

iii. **Vegetation Management:**

Grass Carp: I have had several communications with our contractor over the last month regarding the draft reports. I have provided considerable feedback thus far and have more to provide based on some questions from our consultant, MaxDepth Aquatics. Currently there are also a number of other requests the contractor has made which I am researching or following up on. In addition I had a meeting with ODFW staff following our return of their files. I described the Bayesian Neural Network Model that is being developed and the interactions it is attempting to predict.

Aquatic Plant Survey: At our last meeting the District authorized \$10,000 for this survey with the assumption that the Lake Manager would consult with MaxDepths as to which of the two survey would be most suitable (\$8523 vs. \$3,522) as well as investigate alternatives. I got some cost comparisons for the aquatic plant survey and found that PSU cost estimate was quite competitive. On the one formal commercial quote we got their daily rate was \$2,680 exclusive of mobilization rate of an additional \$1,000. It was estimated that it would take 2.5 days to cover the lake which if done twice in the season would bring their costs to \$15,400. Another vendor provided a daily rate that was considerably lower of \$1,500 but with a similar mobilization fee and an approximate 2.5 days done again twice in the year, their cost would be approximately \$9,500. While I believe all of the contractors I contacted are reputable, PSU is in addition to being less expensive has the added benefit of the considerable name recognition of Dr. Sytsma and the Center for Lake and Reservoirs.

I also got approval from PSU that should we choose to data log the aquatic survey using our own equipment (should we purchase such equipment), they could run those data acquisitions simultaneously. The benefit of this would be that we could collect data that would then upload to an online company that would house the data and process it for an annual fee, allowing us to take over much of the monitoring long-term. This flexibility makes PSU the premier choice as we narrow the cost structure for this endeavor annually. Currently we are in the process of contracting with them at the whole lake survey rate.

The cost of collecting vegetation data in conjunction with PSU is the equipment (\$689 to 1425 depending on features and vendors) and then the annual software fee, which for Devils Lake at 680 acres would be \$1775. Purchase of this hardware and data processing fee would require a second expenditure above the remaining \$1477 from the initial \$10,000, so I have not acted on this, but should we choose to we need to do so in time for PSU's 1st transects which are expected to be mid July. There would be significant long-term benefit to running both data acquisitions simultaneously.



Unit	Retail*	BioBase price**
HDS 5	\$749	\$689
HDS 7	\$1099	\$1065
HDS 10	\$2,299	\$2,225
Structure Scan	\$689	\$625
HDS 5 W/Structure Scan™	\$1,425	\$1,279

*Retail pricing based on estimates and may change

** Prices do not include shipping and/or tax

SOFTWARE:



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Roseville, MN 55113

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Single Lake Subscription Pricing All Prices Subject to Change

Annual Single Lake pricing is based on subscription costs for unlimited uploads as follows:

HOA Acres	Subscription
30-250	\$1,475
251-750	\$1,775
751-1500	\$2,235
1501-3000	\$2,450
3001-6000	\$3,400
6,000 +	Call

Prices include 12 months of unlimited processing of data collected on a single water body and uploaded to the ciBioBase System. Data can be collected by an unlimited number of users from the Organization.

Subscriptions include the following services:

- Processing of unlimited .SLG or .SL2 acoustic log files through the CI BioBase System
- Secure access to the processed data in an online account
- BioBase support services and shapefile adjustments to your water body
- Hosting of a historical database of trip uploads and full ciBioBase feature functionality

The following services/costs are not included in an unlimited subscription:

- Custom feature development
- Processing of data collected outside the 12 month subscription period
- Uploads and processing of data collected on water outside of the designated lake

HDS units can be purchased through Contour Innovations with your subscription. Please inquire about our HDS hardware prices.



www.CiBioBase.com

Prices are subject to change at any time - We reserve the right to refuse service at any time. Purchases cannot be made on behalf of any party without the written consent of Contour Innovations. Current database contains all US water bodies larger than 30 acres. File uploads for water bodies smaller than 30 acres will require a database charge per water body. Please contact us for uploads to water bodies over 10,000 acres.

Questions can be directed to: Matt@ContourInnovations.com Last updated January 2012

Hardware:

Basic Unit HDS5 gets us the bare minimum. The Add on of the structure scan provides increased accuracy as well as significantly clearer imagery as shown below (\$1,279). The Structure scan provides the best representation of the aquatic vegetation, particularly in densely vegetated areas. Additional accessories (not priced, but in the 150-200 range) provide greater portability of the equipment for doing surveys in shallower, less accessible waters such as the Crystal Lagoon where significant aquatic growth currently exists. An email from Vendor explaining the structure scan benefit and photos of enhanced imagery below:

Paul:

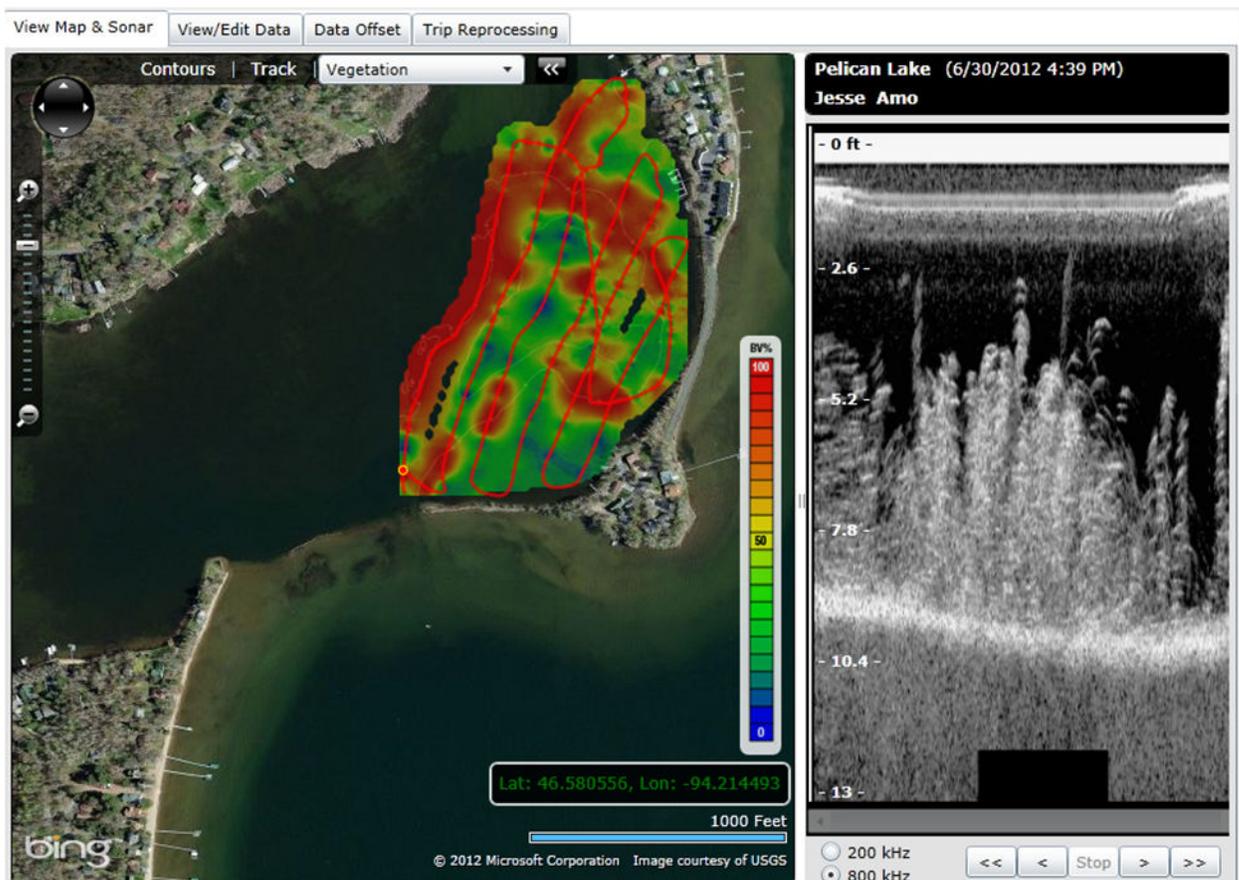
Many of the benefits of Structures can relate to the visuals in our Trip Replay feature as well as the additional verification performed by our algorithm when the 800 kHz signal (from downscan in Structure Scan) is also recorded. Downscan uses an ellipse signal distribution instead of the traditional 200kHz cone. The ellipse resembles a slice that allows the HDS system to identify small details in a shape in the water column.

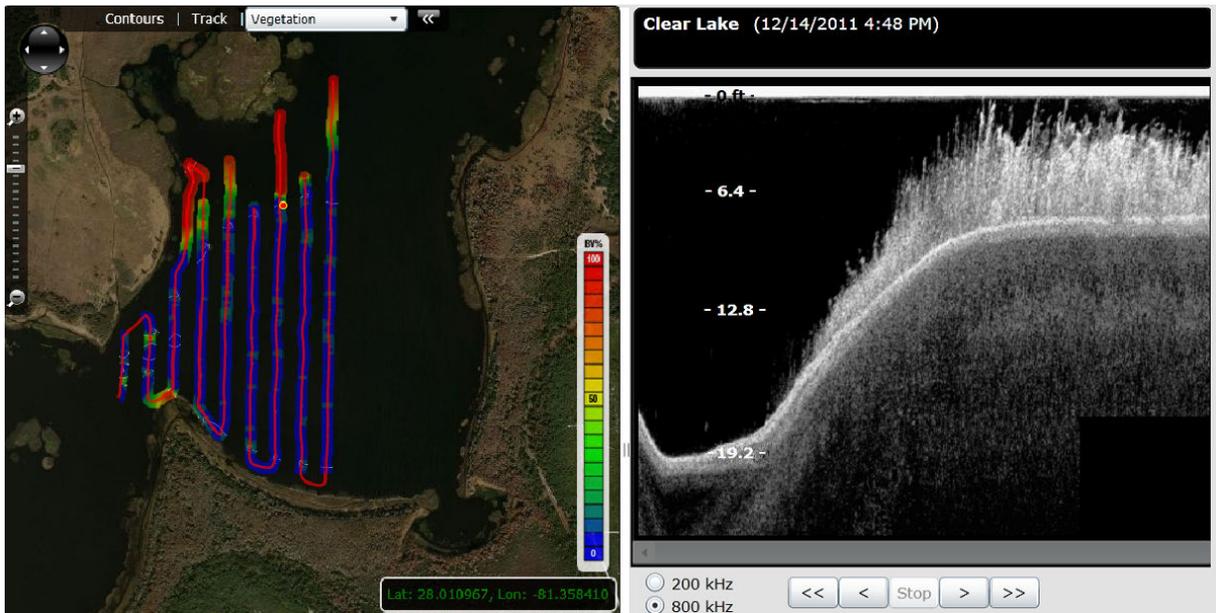
Trip Replay: I have attached a couple images of an example of our Trip Replay showing the use of 800 kHz cross section. You can see changes in the abundance type from a grass to a leafy macrophyte. Although the abundance data is processed from the 200 kHz signal, any user that also records the down scan provided by StructureScan will see this option as well.

Algorithm verification: Our acoustic algorithm is designed to verify bottom and plant canopies against the 800 kHz signal if available. This was designed as a result of our testing on extremely dense vegetation like hydrilla in the southeast. Traditional sonar has a tendency to stop at the top of a dense plant structure and return a signal that looks like bottom instead of a bottom and top of plant. The 800 kHz has a better penetration rate in these scenarios so verification increases accuracy substantially. However, we have a lot of customers in the Midwest, many of which are dealing with dense milfoil but we have not had the same issues as we had with southeast hydrilla. Many of our customers in the Midwest just use the traditional sonar, although many are adding it (which can be done at anytime) for the 800kHz trip replay option.

Please let me know if this makes sense. I do have HDS7 bundles (with StructureScan) available which typically saves a couple hundred dollars from purchasing them separately. (\$1,425 for the bundle).

Matt Johnson





Economic Impact Study: Earlier in the year we discovered a copy of Al Rice’s Economic Impact Study from the 1980’s. I have asked Seth to take on a revision to this document. This will accompany the work of MaxDepth in the Grass Carp application. Completion to be by Dec 2012 ahead of any variance hearings with ODFW.

Diver Assisted Suction Harvesting (DASH): Video presentation and discussion

iv. Sewer (Brian Green)

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

- KBCH Good Morning Wake Up Show: 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.
- Salmon Drift Creek Watershed Council: Seth will be giving a presentation entitled RainGardens: Uses Benefits and Designs along with an Engineer from Portland, Maria Cahill at the monthly watershed council meeting. Their joint presentation was scheduled for February, but was canceled due to a snow storm that hit the coast and the valley. Date: February 10th, 6 pm at Driftwood Library.
- Linfield College Coastal Ecology Class: For the fifth year now we will be hosting a group from Linfield College for a half day short course on the Rock Creek Dam Modification for Coho Passage. This year the professor has opened it up for a limited number of additional participants from the area free of charge. This will be held August 2 from 10:30 – 2:30 and will include a presentation at the District’s office followed by a field trip and hike to the dam site. Please note, hiking will require some climbing under or over fallen logs, down a steep old access road. If interested please contact Paul at 541-994-5330 or Lake.manager@dlwid.org
- Devils Lake Revival: Reminder: The Devils Lake Revival will be taking place Saturday, August 4, from 10am-2pm at Regatta Grounds.

This event is free to the public! We are looking forward to another great event. Activities include:

- Educational booths
- A variety of kids activities
- Pontoon boat tours
- Stand up paddle board lessons/demos
- Kayak demos/tours
- Live music
- Food, veggie and seafood options available
- Prizes, including a kayak
- In water rescue demonstration
- Beach safety presentation

Possible events yet to confirmed:

- Stand up paddle board race
- Water polo match

- c. **Safety Report:** We had our new intern review and sign off on all the MSDS (Material Safety Data Sheets) and completed the Coastal Temps safety program as well. Safety is no accident! No incidents.

- d. **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 Weeds/Algae, Chlorophyll a and pH and Thompson Creek is listed for fecal coliforms, and thus as a local government we have been invited to participate. Notably, temperature listings are also proposed by EPA for the lake and one of its tributaries. 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.
 - o We have created a web presence under the Project Page for the TMDL process.
<http://www.dlwid.org/Projects.html#TMDL>
 - o Links to the DEQ's website are posted below.
<http://www.deq.state.or.us/WQ/TMDLs/midcoast.htm>
<http://www.deq.state.or.us/WQ/TMDLs/midcoastLSAC.htm>

Fourth Meeting Highlights: An introduction to the sediment portion of the TMDL was presented. Individuals were selected to be on the sediment Technical Working Group.

Bacteria Technical Working Group: The second meeting of the Bacteria TWG was held. Review of the modeling parameters and assumptions in the model were reviews with input from stakeholders provided.

- e. **Intern summer 2012:** (Alyssa Clayton) During the last two weeks at Devils Lake Water Improvement District I have learned the methodologies used to collect and run samples in the laboratory, created a digital archive of the meeting minutes from 1984 - 1995 and began maintenance on the rain gardens. Currently I am finishing a digital archive of the remaining minutes, collecting samples every week and working with Seth on the Devils Lake Revival activities.

New Business

- **East Devils Lake Road:** Periodic, turning to near year-round flooding of East Devils Lake Road hampers vehicle travel on this main alternative to highway 101. The road itself becomes a fish passage issue, having threatened Coho Salmon routinely stranded. Recently Lincoln County completed a feasibility and cost analysis for multiple fixes. These ranged from doing nothing to a 30 million dollar road realignment. They followed the study up with an unsuccessful grant application to implement one of the fixes. Given the county's resources for time and staff they have opted to contract with partial funding (\$25,000) with the Salmon Drift Creek Watershed Council to convene a larger stakeholder group on this matter. Supplemental funding (\$5,000) has been requested from the Devils Lake Water Improvement District. This request came in the form of a letter from their Executive Director, Catherine Pruett on May 1, 2012. The Devils Lake Water Improvement District Budget Officer, Budget Committee, and governing body subsequently recommended the appropriations of such funds for FY 2012-2013.

The text from the FY- 2012-2013 Budget has been copied below:

When this road, which was a state highway at the time, was constructed in the 1930's, few considerations other than likely what was the shortest distance between two points may have been considered. The road was placed directly across a wetland, and built on a peat bog of questionable capacity to support the weight of vehicles of the day let alone for today's modern vehicles. This road is now no longer used for the Model T, but is a major thoroughfare for trucks and passenger vehicles of most any size. It is also an emergency access road and the only true alternate to Highway 101 making it even more important in the regional transportation network and as an evacuation route. A major consequence of building across this marsh on such unconsolidated substrates is the fact the road has been, and continues to sink. Additional asphalt to raise the road while having short-term benefit may in fact only aggravate the situation as the added asphalt is added weight, causing the roadway to sink further through the muck. As a result flooding concerns plague this region and are a real hazard to drivers.

Other issues of water quality and fish passage are similarly of concern. During high water events, which there are many, oil and other contaminants from vehicles consistently wash from the undercarriages of passing vehicles eventually heading to the lake. The fact that the road itself serves as a dam to the wetland it bisects, causes other impacts. The natural water flow (hydrology) has been disrupted which has impacts to the way sediment is deposited and transported through a wetland system, but most apparent is the direct impact to fish. A genetically distinct run of Threatened Coho Salmon populates Rock Creek. This is the main tributary to Devils Lake, and is the one which the wetland in question flows through. These Endangered Species Listed fish are returning to spawn at time when the road way is often flooded. Many often end up trying to cross not under the road where the bridges are, but on top of the road. Not only are the fish vulnerable to being hit which has been reported numerous times, but they get stranded on the asphalt and have to be rescued. In fact many fish (on the order of 1 in 5 in a given season) have been hand delivered across the roadway, an emergency practices taken on by the local watershed council, the Salmon Drift Creek Watershed Council.

Currently, there are solutions identified for resolving this roadway issue. Technical work done by Lincoln County Public Works through funding and collaboration with the Siuslaw National Forest and the Oregon Watershed Enhancement Board has identified major alternatives. These are in the range of 5 – 30 million dollars. However, local funding is largely not available for such a project and a coordinated effort needs to be employed. As a result Lincoln County is seeking collaboration with the Salmon Drift Creek Watershed Council to coordinate stakeholders from diverse backgrounds such as emergency services (e.g. FEMA, Oregon Emergency Management, fire, police) to wetland

conservation groups (e.g. Nature Conservancy, Wetland Conservancy, Ducks Unlimited), to fish and wildlife interests (e.g. USFWS, ODFW, American Fisheries Society, Trout Unlimited) to local governments (e.g. Lincoln County, Lincoln City, and Devils Lake Water Improvement District) to help fund a solution. This stakeholder group would evaluate the range of potential fixes and identify individual funding opportunities, leaving the coordinator to assemble and make application for grants identified. Collectively through grants, In-Kind and cash matches, a best fit fix may be afforded and ultimately get funded. Such a project though will not be possible without a dedicated coordinator.

What is proposed in the District's budget is a council support grant of \$5,000 to be dedicated to this project. These monies would supplement the financial support of approximately \$25,000 the county may be able to provide within its own budget. Monies would be made available for the Salmon Drift Creek Watershed Council to help supplement staff salary and benefits, fishery consultant needs, publication expenses, as well as office and travel expenses associated with the facilitation of this project. Money would become available in concert with funding from the county, and would not be recommended without the county's financial involvement too. While the prospects of this coordinator position are somewhat preliminary, and the full scope of work and needs are only beginning to be assessed, budget planning with both Lincoln County and the District require appropriations to be made well in advance. Final decision would still lie with the District's Board of Directors, but this budgetary item would enable the District the option of partnering financially.

Watershed Council Support Grant

\$5,000 M&S: Watershed Protection

While not an insignificant amount of money to initially consider spending, a grant of up to \$5,000 would certainly bolster the ability to move this project forward. Where the District's financial commitment would also have impact is with future grants. State, federal and private granting entities and foundations look extremely favorable at grants with real local dollars are already invested. Ultimately the issuance of a council support grant would be done with some risk. However this investment could result in the influx of millions of dollars to the area. Most importantly it could provide a fix to a problem that has been up until now too big to be handled by any one entity alone, has broad public support, and can be supported with an initial upfront cost to the District of around 50 cents per District resident.

- **BOARD ACTION:** Decide on merits of expenditure and potentially authorize expenditure of \$5,000 to fund a Watershed Council Support Grant for the Stakeholder organization and funding explorations associated with a road and fish passage fix for East Devils Lake Road.