

Seeking to AGENDA

2014 February 13

Regular Meeting: 6 pm

Lincoln City, Council Chambers

801 SW Hwy 101, 3rd Floor



Devils Lake Water Improvement District

Post Office Box 974, Lincoln City, Oregon 97367

Phone: (541) 994-5330 Fax: (541) 994-6040

www.DLWID.org

Quick Look:

- TigerSharks
- Taft 7-12
Chemistry Class
WQ Proposal
- Coho in
Thompson Creek
- Budget
Committee

I. Roll Call

II. Consent Agenda

- a. Minutes of the Previous Meetings
- b. Financial Report

III. Special Order of Business

- a. TigerSharks – Keith Galbraith – Video & Presentation

IV. Comments from Citizens Present on Agenda/Non-Agenda Items: *This is an opportunity for members of the audience to bring to the District's attention any item not listed on the agenda for public hearing. Comments are limited to five (5) minutes per citizen, and the Board of Directors may use the light system. Speakers may not yield their times to others, and as a general rule this is not a time for exchange of questions. At the conclusion of this agenda item, a board member may discuss or raise questions regarding an item presented by a citizen. The Chair has the authority to reduce the time allowed for comment in accordance with the number of persons present and signed up to speak.*

V. Unfinished Business

(Agenda Support Item A)

- a. The Devils Lake Plan
 - i. Septic / Sewer
 - ii. Save our Shoreline
 - iii. Vegetation Management
- b. Communications Report
- c. Safety Report
- d. MidCoast TMDL
- e. East Devils Lake Road
- f. Policy Updates

VI. New Business

(Agenda Support Item B)

- a. Budget Committee (4 Vacancies)
- b. Devils Lake Community Grant Opportunity - Taft 7-12 Chemistry Class Water Quality Proposal
- c. Coho in Thompson Creek

VII. Non-agenda Items

VIII. Additional Comments from Citizens Present on Non-Agenda Items

IX. Board Comments & Announcement

X. Adjournment

Meetings of DLWID are handicapped accessible under the ADA.

If special accommodations are needed, please contact the District Office at (541) 994-5330 48 hours prior to the meeting.

**Staff Reports 2014-02-13
Robertson**

Special Order of Business

TigerSharks: Keith Galbraith

The TigerSharks are interesting in seeing if the District is interested in continuing the partnership which is aimed in part at teaching young people water safety through activities on Devils Lake and in the ocean. The District contributed \$1,000 last year as part of the Devils Lake Community Grant Opportunity. The budget in FY 2013-2014 available for all types of Devils Lake Community Grant is \$5,000 and the TigerSharks are seeking \$1,200 this year towards providing scholarships for Lincoln County kids to participate in the program.

Devils Lake Community Grant Opportunity Guidelines:

- Alliance with District’s Mission
- Demonstrated community support
- Demonstrated public involvement and benefit
- Qualified tax exempt organizations (e.g. non-profit, governments)
- A non-discrimination policy consistent with the District’s own policy.
- Capacity of the applicant to complete the project
- Application presentation/completeness



Targets for funding include: education, youth programs, recreational events, scientific research, and environmental restoration.

On January 4, 2014 Keith sent out an update from the TigerSharks complete with photos (See below). At the meeting he will be showing a recently produced Lincoln City Visitors and Convention Bureau that the TigerSharks and former DLWID Project Manager Seth Lenaerts starred in that highlights Paddleboarding on Devils Lake, and cover recent updates from the TigerSharks.

Video Link: <http://www.youtube.com/watch?v=8RBui4CO8Gc&app=desktop>

TigerSharks Email Update to partners, sent Jan 4, 2014:

Happy Holidays and Happy New Year!

Thank you for your support and belief in the Tigersharks surf club! 2013 Surf Club Season has already produced some amazing results with still more to come as we will be wrapping things up in March 2014. I felt the best way to fill you in would be to hear from some of the actual



members and hear their stories. Some of the members have personally expressed their thanks and a little insight to what your contributions have done for them:

Surf Club Member 1:

The first time out in the water got me super excited!!! Finally out there and learning the ropes with the help of all the surf club leaders. The experience was well worth the small pay and the fun I had I will always remember! They helped me ride my first wave all the way in shore! It was adrenalin pumping!! I'll never forget it.

Surf Club Member 2:

I liked being a Jr. Leader for the Tigersharks Surf Club from May until August of 2013. I learned a lot more about the Ocean. With the club I got a lot more experience from the time available in the water. I worked on my drop-ins and learned to turn in the water. I got to be a helper during lessons. It is a rush to be able to teach someone to pop-up[get to your feet]. It helped me understand how my teacher's feel when I do something that they have been helping me with. I learned how hard a job Keith has teaching us in the water. I got a lot of time surfing with my friends, thanks to the Club.



Surf Club Member 3:

The Tigersharks Surf Club boosted my confidence this year. I gained skills in surfing. My balance is stronger and my pop ups are easier. As a Jr. Leader I was able to learn how to teach little kids to teens in the water. I like being able to say I am on a sports team and be able to surf with friends. I enjoyed volunteering, helping the community because the community helped us. I was in the water so much more because of the club this year.

Surf Club Member 4:

Thank you to all the sponsors for your donations. Because of your support, I was able to be in Surf Club last summer. I learned how to stand up paddle board and got better at surfing. It was really fun and I got to surf with lots of kids. The coaches really helped me with surfing. I really like surfing and can't wait till next surf season! Thanks again!



Surf Club Member 5:

I have gotten a lot out of being in surf club this last season. Not only does it give me something to do, it gives me an excuse to go surfing with my friends. It is great exercise and training. I am learning a lot and I love doing it... Thank you!



Surf Club Member 6:

Surf club has took my surfing to the next level, I mean from some surf Grom [beginner surfer] that could go down the line on small waves to where I can go out in bigger surf during the winter. Progress through the winter is I think a key thing in becoming an all-around better surfer, and thanks to surf club it has made that possible. Even when I couldn't surf bigger waves during the winter they took me somewhere where it was small enough. So that I could become a better surfer I think that surfing is a sport where you need to give all year- by that I mean you basically need to surf every time the surf is good, which surf club has made that possible. They have also started a team so that we can travel and surf different places! So I couldn't thank surf club enough for taking my surfing to the next level!

Here is another amazing example of how Tigersharks Surf Club is making an impact;

Angie Wright's (surf club mother and volunteer) Ocean rescue tale:

The Tigershark Surf Team was getting ready to launch the Jet Ski for some Safety Drills at the Canyons on Sunday around 2:30 in the afternoon. As we were waiting, we noticed that a boogie boarder was swimming in the middle of the rip tide. Unloading the gear and starting to surf, we kept our eye on his progress. It became clear that he was unable to make any progress, despite a strong swimming stroke.

The swimmer's spouse asked if one of our surfers could go out and help her husband to know that he was in the rip tide. Tyler Melton quickly agreed and paddled out on his surfboard. He gave the advice to swim parallel to the shore to get out of the grip of the strong current. The swimmer assured him that he could do that and tried to swim south along the shoreline.

At this point, he got off of his boogie board and tried to swim on his own. About 45 minutes had passed, and he was running out of steam. His wife asked if we could pull him in. Coach Keith Galbraith and Team Member Jesse Henton had been keeping an eye on the swimmer a hundred yards to the south while they performed their safety drills waiting to see if he could break free. When it became clear that he was struggling, they came to shore to assist.

Keith assigned Team member Nathan Wright to go out and pull him in. He gave Nathan instructions to go out on the board and use the leash as a pull. Confident in Nathan's paddling skills, he let him take the lead as he stood ready on the Stand Up Paddle Board and Team member Jesse hung by closely on the Jet Ski.

Nathan was able to paddle quickly against the Rip, communicate to the swimmer how they wanted to rescue him, and the swimmer quickly agreed. Nathan pulled the swimmer to shore.

The family was very grateful that the Team took time out of their surf session to be aware and be willing to help. They asked [the team] to give a quick lesson on Ocean Safety, Rip Tides and how to Boogie Board. It was their first time in the Ocean. The training sessions from the Tigersharks Surf team poured out of each of the Team members and the swimmer soaked it all in. The team members took turns demonstrating how to safely get out to the waves, ride to the shore, walk up to a safe entry point, and work the circle again.

The Team members ended up spending 3 hours with this very grateful family on Sunday. It was great practice for the Team members to be able to help educate another surfer. They have been actively assisting several surf lesson sessions as volunteers, and have helped new club members advance with their training as well.

Nathan was asked how he was able to paddle back and forth so easily in the rip when the grown man was unable to make progress. "I have been trained for this," was his prompt proud reply.

"I am excited for their progress. A little over a year ago I didn't even let the boys play in the wet sand as we were fearful of sneaker waves and rip tides. Now my sons are involved in every water sport, trained by KLG Adventures, to the point that they are now a part of sharing ocean education and surf training to others." Angie Wright-attached photos show the story.



Look for more exciting news from Tigersharks Surf Club to come as we finish out our season!!

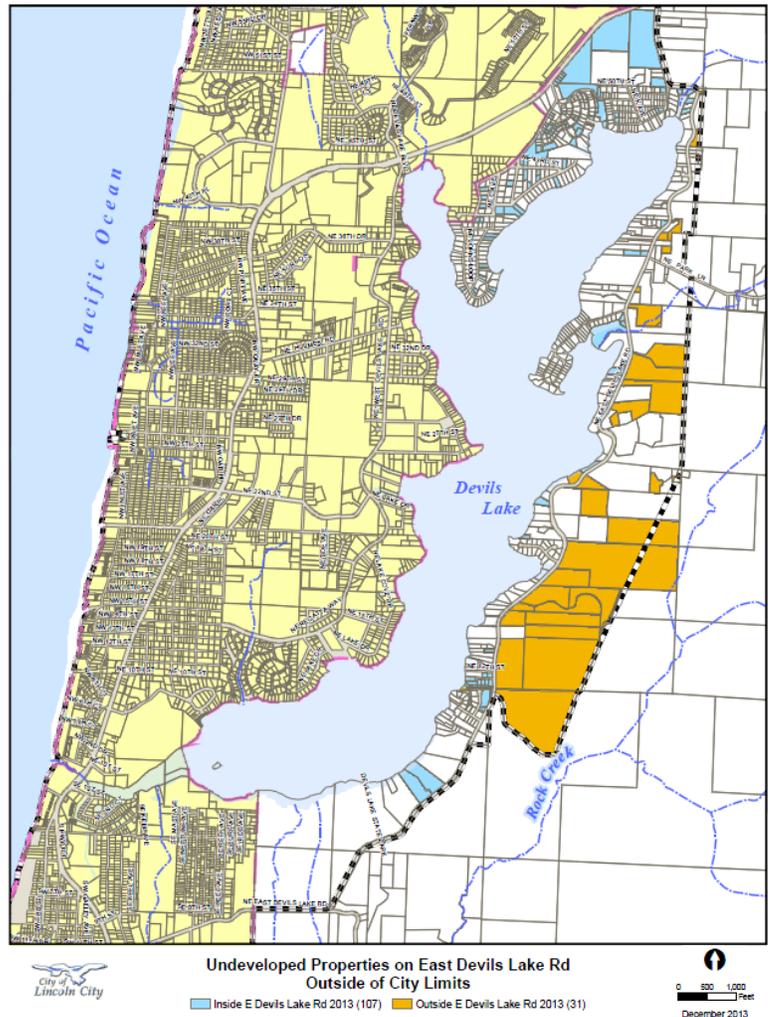
www.facebook.com/TigersharksSurfClub

Staff Recommendation: Continue to grow the partnership providing \$1,200 worth of District funds to the TigerSharks via qualified non-profit in exchange for participation in the Devils Lake Revival. The TigerSharks would agree to again assist in providing water safety for the event acting as volunteers. Further the TigerSharks and DLWID would jointly commit to further educating the youth participants of the surf program about Devils Lake and its water quality during at least one of their trainings held at Regatta Grounds each year.

- Here is a link to the 2013-04-11 Staff Report for more information about the TigerSharks application last year and the grant opportunity which was developed also at that meeting: http://www.dlwid.org/Meetings/FY_2012-2013/Staff_Reports_2013-04-11.pdf

a. The Devils Lake Plan
i. Septic / Sewer:

I met briefly with Senator Merkley at his town hall meeting in Lincoln City in January. I asked how the District might support his bill, S. 335: Water Infrastructure Finance and Innovation Act of 2013. He stated that he expects the House to pass a similar bill as it has already passed the Senate and that no action was required on our part to add support. I subsequently attended a webinar that also focused on educating the public on a similar bill. US Representative who was live on the webinar confirmed my inquiry about overlap, explaining that his bill was incorporated in the Merkley version.



We received feedback from the City on the buildable lands (above) for the drainage based on existing planning which allows one water tap per parcel only regardless of size. This is a lower estimate of the full buildable lands. It was suggested by the City Manager David Hawker that adding sewer would not significantly increase the number of developed lots over what exists already and those that could already develop on septic already anyway.

Quoting Mr. Hawker’s email, “There are only 138 properties, and it is likely that about 2/3 of these could develop today on septic. So lets assume about 45 would over time develop due to sewer. That would represent an increase of about 6%”. I would tend to agree with him as the bulk of the shoreline has been developed. We are still interested in the maximum number of homes given potential zoning changes which will provide additional insights into the needs of managing growth responsibly. This is forth coming through an analysis by the County. The City Manager recognizing the District’s concerns stipulated that a “global agreement” with the County on all

lands in the Urban Growth Boundary would be developed. This is essentially the Urban Growth Management Agreement alluded to previously and elaborated on below.

We are still awaiting response from City Manager and/or City Attorney requesting an update on the draft of a septic ordinance. Further apparently the City Manager and the Mayor met with DEQ regarding funding which may provide some interesting details. I hope to hear back on these in time to report in person.

Lastly, I had a meeting with Lincoln County Counsel Wayne Belmont, County Planner Ono Husing, and former County Planner and current Oregon Department of Land Conservation and Development Senior Coastal Policy Analyst Matt Spangler regarding sewers and Urban Growth Management Agreements (UGMA). Mr. Belmont to provide a draft of previous UGMA, Mr. Spangler created in the 1990s and/or a copy of the existing Toledo – Lincoln County UGMA. Mr. Husing (as suggested above) to provide an upper limit of buildable lands based on potential subdivisions of existing plots given a change in land use due to annexation. This will provide the full build out that could be anticipated if a sewer were to be built and development restrictions were lifted with the Urban Growth Boundary.

Voyage LID: (Chair Green)

Direct Link to Engineer Report:

http://www.dlwid.org/Projects/Sewer/Voyage_LID.pdf



ii. Save our Shoreline (SOS):

East Devils Lake State Park: The State Parks rejected the project based primarily on their unease associated with the long-term maintenance. The new Park Ranger does not have the experience from the original project and thus did not want to assume any additional projects at this time. They were also concerned that the proposal did not look enough like a park.

Taft Service Project: Linda Burt or former Recording Secretary has graciously offered her property as an alternative site. I have met with her and have developed a basic outline of a project for a shoreline restoration. Per our previous meetings I stated to her that we would limit the project to not more than \$750, but not require a match as is usual (25% landowner in typical SOS projects). The school district is accepting of this new project area. The City of Lincoln City has agreed to provide some tools, and SDCWC who organized the tool donation will also participate.

iii. Vegetation Management: I submitted our latest packet and letter to ODFW by mail and email on December 18, 2013. Copies were also sent to the Board and our consultant Max Depth Aquatics.

I also recently provided Ben Clemens, rotating Fish Biologist with ODFW – Newport, copies of Grass Carp estimates per his request (2014-01-21). This was work Joe Eilers did as part of the original draft submission which was not included in the formal revised submission in August. The estimates for number of carp present in the lake and the dates of these estimates are as follows:

2006 --- 300-1,000 estimated through citizen based science.

- On five successive Saturdays in September, fish were counted from multiple docks at 10 am. I believe the total number of fish counted ranged from 196 to 296 fish in aggregate. We conservatively estimated that at least three times (1,000) that many fish would likely have been present in Devils Lake at that time, and certainly as least 300.

2012 --- 677 fish is best estimate per Joe Eilers of MaxDepth Aquatics.

Also based on his suggestion and a recent radio segment heard on OPB, I investigated and made contacts with specialist developing means to get fish census data from so called environmental DNA. This is material from organisms sloughed off during their lives that is present in the environment. This may be an effective way of tracking total number of fish present in the lake as the technique evolves, similar in a sense to how we are doing DNA work to track bacteria. We thus now have connection at the University of Washington, Notre Dame, and in Japan.

Further as Ben has now rotated out of his role as District Fish Biologist I sent an email to Deputy Director Melcher copying Assistant Fish Biologists Wilson and Spangler about these estimates (2014-02-05). I understand that with the legislature in session that other senior ODFW staff who may provide guidance are otherwise detained. As such we might wait a couple of months before expecting an update as to how to proceed towards time again in front of the Commission.



Devils Lake Water Improvement District

D Sands! D River is gone, lost to the sands of the Pacific. Lake level 9.8' currently, up 2 tenths from Sunday.



b. Communications Report

- **KBCH Good Morning Wake Up Show:** This program has aired weekday from 6-8 am on KBCH am 1400. The District has had a standing interview spot on the THIRD Tuesday of the Month from 7:30 – 8:00 am.
- **Internet Streaming:** Meetings the DLWID are now available for live streaming and/or recorded streaming on the internet. The internet feed can be accessed via the City's website: <http://www.lincolncity.org/> by clicking on Agenda, Packets & Video or from the following link: <http://lincolncityor.iqm2.com/citizens/default.aspx>
- **Government Access Channel 4:** The District's monthly meetings continue to be broadcast live and throughout the month repeatedly airs. This channel is available for Charter subscribers.

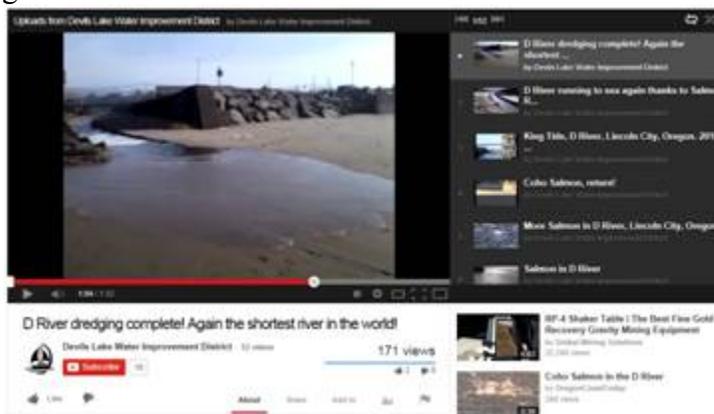
- **Social Media:** The District uses these social media components to reach the general public periodically. This last month we shattered any previous records of reaches on Facebook with over 36,000 for one photo of the D River sanded in. Our picture got picked up the Oregon Coast Today and others. It was even shared 554 times including by the US Coast Guard!

Paddleboat lost and Found thanks to Randy Weldon and Facebook!
Another Paddleboat also reported found.

Posts - Notifications	Reaches	Interactions	Actions
D River was dredged out by Salmon Riv...	158	--	Boost Post
Thanks to Salmon River Contractors for...	82	--	Boost Post
D River to be dredged today starting af...	116	--	Boost Post
D Sands! D River is gone, lost to the sa...	593	--	Boost Post
D Sands! D River is gone, lost to the sa...	572	--	Boost Post
D Sands! D River is gone, lost to the sa...	36,416	--	Boost Post

- YouTube: <http://www.youtube.com/user/DLWID>
- Facebook: <https://www.facebook.com/DevilsLake.Oregon>
- Twitter: https://twitter.com/Devils_Lake

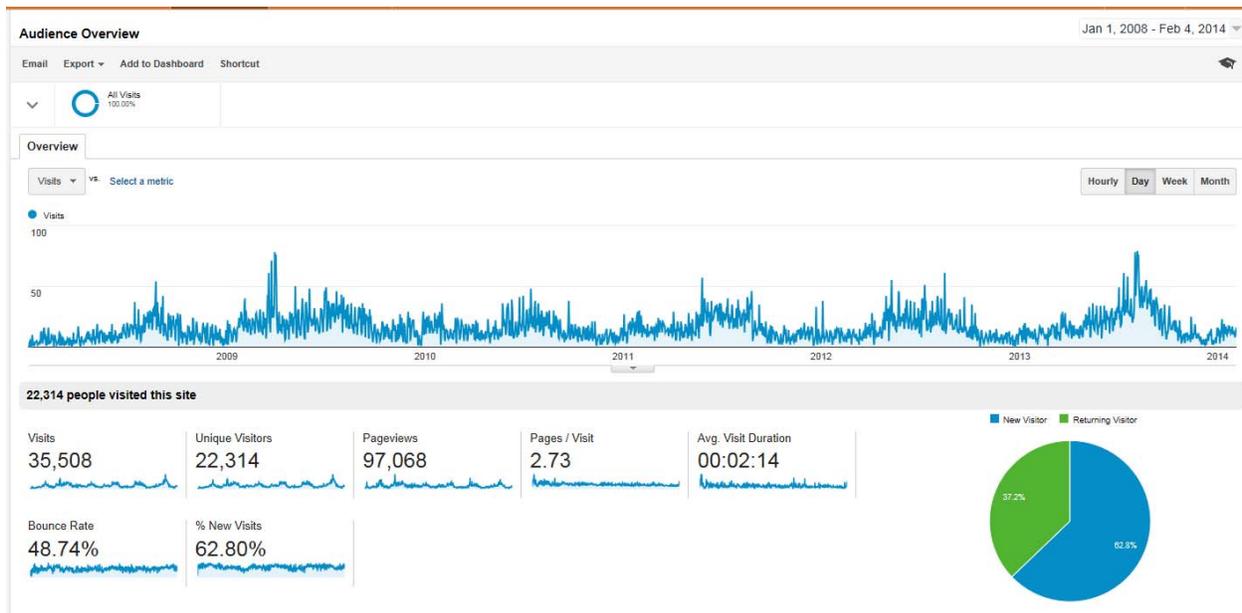
D River Dredging on YouTube



Video: http://www.youtube.com/watch?v=k2UCAryHc7Q&feature=c4-overview&list=UUMDLRpmvSk4_jlqz4yYuJ3Q

- **Clearwater E-Newsletter:** Link to most recent release: <http://myemail.constantcontact.com/Clearwater-e-Newsletter--Winter-2013-edition.html?soid=1102761961457&aid=TnHZ0yu-6dk>
- **Crowley Creek - SDCWC Field Trip:** We participated in a half day field trip organized by Lisa Mulchay, REEF Coordinator. Invited participants were representatives from Vernier, who make educational grade water quality instruments, David Phillips (former DLWID intern) who did a macroinvertebrate demonstration, and DLWID. We demonstrated our field equipment (DO, pH, Conductivity and turbidity meters) and talked about the scientific method. The field trip was to Crowley Creek in the Salmon River estuary and was attended by students from Taft 7-12 Chemistry class taught by Dustin Quant.

- OCCE Signage: A successful collaboration between Delake sign, Bill Sexton Construction Inc., and DLWID
- www.DLWID.org: Web usage summarized per Google Analytics (January 1, 2008 to Present)
Total: 79,301 hours in six years = Averaging 35 hours a day of outreach



Source / Medium	Acquisition			Behavior			
	Visits	% New Visits	New Visits	Bounce Rate	Pages / Visit	Avg. Visit Duration	
	35,508 <small>% of Total: 100.00% (35,508)</small>	62.84% <small>Site Avg: 62.80% (0.06%)</small>	22,312 <small>% of Total: 100.06% (22,298)</small>	48.74% <small>Site Avg: 48.74% (0.00%)</small>	2.73 <small>Site Avg: 2.73 (0.00%)</small>	00:02:14 <small>Site Avg: 00:02:14 (0.00%)</small>	
1. google / organic	12,750	60.60%	7,727	47.00%	2.74	00:02:27	
2. (direct) / (none)	8,699	56.03%	4,874	53.17%	2.42	00:02:11	
3. lincolncity.org / referral	2,226	88.50%	1,970	46.27%	3.78	00:01:38	
4. google.com / referral	1,209	70.97%	858	54.67%	2.07	00:01:45	
5. oregoncoast.org / referral	1,145	91.88%	1,052	41.40%	2.93	00:01:43	
6. yahoo / organic	920	81.85%	753	48.04%	3.09	00:02:21	
7. bing / organic	812	74.01%	601	45.69%	3.21	00:02:29	
8. lcchamber.com / referral	649	91.83%	596	32.36%	3.44	00:01:56	
9. facebook.com / referral	384	29.95%	115	54.17%	2.35	00:02:19	
10. devilslakerv.com / referral	338	88.17%	298	71.89%	2.23	00:00:47	

Keyword ?	Acquisition			Behavior		
	Visits ? ↓	% New Visits ?	New Visits ?	Bounce Rate ?	Pages / Visit ?	Avg. Visit Duration ?
	15,097 % of Total: 42.52% (35,508)	63.37% Site Avg: 62.80% (0.91%)	9,567 % of Total: 42.91% (22,298)	46.66% Site Avg: 48.74% (-4.25%)	2.85 Site Avg: 2.73 (4.40%)	00:02:30 Site Avg: 00:02:14 (12.08%)
<input type="checkbox"/> 1. dlwid	1,856	20.15%	374	25.05%	3.19	00:04:03
<input type="checkbox"/> 2. (not set)	1,549	62.62%	970	44.48%	2.64	00:02:31
<input type="checkbox"/> 3. devils lake water improvement district	1,097	45.31%	497	23.34%	3.58	00:03:22
<input type="checkbox"/> 4. devils lake oregon	766	73.76%	565	42.17%	3.27	00:02:30
<input type="checkbox"/> 5. waggy 2002 devils lake	373	0.00%	0	56.03%	2.12	00:02:19
<input type="checkbox"/> 6. dlwid.org	259	30.12%	78	25.87%	3.20	00:03:47
<input type="checkbox"/> 7. devils lake lincoln city	254	59.06%	150	46.85%	2.85	00:01:48
<input type="checkbox"/> 8. devils lake water temperature	242	91.74%	222	87.60%	1.20	00:00:15
<input type="checkbox"/> 9. devils lake water quality	229	79.91%	183	76.86%	1.59	00:01:05
<input type="checkbox"/> 10. devils lake lincoln city oregon	225	78.22%	176	36.89%	3.71	00:02:20

c. **Safety Report** (Robertson) We recently updated our Safety Policy and have incorporated safety components into the Personnel Policy and Procedures. A formal Safety Manual will be developed in the coming months. Safety is no accident!

d. **MidCoast TMDL** (Robertson) 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>

Stakeholder Meeting Highlights: No meetings since our last DLWID meeting.

Bacteria Technical Working Group: No Meeting since our last DLWID meeting.

e. **East Devils Lake Road:** Again no reports of fish stranding on the road, and thus no activity to report.

Downloads: http://www.dlwid.org/Projects/EDLR/EDLR_Feasibility_Study-2009-08-31.pdf

http://www.dlwid.org/Projects/EDLR/EDLR_Alternatives_Analysis_Summary_2012-10-19.pdf

f. Policy Updates: The District has proposed updates and additions to its Policy Manual for the following items: **(Highlighted require further actions)**

- **Policy and Procedures Manual (Draft sent 2013-12-31)**
- **Personnel Policy/Manual (Draft sent 2013-12-31: reviewed, edited, and tabled)**
- Mandatory Reporter Policy (Adopted: May 2013)
- Safety Policy (included in larger update)
- Financial Manual (Adopted 2014-01-09)
- Records Policy (Adopted 2014-01-09)
- Board Duties and Responsibilities (See Policy and Procedures Manual)
- **MSDS (Postponed until 2014 changes)**
- Employee Training (Policy added to Personnel Policy - **Safety Manual forthcoming separately**)
- Light Duty Return to Work (included in Personnel Policy)
- **Investment Policy (Draft Sent 2013-12-31: Reviewed, edited and tabled)**

Links to these drafts are available on the website:

[http://dlwid.org/Board%20Directors.html#Board Official Actions](http://dlwid.org/Board%20Directors.html#Board_Official_Actions)

- a) **Budget Committee:** There are four vacancies on the committee. Typically terms are staggered, but given timing of previous appointments and members leaving the committee, an unbalanced has occurred. As a result the District will seek to make one, two and/or three year appointment to reestablish the staggered terms, providing better continuity in the committee.

*Applications are available online at www.DLWID.org and will be accepted until March 1, 2014 with appointments made at the March 13, 2014 meeting.

- b) **Devils Lake Community Grant Opportunity** - Taft 7-12 Chemistry Class Water Quality Proposal: Dustin Quandt, Chemistry Teacher

**Devils Lake Community Grant Opportunity Proposal
Devils Lake Water Sampling at Taft 7-12**

As the chemistry teacher and a representative for the science department at Taft 7-12 school in Lincoln City I wish to apply for the Devils Lake Community Grant Opportunity. Through this grant I hope to obtain water sampling instruments for my chemistry classes to use to perform school year-round sampling of Devils Lake, a bioswale on Taft’s campus and for use in the occasional field trip to the Salmon River, as well as other nearby bodies of water. My chemistry students will use the sampling supplies as a medium for learning about human impacts on our bodies of water as well as provide data and support for the community surrounding Devils Lake. Projects related to Devils Lake sampling and other sampling will run every school year to allow several cohorts of students to learn about their local environment and to build on the previous years of sampling. Students will focus on understanding long term data collection and how data can be used to recognize long term trends and effects.

Using the supplies obtained through this grant, chemistry students at Taft 7-12 will focus on school year-round sampling of attributes of Devils Lake. These attributes were chosen to focus on several environmental and anthropogenic impacts on the lake to help students understand correlations in the environment. This grant proposal focuses on equipment meant to sample pH, temperature, conductivity, turbidity and dissolved oxygen. Students will also use the equipment to sample other attributes of interest or requested by the DLWID. Some samples will be collected through grab sampling (teacher, student or community member collecting a sample to bring into the classroom for student analysis), however an emphasis will be placed on in situ sampling. At least one field trip per school year will be organized to the lake (likely in September of each year) as an intro to the school year-long project and a lesson in how and why students will be sampling Devils Lake. Field trips will be organized in partnership with experts from DLWID.

Funds from this grant will be used to purchase the following items:

LabQuest 2	\$329
Stainless Steel Temperature Probe	\$29
pH Sensor	\$79
Conductivity Probe	\$95
Turbidity Sensor	\$112
Vernier Optical DO Probe	\$389
Water Quality with Vernier Handbook	\$48
Shipping and Handling	\$32.42
Total	\$1110.42

If the projects associated with these supplies prove to increase student engagement in their local environment and give them the skills and knowledge to understand human impacts on the water sources around them then a second proposal may be made to the Devils Lake Community Grant Opportunity for additional supplies. Those supplies will likely be to support sampling of NO_3^- , Ca^+ , Cl^- , NH_4 in and around Devils Lake. The electrodes used to sample these ions currently cost \$716 for all four electrodes.

Data and findings from these projects will be readily available to the community in and around Lincoln City. The project, as well as the findings will also be presented at least 6 times throughout the school year on the Taft News program (a school wide weekly student run news program broadcasted to the entire school). School projects related to these sampling projects will also be focused on in the classroom, such as posters and other documents to share with the community the findings. This multi-year project will embed itself in the school culture and will lead students to conversations within the school walls and outside that relate specifically to Devils Lake as well as water quality in our streams and lakes elsewhere.

I hope you see the worth in the projects the chemistry class is attempting to set up through this grant. Thank you for your consideration of this proposal.

Dustin Quandt
Taft 7-12
Chemistry Teacher

Staff Recommendation: I took part in the field trip that the SDCWC put on in which Mr. Quandt's class demoed the equipment being sought. I was impressed with the technology and the company's staff (two came from Portland where they are located). I believe the equipment is a perfect match for the student application. The wireless interfaces make the data extremely sharable and fits well with today's technologically savvy students. I in fact suggested that DLWID had started this grant opportunity, and thought that a water quality proposal would be equally well matched to the District's goals and encouraged Mr. Quandt to apply. That being said the proposal put forth has in my estimation even greater value than what I anticipated as it incorporates science education, student outreach (through the Taft News Program), and water quality monitoring of Devils Lake into one. As such I would recommend full funding of the proposal with prospects of building the program further at the beginning of the 2014-2015 school year with additional funding from the District for a total of up to \$2,000.00.

c) Coho in Thompson Creek:

- Surveyed Thompson Creek with Ben Clemens – ODFW, Stacy Polkowske – ODFW and Paul Katen – SDCWC on January 21, 2014.
- Found 41 Coho in total including jacks, adults (males & females) and carcasses in approximately $\frac{3}{4}$ mile stretch from just above KOA (3rd culvert) to Davis Property – above 9th Culvert.
- Very good news: high density of fish in stream that has not had a formal ODFW survey since 1962.
- Discovered significant additional partial barrier which only one fish was found above. This is a private water impoundment and small foot bridge. Paul Katen (SDCWC) is going to work with the landowner to remove or remedy.
- Coho sighting -- Friday, January 24th in Thompson Creek Canal. (Last photo)



