



**Devils Lake Water Improvement District**  
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[www.DLWID.org](http://www.DLWID.org)

**Quick Look:**

- Budget Hearing
- Lake Level
- SOS
- Water Quality

**AGENDA**

**Regular Meeting**

**2010 June 3 at 6 pm. in the DLWID Office.**

- I. Minutes of the Previous Meetings** 6:00
- II. Financial Report**
- III. Public Comment** (Agenda Items, Please limit comments to 5 minutes per person)
- IV. Budget Hearing**
- a. Budget Committee Recommendation
  - b. Board of Directors Questions & Comments
  - c. Public Comment
  - d. Board Discussion
  - e. Resolutions for adopting the budget
- V. Unfinished Business** (Agenda Support Item A)
- a. Lake Level
    - i. Water Rights: Rock Creek & Golf Course
  - b. The Devils Lake Plan
    - i. DEQ 319 Grant
    - ii. Native Vegetation
    - iii. Septic Tank Revitalization Program (Seth Lenaerts)
    - iv. Save our Shoreline Campaign (Seth Lenaerts)
  - c. Financial Oversight Committee Report (Randy Weldon)
  - d. Communications Report
  - e. Safety Report
  - f. Vegetation Management
  - g. Thompson Creek
  - h. Sewer
- VI. New Business** (Agenda Support Item B)
- a. Water Quality Update
  - b. Cyanobacteria Meeting and Workshop
  - c. Erosion Study RFP
  - d. Staffing Assessment
  - e. Vacation Request
- VII. Non-agenda Items**
- VIII. Public Comment** (Non-agenda Items, Please limit comments to 5 minutes per person)
- IX. Board Comments & Announcements**
- 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 prior to the meeting.

## Unfinished Business

(Agenda Support Item A)

- a. **Lake Level:** Potential operational changes to the dam are being discussed at this meeting as additional information about lake level has been presented that represent that much less recreational water use benefit (e.g. deeper water at docks and shorelines) may be apparent at 9.53' than assumed. Meanwhile many of the 22 property owners, that petitioned the District in 2009 for a lake level of 9.0 feet may be being impacted without substantial benefit to other lake users as previously assumed. Copies of that petition and subsequent flier distributed by an equally concerned homeowner opposing any change in the water level are available as reference items on our website. Working through these seemingly conflicting interests is thus to be addressed at the District's next meeting. Public input will be afforded, but please limit your input to a concise statement at the beginning of the process, reserving additional comments should you have them for the end of the meeting.

**Current Status:** Currently (2010-05-27) the lake is sitting at 9.5'. The latest lake level measurements are available on our Water Quality page of the website ([www.DLWID.org](http://www.DLWID.org)). Currently one section of the dam is open again at this time as rains have brought the lake up and fish passage issues are at least being attempted to be mitigated for by pulsing and/or section removal. This period of pulsing and/or whole section release will end after May 31<sup>st</sup>. The utilization of the dam from June through October, is thus open for consideration.

**Current Considerations:** It had been voiced in March 2010 meeting that if the dam was not installed in April, many properties would not have access to the lake for additional months. A motion was made to install the dam allowing for the new lake contractor the flexibility to allow for fish passage by means of leaving one section out of the dam providing the lake level could be maintained between 9.5' and 9.3' through June 1, 2010. At the time of the meeting (March 4, 2010) the lake level was 9.0' above MSL. It was stated by a member of the audience that at this lake level many properties would not have access to the lake. Data were subsequently gathered by two of the District's board members to investigate the potential impact on users at this same lake level of 9.0'. This presentation was made at the April 4, 2010 meeting and is available online at our website on the Project page under Lake Level ([Director Presentation 2010-04-01 UPDATED](#)). Some of the conclusions of that presentation were that nearly all of the properties surveyed the depth of the water when the lake was at 9.0' was sufficient for drafting a typical pleasure craft. Where draft was insufficient at the far end of the canal on Thompson Creek, the addition of 6" of water to 9.53' would have marginal benefit. For a complete review please revisit the slideshow from our website. Additionally a comprehensive review of this issue of the 2009 review is also available online ([Staff Presentation 2009-04-01](#)). What is presented below is new or additional information in no particular order that may be pertinent to the board discussion and decision on this issue along with some summary issues from previous meetings.

**Water Rights: Rock Creek & Siletz POD:** Irrigation of the golf course in our watershed came before City Council Monday 2010-05-24 for consideration. This is a proposal between the Confederated Tribes of Siletz Indians (CTSI) and the City of Lincoln City for selling water from the City's existing water right on Rock Creek, a tributary of Devils Lake for irrigation of the Chinook Winds Golf Resort. This water right is held by the city, and as a municipal right it a permanent right, originally obtained by the town of Oceanlake. In fact, an existing, but unused pipe runs under Devils Lake that once served this community. As

many will remember in 2006, the Devils Lake Water Improvement District, partnered with the Salmon Drift Creek Watershed Council, USFWS, ODFW and the City to alter a dam at the current Point of Diversion (Approximately River Mile 3.2) for fish passage. The current proposal would be to add a second Point of Diversion (POD) on this certificated municipal water right. City Council voted unanimously to approve this agreement.

This agreement would have to go through Water Resources as explained in Mr. Hawker's email and attachments provided on our website. As we have discussed there are many benefits to irrigating with water already loaded with nutrients, as it would greatly reduce the amount of fertilizer added to the watershed. Chlorinated tap water is currently used which must be infused with N-P-K to grow grass. This would have the effect of reducing the loading on the lake, and in fact be a nutrient reduction strategy for the lake water itself. There are of course other considerations including water extraction during the summer months and the potential of other types of runoff (pesticides/fungicides) should the water not be used conservatively. These however already exist under the current state of irrigation. Pesticide and fungicide use may in fact be reduced as irrigation with chlorinated water ceases. Reducing the stress on the grass which comes with chlorinated irrigation reduces the plant's susceptibility to infestation by fungus and pests. I would expect a formidable presentation by the Tribe and the City at some time which would allow for the mindful consideration of this existing water right transfer. While I reserve the right to further consider this agreement, it is certainly a proposal with merit considering the current state of affairs with tap water and fertilizers being sprayed on the golf course. Other provision in the potential agreement would require the City and the Tribe to meet regularly to seek alternative water sources, specifically re-use assumingly of the City WWTP effluent.

As a note 0.5 CFS is being negotiated with provisions that the previous applications by the Tribe for Neotsu Creek be withdrawn which were near or above the same amount as I recall. This is about an acre foot a day which on a 680 acre lake would be 0.017 inches a day \* 30 days \* 3 months for about 1.5 inches a summer season if my calculations are correct. The current usage of 12 million gallons of tap water would be about 0.7 inches off the lake surface for the year. This is at the current footprint of the golf course, but that would increase potentially as I understand. Previously the Tribe has stated that they would need 75 AF of water for the full build out of the golf course which is about double (24 million gallons) what they are buying today which would convert to about 1.3 inches of lake level. This is what was being talked about (I specifically remember 1 and 5/16" = 1.3125" being considered) over a year ago so the proposals seem to remain in line with the previous applications for well water and or those currently on hold for other streams in the watershed.

The Tribal Council must also approve of this agreement for it to be passed on to Water Resources who would have the final say. If the District would like to comment of this Point of Diversion, a formal request should be made through Water Resources. The District might also request from the City and the Tribe a presentation of their proposal and an opportunity to ask question or seek clarification prior to submitting comments. This is what Mr. Hawker in his email suggested he would like to have the opportunity to do.

**Both of these steps (Reservation of opportunity to comment and a request for a presentation) are recommended by staff to pursue as a separate manner.**

Relating to the issue of lake level, the District should bear in mind that potentially approximately 75 AF of lake water would be extracted over the course of a summer. This would not necessarily drop the lake by the 1.5” that this calculates to be as the maximum water diversion being considered of 0.5 CFS is only a fraction of the volume of water flowing in Rock Creek at that time of year, and the 75 AF extraction would come over the course of the summer. Hydrology is complex, and only in the extreme bathtub model of a watershed where the tub is filled and then water an amount of water such as 1.5” of the level be drained would that be measureable. None-the-less, water extraction may have some effect on the ultimate level of the lake.

Fact Checks and Clarification: Recently many inaccurate statements and comments have circulated which demand refuting or clarification. A blog recently posted the Siletz Tribe would give up its water use of Rock Creek should the agreement go through. Such use does not, nor has not existed. Supplemental irrigation has been with municipal water purchased from the City of Lincoln City. A suggestion of the lake being used as storage is inaccurate. The lake has a residence time based on its volume of 0.15 years, thus only a month or so of the average total annual flux of water would refill the lake. While arguably much of the water comes in winter, the 0.5 CFS water right also necessarily would have to be available in the tributary (e.g. Rock Creek) at the time of water extraction for the water right be executable. Basically should that creek dry up, the City would not have the water to sell, and would be unable to provide the water to the Siletz Tribe. A suggestion that monitoring this extraction would be impossible or that it would be likely be in excess of the agreement are completely unfounded. Not only would it be unwise to overwater the golf course, a self regulating mechanism, the City has an invested stake in assuring that the water that they have the legal right to sell is properly tabulated correctly. Oregon Department of Water Resources would also require defensible documentation of such water use. Another statement recently circulated is that this agreement would not serve the lake in anyway. While this may be certainly the author’s and others opinion, it is scientifically clear that fertilizer reductions can be seen by using nutrient rich water as opposed to basically sterile tap water when growing plants. It is also clear that nutrients in that water could then be sequestered in plants and soils upland as opposed to their current location in the lake or its sediment where they feed cyanobacteria and potentially exotic weeds. Fair evaluation of the potential nutrient abatement and nutrient sequestration should be given merit when considering the larger District goals of water quality, not just water quantity as is being discussed currently.

Lastly, it should be clear that while the District may have a right to comment on this water right as would any other potentially affected entity or individual, the water right on Rock Creek already exists, and the City can at their choosing fully exercise the water right of a full 1.5 CFS at its current Point of Diversion. The City’s right is senior to the District’s recreational water use right, and thus it is the District’s right that would be curtailed should water needs be in conflict. Irrigation from this existing POD would seemingly also require supplemental nutrient enrichment, continuing a measureable influx of N-P-K as fertilizer on to the watershed. Additionally should the water transfer not occur, the Tribe currently has existing water rights for wells in the watershed and has an application on hold for Neotsu Creek. Should these rights be used to fulfill the some 75 AF of water currently necessary for irrigation, supplemental fertilization would likely also be required as it does currently under the chlorinated water irrigation regime.

**Septics Systems:** We are on the verge of a comprehensive review of septic systems in the watershed. Work conducted by Seth has revealed that 665 tanks are in the watershed with about 267 set on lake front properties. Roughly 1/3 of all of these systems have no record at all, suggesting that they were placed in the ground prior to 1974 when regulation became more stringent. Development for much of our area began closet to the lake and work outward as many of the earliest settlers chose to have summer camps on the lake. These camps, now summer homes, vacation rental dwellings, and full time residences still heavily rely on septic tanks and drain fields for domestic waste treatment. Key to the functionality then is the maintenance of all these systems currently being address under the proposed ordinance.

What will become more clear through these inspection is how and if many of these systems are functioning or to what extent. What we know now however is that the density in which they currently exist greatly exceeded what EPA recommends, and that many of the low lying properties (particularly on Loop Drive near Sand Point and in areas of Neotsu) have systems that inherently are either near, at, or potentially below the water table. Aggravating that at, or near saturation condition then is when the lake level is artificially held at 9.53' during the summer months when the lake level would otherwise be lower, and at a time when homes are occupied at their maximum. It is fairly clear that as a consequence of living on a lakeshore, the water table may sit only feet or inches below the surface at most anytime of the year. This may significantly impact the efficiency of waste water treatment in such soil environments. Firstly when tanks sit in groundwater, they tend to rust or corrode more quickly and may thus leak. Secondly when drainfields are saturated, they fail to function properly as bacteria in the soils must digest the wastes anaerobically, a process 30-50 times less efficient then under properly drained, aerobic conditions. A few of the effects then that pervade are the risk of poorly treated wastewater entering the lake at a time of peak recreational use and the release of nutrients which feed cyanobacteria blooms which also occur in the summer months.

**Boating Access:** This as I understand continues to be the number one concern raised by individuals. While ideally each parcel on Devils Lake and the canals that have been dredged in the watershed in past years would have ample water draft for most any type of vessel, this just isn't a practical matter. Lakeshores are inherently diverse as wind and wave energy over the centuries (and even years with the advent of wake boards) mold the shape of the shoreline and the lake bathymetry. To attempt to assure all lake and canal front properties had sufficient draft for motorized and wind powered water craft would require continual dredging and/or a water level that greatly exceeds the legal height the District can hold the water at, 9.53' above MSL. A means then to address public access to the lake then can and should be met with public boat accesses, for which three improved and two lesser improved accesses exist. The improved launches are at Regatta Grounds, Holmes Road Park, and East Devils Lake State Park, which allow generally for day-use parking and launching and retrieving of pleasure boats and vessels of many sizes and shapes. Other options for public access may include use of private and/or commercial launches or moorages. These are beyond the scope of the District currently, but are available to at least some extent. Should insufficient moorages exist, the District or other entity could seek to develop such moorages which would facilitate draft requirements for vessels not otherwise able to be anchored along 100% of a shoreline such as the case is with Devils Lake.

**Campground:** A tour of the campground during Thursday's (May 27<sup>th</sup>) sampling showed many sites heavily inundated with water. Typically when the lake is held at 9.53' after a rain the low lying campsites have continued to be inundated, but will dry out to a fair degree with consistently drier weather. Saturation of the campground has been an ongoing problem, particularly at the beginning of the summer season, dating back at least to when the dam was repaired. This is at the beginning of the Memorial Day Weekend, which certainly has a negative impact to visitors to our area and to those that might choose elsewhere to spend their holidays and vacation in the future. As Lincoln City is inextricably connected to tourism, this impact can not be overlooked.

**Cyanobacteria Blooms:** It has been suggested that any decrease in the lake level would increase the intensity of cyanobacteria blooms. There may be some merit to that claim, but there may be an equal number of considerations to argue against it. Case in Point: While it is true the temperature is related to blooms, the reduced depth that could facilitate heating during the day, similarly can increase radiational cooling at night potentially negating the effect. This would be particularly important at the end of bloom as temperature begin to cool, potentially providing a much quicker demise to the bloom than if additional water was in storage. Also should a larger volume of water be created by impoundment, the affect of cold water entering from the various tributaries would have a proportionately reduced effect on cooling. Thus if a bloom was active and a rain event brought cold water into the lake, the relative affective cooling would be diminished by a higher lake level, potentially allowing the bloom to sustain for longer.

Dilution has also been evoked as cause for holding additional water, however the water in the lake is largely homogenous in regards to nutrients, and thus the stacking of water at the D River by a dam is simply storing the same quality of water and is not like the dilution with distilled water. The glut of nutrients in the sediment are at some state of balance with the water above, these nutrients are largely free to migrate into the water column and do so based on the chemical properties of the nutrients and the water which mobilize them. Wetlands also play roles in regulating cyanobacteria blooms which under a reservoir hydrology are negatively impacted. Wetlands give rise to plant materials that once dead and degrading can produce hydrogen peroxide, a powerful oxidant that kill cyanobacteria. This is the same process as when barley straw is use to treat cyanobacteria, and is only beginning to be understood scientifically. Functional wetlands also are a primary nutrient sink for nitrogen in particular. While additionally lake level might seemingly provide a growth in wetted area, the unnaturally hydrology does not necessarily sustain the plant population. The most important consideration may be that while some affects may actually occur given the extreme variability of cyanobacteria blooms, teasing out the causative effects would be very difficult. The larger influence on cyanobacteria bloom development such as nutrients in the lake and the watershed are likely to be much more significant than the plus or minus associated with a moderate change in lake level.

**Erosion:** Reports of ongoing erosion of the shoreline, assumingly attributable to the saturation of the soils and the increase wave energy associated with higher lake levels during the summer months, have been received. The District is seeking to evaluate these reports though an independent erosion study it is developing a RFP for currently. What can be said though is that impoundments and reservoir conditions as have been established on Devils Lake generally can have a significant impact on plant distribution, which is the basis of a stabilized shoreline. Riparian species have uniquely evolved to protect a shoreline from the

impact of flowing water. These and wetland species (capable of greater saturation) have evolved under flow regimes repeated for millennia where peak rain follows peak water heights, followed by drier times with increase sunlight where root and shoot growth is most substantial. These wetland and riparian species have difficulty competing on shorelines without these periodic wet and dry conditions, and thus may be supplanted by more aquatic species and/or upland species as the case may be. Aquatic species though lack the root structures to provide for stabilized shorelines and thus are not able to hold shorelines. Confounding in the Devils Lake basin then are the presence of Chinese Grass Carp which make the establishment of even these aquatic species an impracticality. Upland plants which might try to move into areas made drier by hydrology intervention (e.g. draining wetlands, etc.) are unable to withstand the pressures of inundation should they return, limiting the upland plants expansion. These regions where plant redistribution occurs are vulnerable to the subsequent change in hydrology when a reservoir is drained or flooded. What is known in these reservoir systems is that the areas become devoid of much of the plant life where vital communities of riparian and wetland species would otherwise grow. This lack of vegetation is known to lead to erosion.

Another element of erosive forces may be enhanced by higher lake levels, that of increase wave action and wave battering on more upland areas as a result of additional water level. This is a primary investigative item for the erosion study. What can be gleaned prior to such a study is that water being the universal solvent will seek to dissolve and erode rock upon which it sits or surrounds. Increasing the surface area of that interaction inherently increases the dissolution and erosive capacity on the rocks or in this case the shoreline.

**Fixed Docks:** An issue has been raised with fixed docks and how they have only one optimal height for entering and exiting a boat. While many of the recently installed fixed height docks installed by at least one local contractor have an average height of 10.0', this is only a fraction, less than 1/20<sup>th</sup> as mentioned in a past meeting by that same contractor, of the docks on the lake. Particularly, other fixed docks certainly might have been built at a time and to a height prior to when the lake began being impounded (1998). The lake level would at least reach approximately 8.3' in the decades prior (this according to the notably scant, but at least consistent reporting of one founding and long-term member of PADL and former District board member, Al Rice (see Figure 1)). Many docks built before impoundment would assumingly have been built to the height of the water generally seen during the peak recreational use of the summer months. Effectively these docks might be swamped by conditions in the winter and/or during times of summer time impoundment to 9.53' or historically even higher. What then can be concluded is no lake level is going to serve all docks equally. There are ways to mitigate for such variability, notable the use of ladders for access to vessels and/or the use of or modification to a floating dock which can guarantee a fixed height above the water.

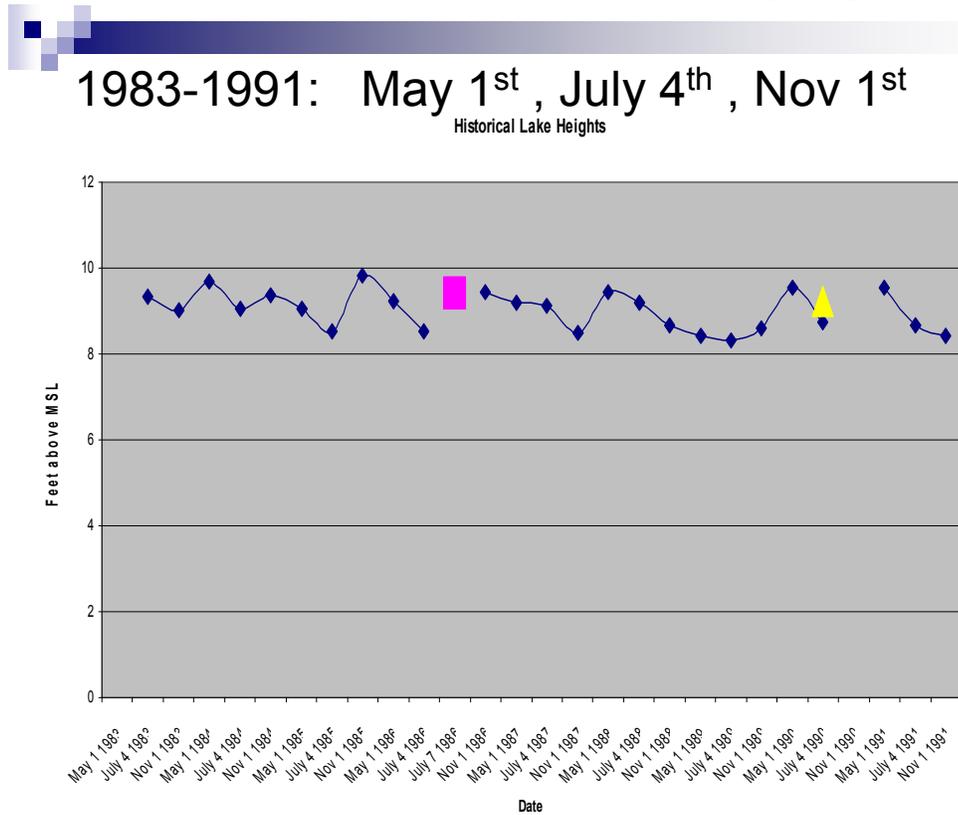


Figure 1. Lake Level as recorded from a staff gauge set at Al & Fran Rice’s house at or near the establishment of DLWID.

**SOS:** The District has been through investment in staff and through direct funding been encouraging and facilitating the planting of native plants on the shoreline. These native plants are typically suited to the periodic inundation normally present on a shoreline. This occurs only during the natural hydrology and is negatively impacted by reservoir conditions as explained in the section above on erosion.

*End of Staff Report.*

**b. The Devils Lake Plan**

- i. **DEQ 319 Grant:** submitted the final draft of the QAPP and SAP to DEQ. Database RFP being developed.
- ii. **Native Vegetation:** One additional aquatic plant has been added which Dr. Pennington has selected upon additional consultation with experts across the US. This plant apparently is low growing submersed plant that it quite common in coastal lakes, although there was at least at the time confusion as to whether it was a native plant or not. Nonetheless as I understand it has been added, and another plant, less desirable for the needs of Devils Lake, may have been removed. Dr. Pennington is out in the field until June 3, 2010, so we do not have all the final details, but expect them and the deliverables as mentioned before June 30, 2010.

We will also receive digital copies of the manual and means for making future changes (e.g. MS Word). Color pictures and information can be manipulated for web

postings as previously agreed. As a result I am recommending in the financial report to allow for full payment of the contract by June 30, 2010, but only after having received the materials. A post dated electronic payment has been scheduled for the remainder of the contracted cost. While there have been discussions as to how or if this information should be shared, it is my hope to provide nurseries and local landscapers copies of this document as well as local landscapers. The District has promised to release this document, and in fact must do as requests are made which in fact have been made at least verbally during our meetings by various members of the public. There is strong language in the document directing the public to obtain all necessary permits and to seek input from the District.

**Recommendation:** Have Seth hand out copies to all nursery and landscaper contacts as the first round of distribution. Further, evaluate the desire for additional copies and if warranted print additional copies and have available at no or low cost. Also place the document online and allow for the creation of a sophisticated website with images and information from the guide.

iii. **Septic Tank Revitalization Program** (Seth Lenaerts) As of 5/18, the City Manager was estimating a draft could be completed in the next month. If we do get the draft before the next board meeting, would the board like to give staff some direction on a day of the week, time, length of meeting and format. In the meantime, I plan to put some research into a possible RFP and inspection standards.

iv. **Save our Shoreline (SOS)** (Seth Lenaerts) A 10 minute presentation will be given, summarizing what has occurred in the last 3 months and recommendations for the future of the program. Below is an outline of the presentation:

- I: Why do native shoreline plantings
- II: Benefits of native plantings
- III: Recruitment and preparation for Save our Shorelines
- IV: Shoreline Planting demo sites
- V: DLWID's role in propagating native plantings
- VI: Promoting Save our Shorelines
- VII: Summary and Recommendations

c. **Financial Oversight Committee Report** (Randy Weldon)

d. **Communications Report:** Manager's revisions be made and to be provided to the board by the meeting date.

e. **Safety Report:** I had Seth review the Material Safety Data Sheets (MSDS), deleting chemicals no longer in use and adding additional ones new to our monitoring protocols.

f. **Vegetation Management:** No update.

g. **Thompson Creek:** Met with Dr. Field cementing an opportunity to do DNA work. She may have access to some supplemental sample preparation materials, but we will have to buy/obtain a suitable vacuum pump. The other



labware are minimal, and thus should we not be able to quickly obtain the materials from the Tillamook area where they have been in recent use, I recommend we just fund the purchase of a few set ups of side arm flasks, and filter funnels. As purely an estimate a few hundred dollars should equip us with the flasks and filters, and a pump might be purchased for 500 dollars or less. Some of this might be consider capitol outlay and thus a resolution transferring from Debt Service may be required in the current fiscal year.

Analysis cost: The goal of the analysis would be to determine if there is the presence of human pathogens, or those from ruminants (cows and elk), birds, or horses. Dogs may also be a possibility, but humans are the primary target. Analysis of a sample should cost approximately \$100 to determine and separate out these basic sources. In order to characterize the stream multiple samples (five or so) would be required each day of sampling along with a sample blank. This figures to approximately \$600 per sample day. Multiple sampling days would also be required as previously discussed. This might be as few as potentially five days but could be many more depending on the outcome of the first samples. Effectively we should be able to make a substantial effort to answering with some scientific integrity the intestinal sources of pathogens found in Thompson Creek for around \$4,000 similar to what has been budgeted.

h. **Sewer:** No Update

- a. **Water Quality Update:** The District began is bacteria monitoring on Thursday, May 27, 2010 for the summer season. Reports are available online, posted in the watershed and through he District's listserv. E. coli values across the watershed were below the states threshold for recreational use. The highest value not surprisingly was at Thompson Creek, which had consistently poor water quality last year and in preceding years..

Needs: Fresh reagents and standards were purchased from the existing monitoring budget. These were routine items such a pH buffers, but also a test kit to calibrate the DO meter appropriately to meet DEQ requirements. This Winkler DO kit was approximately \$50 and has 50 tests in it. Additional cyanotoxin monitoring supplies will be needed in the future. Approximately \$250 worth of reagents and standards was lost recently by a failed refrigerator. This college dormitory grade fridge needs to be replaced with a commercial grade one that is reliable and will not freeze our materials. Cost for such a purchase could be transferred from Debt Service to Capitol Outlay under the existing budget. I have explored a few resources and have seen suitable machines for approximately \$800. Less expensive models may be available, but this is good working number to consider. **Recommendation is to transfer monies by resolution and authorize the manager to purchase suitable equipment upon further research. This should be done before the end of the FY for both budgetary reasons and needs of the monitoring program to safely store expensive reagents needed as early as next month.**

- b. **Cyanobacteria Meeting and Workshop:** Attended the DHS & DEQ meeting in PDX last Friday. Significant attention has been paid at the state level to our monitoring program. We are looked at as the model for other entities and our input and participation was highly valued. The workshop at OSU was highly beneficial as well. Again the District's monitoring program was referenced positively a number of time by multiple individuals including regulators within DHS's drinking water program. Beyond impressing the many state agencies, a good review of sampling, monitoring and analysis was had. Dr. Carmichael confirmed that the ELISA method which we use for Microcystin toxin analysis is the preferred method as is the freeze-thaw method for digestion of samples. Additional methods exist, but dip stick methods however simple do not provide the level of confidence in the data as the full ELISA method. Other lab techniques such as HPLC or LC MS-MS are significantly more expensive and remain at about \$350 - \$500 per sample. These were the cost estimates we had when we originally sought to embark in creating our own internal lab. Upon returning to the office I got a call and was asked to consult on our monitoring program by an official in USFS who is looking to monitor lakes in the Siuslaw National Forest on the south coast. This underlines that we truly have a program to be proud of.
- c. **Erosion Study RFP:** Currently being developed. Draft to be sent to board as available
- d. **Staffing Assessment:** We need to consider the changes that will develop upon the end of the RARE program. The Budget Committee's Recommended Budget included funding for additional staff should the board so chose as well as monies for an intern funded in the General Fund. Currently we have a need to fill the gap between Mid August and the end of the sampling season. Additionally should the board desire to continue the SOS program staff will be required for that. **I am seeking the Board's approval to make the necessary step to fill these needs either separately or together.**
- e. **Vacation Request:** Friday June 4<sup>th</sup>, 2010.