



**MINUTES
DEVILS LAKE WATER IMPROVEMENT DISTRICT
SPECIAL MEETING**

**DLWID OFFICE
July 29, 2008
11:00 P.M.**

PRESENT: Otis Winchester
Jack Strayer
Smokey Aschenbrenner
David Juenke
Brian Green

ABSENT: None

AUDIENCE: Chris Castelli, Department of State Lands
John Spangler, OSDW
Pam Barlow Lind, Siletz Tribe
Pat Payne
Peter McSwain
Raylene Erickson, PADL

SUMMARY OF SPECIAL MEETING

Decisions:

- ✓ **Continue with creation of comprehensive Lake Plan for purposes of future projects and to obtain grants.**
- ✓ **Proceed with a two-year project as proposed by Strayer for native revegetation planting; reassess periodically, then opt for five-year plan, if project is deemed a success.**
- ✓ **Approach SolarBees with questions to determine feasibility of installing five SolarBees on an experimental basis. If terms are favorable, proceed. Reassess after two years, then opt for installing 18 if the project is deemed a success.**
- ✓ **Establish Septic Tank Revitalization as a priority for Nutrient Control.**
- ✓ **Include re-entry of grass carp into plan as an alternative remedy for invasive vegetation if the SolarBees project is considered a failure.**

Action Items:

- ✓ **Robertson to present list of questions to Joe Eilers for a positive response to begin process of installation of five SolarBees as an experimental project.**
- ✓ **Strayer to create list of action steps to proceed with native revegetation project on a two-year basis with periodic assessment of success.**
- ✓ **Robertson to revise plan for Lake Plan bullet list with priorities as discussed and add a few more bullets as discussed with one-year, three-year and five-year timelines.**
- ✓ **Robertson to create action steps for proceeding with Septic Tank Revitalization Project under Nutrient Control heading as a No. 1 priority issue.**
- ✓ **Robertson to draft a letter to present for the Board's signatures to the City to begin the process of creating a phosphorus-banning ordinance for the lake watershed residents.**

Prospective questions to be asked of Joseph Eilers of SolarBees prior to negotiating a contract.

1. Is it practical to perform a limited study of a specific number of SolarBees for the entire lake?
2. How many would be feasible and where would they be placed?
3. Should they be located in a high-circulation area that is inherent to the reduction of Cyanobacteria or should they be located in a more placid body without natural water agitation?
4. Should both placid and high-circulation areas be tested that are similar in cyanobacteria growth?
5. What will the test cost?
6. What will the time commitment be?
7. Will Eilers assist in obtaining permits for installing SolarBees?
8. Will Eilers assist with searching for and obtaining grants for funding?
9. What are the advantages and disadvantages of two- vs. three-dimensional modeling?
10. Will there be a two-year buy-back contract if the project is not successful?
11. Will Eilers support the Board in a request to re-enter grass carp into the lake as a last resort?
12. Will Eilers meet with the Board to answer questions?

Winchester: Called the meeting to order and stated the purpose was to discuss the Lake Plan. It says Introductions. Paul do you know what we'll do with this?

Robertson: First of all we'll do introductions around the room. The intent is to get input from everyone. We'll start going around the room and you can tell us what your background is and what your interests are. My name is Paul Robertson and I'm the manager of the DLWID and I've been here since I was a young lad and with the District for about three years. My background is environmental chemistry and science.

Strayer: I've been a director for a year and a half. My interest is in restoring the native aquatic vegetation of the lake and the ecosystem that goes along with it.

Aschenbrenner: I've lived here for 25 or 30 years and I've been on the Board for a long time—five or six years.

Winchester: I've been on the Board for seven years and on the Budget Committee for three or four.

Green: I've been on this Board for a couple of years now. My important history is that I was the president of PADL (Preservation Association of Devils Lake) when we took the lead in forming the Devils Lake Water Improvement District back in

Juenke: I have been a resident for 41 years as a resident of Devils Lake and participated with Brian to form the Devils Lake Water Improvement District at its inception. We worked very hard in that election and take a great deal of pride in the fact that we squeaked by and got all the favorable voters to the polls.

Burt: I'm the recording secretary and live on the lake, so I have an interest in the Devils Lake Water Improvement District.

Chris Castelli: Oregon Department of State Lands, and I'm a manager for the South Pacific Coast and Jackson County.

Pam Barlow Lind: I'm from the Confederated Tribes of Siletz and I was asked to attend on behalf of Frank Simmons.

Peter McSwain: I've been a member for four and a half years of Salmon Drift Creek Water Council.

John Spangler: I'm a member of Oregon Department of Fish and Wildlife and I've been a resident for 15.5 years.

Winchester: Thank you. We will do a review to date.

Robertson: I submitted a document that you may or may not have received. I created a slide show talking about fragments of the plan. Just to bring people up to date on the direction the Board is moving. This is a plan in process. Looking for input and ideas and expertise from the community and agencies. The idea as we move forward is to continually gain input on how the plan might develop and to form partnerships with agencies that might be ready to help implement these plans. There have been a number of plans formulated to preserve Devils Lake. The first one would have back in the early 80's—there was a beginning of the diagnostic feasibility study which did bring something to fruition. I contrast that to the Comprehensive Resource Plan that was in the 90's. A huge planning process, but did not move forward, and if it did move forward there were just a few channels here and there. Today, I would like to see us go forward with the same sort of energy that was there in the 90's and certainly in the 80's and collectively create a plan that we can implement and have it become a blueprint for other communities and other lakes. That's the basic caveat for today.

Green: This is a nice start here with something we can work from. I would like to see us have about five pages of funding sources instead of the big blank we have now.

Robertson: There are a few opportunities for funding. We are certainly open and willing to hear of more. In order to get some of the ambitious goals implemented, the resources of the District are not enough. Would have to look at grant opportunities, certainly there are a few out there through the State, EPA, DEQ, etc.

Green: It's a Chicken and egg situation. The better articulated the plan is, clearer it is and the more sense it makes, the more likely we are to get grants and funding.

Castelli: Do you work closely with OWEB already?

Robertson: Through the District, we applied for a grant for the Salmon Drift Creek We wrote a grant for small project on Rock Creek—an infiltration project where we wrote the grant and we just let Paul Katen handle all the rest of it.

Robertson: So here we go. [Showed a Power Point]. First of all, here is the introduction; we are developing a new plan. The reason it is needed is in order to attract funds other than our own, we think we need a plan to go where we need to go. The people that we are asking to participate—it is open to everyone. The goal is to reach PADL, their mailers, property owners, through the Watershed Council, Tribe, City, and County. The things to consider that we look at today is from your perspective is, “How can your agency participate? What are the requirements that you might have?” Then, asking “What have we got right? What else should we consider and what is missing? Where can we go that’s not even been addressed?” I reflect back to the Diagnostic Feasibility Study that was done in the 80’s, and there was a huge planning process and all of these lake management goals identified, none of which were actually the solution that was chosen. We could go through a process and have it completely wrong and somebody from the outside can come in and show us it is wrong. So those are the opportunities that still exist out there. So these are the groups that we’ve identified out there: Residents, property owners, recreational users (that is a big one and probably the hardest one for us to get input from, until they see the SolarBees floating on Devils Lake, because it’s hard to engage people who are here on vacation or coming over from Salem to drive their boat around Devils Lake), the City of Lincoln City, PADL, SDCWC, Confederated Tribes of Siletz Indians, Lincoln County (they have a lot to do with the East side of Devils Lake), Lincoln SWCD, Mid Coast Watershed Council, Master Gardeners (they contribute a great deal to helping land owners come up with better landscaping and lakescaping), DEQ, ODFW, DSL, WRD, Oregon Marine Board, OWEB, US Army Corps of Engineers, EPA, NMFS. We are a unique lake that is set 120 feet from the Pacific.

The History of Devils Lake. This is part of the plan, and we are not going to going to that today because that isn’t what we are here for, but that is part of the Plan. We’ve got a 60-page slide show on the web if you want to view that. That history is a very important part of identifying where we are now and how we got there. Our goal in having history be part of the Plan is compact and moving forward.

State of the Lake. This is a section of our Plan that will probably take an inordinate amount of energy to finalize. I anticipate bringing in modeling experts to deal with the cost benefit analysis of doing restoration. You can take a lake and sewer it for \$15 million and find that it’s not even in 25 years it might not cure the problem. Those are

important numbers, because those are the numbers that the media and the public are concerned with. They'll want to see what the \$15 million did. I think that a cost benefit analysis will determine what we might reasonably expect from the restoration projects that we implement. We are looking at a 100-year legacy of Devils Lake.

DLWID was formed in 1984. The objectives in Lake Management that were identified in the 80's were to: Improve and maintain water quality, Improve environment for fish wildlife and humans, Increase public access to Devils Lake, Reestablish safe and efficient navigation. This was getting at the fact that you couldn't cross the lake at that point.

Strayer: Yes, you could water-ski on Devils Lake.

Robertson: In 1984?

Strayer: Yes. About 70% of the lake was covered, but there were some open areas.

Juenke: Getting some clear water was a real struggle.

Strayer: Some places, yeah.

Green: You had to clean your body, your skis . . . water skiing takes a pretty good area to do it. You couldn't get very far.

Robertson: These are more like objectives than lake management goals. Objectives is the word we are using for our current goals. The idea is to reduce the nutrients that are coming from the outside. Basically, we have to cut off those sources.

Current Objectives

Reduce Nutrient Loading.

Reduce Internal Cycling. Devils Lake has a bed of nutrients and those are always going to be contributing to the bluegreen algae and Cyanobacteria that we see today. In fact, if you go out on Devils Lake, it is starting to turn again at about the same time as it did last year. Through some of these other things we hope to reduce the Cyanobacteria dominance, and we'll talk more about why we want to worry about Cyanobacteria.

Reduce Cyanobacteria Dominance.

Increase Native Vegetation. You are probably aware that Devils Lake is basically devoid of native vegetation, and native vegetation is something we want. It was never the intent of the grass carp introduction to remove native vegetation or even to remove all of the invasive vegetation. It was to try to control it. Because the amount of vegetation that was around Devils Lake was basically choking it. This had been identified in the 70's—Devils Lake has weed problems, it's got bacteria problems. It's no secret why Devils Lake changed over to weed-dominated. Now it's invasive species to Cyanobacteria invasive species and we have to reintroduce the native vegetation.

Build capacity for Haz Mat Response. We are looking at increasing our capacity for Haz Mat responses. Hazard spills will be a very quick death. We had a boat sink in Devils Lake last week. Those are not in a volume that would kill Devils Lake, certainly, because it is a 680-acre lake and gas and oil can evaporate over time, but they certainly have impact locally. To help grow a Haz Mat response that would be ready for say, a tanker truck turning over, that would be a disastrous level).

Sustain a Monitoring Plan. So these are current objectives that we have that I've summarized and the Board will probably have some others to add.

We don't want to broaden the scope too far so that we are continually trying to bite off too much. Maybe that was the problem with the Comprehensive Research Management Plan—it was just too comprehensive. You can't seem to organize that much into one

thing and these are some pretty lofty goals similar to the 90's goals. I would hate to have us fall into that same trap so that we do not keep moving toward the solutions.

Tools for Lake Management. These are things that are in our Plan already to a greater extent than we will go into today. First off is the idea of nutrient controls.

Nutrient controls.

Septic tank revitalization. This is the key issue. First of all we need to have a system for identifying the failing septic systems. And a tool to hopefully help those folks pay for new systems that people cannot otherwise afford. The people that own properties around the lake are probably not the poorest people in our community; that being said, you go up a few of our tributaries and you might have some of the poorest people in the community. So, having a system in place where you can identify the failed septic systems, have an inspection program, and we have a means for financial assistance, is key to achieving our goal.

Stormwater Management. After you remove the septic tanks, stormwater is the next worse polluter. The point sources are a lot easier to identify. So, stormwater management is pretty much a point source management. Eventually, you channel all these different sources into a few pipes. So if we can look at disconnecting some of those systems, and creating bioswale and things that will help to treat those and reduce the amount of water that is coming in during the stormwater, then we can reduce the amount of nutrients. A lot of this has to do with future development, too. In my estimation, we have to have a planning process that creates fixed parameters for development. Unless we have a planning process that leaves the trees in the landscape, then all the work that we do in the bottom of Devils Lake is not going to help, because we need our watershed impacted. The watershed is where the nutrients need to be going into plants and not into Cyanobacteria.

Strayer: Paul, where would sewer go? Would it be under stormwater?

Winchester: During the last storm we had overflows for four days during power outages. Would it be under Haz Mat?

Robertson: It would probably be Haz Mat. During the last storm, we had some pump station failures that had to be pumped out manually, and then they had one that was serving about four or five homes that was spilling off into the lake. And, working with the City to improve their capacity to not fail to meet their water requirements.

Winchester: So, it would be under sewer?

Robertson: Well, it wouldn't be under sewer. It would be a separate bullet.

Juenke: This is a workshop and I think we designed it as a workshop rather than a regular meeting. If this is a workshop, then I'd like to suggest that the Haz Mat response be a major goal. It should be under Nutrient Controls as a specific category or activity.

Robertson: Yes, thank you for that.

Winchester: I think the City, didn't they buy more generators?

Robertson: Yes, I think they bought more generators or have the capacity to rent more readily. These are serious generators.

Green: They put them on a trailer and they pull them around. What requirements do they have? They are simply prohibited by law from allowing [these spills] to continue to happen, don't they? The "Clean Water Act" or something.

Robertson: Yes, they'll get fined. And, supposedly take steps to remedy that. In a storm event, they will look at a mitigation plan.

Wetland Creation.

Lakescaping.

Sewering.

Phosphorus Ordinance.

Toxicant Reduction.

Erickson: Should there be an emphasis on Erosion and Sediment Control?

Robertson: Yes, there should be a bullet for this. It would appear under stormwater management.

Green: That's a good point. It's kind of covered under stormwater management.

Robertson: Erosion and Sediment Control is kind of a development thing. Erosion control on the lake shore is kind of a Lakescaping issue. To suggest something is not a hassle. This is formulating. This is not, "Oh, we have to restart and we have two years of planning down the tube." We're not there. That's why this is good.

Green: This is the very first draft of this Plan. Friday was our first opportunity, so it's very much in the formulation stages.

Robertson: Those are things that ought to be corrected.

Winchester: The City has someone assigned to that. We've been dinging them for years. I don't know if it worked.

Robertson: No.

Winchester: We've sent letters. I don't know if we've ever gotten a reply back on our concerns.

[Dialog ensued by the group regarding documents being sent by Robertson and Strayer and how to open them. Decision was made to make some hard copies and retain them in the DLWID office so that people could pick them up if they wish].

Castelli: (Somewhat inaudible) Asked Robertson if he received notices regarding any development being performed that would affect the lake.

Robertson: I do receive notices sometimes and am part of the planning process for the City for site development; however, the County does not have a process established for development. Even if there is an ordinance that they can't do something, we could help. We rarely even find out that there is development going on on the east side of the lake. I have been working with the City asking them to work with the County. The city has responsibility for enforcement control through a special agreement to monitor the county property. In order to do that, the County should be getting the development plans and getting them to the City, but as far as I know, the City isn't even finding out about development until someone applies for a water hookup. Those things are fundamental to a watershed pact. Maybe a more formative part of the Plan would be to work on this. Because there is that site planning thing for the City and we do get notified. That being said, outside the urban growth boundary is the greatest risk.

Juenke: Paul, what do you mean by Phosphorus Ordinance? We've talked about doing something like that, but what do you mean by an ordinance?

Robertson: Well, in the 90's, there was a lot of work done in getting an ordinance at the state level for getting rid of phosphorus for laundry detergent mostly and dishwashing detergent, which got excluded during the work that was done.

Green: The work was for laundry detergent.

Robertson: Dishwashing detergent has a phosphorus load. I don't know why it got excluded. Maybe in the 90's dishwashers were not so common, but certainly as people remodeled their properties, they are going to throw a dishwasher in.

Robertson: I tried to do some strategizing on an ordinance to see what we could do. My goal is to have it not be legal to use phosphate detergent in your dishwasher outright. That would be a state-wide goal. In order to get that, that would be a better way of doing it. That way, you wouldn't have to worry about somebody coming from outside who has a vacation rental and just bringing all their Costco goods to town where they've got all their phosphate. Because, it's difficult unless we get it at that state-wide level. In the meantime, we need to strategize ways of reducing phosphorus. We need an outright ban of phosphorus products that we can simply identify, such as detergents

Juenke: It does include fertilizer for the yard?

Robertson: Yes. That is fundamental. It is a fundamental nutrient. Every pound of phosphorus that is brought into Devils Lake has a potential to going into the water. So, if we don't correct that train, we are just always going to be importing phosphorus into the basin.

Strayer: I was just going to say that organic fertilizers also have phosphorus.

Robertson: If you use a natural or organic fertilizer, phosphorus tends to be in a form that—it doesn't dissolve and go straight down through. So switching to organic fertilizers, like compost, things that a gardener will certainly want. We need to do it for the whole basin. Focusing on Devils Lake does not fix things. If we just look at our little outline, it's not enough. We have to be watershed wide. And that's why the DEQ is watershed wide.

Strayer: Does the U.S. Forest service fertilize their trees?

Robertson: I don't know.

Castelli: I don't know if the U.S. Forest Service does much cutting. I don't know how they do it, but they do fertilize trees.

Green: I don't recall, do we have a phosphorus ordinance to address laundry detergent now?

Robertson: It almost got done at the state level and then it was dropped.

Green: We don't have an ordinance anyplace?

Robertson: It was in the formulative process in the 90's, but then it got dropped at the congress level. It's something that the state needs just as much as Devils Lake needs it. We could be a model and we could try to get phosphorus out of our basin and maybe have 50% success.

Juenke: Yeah, well, I don't think we ought to wait around for the cumbersome process.

Green: It would help a lot to do it at the city level.

Robertson: I think we could do it, but we'd have to have public support. We'd have to have public support that says, "Oh, I understand I need to spend an extra 50 cents."

Juenke: That's why an ordinance is probably the thing to do. I've tried for five years to get a replacement in the hardware stores of an organic material for the yard I use called Ringer that was quite satisfactory for the yard. And, even though it is \$20 a sack compared to \$10 a bag for the other stuff, and the hardware stores say they can't sell it, so they're not about to stock it. I tried to buy it directly from the regular folks, but it is in quantities that are enough to fertilize the entire lane.

Robertson: And, that's always a Catch 22 that we have to grow from. We have to grow out of the Catch 22 that we can't find it locally so we can't put an ordinance on it. That certainly was more true in the 90's, but now, if you just go up the street, you'll find some other generation of products that are available for your dishwasher at a cost that has come down. And, so the fertilizer scenario, the market is pulling at it to bring it here, but it's not here, so we have to maybe create the market. And, sometimes government has had to make corrections favorable or not to the public eye. Maybe ordinances are the only way to do it.

Winchester: Hasn't Lincoln City stopped using phosphorus on Parks and Rec?

Robertson: They've stopped their riverside pesticide. So, the amount of fertilizers need to be identified. The Regatta Grounds was getting sprinkled with a layer of fertilizer in the spring. We need to work with them.

Pat Payne: I would like to see Wetland Preservation and Creation, both [on the list].

Juenke: That should read Wetlands Preservation/Creation.

Green: The way a wetland is determined is that if the right kind of vegetation grows there, long enough in the year; it's a wetland all year round, delineated as a wetland.

Payne: There was a wetland and I've seen it completely denuded and all the trees were cut down.

Green: Well, that is an enforcement issue. I think the word preservation captures that concept. It means you have to enforce the existing rules

Castelli: Regarding phosphorus, you guys already know that if you are trying to get officials to create ordinances, you have to tell them why and photos and graphs work a lot better than several pages of [word] data. Another thing, would you like to put everyone around the lake on a sewer system?

Robertson: Right. In the septic tank revitalization idea, if the State were to provide some public funds for some of that revitalization, then part of that revitalization should be the means to connect to a sewer if it should come. Part of it would be some way to connect to the tank, just if you are going to be digging up all that ground, provide the means to connect at a lower cost than it would be if you were to revitalize. The sewerage, though, would be something that could happen. How would we support sewerage? So, it is kind of an independent thing. When I was jotting ideas about sewerage, most of it dealt with development and how to not, basically, sacrifice your watershed for the abatement of septic tanks. It's kind of a trade. You cannot say, well, we are going to do sewer, but you are going to take all of the trees down because we have the right to develop this property now. So, for me, in my mind, and hopefully, in the community's mind, there is a need to put on the books restrictions in development rights that would require huge buffers from aquatic resources. Huge, 25 to 50 feet. The 25 would have to be on a 100 foot parcel. If you have a sewer, you can build your house two inches from Devils Lake and then you have your deck going over the top of the lake. All of these things that would go into this perfect looking house. It would be much worse than if the house were set up on the hill. When looking at sewerage, we have to not open up willy nilly development because of a sewer. That has been a problem with other lakes. This is one reason that people push for or against sewerage—so they can develop the whole property or no, we don't want to develop. But, I think it is sensible to have sewer for one entity treating human waste versus having 400 people running their own little septic tank systems. So, from a management strategy, sewerage makes sense, but from a

development standpoint, there needs to be some boundaries. That's what we need to decide. How we will establish that. There are going to be people who are totally against that. But, I think there are a lot of people that, given the right charts and graphs, who will say they can do that—it's valuable.

Juenke: I'm not sure what you are saying. Are we giving up on the idea of sewerage the entire lake at some point in time and working as we can at targets of opportunity and taking small chunks at a time? It seems to be the only way it's ever going to happen. I'm not sure what it is we're talking about here. There was a time when this Board decided the most important step that could be taken was to sewer the entire lake, but it turned out to be a complete bomb. It was absolutely financially impractical.

Robertson: Is that the only reason it bombed or what was the public opinion?

Green: It bombed because it was financially impractical, but we were thinking, and you make a really good point, what he's adding to this is a point against it is that going full-speed ahead in sewerage, you increase the development around the lake. Development follows sewerage. And, additional development places new stresses on the lake that you didn't have before.

Juenke: So, you are saying that that is adding to the long-range plan of the lake being sewerage.

Green: He's saying sewerage without some precautions and without some developmental constraints can stress the environment as much or more than the issues you are solving.

Robertson: Very well said. The benefit to sewerage might not be outweighed by the loss through development of a watershed. That is something that, if we are going to be proactive in trying to correct the nutrient flow into Devils Lake, sewerage with unabated development is not going to solve it and put us in a position where we are making long-term corrections. We are correcting something, but we are opening up a huge can of worms. So, if sewerage comes around to the table, and there is an opportunity for somebody to come up with millions of dollars to sewer the lake, how do we support that and not risk Devils Lake? So that's what we really need to be formulative with.

McSwain: You are saying there is a benefit to keeping the lots the size they are. So, does the County land use authority, do they have developmental authority over the east side of the lake right now? Is that the governmental body?

Robertson: They are the governing unit for the east side. So that would be the major group to work with. The larger scale would be the urban growth boundary is Lincoln City. If all the east side were annexed, we'd want to make sure that we have parallel ordinances in place. And this is the same thing we have going with the boat house ordinance that we are still struggling to get all the way through. If we get the county to adopt this ordinance, they'll need the City to make the same adoption. Because, if the city were to annex the east side because they have sewer now, there is some other concept that created this larger city, they are the planning unit, and all their rules and regs, hopefully, are the same. That is one of the unique challenges of the lake is state and federal and tribal and municipal and water improvement district boundaries.

Juenke: Have we done anything, then, to look into the impact of the sewerage systems of the Villages at Cascade Head? That's a huge development. And, it is soon. It is in the City, isn't it?

Robertson: Yes. I don't understand the question.

Juenke: Have you looked at the impact and if so, tried to do something to minimize it.
Robertson: Specifically, with the Villages at Cascade Head, the District has been part of their planning process since the 90's when this project began. And, if you look at that property and how they are developing it, it's much better than the parcel right next door which is Beacon Crest or Lincoln Palisades. Actually, the Villages is a much better example of what we'd like to see with development. The District has been a part of that process extending back ten years and are currently, as well. It is a good example of how if that wasn't sewerred, how you might develop with larger expanses of trees. That's really the goal would be to have that vegetation stay on the ground and have a means for treating the storm waste and not aggravating the system. Because a lot of it has to do with removing the septic tanks, but then you have stormwater issues. Stormwater abatement is fundamental to development needs. We have to have good stormwater techniques that keep the water on the private property and go into the ground and not go funneling off into a culvert down to Devils Lake. They are platinum certified, which means that of the green building standards, they are platinum. They are not only energy efficient, but they are development efficient. They do these things to help neighborhoods reduce their impact. It is a great example for the community as to where development could go and should have gone.

Green: Wouldn't a system where sewerred an area and now you have the increased stormwater runoff, you require a certain number of bioswales in strategic locations and it is part of your sewer hookup fees to pay for that. If you ameliorate the stormwater runoff problems created by the increased development, wouldn't that correct the problem with connecting the sewers?

Robertson: Well, yeah. If you eliminate the stormwater.

Green: So what we should be trying to do is try to tie the stormwater reduction runoff problem to get the sewer hooked up. Like bioswales, etc.

Juenke: Do we have a plan for doing that?

Robertson: Well, not yet. We need to develop these plans.

Green: We could put it in the plan.

Robertson: What we have today are bullet points and some text that goes along with it.

Juenke: Where does it fit into the plan to put it in? Sewerred?

Robertson: Well, it goes under sewerred and/or development, maybe. A development bullet.

Juenke: So maybe it could be a combination of sewerred and stormwater management.

Green: We have a good description of sewerred and increased development in the plan already. In the paragraph of one way to ameliorate. That probably would be for controlling stormwater runoff by the aforementioned processes, bioswales, etc.

Robertson: Absolutely. I think we could do it through that link or if we wanted to . . . I think for a structure it's probably good to have those separate and then just link back to how the sewerred lot could be with stormwater management. Because stormwater management would have to be existing.

Toxicant Reduction.

Juenke: What do you mean by Toxicant Reduction?

Robertson: I mean it includes pesticides, fungicides, herbicides and every harmful chemical we bring into the environment may be targeting some meal worm. We can't prove definitely that they do not have a harmful effect and it just makes sense from a

public policy to just not be introducing toxicants into the environment. Toxicant reduction might be getting rid of things that are in the waste stream from human consumption. A toxicant that is going into a sewer system. But for our purposes, those are the big three that I'm thinking of. Pesticides, fungicides and herbicides reduction if not an outright ban. We need to look at how we do it and if there's a need for it. As we look to live around Devils Lake, if we can have toxicants erased from that equation, people 50 years from now will be thanking us. That's only a generation and a half. So, we talk about lakescaping the shoreline. Basically getting away from grass. Lawns are not for lakes. We need to brand it and this has to be a public education process. We have to change the "better than the Jones' mentality" around how we want our lake property to look and we need to do it from a perspective that is beneficial to fish and the lake. And not just, lawns are pretty—that is the mindset we need to change, we need to have wildlife is pretty. Lakescaping with master gardeners and how we can create the kind of lakefront property owner ethic that is somebody puts in a lawn and they get ridiculed. Instead of having it be the reverse where we are envious of their pretty lawn. They have tons and tons of fertilizer required lawns and pesticides required lawns. As part of a toxicant reduction and phosphorus reduction, we go to not only native vegetation underneath, but native vegetation on the surrounding edges. Sitka spruce do not need herbicides to grow. They do fine if you get out of their way. Or willow or other native grasses. I know you have a time restraint of 12:10, Pam, so thanks for coming.

Spangler: Paul, are you thinking about a watchful wildlife program around the lake?

Robertson: Describe it.

Spangler: Watchful wildlife is not having your green yard down there, but having willows, shrubs and trees that wildlife can congregate around. The State has non-game biologists that can come down and visit with the group about how to go about developing a plan for non-game wildlife.

Robertson: Absolutely. I hadn't heard that term before.

Spangler: The next time you have a meeting, I can have a biologist come down and discuss it.

Robertson: That would be great.

Green: August 5th, isn't it our next scheduled meeting?

Robertson: August 7.

Juenke: Doesn't a lawn turf of the lawn control erosion? At least it is in my yard. The other point about the question, isn't it true that lawn turf would have some of the effect and characteristics of the bioswale?

Robertson: Lawns are actually an exporter of nitrogen. They produce nitrogen and export it even if you don't fertilize. There is a negative effect just by having grass on landscape. They do not promote wildlife benefit. It's very limited. Animals will inhabit the earth at whatever level it exists, but we can do a better job of providing habitat. The management of lawns is intensive—having it be fertilized and placing pesticides and herbicides on it.

Juenke: I do none of the above on my so-called lawn. The only thing that does happen and it's unavoidable is when the lawn is mowed, it is almost impossible to not get some grass blades in the water. We've never fertilized it and we've never done any of the other parts of it and I just wondered. It seems to me that I would find that 100 feet of frontage that is lined with lawn, if it were not done so, would deprive me of the use of the lake except by the dock. I would have no other way to have access to the lake for any

purpose—swimming, boating, whatever. So you'd have to work pretty hard to convince me. I'm all about controlling the phosphorus and whatever else, but that little piece of land down there that once was a sand beach and it was really ineffective when it was a sand beach. It got so much stuff dropped on it that the grass grew. I get a lot of erosion and as soon as the grass took over—it's native. It's not anything I planted.

Robertson: Tall grasses are effective at reducing erosion. For every foot you go up . . . native grass is part of a natural system. That's the kind of thing we should be encouraging. The mowing down of the shoreline that creates additional stress on the shoreline and creates erosion because if a wave comes in and there is only a root system that is half a centimeter deep, or two centimeters deep, that is not a strong root system. So, for a property owner and this is probably our selling point of the lake--we have a lot of people we have to sell our ideas to—to protect your property, root systems are the way to go. Root systems also encourage wildlife is a benefit to you as a property lakefront owner and viewer of the lake. This is the mindset change that I feel we need to work on.

Green: Okay, so somebody like Dave lets his whole go natural, but he still wants to use the lake front, so he goes down and builds a deck, a 15 x 15 deck, what's the relative impact of that—because people are going to want to use their lakefront somehow—is there an objection to that?

Robertson: No, I think that providing access is fundamental to our mission for recreational use of the lake.

Green: I mean the physical environmental impact on the lake.

Robertson: Well, if it were 100 feet long vs. if it were 15 feet long. And, I think that is the key to finding the footprint that allows . . .

Juenke: Long or wide?

Robertson: The impact would be related to the design. If you have boating access and you have swimming access off a dock that goes out into the lake, maybe that's the kind of balance that people can strike within their own property. That is the kind of thing that we are trying to work around with the dock ordinance. It's not precluding fun. We don't want to legislate fun out of the equation.

Payne: When we put in a boat well, he said it keeps the waves from eroding the shore—having a board across the bottom keeps the waves from eroding, they are not treated boards, and they keep the erosion from happening. Couldn't master gardeners come out to property owners and help them landscape their yard on a piece of paper so they can see how attractive it can be? It could be nature and people friendly and it could be a mindset different from lawns.

Robertson: You bring up a good point. It makes me think of those television programs with remodeling houses and their computer-generated plans. If we could sponsor a fund to develop a system of outreach for professionals at that level because they have a list of 50 plants, and an educated group of people who can do that. Then taking a property owner that is arguing about their lawn, which would be a good way to do it.

Burt: I thought that geese were polluters of the lake. What kind of wildlife are we talking about attracting?

Robertson: Native wildlife is a plus. Native vegetation is the way that native wildlife can survive. That's a different scenario that didn't exist 100 years ago. The solutions are there if we just get out of the way. Attracting wildlife is a whole different group of organisms that is not just attracting Canadian Geese.

Burt: We used to have a lot more wildlife than we do today.

Robertson: Development puts a lot of pressure on wildlife. A lot. Even having deer that walk across the road and they'd like to walk freely and not have a hassle. It's a scenario that we really need to take responsibility for. It's a new scenario that's just affected the lake the last couple of years. It's a scenario that we need to correct if we are going to have a lake that endures long term. That's a fundamental aspect of the Plan. We need to correct the problem of the watershed so that the new water that comes off the ocean cleans the lake eventually for us. We have a break here and Jack has a nice long discussion about all the work he's put into that.

Break for Lunch at 12:30

Winchester: Call the meeting back to order. Is this where Jack Strayer begins?

Juenke: Before we move on, I would like to suggest that we go back to the area that we were working on and set some sort of priority on that and in doing so, I don't think this is the place to take formal action, but I would hope that we all agree that these would become a prominent part of our Master Plan. And, my question is whether it would be productive for us to attempt to prioritize these points or whether we want to just embrace them in their totality. I guess I grew up in a German family and my background says we ought to prioritize them one at a time.

Strayer: I believe we should prioritize, but we might wait for the lake model to prioritize for changing the culture.

Green: If we are going to prioritize, maybe we could wait since this is the first meeting. And there is going to be some rewriting even of this. So, maybe we could hold off on that until a future meeting of the Plan.

Strayer: Maybe the manager can go through and put them into steps and what those steps would be for the next year, for three years and for up to five years.

Juenke: It seems the most productive there is stormwater management and the question you raised on sewerage and working with groups like the Villages at Cascade Head as they emerge to in an attempt to make them as safe as possible to prevent any further stuff coming in—such as phosphorus and toxicant reduction would have an immediate and telling affect if we are talking about that being for the entire watershed, which it hadn't occurred to me that we were talking about. I had thought we were talking about just the few of us living on the lake front. I can see where that is just the beginning of it and it's the entire part there. It seems to me that we can make some pretty significant progress immediately. Stormwater management and I supposed working on controlling sewer overflows must be a part of it. Those two areas that are quite significant and would lend themselves to immediate response to whatever we are trying to do. Those were goals when the district was formed and they kind of shoved them around and played with them. Nothing was ever done except a brochure in the mid-80's that pointed out to use different materials on the lawns and but it was not done in a way that was meaningful. They ran into troubles like I did with the hardware store down there and when Chuck went out of business, Ringer was no longer available and it didn't seem worth chasing down and now I'm beginning to think it is worth chasing down. I would suggest those as two or three first priorities and then it would seem that wetland preservation and creation, lakescaping fit in the next area. Then sewerage and the rest and probably septic tank revitalization are

probably in the long term the most effective of all, but maybe not. I recall that septic tank pollution is in the 17 or 18 percent and I think it was far less than what was coming in with stormwater and other sources.

Robertson: Also there are some other tools that we haven't gotten to that may be prioritized as well:

More Tools.

Whole Lake Circulation.

SolarBees.

Revegetation.

Native Plant Enclosures.

Research & Education.

Center for Aquatic Freshwater Ecology.

Juenke: Yes, I think those are extremely important. On the other hand, dealing with the source of the problem should be equal to or more of a priority than trying to find some magic cure like SolarBees or . . .

Green: Yes, except we have some emergency conditions that are starting to develop, so we probably ought to prioritize our emergencies. Maybe deal with them.

Juenke: I have no quarrel with that. I don't think it should be either/or.

Green: Yeah.

Winchester: Has anybody else put in an ordinance regarding phosphorus that we can talk to?

Robertson: Dune City. Just in the last year they have gotten that and it could be an example of how we could step up and get them to work. I think the key to getting them to work is to say, "This is how we at Devils Lake do it." Kind of like a camaraderie of citizens. This is an ordinance, but it is also the way we do it, because that is the way we know it will benefit our lake. Hopefully, people are discussing it to create the real culture of stewardship in our activity and it's not just enforcement. The rules are there for the people that we cannot convince otherwise. The rest of us are doing it because we are aware of it and that kind of culture that is rooted in the populace.

Juenke: It has to be rooted in this Board and this association first. We hopefully identified all these things and they had to be done in the 80's. It had to be done along with some other things and then dropped the subject. Among other things, even if constant attention hadn't been given, all that original work went down the tubes in ten years, because we have an incredibly high rate of turnover of home owners. I'd say most of the people with property living around Devils Lake haven't a clue. We are not fortunate enough to have more Jack Strayer and others who come in and really get interested in the lake and understand where all this came from. Much of what we talk about must sound like gobbelty gook to them and unnecessary additional expense and restriction of their own property. We simply have to redouble our determination in these program areas that you just put up there. At the same time that we're looking at solutions for what we might have been able to avoid had we been more diligent. Make sense?

Strayer: We have some communication opportunities that we didn't have in the 80's. Like the e-mails and the web.

Castelli: Do you have a newsletter to the lakefront owners?

Robertson: PADL does. They have approximately 120 owners, oftentimes they will send it to all property owners. They have sometimes asked the Board for some cash to send information. We should respect that opportunity and encourage it.

Juenke: It has to go beyond that because we are talking about the entire watershed and not just those living on the lake front or one lot back to lake view.

Robertson: Yes. And the predominant members of PADL are lakefront and lakeview owners.

Juenke: Right, almost exclusively.

Robertson: I think research and education here has to be targeted. If we are going to do septic tank revitalization, and that's one of our goals, then we need to put in \$5,000 and five percent or whatever it is into outreach to get to the participants. For a lot of programs it should be 20 to 50%. I think I've used the analogy before that Umatilla where you wouldn't think they had much of a turnover where they have the weapons depot has 20% per year of re-education to identify the new home owners that come in to get them on the new emergency plan. This is the duck and cover. And, it's 20% of their funding per year is to keep everyone engaged. The key with property owners is trying to get them, like you were saying, in this, "Where did these guys come from?" idea. Oh, yes, we are on board with this. It makes sense to us, too. We support it. But, that is going to take agreement within the Board, stakeholders and coercion with everyone on the outside.

Green: Yes, I think once we figure out what we are going to do, what we want to do and what we can do, that's when it gets a lot easier to focus our efforts and your efforts on trying to decided priorities. For instance, instead of trying to decide what effect septic tank revitalization might have in the hierarchy, we should be thinking what we should be doing with each one of these things, like septic tank revitalization, if we are going to do an outreach program, then that's one thing that we are going to do. You floated the idea in the Plan of an ordinance somebody has to have their septic tank checked every three years. And, if they don't get it checked, the city shuts off their water. Then, it's pretty clear cut. Once we have that list of tasks that we want to do and that we can do, that's what we can prioritize rather than have these goals. Prioritize the actual tasks. First of all, we figure out what we want to do with each one of them, and then we take that whole menu of tasks and prioritize them.

Juenke: I thought that's what the workshop was going to help do.

Green: Maybe that should be part of the plan. Maybe the plan should be our determination of what we are going to do. Go back and prioritize and make it part of the plan. Another chapter on priorities.

Payne: What about after priorities are set, maybe each Board member or each volunteer you could delegate jobs out to volunteers and the Board with time lines. They could come to the Board and say, "Do you agree with this?" They are responsible for pieces of this and maybe a lot more community involvement and get people on board. People could use their friends and create more interest.

Green: Yeah, maybe someplace there we could have a section for recruitment of volunteers. It's something to keep in front of us to think about.

Juenke: It's absolutely certain that it's going to take more than telling Paul to do it. I think your suggestion is a very good one.

Castelli: I think the last three things are pretty important things that that would increase your visibility. You are going to have to rely on other people to do some of these things. You can propose these things, but you can't do them yourself. You can work with the watershed group. Put something in your newspaper.

Robertson: I think you are right. Working within our powers is very good idea.

Green: And getting some of this done builds our credibility. To be able to work through others to get other things done.

Strayer: Yesterday, Paul put out a message that the algae is starting to come up. I could see it coming down the lake in kind of a diagonal pattern. Every time a boat would go through it you could see it disrupt it a little bit. So, I think the circulation would be something that could work. But where you would put it, I don't know. To see something done about that would be pretty favorable to lake users and home owners.

Robertson: I think action does speak pretty loud.

Juenke: Cyanobacteria content in the water is measurable all the time is it not?

Strayer: It's really clear during the winter months—eight months of the year, you can see the bottom.

Juenke: Where are the Cyanobacteria then?

Robertson: They are like a resting stage. They are kind of dead. They need the sun and the warm temperature to come back; you can have one or two and then they can multiply into a bloom. Then the bloom dies and one or two survive and they make it through the winter. They grow again during the summer. The capacity for them to bloom is there once the temperature changes. We don't see them in the winter time. The disruption of their ecosystem in the summertime would help to abate their capacity to bloom.

Strayer: That's one reason the vegetation would curtail the bloom.

Robertson: It would reduce the amount of nutrients, absolutely. We need to develop the model that shows us how much we can decrease and how much avoid these Cyanobacteria blooms and at what cost. That's why mathematical modeling can help us with this. If we have the whole lake bottom full of native vegetation, there's still probably enough nutrients to have Cyanobacteria at this point. Because there are still things coming in and there are still nutrient recycling. We have to cut of the nutrients coming in and also inhibit the recycling of these nutrients internally to get to a vision of water quality that is acceptable to the public. No one tool is going to do it for us. One thing that we did not talk about is the list of alternatives on how to get rid of Cyanobacteria. The Board has come to the idea that these are the ones that are more favorable. I don't know if you heard about one of the lakes near Steilacoom where they just did an alum treatment on it and they just knocked all the fish out. There were thousands of fish floating the next day. It was deemed safe. It was a safe application; it would be fine, and not according to the fish. This just happened last week.

Juenke: I'm with the rest of you. It's time to leave where we are and go on to something else. I hate to leave it without any course of action. After another full hour of conversation, I don't know what we've gained in spending that time unless we make some decision and have some plan about what we are going to do. Prioritizing, I thought was one method of doing it. I like what Brian was suggesting—we need to take each one of those and expand them down into steps to implement them.

Green: I'm not trying to procrastinate or delay, but I think we need to . . .

Juenke: I'm talking about a three or four minute process to make a decision. We don't make decisions.

Green: We are here to develop a plan that's going to be the Plan. We have full chapters that are blank and you are saying, "Let's decide what we are going to do right now."

Juenke: I think we are shirking our responsibility if we do not work on these priorities that we just had up on that board. At the same time we are going on, we have to cure the problem before any of these exorbitantly expensive and unproven solutions to cure the problem can take place. SolarBees are fine, but they are still not proven. I like what Jack is proposing there and I think it's a very strong and very good thing, but it also fits as one step in those other things.

Strayer: The aquatic research center is research. Getting more information about information. Let's go on to something else.

Robertson: It's sure a difficult thing putting this together, that's why it is important that we are working on it.

Juenke: Isn't that what workshop means? Isn't that what we came here to do?

Robertson: I'm with whatever direction the Board wants to go.

Green: I'll give you my idea that is formed right now of what our priorities ought to be. Our No. 1 emergency. What are our most exigent circumstances ought to be—our biggest problems and our most immediate problem is Cyanobacteria. It threatens to close the lake any day. It threatens to prevent people from using the lake, destroy property values around the lake, so the best tool we have in dealing with our No. 1 problem is our circulators—SolarBees. So, let's start talking about buying the solar bees and getting them in the lake. Jack describes the lack of native vegetation as an emergency. We need an emergency research program because the carp are going to die in five years. In the hierarchy of things, I think that naturally fits into second place, because the circulators or SolarBees ought to be, if we are going to test how native vegetation is going to work in this environment, and we are probably going to end up putting circulators in the lake, then we need to have the SolarBees in place first before we start running these experiment with the native vegetation because placing the native vegetation in the lake because the SolarBees are going to have an impact, in fact, it may turn out that because of the effects that oxygen has on the nutrients for the invasive vegetation and the potential. For shifting the competitive advantage from invasive species to native species, with more oxygen in the system and all that that does, the native species might start making a recovery on their own. It might tell us a lot of what we need to do with native revegetation. Those are the immediate big issues and that's my take in terms of what we ought to do in terms of the big picture.

Juenke: It makes sense, these issues are continuing and we are not working with the nutrient controls, we are not carrying out our responsibility for the folks paying the bills—the taxpayers and those of us living around the lake trying to enjoy it.

Green: These are relatively long-term things. Sure, we need to start addressing them now and we need to continue working on them.

Juenke: I'm just saying that we need to be giving as much priority to carrying out these issues as we are in seeking some sort of solution.

Green: We are in agreement. We need to pay attention to the emergency issues. We need to prioritize the tasks.

Juenke: We are revisiting the conversation that this Board had in 1997 or 1998, and the Board has done hardly anything on any one of these areas since then. And, yes, the problem would still be there with the carp about ready to disappear. But, it certainly wouldn't be quite as urgent or as expensive to cure had they pursued these areas which are . . . these are self evident. It doesn't take a professional expert of any kind to look at those and know that those . . .

Green: I totally agree with you. We should be addressing these issues now. The only comment I'm making about prioritization is let's now figure out what we are going to do on each of these things and prioritize the tasks.

Juenke: Absolutely. So the question is, before we leave the subject, how do we do that? That's where they left off on curing these 25 years ago.

Green: I think the tasks are going to be part of the Plan that we are working on. If we want to decide right now what each and every one of those tasks are going to be for each of these subjects, which I think is too much for this meeting, but I think we should get it done and we can start on it. I just threw out more than this. I kind of threw out the other side of this. This is the long-term solution—the ultimate long-term solution. Like Paul was saying, this stuff will hopefully get Devils Lake back to a self-correcting ecology. But, we have to look at the emergency threats and deal with those. I think our responsibility is at least as great right now to deal with those issues.

Spangler: Looking at your long-term goals, Paul has been working with us on long-term goals in Rock Creek trying to deal with those projects. So there are projects coming up right now that will improve some of the wetlands habitats up there. He has been talking to another land owner up there about include their property in some wetland restoration. So I think some of these longer term management solutions are beginning to get incorporated. I don't know which of those might be the most important, but Paul has already been working on getting those long term solutions moving. But I would also look at short term solutions.

Payne: Was the carp a band-aid? Are the SolarBees are accepted as a solution instead of a band-aid, rather than returning the lake to normalcy. I think SolarBees cannot be a long-term fix.

Spangler: What is the prognosis for bringing the native plants back?

Green: It's as long as the carp are alive. We don't know how long they are going to live. We hope they do last five years until we can get our act together.

Strayer: Some people say 20 years is the absolute maximum and 20 happened a couple of years ago.

Robertson: It was 1993.

Juenke: I've seen a noticeable reduction this year.

Robertson: I said a year ago that 18 months could be the maximum.

Strayer: In one of our studies, it says that the exotic vegetation will overpower the native when it starts to come back. They all have speeds that they will come back, but the exotic will overpower the natives.

Juenke: You were saying that maybe before that process starts, to plant native vegetation before the emergence of the invasive species.

Strayer: To some extent, yes. We don't know about that, but we need to research it. I'm not a botanist.

Juenke: I think that makes some sense.

Robertson: Maybe we should take a look at this other proposal as we are going through our ideas. We are not dumping the prioritization at this point. We need to just find out what Jack has got as his idea. If I was to look at this for a 20-second prioritization, I would concur with emergency work with SolarBees and native revegetation for two reasons. First, I think we can effect change. As Chris was saying these are within our working scope and these are internal things we can work for. Looking at these, though, my first prioritization would be septic tank revitalization. Have it on the ground by the summer of 2009. Stormwater management is a lot bigger issue. Because you are looking at public infrastructure, digging up bigger pipes and more cost versus just looking at septic tanks. Another thing, septic tanks are visible to the public. The No. 1 perceived problem to the public is septic tanks. Perception is valid. It might not be correct, but it is valid. So looking at the perception and having the District work diligently with the city and the county in getting a revitalization program on the ground, potentially within a year. I think that's ambitious. I would put that at the top. Then, I would put lakescaping. Then stormwater management/wetland preservation. We would lump that into low-impact development to lower their footprint. Then, down the line phosphorous and toxicant reduction. That doesn't happen on its own. Phosphorus ordinance is a harder thing. Septic tank revitalization is No.1. Sewering is not even within our capacity to think about it in a five-year plan. Maybe that's how our prioritization should go is if the Board feels these could actually be put into effect. If we think we could do it in a year or a year and a half or three years, then let's push that toward the front. And, if it's something like trying to change the mindset of the public, then maybe we need to wait 15 years on that until after other things have already happened in that cultural type of acceptance. The way Devils Lake people operate is already beginning to change. So that's my take on it. For Nutrient Controls would be to look at septic tanks, lakescaping—trying to get that vegetation buffer around the lake and in the riparian zones, in the canals and in the wetlands.

Strayer: I guess the one thing in the action plan and the ones you would place priorities on and what actions would you do to try to accomplish it within the next year to make that come about. Maybe you could bring that to the next meeting and we could talk about that. Would that be an action plan for you, David?

Juenke: I would be satisfied with that. I'm happy to pitch in and help as the lady has very astutely suggested. We need to probably be doing the kind of thing that Jack's been doing on aquatic wildlife. It turns out that we need a little direction and some information that it is a priority. Jack's been very patient with us. I don't think I would have gotten nearly as far into it as he has waiting for us to finally get off the dime and pay attention to it. I would be happy to pitch in. So, that would be a course of action I would concur with.

Strayer: Maybe you can bring some action steps into the next meeting. We do need to look to the ultimate solution to get rid of the nutrients.

Robertson: I would be happy to do some action steps.

Juenke: It would be helpful that whatever revisions are made to this would be reproduced and made available to us. I'd like to have it as my bible.

Green: The only point is that the phosphorus ordinance, pushing it into the future, maybe this is where we need to come in and we should help him a little bit so that it doesn't get pushed out into the future. We could get something started on it right now. To my way of

thinking, maybe write a letter to the City and say, “Here is some data. It’s plenty bad and there are some perfectly suitable substitutes. We don’t need phosphorus in our detergents. Let’s get something done!” Then, periodic follow up and we don’t need to wait a year to start that process.

Strayer: I’ve got an idea on that, but I’d first like to get to Chris Castelli. Chris, you’ve got to leave in about ten minutes. I’d like to hear what DSL comments were on our paper—on getting authority and permitting and that sort of thing. If you could share it with the whole Board, I’d appreciate it.

Castelli: On the native vegetation structures you are proposing to place on the lake bottom, there will be a couple of different issues to be addressed. One is regulatory through the removal and fill and a proprietary on the placement of the structures. You would need an easement. Some of those things that would need to be obtained. I don’t see a problem. Maybe a 60-day process, just like anyone else has. I would anticipate comments from the Marine Board on any placement you have out there in a highly used area. Call Doug Baird on the Marine Board or drop him an e-mail on the locations. You might get his feelings on locations. He might want some sort of flagging. Always check with Fish and Wildlife.

Strayer: So these other groups are part of your approval process?

Juenke: Sort of parallel to approval for a dock?

Castelli: Yeah, a little more detail. The docks are pretty slam-dunk. Leases, easements, removal, fill have a little more paper work.

Juenke: Is it possible that we might be exposed to a lease fee?

Castelli: You will have a compensatory fee. Easements are not an annual rent, like a lease has an annual rent, but there is compensation for whatever term is requested. We authorize easements for up to a 30-year term. So, you need to determine how long you are going to leave them in the same spot or if you are going to move them around. You would need proprietary authorization or permit. This is for all the fill and removal that goes on around Devils Lake. Usually the minimum compensation is \$250; the application fee is \$750. You can apply for multiple locations under one easement application. The overall footprint of your cages or gabions.

Strayer: What about them wanting control of the plants? Do they have aquatic botanists? Do they have any inclinations to control that?

Castelli: No.

Strayer: You are responsible for all the plants around the high water line, is that correct?

Castelli: I’m not a botanist. We have wetlands. There are no botanists in land management. If you ever want to go out and plant plants, we would create a right of entry that gives you land owner’s permission to go do that. There is not fee. You just need the landowner’s permission to go forward. I gave Jack a card that has our website and drop me an e-mail or call if you have any questions. I’ll talk to Carry Landrum when she gets back to see if she has any issues.

Spangler: There are a couple of issues. There’s no control over putting a basket out there. Within the description there was no control factor, but there was treatment. The shift back to native vegetation we support, but we look at the fish issue from them having to shift from exotic back to native vegetation. We have seen some rebound in Coho numbers, and the issue is what will happen to the Coho if there is a switch back.

Strayer: Once the grass carp disappear, the exotics are coming back.

Spangler: Will the natives be able to compete with the exotics? Will they be able to compete this time? Maybe looking at these gabions, they'll be able to identify them. In 1994, that was what we looked at. There hasn't been a total rebound, but an increase in numbers. That is one thing to keep in mind with all of this. Maybe they'll be able to look through snorkeling and check.

Strayer: Paul has a remote camera.

Spangler: If we are in the shallow water, in the spring and fall we can make a special pass through and check. Where are your exotics?

Strayer: I think they are in the soils in the form of seeds and spores.

Spangler: We are fish biologists we don't know much about plants.

Strayer: I figured we'd start in the upper zone and below where the props are, but not the end of the vegetation zone so you get the best.

Strayer: Part of the difficulty in analyzing this is that once the grass carp disappear and we do nothing, the exotics are going to come back and things are going to look pretty bad.

Spangler: And, then another question we had was once the carp go, we already know that the exotics are going to come back with a vengeance. Will the natives that are out there be able to effectively compete with the exotics? They weren't able to on the first go round and they are at such a reduced level now, will they be able to compete?

Juenke: That is what Jack is trying to address. Where would you propose to locate them, Jack?

Strayer: There are a couple of historic sewer overflows and I was guessing. That would be at our first target, where we have a nutrient-rich part, plus plant them where they can take the most nutrients out of the soil. Then, maybe experimenting with a low traffic area and a high traffic area, depending on where the props are and whether they are going to make a difference on whether the plants grow and survive. That was just my thinking of the first five. We are kind of backed into it, like Dave said, when we started this we had 20 years and now we are down to the last five and if we don't have a way of transitioning, to a more native and diverse population of aquatic plants, we are going to be overcome by invasives, it appears. I want to talk to an aquatic biologist and then Sytsma. It's been about a year since I talked to him, I think. And, try to base this on science as best we can.

Green: I don't think we can assume we've got five years.

Strayer: We may not.

Green: We certainly cannot assume that. That's like the best case scenario.

Strayer: If the plants start going beyond the structures real fast, there might not be many carp left to eat the plants, then we are approaching the time when they are not going to be around, then maybe we can just plant and not have to protect them. So, there's all kinds of adjustments you can make, but you're right, we are on the edge, we don't know how close we are to that edge.

Spangler: Are the annual surveys that are done for grass carp still ongoing?

Strayer: Those were four Saturdays in a row at 10:00 a.m. to tell us how many there were.

Robertson: We did a study a year and a half ago. It was pretty helpful from my perspective. We came up with a number between—a visual count—these are pets, mind

you. These are domestic animals. They get spooked if you sneak up on them. But they are goats. They are kind of friendly goats.

Strayer: I can throw a handful of corn and in an hour or so you can have 17 or so grass carp out in front milling around after the corn.

Spangler: How big are they?

Strayer: Up to three feet. Some are a little smaller.

Green: You can sense that they are declining. I know out in front of my house there used to be herds of them, then there were little herds and now there are there are three or four and now you see one isolated fish every now and then. Once in awhile there will be two together. Usually just one—one big guy. You see over and over again and you get a sense of how they are declining.

Strayer: You could take out the grass carp and then plant like heck and hope the plants grow.

Aschenbrenner: That might be a concern, too, if the grass carp die and the weeds start growing and we get SolarBees and they aren't the answer, and the weeds start growing, then we are back where we were 20 years ago and while the grass carp have been blamed for a lot of things, they also solved an immediate problem.

Green: I'm a grass carp fan.

Aschenbrenner: Obviously, 30,000 were too many, but 1,000 or 500 might be okay.

Maybe this should be part of our action plan. It's not going to be easy to get carp back in the lake. We will have to try to get some more in the lake and try to convince the people who weren't too excited about it in the first place that in lots of ways it was a successful experiment.

Green: We definitely overstocked.

Strayer: In a way it makes sense to do it just piece meal and keep them down to where they are just right. In my research, maybe John feels the same. Every lake manager has never able to do a little bit. They always do a lot. Then everybody's always in an uproar, the fishermen are all upset and everybody is, "Whoa."

Green: The perfect balance you can never hit. If you do a little bit the weeds go crazy, and if you do a lot you kill all the weeds.

Spangler: Our policies at this time exclude Devils Lake from restocking the lake with grass carp. So, there's a process to go through to make that happen again.

Aschenbrenner: When we present our plan to you, should it include the responsibility of carp?

Spangler: Looking at the plan, maybe grass carp can be an alternative; all the alternatives have to be looked at before looking at anything and look at all the alternatives before making a decision. You may find that the SolarBees are actually the solution. I'm not sure. At this point, I think looking at all the alternatives is a good idea.

Robertson: Maybe we should include the grass carp as one of the alternatives.

Strayer: I was wondering if anybody had any questions about any part of this.

Juenke: What kind of a beginning, experimental program would you propose?

Strayer: Well, initially, for year one, five locations with five different species as a nursery, for later replanting into submerged areas. That would be the first year. Take your feedback from the first year and adjust your plants and if everything works out expand it the second year.

Juenke: What are we talking about in money?

Strayer: I made a couple of guesses on that. Page 14, \$26,000 first year, \$43,000 the second, \$63,000 the third, \$97,000 the fourth, \$134,000 the fifth.

Juenke: Total of the five year project would cover most of the lake?

Strayer: No, it would cover about an acre and a half. It would be in eleven different spots throughout the lake.

Aschenbrenner: Each year you will put in more pens?

Strayer: Yes.

Juenke: Where do we find a project manager and a botanist?

Strayer: Well, the project manager could be someone who is familiar with the lake, like Bill Sexton. He's got the means and equipment to put in the gabions. The botanist would be probably somebody we'd talk to Dr. Sytsma about. He's probably got a better handle on some young and upcoming botanists who would like to come down and do research on how the plans propagate.

Juenke: They would be in charge of growing the nursery and the plants?

Strayer: Yes, they would have knowledge on how the plants propagate and finding them and maybe taking volunteers out and acquiring them and putting them into nurseries and replanting them. There are a lot of questions left unanswered. But that is part of the research project. We've got to answer these questions: How is the best way to transplant? Do you bare-root transplant? Do you need a disposable pot that you plant them in and just stick them down there? Will the pots deteriorate? There are all kinds of ways to do it. Things that they would be familiar with.

Juenke: It's an experimental project, then, involving an acre and a half over five years would be \$370,000?

Strayer: Right.

Aschenbrenner: When you are talking about the first year, are you talking about this fall?

Strayer: I haven't gotten that far. Originally, I had hoped to do some this summer, but obviously we've got to get state land permits, we've got to talk to everybody and we've got to have public hearings and it would probably be next year. When I talked with Dr. Sytsma, awhile ago, I asked him, "Where do you get these plants?" He said one of them was a big old pond weed that is a very common plant. It is a nuisance plant in a lot of irrigation districts. When they draw down their water for the year, he said that there is a tuber or he called it something, but it would be a transplantable part of the plant. It is very accessible. You could take volunteers in there to take them out and bring them back then you would have a supply at that point. I am hoping that there are other places that he knows of where we could get other plants. If one lake has too many of them, we pull them out.

Juenke: So at the end of five years, if the acre and a half are doing great, then we would apply that to the entire lake?

Strayer: Well, every year, I think we would need to re-adjust your plan of priorities and how things are going. If there is no grass carp, then you can plant where you want to as much as you want to as long as you are not blocking navigational water ways. It would make the lake better for the fish and wildlife. I think one of the immediate impacts would be if the plan is successful and some of these plants started growing, the ducks and the migratory water fowl such as the coots and the widgeons might come back. Others, too. There were 10,000 coots and 500 widgeons and the coots would go down and grab a weed and the widgeons would chase them because they can't dive. So the coots would

drop the weed and they would go get another weed. We didn't have cable. It was entertaining.

Green: Something else we ought to keep in mind here, too, if we do water circulators or SolarBees, they will have an effect on this experiment. When we talk about SolarBees, we need to differentiate between the likely impacts on cyanobacteria, which appears to be pretty likely to be positive. The SolarBees are not an invasive weed species control device and we are not judging their success on that. We have this Cyanobacteria problem that needs to be addressed. They use these in sewage sludge ponds because they are effective. Lincoln City just bought one for the water treatment plant. We do need to buy enough of them so that they will be effective. But they do have, and hopefully, as a really nice side benefit, they also would have a substantial weed control effect. If the timing of the introduction of the SolarBees vs. the time of the revegetation project seems to be problematic no matter how you go about it.

Strayer: I enquired about that and most of them agree that they could not understand how water circulation could control weeds.

Green: It's not water circulation, it's the extra oxygen oxidizes ammonia which is the primary uptake from the invasive species that makes them grow. It oxidizes the ammonia to a nitrite to a nitrate that the invasive species cannot use. It neutralizes and eliminates their best nutrient source.

Strayer: We could test the native vegetation next to a SolarBee and see if it doesn't come back as fast.

Green: Put a couple of them near SolarBees and another one far away to see how they affect each other.

Strayer: Well, we'd do that anyway.

Green: Cause that might tell us. It is possible that if the SolarBees change the competitive environment, since the invasive species aren't getting their best nutrients, and change the balance in favor of the natural species, we'd like to know that and not assume that it's the human introduction of the plant versus the increase in oxygen creating more native vegetation versus invasives.

Strayer: One way to do that would be to place one gabion a few feet away with native vegetation, then one at 50 feet and just see if one would get any noxious vegetation at all and whether the other one would, too. We should adapt this to obtain the most scientific information we can get. And that would be very useful scientific information to determine whether we should go further with the SolarBees.

Juenke: Why did you pick a five year plan?

Green: Grass carp life expectancy.

Strayer: Kind of. Because it would be more than one year, if someone asks, if you expand this, what is this going to cost? Some sort of an estimate for cost. I don't know how good those numbers are.

Juenke: We've been hearing that if the grass carp are gone, the weeds will be back in a year or 18 months.

Robertson: I think that's pretty fair. It's just kind of an estimate. The longer the weeds have been suppressed, the longer it will take for them to recover. You have the seed bed less effectual over a longer time of suppression, which now has been almost 15 years, so 18 months is probably a good estimate.

Juenke: I presumed that the interior of the gabion would replicate the conditions when the grass carp were gone and we could tell fairly well what the reaction would be and if that's the case, it seems to me that we can obtain a significant amount of information in something less than five years. I'm thinking maybe two years.

Strayer: We could plant some empty ones to see what nothing does.

Green: Do aquatic plants follow the sleep and leap rule? Year one, year two, year three?

Aschenbrenner: A few years ago, we took a core sample. Is that of any use?

Robertson: That was in 2002

Aschenbrenner: I thought Joe Eilers came and took core samples.

Winchester: He did, didn't he? He came to the Board with them.

Aschenbrenner: Yeah, that was after that, because that was when you were manager.

Robertson: That was dealing with what was in the bed. I think the most important thing that came out of that study was the associated corrode of Cyanobacteria. [Robertson read Waggy's report that was inaudible] Her project was just aquatic control.

Green: I guess common sense can get you in trouble. But, doesn't common sense tell you that if you have native species to start with and they were established and invasive species were able to come in and wipe them out, when you got the native species pretty weakened to where they've been pretty well destroyed, it's going to be that much easier for the invasives to come in and take over that much more quickly than it was when you had natives that were established the first time they came in?

Robertson: Yeah, you are right. The best leg up we can give our native population would be an opportunity to survive because the natives have the predators that keep their population from taking over and the invasives do not. I think it makes sense to try to get native vegetation planted just to give them a chance. I think what we are going to find is we are not going to win that battle. I really fear we won't win that battle. Native vegetation has lost its battle all on its own, and I don't think we are in the position of power to make it favorable for them to come back in. Although, nutrient reduction and nutrient interior cycling reduction, that might be possible with SolarBees, that might help them, certainly, and I think we should focus on those collectively.

Strayer: The immediate effect of the SolarBees would be clearing the water up

Robertson: Absolutely. SolarBees are potentially a band-aid, but it's also a fix. Because it might help to ameliorate the dominant Cyanobacteria, but it also might by definition of oxygenating the water, break down the nutrients and that is a restoration and not just a band-aid.

Strayer: What I like about them is there are very few moving parts.

Green: Who was the guy that was the engineer? Robert Landuis was impressed by the mechanics of it and he worked out mathematically checked their claim that they could drive 3,000 gallons of water a minute and figures that it would work. He seemed to be a smart kind of conservative guy and maybe we ought to let him have another look at it.

Juenke: Well, there really isn't any other way to answer the nagging question of the return of the invasive species without doing something like this. Whether this is the solution or not, we still have to find out before it gets much further into the whole process, what is going to happen. It seems to me that investing for two years, perhaps, that would total about \$70,000 would be quite reasonable for the District to undertake. I

don't think I'd be prepared to commit to the full five-year program, of \$370,000 at this time.

Strayer: That was not my intention. It was just information. I was hoping to begin with a one-year program and continue with what we were comfortable with.

Juenke: Do you think you could do it in one year?

Strayer: Well, one year, and then adjust at the end of the year.

Green: You seem to have some preferences for different plants that would do the best in the lake. What plants are native that would be the best?

Strayer: I asked Dr. Sytsma. I was researching all the information. There is tons of stuff on how to get rid of invasives. There is chemicals, there are cuttings, etc. There is nothing on what the native population should look like or what it should consist of. I asked him, "What should we have on Devils Lake?" We have a blank canvas. He went to the Maggy report and he checked off the ones he thought would be good. That's where I got them. It's a diversity of different sizes and shapes of plants. We can go back and give him this plan and see what he really thinks about it. He's the one that's the honcho for most of the studies that we've been doing.

Robertson: I would be interested in finding out from the Fish and Wildlife that might have a sense as to what—maybe not the species level, but more ecological level of a plant that is more favorable to bass production and their hiding habitat. Stay away from the kind of plants that have the better habitat for bass, but have the best potential to grow—don't grow as tall, that kind of information.

Spangler: Bass will use the habitat that is available. Within the species that you are talking about, I would talk to Gary Galovich, the warm water fish biologist to see if he would have any idea on which would be the best.

Robertson: It seems that there is a favorable habitat over less favorable. If we could limit the more favorable habitat; we don't want to give them a place to hide.

Strayer: Bass don't hide. The plants will provide the young of the year to winter over. Right now they don't do that and there's no continuity. There are just old ones and young ones under a year. And you put any of those things on there, there will be more of those fish survive. Now, the other thing is, what do bass chase? Are they going to look for salmon or the sprinters or are they going to look for the other fish that are surviving—the blue gill and the perch?

Spangler: When the fish come down that are about two inches long, they are going to set up shop right by the rock. The bass are going to hit the cover there.

Strayer: The cover will help them, too, though. The cover will help the salmon, too.

Spangler: But not the salmon much, because there's going to be a bass around the corner.

Strayer: And, the time they come down is the time the bass are spawning.

Spangler: The Coho's kind of hang in shallow water.

Strayer: So, if there is vegetation five to ten feet, they will have lots of room to hide.

Spangler: They don't tend to stay in the vegetation. The bass can literally sit in one spot. What we've seen at 94 when the grass carp took out of all the weeds, there was a crash in bass population. You've got nice old bass or you've got them under a year, but they don't seem to hang on, they are being cannibalized due to lack of cover.

Juenke: The issue with fish at this point, other than any negative impact on salmon, I think is secondary to the basic question of establishing the species of native vegetation into the lake will help to counter the reinvasion of the invasive species. It seems to me

that that's really what we are aiming for and these other items are important to consider, but they are not the basis issue at this time.

Green: Now in terms of figuring out whether we can bring natives back, how would we be worse off? We have a barren lake bottom. A clean slate, you know. We take with all the scientific study to date, the five plants that are the most likely to prosper today. We make some enclosures, we stick them in there and come back in three years and see what we've got. How does that not get us pretty close to where we'd get with a botanist? Why do we need to hire a botanist at this point and a project manager? The botanist could tell us three years from now what we've got.

Strayer: We've got to determine which plants to use and get that going.

Green: In their natural state, they are just going to be let go. They will have nobody looking over them taking notes. I don't know why. That would be my Native Revegetation project on the cheap. Put the enclosures and the plants in the enclosures and let them go. You come back, and the enclosures exclude the carp, put some near SolarBees and others far away and see what we've got.

Strayer: Sure, we can do that. It's just that it falls back on Paul. Because the botanist and the construction guy would do some of the work.

Green: Okay, maybe we have Sexton go out once in awhile and see if the enclosures are still in place.

Juenke: We need some part of it anyway, Brian. Maybe not all of it. I think what you leading up to is buying consultation rather than overseers. I think I would concur with that. You could probably get employment piece-meal rather than full time. You could keep these costs controlled that way.

Strayer: My number in there was not for full time.

Juenke: It isn't a lot, but still, \$20,000.

Strayer: It could be done without a botanist and a construction guy. I want the botanist in the early stages to confirm how things grow and how to plant, how they propagate and how close together all the other stuff that they know about and things that are designed right. So we don't just throw some things out there and they don't work right.

Robertson: I guess if I were looking at this, I would think you've got these numbers just the opposite in the years. For a project manager and a botanist, pay them \$30,000 the first year, then less the second year. That kind of mentality where you are front loading it.

Strayer: There wasn't much work to do the first year.

Robertson: There's certainly the development work, then there would be just a fraction of the \$368,000. With about half of it is going to the botanist and a project manager you could cut the project cost in half.

Strayer: I'm spending time on it now; obviously I'm willing to spend some time on it getting it going.

Winchester: At least we could suggest that this be on next week's agenda.

Juenke: That would give Jack a little bit of time to look over the plan and what we've said and to your cost, I would propose that we adhere to your two-year cost, subject to review at the end of the first year. In doing so, we would have full control over how much we would do.

Strayer: My feelings were if we get a scientific breakthrough, either good or bad, we need to take action on it and not go the two years or five years or whatever.

Juenke: I suspect that if we are anywhere near successful in that, we are going to be besieged with requests for “How did we do it?” That would be quite interesting.

Winchester: So, is that a motion?

Green: Why don't we put it on an agenda until the next meeting?

Strayer: I won't be able to do anything by the next meeting. I've got house guests. We need to set up a time table and get started on it.

Green: One thing that might drive a time table, is there a good time to plant in the lake?

Strayer: When the sun starts to get long. Probably by March. Sego pond weed needs to be harvested in the fall. So that would work well. We need to maximize the number of volunteers. Maybe there is a frustrated botanist on the lake somewhere.

Green: I would suggest that we have it on the agenda for next meeting and make the decision then.

Strayer: I'll go through and make some notes and see what kind of things would work best.

Green: I think we need to consider what we need to do on the SolarBees. I don't see anything on the horizon that has anything to do with the Cyanobacteria besides that.

Strayer: We thought that maybe we could put them around the heavy use areas, like near Sand Point and Regatta Park, Holmes Road and the Marina to see if they can impact the high use areas.

Green: Actually, I was at that.

Winchester: It was me that was gone.

Strayer: Does that sound like what you had in mind?

Green: I think we should talk to Eilers. We should get him down here again. You've never seen his presentation.

Juenke: The only thing that remains in my mind is whether it is practical to look at a test program rather than try to do it all at once. Every time we talked about that, it was like, “Well, maybe.” So, I think the only questions we have left for Eilers after all you have done is what kind of a smaller control test can we finance at this point to find out whether or not this technique meets our needs.

Green: That would be my concern. Whether it is a valid test.

Juenke: The professionals are going to have to answer that.

Green: Should this be the premium spot? [Points to Regatta Park on the map]

Strayer: When the wind blows it just comes down like a river and goes right in front.

Green: We are hoping the bay acts like an enclosed area. The test is less valid if the water is changing.

Robertson: There are five solar bees. Three up in the left arm and then Regatta Grounds and then we could keep that recreational place a lot safer, and up near the marina.

Green: I assume that near Regatta Park you've got heavy duty blooms or in front of my house it just blows in there and sits in front of my house. So, I'm assuming there must be some blooms going on from the north winds.

Robertson: Once it becomes flat if there is no wind and a boater comes through, you were talking about splitting that scum layer in half. It doesn't keep it from roaring toward the shore and so what you have is this area right here in this little cove, you are protected so that once something gets in there, it's going to kind of sit there.

Green: Does that little bay up there work the same?

Robertson: Near the Marina. The reason we talked about that is because it is more of a defense mechanism. It would be more where we are going to bat against the SolarBees, like we are trying to disrupt their production zone.

Strayer: I'd probably put the first one where the 5 MPH zone is because it's shallow up there.

Juenke: You are talking about two in the Marina arm and two in Regatta?

Robertson: Then, if we went to eight, we would attack some flat water here where there is a lot of calm water. There is calm water here and maybe this one would want to be back in here. The wind influence is northerly. It's a combative kind of strategy attacking the flat water. And, as a combative strategy for where it's settling, kind of identify down here at Regatta Grounds because maybe we can keep it out in the current heading into the D River more or less versus these kind of areas where the water is flat even when the wind is up.

Juenke: We can contact the SolarBee people and describe what it is we have in mind and ask Eilers whether a test would be able to produce valid data enough to expand or forget it.

Strayer: I think something else that's going to be on the critical path as far as actions go is that the permitting could take, he said at least 60 days, I can see a lot of foot dragging, could see more than, for both of them, and they should be done separately—one thing for the SolarBees and one thing for the planting. One doesn't impact the other one, from our standpoint.

Juenke: The sooner we get started, the better.

Robertson: Do we just apply for 18 SolarBees? That would make more sense to me.

Strayer: We don't have to have that many—18 or less. You go for the biggest one you are going to do and then . . .

Robertson: That way, the permit would cover all of them. Okay, so here's the full deployment of 18 machines. Here is the number we were given. \$802,758, 684 acres; 25 years; \$46.95 per acre per year; 40 acre footprint. I am just showing you the full amount.

Juenke: Do we still not need to satisfy ourselves that Eilers would agree to the smaller number?

Robertson: I sent our plan to Joe Eilers and he sent me an e-mail saying, "I'm quite excited about your plan." He sent sixteen different documents over the last day or so with evidence of circulation. I haven't read them yet. He's interfacing quite strongly at this point.

Juenke: Are you saying that he's going to agree to anything we ask?

Robertson: That's a good question. I don't know. What I was talking to him about was modeling. He's got somebody that is working with him right now doing two-dimensional modeling. They've been doing two-dimensional modeling of SolarBees in shallow waters. That kind of information might be very useful to have and we might look at it specifically for our own lake. He's interested in participating.

Green: Dave is wondering if we should have him come to the next meeting. If he's interfacing strongly, it sounds like he'd be more than happy to come to the next meeting.

Robertson: I would like to a specific plan for him and questions. Someone needs to recreate that if we don't have it. Here is our 18 list of questions—fill in the blank with our questions. I'd write them down right now if we wanted to figure them out.

I'm always of the position that now is better. We have a larger body of people now than when I go back to my office.

Green: Remembering that Eilers was the powerful voice in putting the kibosh on the carp. If you look in the history. He's a well-respected biologist, too. So, I asked him if we had a chance of putting carp in the lake. If this doesn't work for invasive weed control, will you then support some type of limited reintroduction of carp to pick up the weed control? He said it will stabilize weed growth before the weeds get growing. If we put them in before they really get going, it will become lax and not robust and don't do anything. They do not propagate or spread. He had some pictures before and here is what they look like later after the SolarBees six months or a year later and they are all laying flat on the surface. He said we don't know why this is, but we think they oxidize the ammonia. He said in that circumstance he would support reintroduction of carp if the SolarBees do not work. He's a pretty respected voice to have up there at the Department of Fish and Wildlife saying okay to a limited reintroduction of the carp.

Juenke: Is he an employee of Fish and Wildlife?

Green: No, he's an employee of SolarBees now.

Juenke: I'm willing to do a priority list of questions. I think the key question right now is whether it would be practical to do a limited study of significantly fewer than the total number needed for the entire lake. If the answer is yes, then how many and where would they be put. And the question with that is when they are located for the study, should they be located in a high circulation area that is inherently beneficial to the reduction of Cyanobacteria or should it be located in a more placid body without that natural water agitation. And, that we probably ought to test both conditions and that we thought it would be useful to conduct the test in two locations that differ by their degree of water agitation, but that are equal in cyanobacteria growth when it occurs. That would be criteria that would help encourage valid data production or a conclusion. Lastly, if all of that is reasonable and possible, how much is it going to be and what commitment in time would be required?

Winchester: Can we also ask if this doesn't work, will they take them back? Because other places have done that.

Strayer: Yes, a two year period.

Juenke: I think that's a case where I would be willing to vouch that his idea of fairness that they would need two years of natural climate change. The change in wind and agitation and all the rest.

Winchester: I think so. One is too short.

Juenke: You are likely not to get it in one session. I wouldn't be averse to two years.

Strayer: Are we in agreement that we do not want to do a deficit debt for the District. We talked about it when we talked about the full 18. That we want to do it out of an operating fund?

Juenke: I would think that our first goal would be to try to keep it within the \$175,000 or whatever within the budget.

Green: I would pretty strongly differ. They want cash up front, don't they?

There is not way to do that with \$800,000, but we are a municipal body with a guaranteed revenue, and if these things are supposed to last 25 years and we amortize the investment over 15 years at the interest rates that are available, 4 or 5 percent or 3 or 4 percent, whatever it is, that's how corporations finance the development of really good ideas.

Strayer: Another question may be to ask him, “Where do we get water quality grants for these things?”

Juenke: And, in the process of all of this, will your company work with us on grant funds that will assist us in doing it? And they would surely know. I know architects, for example, are very quick to help with building funds. I know when we were building the church, the architect had a slew of ideas of how we could get money from one place or another if we needed to. That was a slam-dunk.

Green: In his interfacing with you, has he given you any ideas on other studies in other lakes where they have been deployed—are they working, not working on invasive weed control or cyanobacteria control? Any new information?

Robertson: This is round five that just came within the last two days. It is referencing how they work or don’t work. Two or three documents and two more here. [Inaudible, Robertson read some of the documents from Eilers]. I had asked him why he was interested in modeling work [Eilers suggested in a document that the District round up funds for modeling first].

If we went with two-dimensional modeling, to use the Army Corps software, we could get some support funds from Kelly. Kelly, who he’s talking about, is related to our lake steward. He is Barb Crandall’s son-in-law. It’s Jerry Warner’s step son. I think he would be easy to work with. He is a PhD with OSU. He’s been working with Joe Eilers on projects. So that’s where that connection comes from. I don’t know what that funding requirement would be to get Kelly’s support. He was going to try to come today and it didn’t work out. Or if we want to do three-dimensional modeling, he suggested that we could get some support help from his son.

Strayer: What would be the advantage of three-D over two-D?

Robertson: Putting the depth in there. I think it would be more accurate. It might not be something we could take on. It might be too sophisticated for my doing. We might be able to export it. If it is \$5000 it might be a better use of our time to get it done. There’s a lot of time that goes into writing a grant that is very beneficial if you get the grant, but is a lot of time.

Green: Don’t most grant writers work on 10% or something like that?

Robertson: That’s what I hear, 5 or 10 percent.

Juenke: They get a percentage whether they earn it or not, so you have to make sure you get the right one.

Robertson: So that’s the round of interfacing we’ve had. Around ten documents or so, but they’re more to help bolster our plan. I think that was the reason he sent them.

But, if you were to devise that short or long list of questions, we could do this by e-mail.

Robertson: Do we have them all recorded?

Burt: [Read them back].

Strayer: Dave are you of the opinion that the modeling is a good thing to have, but we may want to do that anyway and do what we are talking about—the five anyway. Do we want to have a plan and then have the five, or do we want to get the five and then have the plan when we need more?

Juenke: I wasn’t distinguishing between the two.

Strayer: the modeling is going to take a year, then another year to get the permits. The modeling was going to be to model the lake and its strata and nutrients.

Robertson: This is a shorter segment of potential modeling, I think, with Kelly. Would be just maybe modeling for SolarBees.

Juenke: Are you asking if we need that before we .

Strayer: Do we run them concurrently or in tandem? Do we want to apply for the five SolarBees five and do the modeling to determine if we need more or have the modeling to determine if we need five SolarBees?

Juenke: I think that is a question that Eilers can determine for us. Maybe not.

Strayer: Do you have a time estimate of what amount of time that would take? And whether we should have five or ten or whatever?

Robertson: No, I don't. But it is not an entire lake modeling for like nutrient control. I don't know, maybe a month or two months. It's just a modeling for five SolarBees.

Green: Eilers is saying here that some modeling would be helpful in assessing the optimum locations for the circulators as well as having obtained funding for this endeavor. So, he's just talking about doing five. Modeling for the five?

Robertson: Right.

Strayer: I would think that modeling should be done in tandem.

Green: I think we should tell Eilers we want the modeling done quickly.

Strayer: Paul could do the modeling. You get the program and then plug in all the data?

Robertson: I think we should have Kelly do the modeling. We would spend a year trying to get me trained. I think five grand would do it.

Juenke: I think that's the first step we need to do if Eilers responds positively to the list of questions to our satisfaction.

Green: A lot of the questions can be determined by the modeling, though.

Robertson: Yes. In some cases.

Juenke: No. We just ask the question is it reasonable, as a matter of principle, to do a short test rather than a complete test. That's really all that is involved. I think his answer would be yes, but we'd like to hear. I'd like to know what it is and I'd like him to say, "Well, taking test data from a small site like that has a probability of successful extrapolation of the entire lake of 50% or whatever success.

Green: In addition to whatever else you are going to ask him, would you tell him the Board would like to know by its next meeting on August 7, what the cost of the modeling would be how long the modeling would take to do. If you tell him that way, he'll have to commit to some short time lines.

Juenke: These should be questions he gets from everybody.

Green: Yes, we've got nine days until the next meeting, right?

Strayer: Is there a chance he'd do the permitting with DSL? Kind of a standard type deal?

Robertson: The other guy said he would walk us through the permit.

Strayer: Put that in the questions.

Juenke: I suspect the answer is No, but it wouldn't hurt to invite him to come to the next Board meeting.

Green: I don't know if he would sign the permit, but why wouldn't he help us write it?

Robertson: Could we get a summary of all those things?

Burt: [Read back questions posed by Juenke]

Robertson: We should look at the two and three-dimensional modeling. What would be the advantages of each?

Juenke: Then, we ask him if he would help us find possible funding for this. The contract would be a definition of our plan. When we make application for a grant, we should be in excellent position.

A final discussion ensued regarding decreasing phosphorus:

Strayer: Is it possible to lobby for a section in a store, say, Bi-Mart, to set up a display to help educate the public on the health of the lake and to eliminate phosphorus? You need the education and you also need to have the product available.

Green: People are getting more environmentally conscious.

Strayer: You can mention that there is a partnership with Bi-Mart that there is an ecologically friendly substitute to phosphorus.

Green: Place it on the next agenda. I would sign a letter saying that the District would like to promote the elimination of phosphorus in laundry detergent and ask them to stock detergents without phosphorus.

Strayer: If we were successful, it would apply to other lakes. Bi-Mart could adopt the program in all their stores, saying, "These are our environmentally friendly items in the store. You are all involved."

Meeting was adjourned at 3:30.

Submitted by Linda Burt, Recording Secretary