

AGENDA

2017 October 14

Regular Meeting: 6 pm

Lincoln City, Council Chambers

801 SW Hwy 101, 3rd Floor



Devils Lake Water Improvement District

Post Office Box 974, Lincoln City, Oregon 97367

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www.DLWID.org

I. Roll Call

II. Consent Agenda

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

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

IV. Unfinished Business.

- a) **Committee Briefings:**
 - i. Sewer Committee
 - ii. Special Projects/Events and Communication
 - iii. Save our Shoreline & Water Monitoring

b) Projects:

- i. Devils Lake Aeration Project
- ii. Website Update
- iii. Thompson creek update

V. New Business

- i. CTSI Fee to Trust Land Agreement
- ii. Potential invasive plants around lake

VI. Non-agenda Item

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

VIII. Board Comments & Announcement

IX. Adjournment

IV. Unfinished Business

a) Committee Briefings

i. Sewer Committee.

Next meeting scheduled TBD

ii. Special Project/Events and Communications.

a. Projects Update

b. Next committee meeting TBD

iii. Save our Shoreline and Water Monitoring.

a. Floating Garden Update

b. Next committee meeting TBD tentatively in November

a) **Projects**

i. **Devils lake Aeration Project:** Meeting with Carrie Landrum of the Oregon Department of State Lands went very well. The permit is currently in progress and will be submitted once complete.

ii.) **Website Update:** Website traffic has leveled off but we are maintaining a very consistent traffic level (report attached).

iii.) **Thompson creek update:** Currently reviewing data from DEQ. To date no specific source of bacterial contamination has been identified. Source identification efforts will continue.

V. New Business

i. CTSI Fee to Trust Land Agreement

Has been submitted to our attorney and is under review.

ii. Recently reports have been made of emergent aquatic vegetation growth. At least one invasive plant has been identified by the Oregon Parks and Recreation Dept. A potential invasive plant known as Parrot Feather has been spotted in some drainage ditches near the State Park Grounds. Details about this plant are attached. If spotted please report the approximate location to DLWID. Details about this plant are attached.

Non-native Invasive Freshwater Plants

Parrotfeather (*Myriophyllum aquaticum*)

Technical Information

Description

Parrotfeather (*Myriophyllum aquaticum*) gets its name from its feather-like leaves which are arranged around the stem in whorls of four to six. Parrotfeather has both submersed and emergent leaves, with the submersed form being easily mistaken for [Eurasian watermilfoil](#) (*Myriophyllum spicatum*), a close relative. The submersed leaves are 1.5 to 3.5 centimeters long and have 20 to 30 divisions per leaf. The emergent leaves are 2 to 5 centimeters long and have 6 to 18 divisions per leaf. The bright green emergent leaves are stiffer and a darker green than the submersed leaves. The emergent stems and leaves are the most distinctive trait of parrotfeather, as they can grow up to a foot above the water surface and look almost like small fir trees. Submersed leaves are limp and often appear to be decaying but the stems are very robust. Adventitious roots form at the nodes. When attached to a bank, parrotfeather stems can extend out several yards over the water surface. Flowers are inconspicuous and are borne in the axils of the emergent leaves. The white flowers are approximately 1/16 inch long.



Economic Importance

Because of its attractiveness and ease of cultivation, parrotfeather has been introduced worldwide for use in indoor and outdoor aquaria. It is also a popular aquatic garden plant. However, it has escaped cultivation and spread via plant fragments and intentional plantings. While parrotfeather may provide cover for some aquatic organisms, it can seriously change the physical and chemical characteristics of lakes and streams. Infestations can alter aquatic ecosystems by shading out the algae in the water column that serve as the basis of the aquatic food web. In addition, the plant provides choice mosquito larvae habitat. In California, the species is becoming an increasing problem in irrigation and drainage canals. A 1985 survey of irrigation, mosquito abatement, flood control, and reclamation agencies in California indicated that parrotfeather infested nearly 600 miles of waterways and over 500 surface acres. In Washington, the Longview Diking District estimates that it spends \$50,000 a year on parrotfeather control in drainage ditches. Dense



infestations in southern Africa have caused flooding and drainage problems in shallow rivers and streams. The plant can also restrict recreational opportunities in these bodies of water.

Geographic Distribution

Parrotfeather is a native of the Amazon River in South America, but it has naturalized worldwide, especially in warmer climates. In the United States, the plant is found throughout the southern United States and northward along both coasts. It is found further north on the west coast because of the milder climates associated with the more northern latitudes on the west coast. Presently, Washington's parrotfeather

infestations are found in coastal lakes and streams, and the southwest Washington portion of the Columbia River. parrotfeather is found throughout the drainage system in the Longview/Kelso area, infests many of the drainage ditches in Wahkiakum County, and was discovered growing in the Chehalis River in 1994. Recently parrotfeather was discovered in some backwater ponds along the Yakima River and also in Asotin County.

Habitat

Parrotfeather is found in freshwater lakes, ponds, streams, and canals and appears to be adapted to high nutrient environments. It tends to colonize slowly moving or still water rather than in areas with higher flow rates. While it grows best when rooted in shallow water, it has been known to occur as a floating plant in the deep water of nutrient-enriched lakes. The emergent stems can survive on wet banks of rivers and lake shores, so it is well adapted to moderate water level fluctuations.

History

Indigenous to South America, parrotfeather was probably introduced to North America in the late 1800s; the exact date is unknown. The first collection made of this species was in the Washington D.C. area in 1890. It was reported from South Africa in 1918 or 1919, Japan in 1920, New Zealand in 1929, Australia in the 1960's, and England in the 1970's. Couch and Nelson report a single population of parrotfeather in western Washington in 1944. An herbarium specimen was collected from Skamokawa, Wahkiakum County in 1983.

Growth and Development

This rhizomenous perennial exhibits an annual pattern of growth. In the spring, shoots begin to grow rapidly from overwintering rhizomes as water temperatures increase. Rhizomes function as a support structure for adventitious roots and provide buoyancy for emergent growth during the summer. Emergent stems and leaves extend from a few inches to over one foot above the waters surface. Underwater leaves tend to senesce as the season advances. Plants usually flower in the spring but some plants may also flower in the fall.

The inconspicuous flowers form where the emergent leaves attach to the stem. In fall parrotfeather typically dies back to the rhizomes.

In some areas, like western Washington, parrotfeather may maintain considerable winter biomass. Because parrotfeather lacks tubers, turions, and winter buds, rhizomes serve all those functions. Parrotfeather does not store phosphorus or carbon in its rhizomes.



Reproduction

Even in South America, virtually all parrotfeather plants are female. Male plants are unknown outside of South America, so no seeds are produced in North American populations. Since parrotfeather also lacks tubers or other specialized reproductive overwintering structures like turions, it spreads exclusively by plant fragments outside of its native range. Unlike Eurasian watermilfoil, parrotfeather does not form auto fragments. However, fragments can be formed mechanically and will readily root. With its tough rhizomes, parrotfeather can be transported long distances on boat trailers. Rhizomes stored under moist conditions in a refrigerator survived for one year.

Response to Herbicides

Although parrotfeather is considered by some to be susceptible to herbicides, it is difficult to achieve complete control. The emergent stems and leaves have a thick waxy cuticle and it requires a wetting agent to penetrate this cuticle. Often the weight of the spray will cause the emergent vegetation to collapse into the water where the herbicide is washed off before it can be translocated throughout the plant. Westerdahl and Getsinger report excellent control of parrotfeather with several herbicides including 2,4-D, diquat, and endosulfan. Fair control was obtained with glyphosate. The Monsanto Company suggested that applying a 1 3/4 percent solution of Rodeo® (aquatic version of Roundup®) with surfactant to the plants in the summer or fall when water levels are low would give about 95 percent control of the plants. Control of parrotfeather may be achieved with low-volatility ester of 2,4-D at 4.4-8.9 kg ha, sprayed onto the emergent foliage. The granular formulation of 2,4-D was needed to control parrotfeather for periods greater than 12 months. It is more effective when applied to young, actively growing plants. More recently imazapyr and triclopyr have been used to manage parrotfeather.

In actual practice, the weed managers report that they must make repeated treatments with herbicide to make any permanent progress. In Yakima, where their goal is eradication, they have used multiple herbicides, multiple times per treatment season, over a number of years and still have persistent plants. However, each year the biomass is reduced and with time and persistence, they should achieve their eradication goal.

Response to Cultural Methods

Parrotfeather's exceedingly robust rhizomes can survive overwinter water level draw downs in California irrigation canals as rhizomes buried in the sediment.

Response to Mechanical Methods

Because this plant can spread readily through fragmentation of rhizomes, mechanical controls such as cutting, harvesting, and rotovation (underwater rototilling) should be used only when the extent of the infestation is such that all available niches have been filled. Using mechanical controls while the plant is still invading, will tend to enhance its rate of spread. parrotfeather populations can be successfully harvested, but the dense tough rhizomes are very heavy and the plant regrows rapidly. In Longview, the Diking District relies on a dragline to remove infesting parrotfeather plants. A truck-mounted crane with a special attachment plucks weeds out of the ditch. They conduct the drag line operation from August to December in each year with control generally lasting for one growing season.

Biocontrol Potentials

Parrotfeather has a high tannin content, so most grazers, including grass carp, find it unpalatable. Grass carp also prefer soft plants, like *Elodea canadensis* and the tough, woody parrotfeather stems are not preferred. While biological control agents are not presently available, potential agents do exist. A complex of insects feed on parrotfeather in its native habitat. *Lysathia flavipes* (Boheman), a flea beetle found on parrotfeather in Argentina, causes moderate damage to parrotfeather under field conditions. Also found in Argentina is a weevil, *Listronotus marginicollis* (Hustache), that apparently feeds only on parrotfeather in its native range. Additional insects have been found on parrotfeather in Florida. *Lysathia ludoviciana* (Fall.), a flea beetle native to the southern U.S. and Caribbean, will use parrotfeather as a host plant for larvae under laboratory conditions. However, the flea beetle is not often found on parrotfeather in the field. Two members of the *Tortricidae* family, *Argyrotaenia ivana* (Fernald) and *Choristoneura parallela* (Robison) have also been found on parrotfeather in Florida, but their effect on the plant is unknown. In addition, larvae of the caterpillar, *Parapoynx allionealis* (Walker), mine parrotfeather leaves, but the impact these larvae could have on parrotfeather is also unknown. Fungal control options exist, as well. An isolate of *Pythium carolinianum* Matt. collected in California has shown some promise as a potential biocontrol agent. parrotfeather stems that were experimentally inoculated with this fungus produced significantly less growth than control plants.

[Follow This Link for Less Technical Information About Parrotfeather](#)

References

- Bernhardt, E.A. And J.M. Duniway. 1984. Root and stem rot of parrotfeather (*Myriophyllum brasiliense*) caused by *Pythium carolinianum*. Plant Disease 68: 999-1003.
- Blackburn, R.D. and L.W. Weldon, L.W. 1963. Suggested control measures of common aquatic weeds of Florida. Hyacinth Control Journal. 2:2-5.
- Braddock, W.B. 1966. Weed control problems in east Volusia Mosquito Control District. Hyacinth control Journal. 5:31.
- Crouch, R. and E. Nelson. 1991. The exotic *Myriophyllums* of North America. Proceedings from enhancing the states' lake management programs - monitoring and lake impact assessment. 5-11.

Gibbons, M.V., H.L. Gibbons, Jr., and M.D. Sytsma. 1994. A citizen's manual for developing integrated aquatic vegetation management plans, first edition. Washington State Department of Ecology, Olympia, WA.

Guillarmod, A.J. 1979. Water weeds in southern Africa. *Aquatic Botany* 6: 377-391.

Habeck, D.H. and R. Wilkerson. 1980. The life cycle of *Lysathia ludoviciana* (Fall) (Coleoptera: Chrysomelidae) on parrotfeather, *Myriophyllum aquaticum* (Velloso) Verde. *Coleoptera Bulletin* 34: 167-170.

Hotchkiss, N. 1972. Common marsh, underwater and floating-leaved plants of the United States and Canada. Dover Publications, Inc., New York.

Orr, B.K. and V.H. Resh. 1992. Influence of *Myriophyllum aquaticum* cover on *Anopheles* mosquito abundance, oviposition, and larval microhabitat. *Oecologia* 90: 474-482.

Orr, B.K. and V.H. Resh. 1991. Interactions among aquatic vegetation, predators and mosquitoes: Implications for management of *Anopheles* mosquitoes in a freshwater marsh. *Proceedings of the Annual Conference of the California Mosquito Vector Control Association* 58: 214-220.

Orr, B.K. and V.H. Resh. 1989. Experimental test of the influence of aquatic macrophyte cover on the survival of *Anopheles* larvae. *Journal of the American Mosquito Control Association* 5: 579-585.

Pieterse, A.H. and K.J. Murphy. eds. 1993. *Aquatic Weeds The Ecology and Management of Nuisance Aquatic Vegetation*. Oxford University Press.

Sytsma, M.D. and L.W.J. Anderson. 1989. Parrotfeather: Impact and management. *Proceedings of the California Weed Conference* 41: 137-146.

Sytsma, M.D. and L.W.J. Anderson. Biomass, nitrogen, and phosphorus allocation in parrotfeather (*Myriophyllum aquaticum*). 1993. *Journal of Aquatic Plant Management*. 31:244-248.

Sytsma, M.D. and L.W.J. Anderson. 1993. Nutrient limitation in *Myriophyllum aquaticum*. *Journal of Freshwater Ecology*. Vol. 8, 2:165-176.

Sytsma, M.D. and L.W.J. Anderson. 1993. Transpiration by an emergent macrophyte: Source of water and implications for nutrient supply. *Hydrobiologia*. 271:97-108.

Sytsma, M.D. and L.W.J. Anderson. 1993. Criteria for assessing nitrogen and phosphorus deficiency in *Myriophyllum aquaticum*. Vol. 8, 2:155-163.

Sutton, D.L. 1985. Biology and ecology of *Myriophyllum aquaticum*. In *Proceedings of the first international symposium on watermilfoil (Myriophyllum spicatum) and related Haloragaceae species*, pp. 59-71.

Sutton, D.L. and S.W. Bingham. 1973. Anatomy of emersed parrotfeather (*Myriophyllum brasiliense*). *Hyacinth Control Journal* 11: 49-54.

Westerdahl, H.E. and K.D. Getsinger, eds. 1988. Aquatic plant identification and herbicide use guide, volume II: Aquatic plants and susceptibility to herbicides. Technical report A-88-9. Department of the Army, Waterways Experiment Station, Corps of Engineers, Vicksburg, MS.

MINUTES

DEVILS LAKE WATER IMPROVEMENT DISTRICT

REGULAR BOARD MEETING

Lincoln City Council Chambers

September 14, 2017

Kent Norris, Chair called the September 14, 2017 Devils Lake Water Improvement Business Meeting to order at 6:02 pm.

I. Roll Call

Present: Kent Norris, Bill Sexton, Kathy Kremer, Steve Brown

Excused Absent: Tina French

Lake Manager: Josh Brainerd

II. Consent Agenda

a. Minutes of Previous Meetings

b. Financial Report

Bill Sexton motioned, "To accept the Consent Agenda as presented."

Kathy Kremer seconded the motion. Motion passed unanimously.

III. Comments from Citizens Present on Agenda/Non-Agenda Items

This is an opportunity for members of the audience to bring to the District's attention any item not listed on the agenda for public hearing.

Miles Schlesinger commented is on the Planning Commission and asked the City Attorney about the Devils Lake Regatta Park deed restriction. The attorney asked for the Devils Lake

Water Improvement District help in funding the project finding the owner that is part of the Regatta Park. Miles would like to promote a fishing derby after the spring kids fishing derby.

Pat Dooling commented on the machine at the end of the dock for over a month is a great idea and it is working and that the water is clear and glad to be a part of it. It seems to be successful.

Kent Norris said he is talking about the airstream, that has been purchased, and is now at the end of Pats dock. There is no indication of an odor on the lake.

Bill Sexton asked about the algae in the water and the wind. Is it pushing the algae back into the canal. Pat said it is clear with no algae.

IV. Unfinished Business

a. Committee Briefings:

i. Sewer Committee

a. Sewer Workshop Update

Josh Brainerd gave the report for Brian Green. The sewer workshops went well with approximately eight citizens from the community. There was good discussion with the committee members. Parking was discussed and would free up yard area for parking if they do not have a septic system and that is positive as some have limited parking.

Bill Sexton asked about loading of nitrate phosphates and the documentation and was there any follow up. Please list this as a topic for next month.

Josh Brainerd said the new equipment is picking up the numbers now, with a monthly reading information on record.

Steve Brown asked if a summary of the workshops would be presented to the Board members. Steve said he wants to make sure that the public understands that the Board can assist in gathering data but sewerage the lake is not the responsibility of the board. We can collect data and analyze the data and the City would like to hear the response from the sewer committee on the outreach of the board. Steve asked to have a summary at the next board meeting from Brian Green and report on what the next step is.

b. Next meeting scheduled for 9/15/2017 4:30 pm at OCCC.

ii. Special Projects/Events and Communication

a. Lake Cleanup Projects Update

Bill Sexton reported they will be doing a West Devils Lake road Solve pick up on the 19th starting at the Blue Heron Landing and going North to South and then South to North on the other side of the road. They will be starting at 9 am and all safety supplies will be available for everyone that participates.

b. Next committee meeting 9/15/2017 3:30 pm at OCCC.

iii. Save our Shoreline and Water Monitoring

a. Water quality sampling results update

b. Floating Garden Update

Mariellen Rich said the committee met at 3:30 pm today and was very successful. Using a power point Mariellen gave an update on the aquaponic floating garden and showed it is doing well. They will be letting the plants in all winter.

Bill Sexton asked about the root system with the plants. Mariellen explained how the system works and said this is all an experiment.

Steve Brown asked why this is beneficial to the lake and if the plants were native or non-native. He has had a chance to look at it and this is a great project for anyone that wants to take it on. He likes the idea that it is portable and can be moved around. Mariellen explained this will provide nutrients to the lake and provide planting where the submerged plants cannot be done. Mariellen said they are testing native and non-native plants including herbs. None of the plants are invasive.

Mariellen said that the Committee has been doing the testing for algae bloom and have a good filtration cleaning system. They reviewed the committee 2018 goals at the meeting.

c. Next committee meeting 9/14/2017 3:30 pm OCCC Room 108

b. Projects

i. Devils Lake Aeration Project

Josh Brainerd gave an update on efforts to obtain property to place the shore line compressor and the permitting. Josh said he will be starting to draft an RFP for bids according to

ORS 270B and will be presenting this to the Board. He spoke with Brad Johnson at the Core to move forward to get the permits approved.

ii. Website Update

Josh Brainerd said the website traffic has increased for the fifth consecutive month. Efforts are continuing in regard to organizing and updating the information within the website. The website is a great resource for the lake.

iii. Thompson Creek Update

Josh Brainerd said several agencies have contacted, Oregon DEQ has been identified as the organization to contact in regard to Thompson Creek. DEQ has been contacted and we are awaiting a meeting date.

V. New Business

a. CTSI Fee to Trust Land Agreement

Josh Brainerd explained the agreement. Siletz Tribe has property and they contribute and is an offset of taxes and they give a donation to the Board every year as a Fee to Federal Trust program where they do not have to pay taxes.

Steve Brown asked if this is in the Boards power to enter into this agreement and does an attorney need to look at this. He is concerned with trading tax revenue and are we setting precedence with other areas around the lake and is this a right for the Board to do.

Kent Norris commented and aske do they need to make a movement on the agreement today. Josh explained this does not need to be decided today. Kent expressed it seems appropriate to have the attorney look at this to make sure that the Board is doing their due diligence.

All Board members agreed to have the attorney review the contract.

b. District Vehicle Replacement

Josh Brainerd presented a power point on the truck that has been in service for 15 years in the coastal environment. The question is to purchase or lease a truck. The trade in value would be around \$8,000.

Steve Brown asked about the budget and for point of discussion should you lease or buy. Arguments against buying that on the coast you have one that looks like it does today. Better to spend \$300 per month for a three year term and not paying maintenance and evaluate the options at the end of the three years.

Bill Sexton motioned, "To move forward to lease a full size pickup."

Kathy Kremer seconded the motion.

Discussion:

Steve Brown said that the finalized paper work would be brought to the board. The truck needs to be a full size and not a small truck.

Josh Brainerd said he is looking at a four wheel drive and extended cab either a Chevy or Dodge. Josh suggested to make the final decision they can meet in executive session to move on this.

Motion passed unanimously.

VI. Non-Agenda Items

Kathy Kremer said she attended a Special District Association Work Shop and encouraged any one that has not attended these meetings that are held once a month it is well worth attending. They have a lot of good information.

Bill Sexton asked about the plan for the boat now that it is at the end of the season?

Josh Brainerd said he will pull the boat out at the end of the month.

Steve Brown shared the boat races will be on Saturday the 23rd on the lake. The lake will be closed for the boat races and is a good event. The time is from 10 am on Saturday until 4 pm and Sunday, if they want to pay extra, will be able to race again.

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

This is an opportunity for members of the audience to bring to the District's attention any item not listed on the agenda for Board discussion.

There were no additional comments from Citizens present.

VIII. Board Comments and Announcements

There were no comments or announcements from the Board.

IX. Adjournment

Kent Norris adjourned the Devils Lake Water Improvement District Business Meeting at 7:09 pm.

Respectfully Submitted,

Joann Glass