LAKE WISE

Newsletter of the Oregon Lakes Association

May 1995

1995 Officers and Directors

Mark Sytsma ..... President
725-3833 (W) / 650-0343(H)

Richard Petersen ..... Past-president
725-4241

Bill Wall ..... President-Elect
666-0418

Avis Newell ..... Secretary
229-6018

Dave Wagner ..... Treasurer
994-5330

Anjela Ehelebe ..... Director
945-7474

Margaret Kilanski ..... Director
645-1676

Andy Schaedel ..... Director
229-6121

Richard Raymond ..... Director
758-7264

*The **Oregon Lakes Association** is a nonprofit organization dedicated to the protection and enhancement of Oregon's lake resources and is a chapter of the North American Lake*

Lake Wise is published quarterly by the
Oregon Lakes Association
PO Box 586
Portland, OR
97207

Meet in Florence on June 3

A special meeting of the Oregon Lakes Association will be held in Florence on June 3, 1995. The meeting will focus on coastal lake problems and will provide an opportunity to discuss ways to protect and restore Oregon's threatened and degraded coastal lake resources. Oregon's new Coastal Zone Management Plan will be discussed with respect to how it could be used to protect coastal lakes, and a panel of representatives from state agencies will be convened to answer questions and describe their agency's role in lake management in Oregon. For those of you who prefer meeting where food and exercise are the main activities, OLA and the Oregon State Parks and Recreation Department will host a potluck barbecue and cleanup of Cleowox Lake in the afternoon. See page 2 for more information.

Hydrilla Workshops Held

A workshop to begin the development of a contingency plan for managing a hydrilla invasion of Oregon was held on February 13 and 14 at in Portland. Originally scheduled to be held at Portland State University, the Workshop was moved to a downtown Portland hotel because the University, and much of Portland, was closed because of a record snowfall.

In spite of the weather, 12 people participated in the Workshop. Invited speakers included Dr. Eric Dibble, from the U.S. Army Corps of Engineers Waterways Experiment Station in Mississippi; Dr. Peter Newroth, British

Hydrilla Workshops
Continued on page 7

In this issue...

OLA Regional Meeting

June 3, 1995
Siuslaw Public Library

1460 9th Street
Florence, OR
2 blocks west of junction of 101 and 126

There are numerous issues that affect the quality of Oregon's coastal lakes - aquatic weeds that interfere with boating, swimming and fishing; nutrients from septic tanks and land management practices that cause algae blooms; sedimentation from construction and other land management practices that fill in portions of lakes.

Two programs that use complementary approaches to address many of these problems are currently being developed or modified:

1) The coastal nonpoint program plan is being developed that would require the implementation of specific management measures to reduce nonpoint source pollution. A draft of the plan should be completed by the conference, the public comment period will be open and the final plan is to be completed for federal review by July.

2) The Oregon legislature is currently considering modifications to the Governor's Watershed Enhancement Board that would encourage and support local watershed councils to undertake the planning and implementation of restoration and management programs.

The OLA Spring Conference will explore each of these programs and how they can be used to address issues currently facing Oregon's coastal lakes. There will be opportunity for everyone interested in lakes to learn about these programs, provide comments on the programs during their formulative stages so that they can be applied to real-world problems, identify a role for OLA in forming and implementing these programs, AND you will be able to meet with other people with a common concern – Oregon's lake resources.

Agenda

8:15 - 8:45 **Sign-in and Coffee/Donuts**

8:45 - 9:00 Introduction
- Introductions
- What is OLA

9:00 - 9:15 **Identification of Coastal Lake issues**

9:15 - 10:00 **Coastal Nonpoint Program**
- What is the program
- How does it address lake issues
- How can some of the program gaps be best addressed

10:00 - 10::30 **Break**

10:30 - 11:45 **Watershed Approaches**
- review of state and federal legislation
- Oregon's approach to encouraging watershed councils
- the concept of partnerships
- how can lake associations take advantage of these opportunities
- experiences of other lake associations.

11:45 - 12:00 **What can OLA do to improve the situation**

Afternoon: **Potluck barbecue and Cleanup of Cleawox Lake**

OLA will provide hotdogs, buns, chips, soft drinks, paper plates, etc. Oregon Parks and Recreation Department will provide facilities and cleanup tools. Park visitors have provided the garbage. We need you to eat the food and do the work – join us and accomplish good works while getting to know other OLAers.

Aquatic Weed Meeting in Washington

The Aquatic Plant Management Society, an international organization of scientists, educators, students, commercial pesticide applicators, administrators and concerned individuals interested in the management and study of aquatic plants, will hold its annual meeting in Bellevue, Washington on July 9-12, 1995. Terry McNabb, President of Resource Management, Inc. (a Corporate member of OLA), is Program Chair for the meeting. The meeting typically includes technical reports on aquatic plant biology, ecology, and management. The meeting will be held at the Hyatt Regency. Contact Terry McNabb for additional information (360) 754-3460; 75330.2303@compuserve.com.

OLA Home Page Available

Keith Perkins, a Portland State Univeristy graduate student, has constructed a World Wide Web home page for OLA that includes a number of interesting limnological links, We have big plans for the OLA home page, including on-line pictures and keys for aquatic plants, contact lists, information on Oregon lakes, links to other freshwater-oriented home pages, and on-line *Lake Wise* publication. We encourage suggestions and comments. You can find the OLA home page on the WWW at URL http://clas.www.pdx.edu/~perkins/ola.html.

OLA's Corporate Members

KCM
SRI/Shapiro
CCL Aquatic
Aquarius Systems
Resource Management
Ray Electric Outboards
Electronic Data Solutions
The Cascade Research Group
E&S Environmental Chemistry

Secchi Award winners – supplied services and meeting support in addition to membership.

Aquatic Weed Lobbying Effort Proposed

John Thorne, a Washington D.C.-based lobbyist has proposed to setup a network of contacts throughout the U.S. to allow rapid response to federal legislation that impacts aquatic weed management funded by federal programs. Efforts currently focus on funding the U.S. Army Corps of Engineers Aquatic Plant Control Program, which was cut from President Clinton's budget. Oregon has never received funds under the Corps Cooperative Program with States. The program is, however, the only federal program for aquatic weed management and Oregon could receive funds in the future. Anyone interested in writing letters to Congresspersons and/or helping setup a "phone/fax tree" can contact Mark Sytsma (725-3833) for additional information.

State of the Lakes

Aquatic Vegetation Management

OLA's first State of the Lakes whitepaper, Aquatic Vegetation Management in Oregon, has been approved by the Board. If you would like a copy, contact the Lake Wise Editor (503-725-3833).

Publications

Weed Management in Small Farm Ponds (AG-437) is a 4-page circular from the North Carolina Agricultural Extension Service, Agricultural Publications Office, Campus Box 7603, North Carolina State University, Raleigh, NC 27695-7603.

The Lake Association Leaders Aquatic Vegetation Management Manual. Published by the Midwest Aquatic Plant Management Society. Contact G. Douglas Pullman, 212 Berneda Dr., Flint, MI 48506. This paperback book contains five chapters on aquatic plant management.

Regional NALMS Meeting in Portland?

OLA will join the Western Aquatic Plant Management Society (WAPMS) in cosponsoring a symposium on nonnative aquatic pest species next spring in Portland. The symposium is currently in the planning stages, but has been set for March 27, at Portland State University. Invited speakers will provide updates on the biology, impacts, and management of aquatic pest species currently present in, or threatening to invade, the Northwest.

Following the one-day symposium, WAPMS will hold its annual meeting, which will focus on aquatic weed biology and management. In addition, WAPMS and OLA have invited the Washington chapter of the North American Lake Management Society, the Washington Lake Protection Association (WALPA), to join as a co-sponsor of the symposium. A joint meeting of OLA and WALPA, running concurrently with the WAPMS meeting and sponsored by our parent society–the North American Lake Management Society, has been proposed to discuss regional issues and cooperation in managing nonnative aquatic pests in the Northwest.

Smith and Bybee Lakes Studied

by Jim Morgan

Investigations in Smith and Bybee Lakes have reached an important juncture in deciding the fate of the lakes. Studies funded by an EPA Clean Lakes grant, in conjunction with a number of other studies, are leading managers toward a better understanding of the ecosystem but with no less controversy regarding the preferred option for restoration or enhancement of the lakes. Smith and Bybee Lakes are hydrologically-connected, shallow lakes, within the city limits of Portland, totaling 1050 acres in surface area. The lakes and their associated wetlands are central features to the 2000-acre Smith and Bybee Lakes Natural Area. Managed by Metro, this area is protected primarily as a wildlife refuge offering passive recreational opportunities to the Portland metropolitan region.

Studies under the Clean Lakes grant have focused on determining the feasibility of management options for augmenting supply to the lakes. Historically, hydrology of the lakes has been altered by dams and filling activities. Studies of the hydrology, water quality, surficial sediments, and paleolimnology are being combined with biological surveys of the wetlands and adjoining uplands to gain an ecosystem approach toward reaching management goals. A water management plan should evolve from these studies by the end of 1995. For further information, contact Jim Morgan (503-797-1727).

Board Workshop Held

Dyan Oldenberg, from the Institute for Conservation Leadership, led the OLA Board and other interested members in a training session. The session began with identification of OLA successes and challenges. OLA's successes include: increasing membership, annual conferences, agency involvement, education, phosphorus detergent ban, production and distribution of the OLA Lake Resource Library, linking lake associations, Lake Wise, meeting with legislators, and survival for five years. Challenges that were identified include: developing clout through activism, maintaining realistic focus, building grass roots, improving communication, bringing people together to deal with problems, developing agency-public link, recruiting and retaining members.

OLA is a volunteer organization and volunteer recruitment was a major item of discussion. Volunteers are necessary for accomplishment and for developing leaders. We need more participation from members, many of whom have valuable skills that would benefit OLA. We need to provide opportunities for volunteers.

Operation of OLA would be improved if all board members knew the requirements, responsibilities, and expectations of their office. Furthermore, while we have a mission statement and a strategic plan has been in place, the OLA board ha not followed through on the objectives established to accomplish our goals. We need more participation of members to overcome these shortcomings.

Several working groups were established to begin to address the problems that we identified. **Andy Schaedel**, **Bill Wall**, **Mark Sytsma**, **Ela Whelan**, and **Stan Geiger** will revise the Strategic Plan. **Richard Raymond** and **Margaret Kilanski** will outline a plan for the Membership Committee. **Dave Wagner**, **Andy Schaedel**, and **Margaret Kilanski** will coordinate the June 3 Regional Meeting. **Bill Wall**, as President-elect, will Chair the Annual Meeting Program Committee with the help of **Richard Raymond**. They will identify a location, date, and tentative program so final meeting plans can be wrapped up at the July board meeting. **Mark Sytsma** will continue as the Lake Wise editor through 1995, and was encouraged to identify themes for the newsletter and to solicit articles from members.

Several educational activities need to be continued. Development of "whitepapers" on the State of the Lakes in Oregon was viewed as a valuable activity. An Aquatic vegetation management plan has been distributed. Additional whitepapers on high quality lake protection, nonpoint pollution, and a state lakes program are in preparation. A special issue of *Northwest Science*, edited by **Avis Newell** is in preparation. **Mark Sytsma** is editing a series of papers on aquatic plants of Oregon, produced by graduate students in a seminar at Portland State University.

The board training session preempted most of a beautiful Saturday for the attendees. In order for our time to be well-spent individuals must follow through on the activities and responsibilities identified at the meetings. While it is easy to become overwhelmed with the work to be done, and to become frustrated at the slow pace of accomplishment, it is important to be aware of how far we have come. We have accomplished much for an all volunteer organization – but at the ripe young age of five years we are reaching an important point in our development. The "old hands" are becoming worn, and new ideas, leadership, and enthusiasm are needed. Our goal is not met and OLA needs the help and participation of all members. Our mission remains,

To promote the understanding, protection, and thoughtful management of lake and watershed ecosystems in Oregon.

Governor Proposes Watershed Program

Discussions are underway to combine the Governor's Watershed Enhancement Board (GWEB) and the Oregon Watershed Health Program. According to a draft working paper dated 14 March 1995, the best aspects of these two programs will be combined into the new Governor's Watershed Program. In the past, GWEB has funded educational and demonstration projects in watersheds, and the Watershed Health Program has used local watershed councils to direct management activities within watersheds.

The process set out in the Governor's proposal provides funding and technical support to locally created watershed councils using guidelines and tools provided by HB 2215, passed by the 1993 Legislature. The law describes a process of working through community-based partnerships, local watershed councils, to manage Oregon's watersheds. Over 40 watershed councils have been formed in Oregon since HB 2215 was passed. The Governor's budget proposal commits state resources for maintaining and strengthening these local organizations. The proposal would provide lottery funds to :

- Promote education and demonstration projects
- Develop and maintain local watershed councils
- Assess conditions in watersheds
- Develop action plans to protect and restore watersheds
- Implement protection, enhancement, and restoration actions,
- Build trust upon (sic) interest groups
- Monitor the condition of the watershed

Oversight of the state-funded program would be by a citizen's board, consisting of the same members as GWEB and chaired by a nonvoting representative of the Governor.

For more information on the proposed Governor's Watershed Program, including how it can be applied to Oregon's lakes, contact Mary Lou Soscia, Oregon Water Resources Department (503-378-8455 x 301).

If you don't have a 95 on your mailing label, please take a moment to join OLA – see the membership application form on the cover.

Continued from page 1

Hydrilla Workshops

Columbia Ministry of Environment; and Kathy Hamel, Washington Department of Ecology. Representatives of the Oregon Departments of Environmental Quality, Fish and Wildlife, and Department of Agriculture. Representatives of the Bureau of Land Management, U.S. Army Engineers Operations Division from Jacksonville Florida, and Bonneville Power also participated.

Because the weather reduced participation, a second Workshop was held on April 4, in Salem. Dr. Lars Anderson, U.S. Department of Agriculture/ Agricultural Research Service Aquatic Weed Laboratory in Davis, CA and Ross O'Connell, California Department of Food and Agriculture Pest Control and Eradication spoke at the second Workshop.

Dr. Anderson discussed general features of the *Hydrocharitaceae*, which also includes *Egeria densa* and *Elodea canadensis*, very common species in Oregon, and described key identification features for hydrilla including the presence of tubers, spiny leaf margins, and axillary leaf scales. Tubers and spiny leaf margins are variable characters and may not be present; the presence of axillary leaf scales, however, is a definitive character of hydrilla. Dr. Anderson also discussed temperature and nutrient requirements of hydrilla and the importance of day length on plant phenology. Tubers are formed under short day conditions in spring and fall and germinate at 10 C. Monecious hydrilla produces stem turions as well as subterranean turions (tubers). The ability to sequester nutrients and carbon in storage organs, like tubers and turions, allows hydrilla to grow and become established under low light conditions and where nutrient concentrations are extremely low. The extremely low light compensation point of hydrilla, facilitates invasion of deep water and in water bodies with high turbidity. Dr. Anderson stressed the ability of monecious hydrilla to flourish in areas with relatively severe winters, such as the Potomac River in Maryland and in Northern China; and expressed the opinion that hydrilla could easily infest Oregon's water resources.

Mr. O'Connell described the history of hydrilla management in California. Hydrilla was first detected in Ellis Lake in Marysville in 1976 and has since been found in 17 Counties throughout the state. The latest infestation was found in August 1994 in Clear Lake, a 43,000 acre natural lake in Northern California. California's hydrilla eradication program depends upon a well-funded ($300,000/year) surveillance program, which is backed with an aggressive eradication effort. Quarantine and prompt treatment after detection is deemed essential in the California strategy. Prevention of tuber formation is key to the eradication effort because tubers in the sediment may survive for four to five years, which lengthens the treatment period and expense. Repeated herbicide (Komeen) treatments are used to keep growth under control until regrowth from the tuber bank is reduced to the point that selective removal by diver dredging is feasible. Sonar, a systemic herbicide that is very effective against hydrilla will be used in Clear Lake in 1995. Where systems can be dewatered, exposed sediments are sterilized with Vapam or Basamid to kill tubers. Eradication is considered complete if surveys fail to detect plants for three consecutive years.

Following the guest presentations, Mark Sytsma summarized the results of the first Workshop and there followed a wide-ranging discussion of issues related to establishing a hydrilla program in Oregon. Major points of discussion included:

- Authority, feasibility, and practicality of the use of external and internal quarantines to prevent introduction and spread of hydrilla in Oregon.
- Environmental assessments required for implementing eradication efforts.
- Potential funding mechanisms, such as the Interstate Compact on Pest Control and the Oregon Lakes Association's Aquatic Vegetation Management proposal.
- The utility of focusing on hydrilla as opposed to dealing with other aquatic weeds already present in Oregon.

Hydrilla Workshops
Continued on page 8

Continued from page 7

Hydrilla Workshops

Problems in implementing an eradication program were identified, including:

- Lack of interagency agreement,
- public opposition to the use of herbicides,
- federal agency proscriptions on the use of herbicides on federal lands, and
- lack of clear ownership and responsibility for aquatic weed management in Oregon.

Following this discussion, Workshop participants recommended formation of an Hydrilla Task Force with the goal of:

Development of an interagency strategy for hydrilla prevention and eradication in Oregon.

Objectives of the Hydrilla Task Force were defined as:

1) Identify Task Force participants and their roles, responsibilities, and jurisdictions.

2) Define the problem and potential impacts.

3) Develop a detection program by prioritizing sites, training individuals that target priority sites, coordinating agencies, and educating the public.

4) Develop a contingency plan for dealing with a hydrilla invasion that includes fiscal, technical, and administrative/regulatory considerations, along with control option scenarios and decision flow plans, and public education on control methods.

The Oregon Department of Agriculture will take the lead in Hydrilla Task Force development.

Lake Tahoe's water clarity reached its lowest **point ever in 1993. The average Secchi disk reading for that year was 70.5** feet, a 31 percent decrease from 102 feet recorded in 1968.

From the Newsletter of the Western Aquatic Plant Management Society, May 1995.

Who Owns the Lakes?

1. The Lake Bottom

With few exceptions, the people of Oregon own the bed and banks under all navigable stream, rivers, and lakes (commonly referred to as submerged and submersible land) up to the ordinary high water line.

Under the Equal Footing Doctrine, federal courts have held that states entering the Union have the same rights as the original thirteen states. When the original thirteen states took sovereignty of their land from the British after the American Revolution, those states became owners of the land under navigable waters. Therefore, when Oregon was admitted to the Union in 1859, it became the owner of all land underlying navigable waterways within its borders as part of its sovereignty.

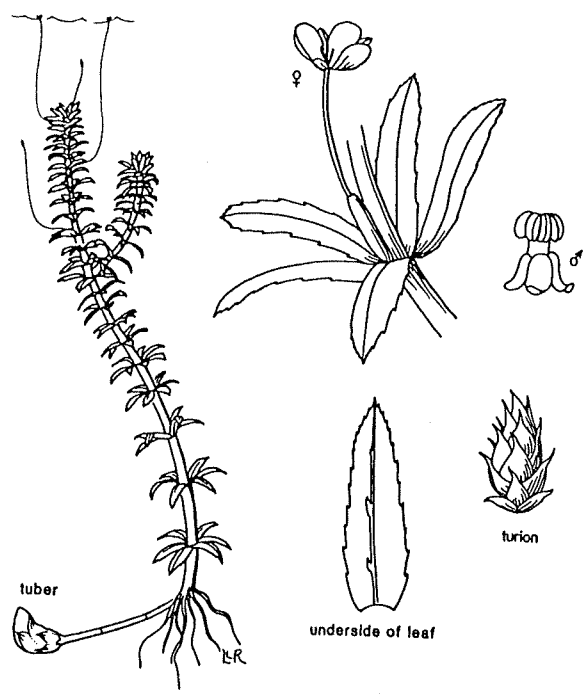
Federal courts have developed the following test to determine whether a waterway is "navigable":

1) The waterway must be capable of or susceptible to use as a highway for the transportation of people or goods;

2) Transportation must be conducted in custom-

Lake Ownership
Continued on page 9

Hydrilla verticillata



Continued from page 8

Lake Ownership

ary modes of trade and travel on water;

3) Waters must be navigable in their natural and ordinary condition; and

4) Navigability is determined as of the date of statehood (February 14, 1859).

Courts have determined that the use or potential for use of almost any type of watercraft is sufficient to determine navigability. The Division of State Lands determines the public's ownership claim to each waterway on a case-by-case basis. The determination is made by applying the federal court standards within the funding constraints of the agency.

Some waterfront property deeds may claim ownership of the submerged lands, however, since a deed can only convey interests actually owned by the seller, and since submerged lands were given to the state at statehood, it is likely that the state is the true owner. It is possible that some property owners are paying taxes on these submerged lands–but it shouldn't be so. Carefully check your current property tax report to make that you are being taxed only on the upland (land above the ordinary high water).

A waterfront property owner may construct a small, flat personal-use dock or float (of 200 square feet or less) without having to obtain a lease from the Division of State Lands. The dock or float must be registered (at no cost) with DSL.

The State Land Board is responsible for managing public lands in the public interest and to generate income for the Common School Fund. The members of the State Land Board are the Governor, Secretary of State, and State Treasurer. The Division of State Lands serves as the administrative arm of the State Land Board, and carries out the directives of the Board.

Information obtained from DSL brochures, *Who Owns the Waterways*, November 1992, and the *Division of State Lands, Resource Management Section.* Please call the Division of State Lands with questions (378-3805).

Meeting Schedule

June 3, 1995 – OLA meeting in Florence to discuss coastal lake issues. Siuslaw Public Library, 8;45 to noon. Contact Andy Schaedel (229-6121) or Dave Wagner (994-5330) for information.

July 9 to 12, 1995 – Aquatic Plant Management Society Meeting. Bellevue, WA. Contact Terry McNabb (360) 754-3460,
e-mail: 75330.2303@compuserve.com

Fall 1995 – Annual OLA Business Meeting. Date and place to be announced. Contact Bill Wall for information (666-0418).

March 27 to 29, 1996 – Aquatic Pest Symposium and WAPMS/OLA/WALPA meeting. Contact Mark Sytsma for information (725-3833).

Sonar Approved for New Milfoil Applications

Sonar aquatic herbicide has been approved by the U.S. Environmental Protection Agency for the selective management of Eurasian watermilfoil at an extremely low concentration of 10 to 20 ppb a.i. (parts per billion active ingredient). Because of the EPA's decision, Sonar can now be used for whole-lake or whole-reservoir treatments at that concentration range with no restrictions regarding potable water intakes.

Sonar's efficiency in removing Eurasian watermilfoil at very low concentrations was determined after several years of testing, according to Dr. Steve Cockreham, director of research and regulatory affairs for SePRO, the manufacturer of Sonar. "The EPA agreed that there was no need for a potable water restriction at those levels", he said. "This approval will be especially helpful for aquatic vegetation management in small bodies of water, where the requirement to apply Sonar a quarter-mile away from potable water intakes had forced people to use less-desirable methods of control".

For more information on Sonar, contact SePRO at 1-800-419-7779.

Aquatic Vegetation: What YOU can do about it

by Art Schoeder

While local, state, and federal agencies struggle with the issues of aquatic weeds in our lakes, rivers, and other waterways; the average lakefront property owner is looking for immediate relief from the inundation by native and nonnative weeds. Organizations such as Oregon Lakes Association (OLA) and specific lake property owner associations and districts such as Tenmile Lakefront Owners Association (TLOA), Mercer Lake Property Owners Association (MLPOA), and Smith Lake Improvement District are focusing on the short and long term solutions to aquatic weed management. Until a coordinated and integrated aquatic vegetation management plan is developed and funded by federal and/or state dollars little or nothing is going to be done about the weeds.

Waterfront property owners must take individual action to ensure the weeds do not encroach on their property and diminish the recreational value. The various actions available are not much different from a more regional aspect. Weeds in the immediate vicinity of docks and beaches can be disposed of using; hand pulling, herbicides, bottom barriers, dredging, dragging, or cutting.

Hand pulling is by far the most complete and least expensive way to remove weeds around docks and beaches; however, it is also the most time consuming and most difficult. This is particularly true for lakes where the sediment and muck at the bottom is often several feet deep. Moving around in this type of bottom is difficult at best and after only a few minutes the water is so murky that weeding is slowed to a standstill. Water depth can also hinder hand removal of weeds. Water depth of three feet or more renders hand pulling of weeds almost impossible.

Herbicides can be very effective if the user understands which specific weed they are attempting to eradicate. Some herbicides work better against one weed over another. Things one must consider before choosing to use a herbicide are:

> What specific weeds are being targeted, i.e. identification.
>
> Is there a herbicide made that will kill those specific weeds.
>
> What are the restrictions on using that particular herbicide, can it be easily applied, does the label require notification of neighboring owners, what affect will it have on marine life, what affect might it have on humans if ingested through their drinking water.
>
> How fast will it work; some are effective in two weeks while others may take up to six weeks.

Extreme caution should be used before selecting herbicides to eradicate weeds in the immediate vicinity of docks and beaches. Follow the directions explicitly because the "label" is the law.

Bottom barriers are fairly effective in small areas but become cost prohibitive in larger areas. Essentially, they are a material such as fiberglass screening or even burlap that are placed and anchored to the bottom and inhibit the plants from growing through them. They must be regularly lifted and cleaned or else the weeds will take root on the sediment that has settled on top of them. Accordingly, they are much less effective in lakes that contain large deposits of silt and decayed vegetation. This is further impacted if the silt is suspended in the water due to turbid conditions caused by wind, wave action, and/or boating activity.

Dredging is usually viewed as a rather large undertaking but can be somewhat effective in small areas by utilizing a small dredger; like the ones used in gold dredging. The intake is anywhere from 1 inch to 4 inches, where the larger intake normally implies a larger engine which can lift the weed and sediment higher and higher. The advantage of this approach is that it removes the weed, its' root, and the surrounding silt and would not require additional dredging for some time. The disadvantage is that the system must be capable of

Weeds
Continued on page 11

Citizen Lake Watch News

Spring 1995

Program notes

Major changes are in store for the Lake Watch Program in 1995 because of severe budget cuts (62 percent cut from last year). As was noted in the last newsletter, the Clean Lakes Program was ommitted from the budget that the President submitted to Congress. So far, the Congress has not chosen to fund the Program either, perhaps because constituents failed to let their Congressperson know that they value the program. **Failure to fund the program means that the only program specifically targeting lakes in Oregon has been eliminated**. The Citizen Lake Watch Program may survive through the summer because of funding assistance from the Oregon Department of Agriculture for Hydrilla Watch, however, a planned study of North Coast lakes in 1995 will not occur.

Portland State and DEQ are currently discussing how to restructure the Citizen Lake Watch Program. It is clear, however, that there will be a shift in emphasis to watershed and nonpoint pollution issues. Volunteers are encouraged to continue monitoring their lake, but they will be asked to structure their monitoring efforts to identify problems in the watershed. Volunteers may, for example, compare baseline to post-storm conditions in the lake to identify potential problems with erosion contributing sediments to the lake, or they may compare areas of a lake suspected of having nonpoint pollution inputs with areas with no suspected inputs. In the end, the key to protecting our lakes lies in protecting the watershed, and our efforts will shift to identifying watershed problems. Loss of federal funding points out the need of a state-funded program for Oregon's lakes.

Your Lake is Green – Do You Know Where Your Septic Tank Is?

Many near-shore homeowners dispose of household sewage using a septic system. Although a main function of septic systems is to dispose of sewage in a manner that will protect human health, septic systems also have a limited capacity to treat wastewater for protecting the health of surface and groundwaters. To protect lakes, it is most important that phosphorus is removed from lake wastewater before it enters the water. Left unchecked, phosphorus loading into lakes will result in nuisance levels of phytoplankton (Editors note: phytoplankton abundance in some lakes is limited by nitrogen or other nutrients; macrophytes are generally nitrogen or carbon-limited, but they obtain most of their nitrogen and phosphorus from the sediment where they are rooted, not the water column)

When properly cared for, a septic system can last from 20 -50 years. Eventually, all drainfields must be relocated in order to keep the system functioning properly.

What is a "failing" septic system? A system is failing when the drainfield cannot handle the volume of wastewater flowing through it. Septic system failures can result from improper design, installation, maintenance, or any combination of these. The most common reason for failure, though , is neglecting to have the tank pumped out regularly. Pumping removes the solids that build up in the tank. When the tank is not pumped, solids flow through the drainfield and the soils become clogged.

Septic Tanks
Continued on page 2

Lake Watch Volunteer Roster

Jack Jenkins ..... Fishhawk
Bob Anderson ..... Woahink
Janette Goolsby ..... Cullaby
Koren Marthaller ..... Blue (Willamette)
Elmer Waite ..... Clear
Gary and Paula Lovegren ..... Blue (Cascade)
Dave Wagner ..... Devils
Ken Highland ..... Devils
Barbara Hagerman ..... Devils
Warren Phillips ..... Devils
Bill Vaughan ..... Devils
Al Rice ..... Devils
Robert Johnson ..... Fairview
Don Martin ..... Garrison
Max and Nila Peel ..... Hosmer
Catherine Hayes ..... Lake of the Woods
Fred McMillan ..... Garrison
John and Janet Milandin ..... Odell
Ron Boehi ..... Mercer
Al Burhans ..... Munsel
Roy Fisher ..... Munsel
Rick and Pat Peterson ..... Suttle
Fred Barstad ..... Wallowa
Richard Hiersche ..... Lytle
Richard Kaufmann ..... Loon
Steve Kaufmann ..... Loon
John Richter ..... Vernonia
Stephanie Harte ..... Lawrence, Lost
Kristi Hickox ..... Rock Creek Reservoir
Ryan Nieman ..... Trillium, Cast, Mirror
Paula Curry ..... Trillium, Cast, Mirror
Sally Thomas ..... Tenmile Lakes
Edward Lopez ..... Tenmile Lakes
John Kelsey ..... Tenmile Lakes
Hazel Freeland ..... Tenmile Lakes
Ken Freeland ..... Tenmile Lakes
Dan Jordan ..... Tenmile Lakes
Dean Anderson ..... Tenmile Lakes
Robert Edwards ..... Tenmile Lakes
Franklin Gray ..... Tenmile Lakes
Lake Oswego Corp. ..... Lake Oswego

Continued from page 1

Septic Tanks

Another common cause of failure is when the distribution box is tipped, so that one side of the drainfield is overloaded with wastewater, and the other side receives none.

When the system fails, wastewater can "pond up" or create damp places on the ground surface, and may accumulate in drainage ditches or at the bottom of slopes that drain away from the drainfield. Foul odors may occur and the soils can change to a dark grey or black color. At later stages of system deterioration, wastewater can back up into the home's plumbing, or wastewater can surface after heavy rains or during high water-use periods. Advanced deterioration usually requires extensive repairs to the system, such as building a new drainfield.

Do only failing systems affect water quality? No! Nutrients from wastewater can enter lakes and streams from septic systems that appear to be functioning well. Soils in the drainfield have a finite capacity for nutrient adsorption. When the limit is exceeded, nutrients pass through the soil and into the nearest ground or surface water. The ability of a septic system to remove nutrients from wastewater will depend on several factors, including:

- soil type,
- the nutrient load to the system,
- soil volume in contact with wastewater,
- age of the system, and
- the level and amount of fluctuation of thehigh water table.

Soil type is important because soils differ in their ability to "adsorb" nutrients. Some types of soil, like sand and

Septic Tanks
Continued on page 3

Ten Tank Tips – To Keep Your Septic System Happy and Healthy

✓ **Properly design and install the system. After remodeling, increased wastewater loads (from appliances or from adding new members to the household) may require that the septic system be updated as well.**

✓ **Keep accurate records. Know the locations of the tank, drainfield, and distribution box, the size of the tank, and when the system was last pumped.**

✓ **Inspect every two years. Check the depth of sludge and scum (sounds like fun, huh?). You can do this yourself, or hire a local firm. Inspections determine when the tank actually needs to be pumped out.**

✓ **Pump the tank every 3 to 5 years. Breakdown of a septic system is not a pretty site to see. Don't wait for system failure. Pumping costs may vary from $75 to $150. If you don't know the tank's location, the pumping firm may charge an extra fee to find it.**

✓ **Conserve water. Unlike your body, the less you work your septic tank the better it will perform. Avoid overloading the system by spreading heavy water-use chores throughout the week.**

✓ **Limit solids loading to your tank. This is easier than it may sound. Coffee grounds, cigarette butts, tampons, paper towels, and other garbage can clog the system and increase the pumping frequency. Avoid use of garbage disposals – your trusty septic tank has to treat everything that goes down the sink.**

✓ **Use phosphorus-free detergents. Reducing nutrient input to the drainfield makes it last longer and perform better.**

✓ **Don't dump strong chemical down the drain. Your septic tank is alive! Bacteria in the tank help break down solids. They aren't picky eaters, but you could kill them with bleach and other chemicals.**

✓ **Don't pack the soil over the drainfield. Driving, parking, planting trees, paving, or construction of building over your drainfield or septic tank may damage the system. When soils become compacted, evaporation from the soil surface and flow through the drainfield may be reduced is reduced. Roots may clog the pipes.**

✓ **Don't flood the drainfield. Divert roof drains and stormwater away from the drainfield to improve performance.**

Continued from page 2

Septic Tanks

gravel, do not adsorb nutrients well. Sand and gravel can handle large volumes of wastewater, which allows use of smaller drainfields, but there is also less contact between wastewater and soil particles. Direct contact with the soil is needed for soils to adsorb nutrients. Water conservation, and distributing the waste load over time (such as by doing only one load of laundry per day), will reduce the volume of water entering the drainfield. Use of phosphorus-free detergents will reduce the amount of phosphorus entering the drainfield and lengthen system life and performance.

The volume of soil between the drainfield and surface waters is important because there are a limited number of sites on each soil particle that can adsorb nutrients. Over time, the sites will "fill up" or become saturated, and the drainfield efficiency will decline and nutrients can enter surface waters. If the soils that adsorb nutrients are ever below the seasonal high water table, some of the adsorbed nutrients can desorb, or come off of the soil particles, and be washed into the surface waters by the waste flow.

Adopted from Septic systems and how they affect lakes, by Robert W. Kortmann. November 1988 LakeLine.

*The **Citizen Lake Watch Program** is coordinated by Portland State University under a grant from the Oregon Department of Environmental Quality and the U.S. Environmental Protection Agency. The goal of the program is to involve citizens in the collection of reliable water quality data in an effort to identify long-term trends in the water quality of Oregon's lakes. For more information about the Citizen Lake Watch Program or Lake Watch News, contact Citizen Lake Watch, ODEQ, Water Quality Division, 811 SW 6th Avenue, Portland, OR 97204 (1-800-452-4011), or the Citizens Lake Watch Coordinator at Portland State University at 725-3833.*

Lake Watch News is available in alternate format (e.g., braille or large type) by contacting DEQ Public Affairs at 229-5766 or toll-free in Oregon 1-800-452-4011. People with hearing impairments can also contact DEQ's TDD at 503-229-6993.

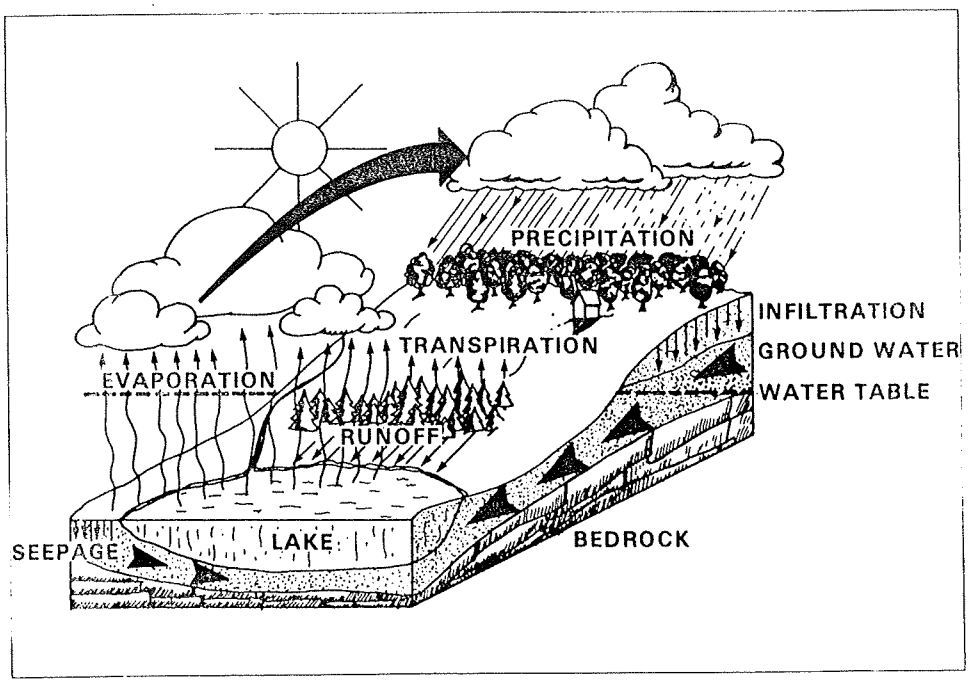
Hydrilla Watch Update

Lake Watch volunteers will be asked to help in detecting early infestations of hydrilla in Oregon this summer. Hydrilla is one of the world's worst aquatic weeds, and it is on its way to Oregon! To avoid the expense and environmental damage required to control an established population of hydrilla in our lakes we must find pioneer infestations and eradicate them quickly, before they have a chance to become established and spread. The Lake Watch volunteers, who are out on their lakes on a regular basis, will be key to Oregon's hydrilla detection efforts. Color photos of hydrilla will be available later this spring to assist you in identifying hydrilla. In the mean time, if you see a suspicious-looking plant in your lake (refer to the drawing on page 8 of *Lake Wise*), send a sample to the Lake Watch Coordinator: Mark Sytsma, Biology Dept., Portland State University, PO Box 751, Portland, OR 97207.

The Hydrologic Cycle and You

One of the fascinating and most pleasing features of water is that it moves. Rivers flow, ripples gently lap the side of your boat, and whitecaps pummel the shore during storms. Water moves on a much larger but less obvious way as well. Every molecule of water on earth is part of a global cycle – the Hydrologic Cycle.

Rain falls in Oregon – a simple and obvious fact, but that is only a small part of the story. Some rainwater moves downslope as surface water; some enters the groundwater, which also moves downslope but at a slower rate than surface water; some evaporates, forms clouds and falls again. Some is taken up by vegetation and is released as water vapor from leaves through a process called evapotranspiration. Some is drunk by people, and so each of us becomes part of the global hydrologic cycle. The water that quenches your thirst or forms the tear that falls from your child's eye today may have previously buoyed Columbus' ships, or formed part of Cleopatra's bath water,or have been exhaled by a velociraptor while it chased its prey in prehistory.



Moving water moves things. Often the things that are moved are pollutants. Runoff carries nutrients, sediments, and toxic materials that are present on the land's surface to lakes and streams. Groundwater carries nutrients from your septic tank drainfield into surface waters. Although the hydrologic cycle cannot be controlled, there is much that can be done to prevent and slow some of the pollutant movement that results from the movement of water. Preventing water from moving pollutants is the focus of much of our efforts at non-point pollution control. Many of the things that can be done are inexpensive and can be implemented by individuals – like you. In future issues, this newletter will detail some "best mangement practices" for living as part of the hydrologic cycle.

Continued from page 10

Weeds

lifting the weeds, silt, and water many feet above the water level. In steeper shorelines this could prove impractical. The second problem is what to do with the dredged material; and lastly, a permit is required if you intend to dredge more than fifty cubic yards.

Dragging can be accomplished using a square section of chain link fence over a heavy frame or a metal frame with tongs (bolts) to snag the weeds and pull them out of the silt with or without the root. The chain link will be more effective at pulling the weed without the root and the bolt drag will unearth some of the roots. The major disadvantage is that these devices must be continually cleaned of weeds. If they are not, they will soon push the weeds down and slip over them. These devices must be pulled behind a boat to be effective.

Cutting and collecting is probably the most effective means of controlling aquatic weeds in a small area. The weeds can be cut at a specific depth or cut right at the bottom. These weeds then float to the surface where they must be collected by hand, using a floating rake, or ordinary garden rake. The motorized sickle cutter which is powered by a car/marine battery cuts to a specific depth (normally no more than five feet) and costs in the vicinity of $350. The manual cutter is shaped like a "Y" and contains razor sharp blades on the angled pieces. This cutter is used by hand and requires no power other than the person using it and costs in the vicinity of $115. These cutters can also be dragged behind a boat for clearing larger areas. The water weed cutter was rated as **Excellent** in a recent study completed for the Environmental Protection Agency (EPA). For more information on the Water Weed Cutter contact Art Schroeder at 503-759-4257 or at PO Box 106, Lakeside, OR 97449.

This author has tried all six methods of weed control in and around the dock area and found that the manual Water Weed Cutter is by far the most effective way of controlling aquatic vegetation. You don't have to know what kind of weed it is; it cuts them all right at the bottom contour. You don't have to bring barriers up from the bottom to clean on a periodic basis. You don't have to worry about finding a place to dump dredge material or spend the $350-$1200 to get started. With the weed cutter your only concern is where to put the collected weeds which, incidentally, make a terrific compost and fertilizer for your vegetable gardens, lawns, and flower beds. Mr. James Jackson of Tenmile Lakes uses the manual Water Weed Cutter and states "This is the best thing for weeds I've ever seen; if there's anything better I don't know what it is".

There are some experimental techniques being evaluated such as ultrasound, water jets, and underwater rototillers but these are years away from mass production and would be cost prohibitive for individual use at this time. Until the state or counties take responsibility for keeping our lakes in a healthy condition, weed removal will be the property owners problem.

Herbicide Treatment Planned for Lake Lytle

by Joe Eilers

A diagnostic and feasibility report was recently completed for Lake Lytle, a coastal lake in Tillamook County. The EPA-funded study was coordinated by DEQ and conducted by E&S Environmental Chemistry, Inc. of Corvallis from September 1993 to March 1995. The analysis showed that the lake has been shallow for over 1,000 years and was not eutrophic because of watershed factors. Instead, the problems in the lake are associated with an exotic species of macrophyte (*Myriophyllum spicatum* or Eurasian watermilfoil) that replaced native plants. Although logging on the steep slopes in the Coast Range could have potentially caused siltation, damage to the lake from forestry practices was minimal because of the extensive wetlands that border the lake.

The feasibility analysis indicated that watershed measures would not address the weed problems in the lake. Consequently, the recommended measures for lake restoration included a controlled herbicide (Sonar) application program combined with a strong effort to preserve the existing wetlands and their associated hydrological characteristics. A novel aspect of the restoration plan included installation of a boat washing station to reduce transport of the unwanted milfoil into Lake Lytle and form Lake Lytle to other lakes.

For further information, contact Avis Newell, Clean Lakes Coordinator for DEQ at 503-229-6018.

Open Page.....

Anyone can submit an opinion on OLA and/or lake management issues in Oregon. Submit your opinions to:

Lake Wise Editor
Oregon Lakes Association
PO Box 586
Portland, OR
97027

The Good, The Bad, The Ugly

The GOOD – My name is Lake Woahink and I am one of the clearest and deepest of the coastal dunal lakes in Oregon. The watershed that surrounds me is 4480 acres and I comprise 19 percent of that, my size is 820 acres. The watershed is small which makes me very vulnerable to pollution. The residents love me but they also abuse me and I'm under a constant threat of being polluted. The Oregon Atlas lists me as being oligotrophic and as being unique among Oregon Lakes. When I was young and pristine the quality of my water was comparable to Crater Lake but due to abuse this is not true today. The Oregon Lakes Association is one of my friends and they began monitoring me regularly beginning in 1989. They take secchi readings (to see how clear I am), my temperature, PH readings and two years ago they began doing dissolved oxygen readings at 5, 30, and 55 feet. Some interesting observations were discovered, form 1989-1992 my clarity was declining but from 1992 - present it has improved. The question now is why? The temperature throughout the years has been consistent ranging from 9-11 C in winter to 23-24 C in summer. The PH readings have also been consistently. The dissolved oxygen readings though have changed. The first year the lake was stratified from June - September. The second year the lake was stratified from late June -October. Last year the lake was stratified only in October and then not significantly. The clarity seems better when the lake is mixed, it will be interesting to see my future trend. The sunny and overcast days were not recorded daily and maybe I didn't get as much sun in the last 2 years. The rainfall has been fairly constant but the heavy rains have occurred in different months. Whatever the reason my secchi readings have gone from 14-20 feet throughout the year to 20-30 feet. That is the GOOD.

The BAD – Every year during a heavy rain (3 inches or more) severe erosion enters one of my arms. The past 3 years one of my friends have reported this problem to various state and county agencies and their response is, yes you have a problem but we can't do anything about it, call....dept. The January rains this year was very heavy and my 1st arm turned chocolate colored. The DEQ was notified and their response was "the whole basin is brown." My friends found a local Soil and Conservation representative who is the first person to go out, find the source, and is working on a solution. (The GOOD)

The BAD – Dunes City has approved a subdivision surrounding a significant wetland and my largest feeder stream which I rely upon to keep me clean. The Class 1 stream and its associated wetlands are considered rare for coastal lakes by ODFW. A documented survey showed a large concentration of coho and cutthroat juveniles in the stream. The area is ideal for spawning and other wildlife. The subdivision is on forest land and outside Dunes City's urban growth boundary. Residents, ODFW, Clean Lakes, Nature Conservancy, DLCD, LCOG, and an Assistant Attorney General all have raised objections but Dunes City gave approval anyway. My friends are appealing the decision to LUBA but they are up against the developers lawyer who has influence in the right places.

The BAD – A RV Park (initial stage 200 units with another 200 units later) is being proposed on forest land where two more of my Class 1 streams flow through. The RV Park will be on septic and water will be from wells using 20000 to 30000 gallons of water per day, this all will be returned to my watershed in the form of effluent. The proposed RV Park is all in my watershed which I rely on so heavily to maintain good water quality. The decision on this will be made in February, my friends are fighting this vigorously also.

The BAD – Last June, the weed Parrotfeather was discovered in my first arm (the same arm where erosion enters every year). The weed has to be pulled and this is a project my friends will take on this summer.

Good, Bad, Ugly
Continued on page 13

Open Page continued.....

Continued from page 12

Good, Bad, Ugly

The UGLY – My friends have gone through 21 hearings over the last 2 years trying to save my feeder stream but outside greed is prevailing. Attorney's and money can manipulate laws and when pressure is applied government agencies cave in. The State Department of Lands has stated, "the conditions and order looked great" (even though several of the lots are under water as of this writing, the area is listed as landslide potential, has slopes over 12 percent, is listed as least desirable for development, is on forest land, and surrounds a Class 1 stream and its associated wetlands). ODFW, DLCD, and LCOG have said in the record the subdivision should be denied but they now will go no farther in their objection. The rule of the land appears to be accommodation at all costs. Dunes City is now pressing forward disregarding all laws.

My future will be determined on how well I'm cared for today.

One of my friends,

– Bob Anderson

Weeds? What Weeds?

I encourage you to read the article "Who Owns the Lake?" in this issue of *Lake Wise*. The next time you are on an Oregon lake, and you have to dig your way out of a dense bed on aquatic weeds, think about who is responsible for managing the public lands on which the plants are growing. Think about whether these public lands are being managed properly. I urge you to join in a grass roots lobbying effort (see *Aquatic Weed Lobbying Effort Proposed* on page 3) and to write letters to the people who are charged with managing these lands in the public interest – the State Land Board, which consists of your Governor, Secretary of State, and State Treasurer. Let them know if you think that Oregon's lakes deserve better management. If you do this small thing something may change-if you don't, you can be sure that weed problems in our lakes will only get worse (see *Hydrilla Workshops Held* on page 1).

– Mark Sytsma

Who is Taking Whom?

A number of state and federal legislators are introducing bills that champion the rights of private property owners by requiring that they be compensated by the government if their property value is reduced by government rules and regulations. My question is: should private property values reduced by the lack of government rules and regulations be similarly compensated?

A case in point is the value of lakefront property. The lakes of Oregon, most of which are public property, are not properly managed. Lack of appropriate rules, regulations, and programs in Oregon has permitted many of our lakes to be seriously degraded. Nonnative aquatic plants (weeds), for example, have damaged water quality, fish habitat, and recreational use. A study done in British Columbia estimated that uncontrolled aquatic weed growth reduced lakefront property values by two percent. Assuming real estate markets behave similarly in B.C. and Oregon, and considering the value of lakefront property, this amounts to a substantial financial loss to many Oregonians.

This is only one example of how government regulations and action could enhance our quality of life and add value to property. The cost of a simplistic, anti-government approach to natural resource management, such as that advocated by some of our representatives in Salem and Washington D.C., is readily apparent to Oregonians who can see the true value of lakes and other natural resources. Efficient government and properly written and implemented environmental rules and regulations are necessary to protect our natural resource infrastructure that is frequently unrecognized and usually undervalued. Such "takings" legislation can cut both ways; it requires a consideration of the true value of natural resources to all Oregonians.

– Mark Sytsma

Open Page continued.....

More on Woahink Lake

I would like to respond to Bob Anderson's very interesting letter. I would like to commend Bob for his persistence in protecting Woahink Lake. I know that at times this is a frustrating activity, as often little or no action happens as a result of his efforts. However, it is worth persisting, as often results come slowly.

I have a few comments about this letter. First, it is easy to confuse the Oregon Lakes Association with the Citizen Lake Watch Program because Mark Sytsma is president of OLA, and editor of both the Citizen Lake Watch and Oregon Lakes Association Newsletter. However, he is also employed by Portland State University as the coordinator of the Citizen Lake Watch Program, a program currently funded by the U.S. Environmental Protection Agency, through Oregon's Department of Environmental Quality. So, although the Oregon Lakes Association strongly endorses this work, and combined OLA and Citizen Lake Watch newsletters are sent to all OLA members in addition to all Citizen Lake Watch volunteers, the two are actually separate.

A few comments on Bob's findings in Lake Woahink—Indeed, water clarity in Woahink Lake appears to be improving over the last few years. This has been documented in Steve Daggett's master's thesis as well (Steve was a graduate student at Portland State under Richard Peterson, and studied eutrophication in Woahink, Mercer and Munsel Lakes). Exactly why is not yet clear. However, it is likely that this has to do with the dissolved oxygen status of the lake, as fewer nutrients may be released from the lake sediments in a year when the lake bottom water has plenty of oxygen, so that algae concentrations are lower. This phenomenon may be seen in other lakes, but perhaps not in more shallow lakes, as the same windy weather that keeps the lake mixed and oxygenated may stir up bottom sediments which also decrease water clarity. It would be great to see results like this about other lakes from the Citizen Lake Watch Program, especially when they infer improvements in condition.

In response to the comments made by DEQ regarding the high sediment levels in the lake, I would like to say that this was a very unfortunate response that reflected frustration on the behalf of DEQ for being unable to respond to many such complaints. The situation is that there is 1 full time person available to address stormwater complaints in seven counties including Yamhill, Marion, Benton, Polk, Lincoln, Linn, and Lane. In addition that person is responsible for reviewing monitoring reports from facilities that produce stormwater runoff, and is responsible for reviewing all such permits, in addition to other types of permits. One other DEQ employee has a ten percent time allocation to investigate general nonpoint source problems in an even larger region. As you can imagine, these folks have plenty of things to do to keep busy. Although this complaint was not addressed immediately, these two folks from the Eugene DEQ Office did visit the "problem" arm of Woahink Lake, and have made some suggestions for the landowners to control runoff. So, although the initial response to the complaint was less than promising, in time, the issues have been addressed and will be followed up on.

Last of all, I sympathize with the frustration of attending meetings in efforts to save the lake and its watershed. Bob's and his friends' work demonstrate the difficulties of trying to find reasonable compromises when several uses are desired in an area. Sometimes these battle are won, and sometimes they are not. However, the Oregon Lakes Association is proud to have such an enthusiastic and diligent worker among its' members. Certainly no lake has been protected without having people like Bob fight for them. OLA has tried to support this effort by submitting written comments during the public comment period on the application for an RV park on the Lake, and is interested in working with folks on other lakes to help protect other Oregon lakes.

– Avis Newell

OLA Responds to Woahink Threats

Text of a letter submitted to Mr. Michael Copley Land Management Division, Eugene, Oregon 97401, on February 9, 1995.

Dear Mr. Copley,

I am providing comments about the proposed Nordahl Big Bear RV park (PA 4148-94 and PA 4149-94 Nordahl) on behalf of the Oregon Lakes Association (OLA). OLA is a non-profit organization that advocates the protection and appropriate stewardship of Oregon's lakes. Our membership includes scientists, personnel from state and federal agencies and people who live and recreate on lakes. We are particularly concerned about development in the Woahink watershed; Woahink is one of the most sensitive coastal lakes.

First, we are concerned with the concept of granting preliminary approval for a project. When so many important questions remain unanswered, we believe that the applicant seeks such approval as an indication that the project will ultimately be approved. Oregon's communities have developed its' application procedures in order to protect the interests of its' communities, in regard to protecting local economic vitality and quality of life, as well as it's natural resources.

The report by Engineering and Geologic Resources insufficiently addresses the potential water quality impacts on Woahink Lake by nutrients from the onsite system described. First, the report uses "back of the envelope" estimates of phosphorus (P) loading to the septic systems. This report assumes that because of Oregon's ban of P in detergents, that P loading into the onsite system will be half of average sewage, because only half of the volume of average sewage comes from human waste. This assumption disregards potential concentration differences between human and household waste.

Secondly, this document spends considerable time explaining how most of the nitrogen (N) coming from the onsite system will be nitrate-nitrogen, the most soluble and biologically available form. The report goes on to explain that because algal growth in the lake is limited by phosphorus, unlimited N could be added to the system without effect. In fact, Woahink Lake is neither exclusively limited by nitrogen nor phosphorus but is alternately limited by N and P throughout the year. The authors of the report are clearly not aware of current literature on the limnology of Woahink Lake, and therefore cannot adequately judge the potential impacts of the proposed park on the lake.

Finally, the engineer's report states that the lake is already impacted sufficiently to cause eutrophication. We strongly disagree with using existing degradation to justify further degradation. To the contrary, Oregon has developed lengthy approval procedures to ensure that we are able to exercise control in limiting eutrophication of the lake. Recent work on Woahink Lake (Daggett, 1994, PSU master's Thesis) indicates two things; that Woahink lake is currently an oligotrophic system (characterized by low nutrient concentrations and aquatic plant growth), and that this high quality lake is already undergoing the process of eutrophication due to activities in the watershed . This process can be controlled and slowed down with thoughtful management.

The proposal in question lacks effective plans to control stormwater runoff and spills. We understand that no fuel, oil or transmission fluid storage tanks will be present on the site. However, no drainage plan is provided, even though the spill control plan relies on the fact that spills will be contained on roadways. Left untreated, even small spills and dribbles from a 200 site RV park could add significant gas and oil to the runoff water.

The park is located in a water restricted area; thus water availability in the park is questionable. This may impact groundwater levels, thus affecting local wetland health. These wetlands are important in maintaining lake water quality as well, by slowing down water headed toward the lake, and removing sediments and nutrients from runoff. Lowering the water table by withdrawing large quantities of water may impact the extent that these wetlands protect the lake, in addition to the loss of wetland habitat valuable in its' own right.

The Oregon Lakes Association believes that a preliminary permit should not be granted on the basis of the

Letter
Continued on page 16

Continued from page 15

Letter

limited information currently supplied. The current application is lacking much of the required information for a permit, and we urge the county not to act until sufficient data are available to adequately address the threats to Woahink Lake proposed by the project.

Sincerely,

Avis D. Newell
Secretary, Oregon Lakes Association

Herbicides in Lake Management

There is considerable controversy surrounding the use of herbicides in lakes. The controversy may be related to a general societal concern regarding the use of any chemical. The aquatic herbicides that are currently registered for use by the U.S. Environmental Protection Agency (USEPA) and the states, however, are among the most closely scrutinized compounds known. The chemical industry is very sensitive to the liability associated with the use of aquatic herbicides. Consequently, all of the aquatic herbicides currently registered for use are characterized by excellent toxicology packages, are only bio-active for a short time, have relatively brief residuals, and are not bioconcentrated. Registration of an aquatic herbicide requires extensive testing and review to document herbicide characteristics.

One question that commonly arises when herbicides are proposed for aquatic vegetation management is safety. Safety issues are commonly considered within the context of calculated risk. One of the foundation concepts of risk assessment is that too much of anything can have adverse effects – the dose makes the poison. The calculated risks associated with all USEPA-registered herbicides are very small. For example, the greatest risk of cancer that lake users would be subject to as a result of application of one of the common aquatic herbicides is many orders of magnitude less than that associated with eating peanut products that contain aflotoxins. Anyone who smokes has much more to worry about than the risks associated with aquatic herbicide use. Understanding risk is key to evaluation of the safety of herbicides.

Some might ask why, when other techniques exist, should aquatic herbicides even be considered. The answer is that **aquatic herbicides can be used as selective agents**. An aquatic herbicide is only capable of controlling certain plants at a given application rate and time. A thorough understanding of plant biology and herbicide activity is required for effective use of aquatic herbicides.

Many of our lakes have been infested by nonnative aquatic plants that have degraded water quality and fish habitat as well as interfered with recreation. In most cases, responsible and correct application of an aquatic herbicide has a much smaller negative effect on lake ecology than an invasion by an aggressive, nonnative plant. The key to proper use of herbicides in lakes is a well-thought-out, integrated pest management plan. No responsible lake manager would suggest that herbicides are always the best management tool; but they are a valuable tool that we cannot afford to loose, especially when faced with the threat of hydrilla invasion.

Parts of this article were adopted from Aquatic Vegetation Management Guidance Manual, by G. Douglas Pullman. 1992. Midwest Aquatic Plant Management Society.

Association News

Communicate your successes, problems, and questions to other Associations or groups by writing a brief note for the Association News Section of *Lake Wise*. Better yet, put OLA on your newsletter mailing list.

Associations – We Need Your Members

The Oregon Lakes Association is a volunteer-run organization. OLA does not do anything; everything that OLA does is done by people – our members – who are concerned and active in protecting and restoring lakes in Oregon. There is a lot that needs to be done on a statewide level for Oregon's lake resources. The health of "your" lake depends upon actions of the State, because in most cases, the State is the true "owner" of your lake. OLA is the only organization in Oregon with lakes as a primary focus. **Support better management of "your" lake, and all the lakes in Oregon, by helping OLA become a louder voice for lakes. Ask the members of your Association to become Individual members of OLA.** OLA can provide an informative brochure that you can include with your Association newsletter. Contact Avis Newell, Secretary (229-6018).

Clear Lake

H2O POWR is a political action committee formed to ensure that Clear Lake is protected. On January 30, H2O POWR President, Fuzzy Gates, arranged for OLA member Doug Larson to make a presentation to the Florence City Council. Dr. Larson has been documenting development and logging in coastal watersheds for over 25 years. His aerial photos dramatically illustrate the threats to Oregon's coastal lakes.

H2O POWR endorsed Dave Honey (OLA member), Ted Condo, and Marv Munyon for positions on the Heceta Water Board.

Smith Lake

Jack Newbold was recently elected as the board chair for Smith Lake Improvement, Inc. A spring road cleanup is planned, as well as a Smith Lake Treasure Hunt. Jack has located a transom-mounted sicklebar mower for aquatic weeds and suggested several people join in a purchase. Smith Lake Improvement is continuing to seek support for annexation to Warrenton, or other ways of installing a sewer system for the long-term protection of Smith Lake.

Tenmile Lakes

The Ten Mile Lake Owners Association (TLOA) published Volume 1, Issue 1 of there Newsletter in April. TLOA has formed several committees including: By-laws, Weed Management, Fish Management, Grants, Membership, Budget, and Phone Tree. A Water Quality Committee was also formed to coordinate volunteers in the Citizen Lake Watch Program at the Tenmile Lakes. TLOA has a membership goal of 500 for 1995, which represents about 50 percent of the lakefront owners. Current membership is 115 (unfortunately, only a few are members of OLA). TLOA board members attended a technical briefing at the Coos Bay/North Bend Water Board where the results of a just completed "Groundwater Availability Study" where presented. Scenarios discussed included diversion of Tenmile Creek (the outflow of Tenmile Lake) to Coos Bay/North Bend consumers, or for use to recharge a dunal aquifer drawn down by pumping to Coos Bay/North Bend.

We have problems to solve, we have clear answers–too many clear answers. The difficult part is picking out the right answer. The isolated mind moves in slow circles and breakouts are rare. Solitude is better for weeding out ideas than for creating them. Genius is the summed production of the many with the names of the few attached for easy recall....

– E.O. Wilson
The Diversity of Life

(Heed Dr. Wilson's wisdom–come to one of OLA's meetings and contribute to the creation of genius.)

Philosophy, Economy, and Advocacy

Aspects of the Endangered Species Controversy

A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends to do otherwise.– Aldo Leopold, *A Sand County Almanac and Sketches Here and There.*

One could argue that society does not depend on all species any more than individuals depend on all their liver cells or on every member of society. Individuals do, however, depend on the functioning of their liver and on the collective wisdom and actions of society. We also value many of the individuals in society for diverse values that cannot be expressed in economic terms (such as spouses, children, distant relatives, friends, or celebrities like Magic Johnson [Ed. note: or O.J.]. Similarly, many choose to support the protection of species (through the Endangered Species Act, for example) because of values that cannot be expressed in economic terms. – J.R. Karr, Ecological Integrity: Protecting Earth's Life Support System.In: *Ecosystem Health: New Goals for Environmental Management.*

It is probable that the price of raising human economic welfare (in tropical, developing countries) to a standard similar to that in the wealthier countries will be biotic devastation in the tropics on a scale inconsistent with the persistence of wildlands except, perhaps, in remote, nonarable regions. Ehrlich and Wilson point out that the magnitude of human aspirations, including demands on natural resources, if multiplied by the expected increases in human numbers, would require the human co-option of most of the remaining (tropical) wildlands for grazing, farming, energy production, mining, transportation, and other uses. Therefore, the loss of most tropical wildlands in the next 50 years of so, an epochal catastrophe for earthly life, appears a virtual inevitability. – M.E. Soulé, Conservation: Tactics for a Constant Crisis. *Science* 253: 744-750. 1991.

Humanity coevolved with the rest of life on this planet; other worlds are not in our genes. Because scientists have yet to put names on most kinds of organisms, and because they entertain only vague ideas of how ecosystems work, it is reckless to suppose that biodiversity can be diminished indefinitely without threatening humanity itself. – E.O. Wilson, *The Diversity of Life.*

The Endangered Species Act certainly imposes limits, and it goes against human tendency not to accept limits. It's the last safety net, perhaps the only law in the world that recognizes that nature in the end imposes some hard and fast limits on human activity, – Dan Rohlf, Professor, Lewis and Clark College. *Oregonian*, May 7, 1995.

It is not self-evident that destroying habitat kills animals because no one knows what happens. They may go someplace else, they may displace another animal, who knows? It is so indirect and unpredictable and subject to other influences, there is a definite question of whether that (destroying habitat) should be made illegal. – Mark Rutznick, a timber industry lawyer. *Oregonian*, April 17, 1995.

Nominations Due

Nothing lasts forever, and it is time to start thinking about replacing those old, worn-out board members. You thought they would get you through another year, but if you take a close look you will see that they may blow any day – and that's not a pretty sight. The Nominations Committee will propose candidates for two, two-year Director positions and President-Elect. The current President-Elect will move into the Presidency. The Secreatary and Treasurer serve two-year terms, and were elected last year. If you know someone who is shy, bring them out by recommending them to the Nominations Committee. Recommend yourself if your so inclined. Contact Mark Sytsma (725-3833) if you would like to get more involved with protecting Oregon's lakes statewide.

OLA By-laws Relating to the Board

The Board shall consist of the President, President-Elect, Treasurer, Secretary, Past President, and four Directors. The Board positions of President, President Elect, Treasurer, and Secretary shall otherwise be referred to as Officers and together with the Past President, shall comprise the Association's Executive Committee. All Board members shall be elected from the membership of the Association. Only individual Association members are eligible for election to the Board.

– Article V, Section B.

The President shall have general supervision of the affairs of the Association. He/She shall appoint the Chairs and members of all Committees, and may serve as an ex-officio member of any and all Committees. He/She shall see that all By-laws and any rules, regulations and policies as may be adopted by the Association and the Board are enforced. He/She shall execute all contracts and other instruments which have been first approved by the Board. He/She shall be bonded as required by the Board.

– Article VI, Section A.

The President-Elect shall assist the President and shall preside at meetings of the Association and the Board in the absence of the President. He/She shall be responsible for coordinating activities of all Association Committees, and may serve as an ex-officio member of any and all Committees. He/She shall perform such other activities as may be assigned by the Board. The President-Elect shall advance to the office of President when the President's term expires.

– Article VI, Section B.

The Treasurer shall be responsible for the financial affairs of the Association. He/She shall receive all funds paid to the Association, as authorized by the Board. He/She shall make a report, including the audit, at the Annual Meeting of the Association on the financial affairs of the Association. He/She shall be bonded as required by the Board and shall perform such other duties as may be assigned by the Board. The Treasurer's signature shall be required on all checks payable to the Association. All checks issued by the Association shall be signed by the Treasurer. All Association checks payable to the Treasurer must be co-signed by the President. All Association funds shall be deposited to the credit of the Association in financial institutions approved by the Board. An annual audit of the Association's financial records shall be conducted by a qualified accountant or audit committee selected by the Board.

–Article VI, Section C.

The Secretary shall prepare minutes of all Meetings of the Association and the Board. He/She shall maintain all permanent records of the Association, including minutes of Committee meetings. He/She shall maintain an accurate listing of members of the Association and shall perform such other duties as may be assigned by the Board.

– Article VI, Section D.

The Past President shall serve on the Board and as parliamentarian for one year following his/her term as President. In the event of his/her resignation, the Board may reappoint the previous Past President to serve the remainder of the term.

–Article VI, Section E.

The Directors shall strive to achieve the goal and objectives of the Association. Each Director shall be responsible for preparation and presentation of pertinent lake and watershed management topics for Board consideration, and shall act upon the business of the Board in a thoughtful and conscientious manner. Directors are expected to take an active role in the promotion and development of the Association.

– Article VI, Section F.

Regular attendance at Board and Association meetings by all Officers and Directors is expected.

–Article VI, Section G.