LAKE WISE

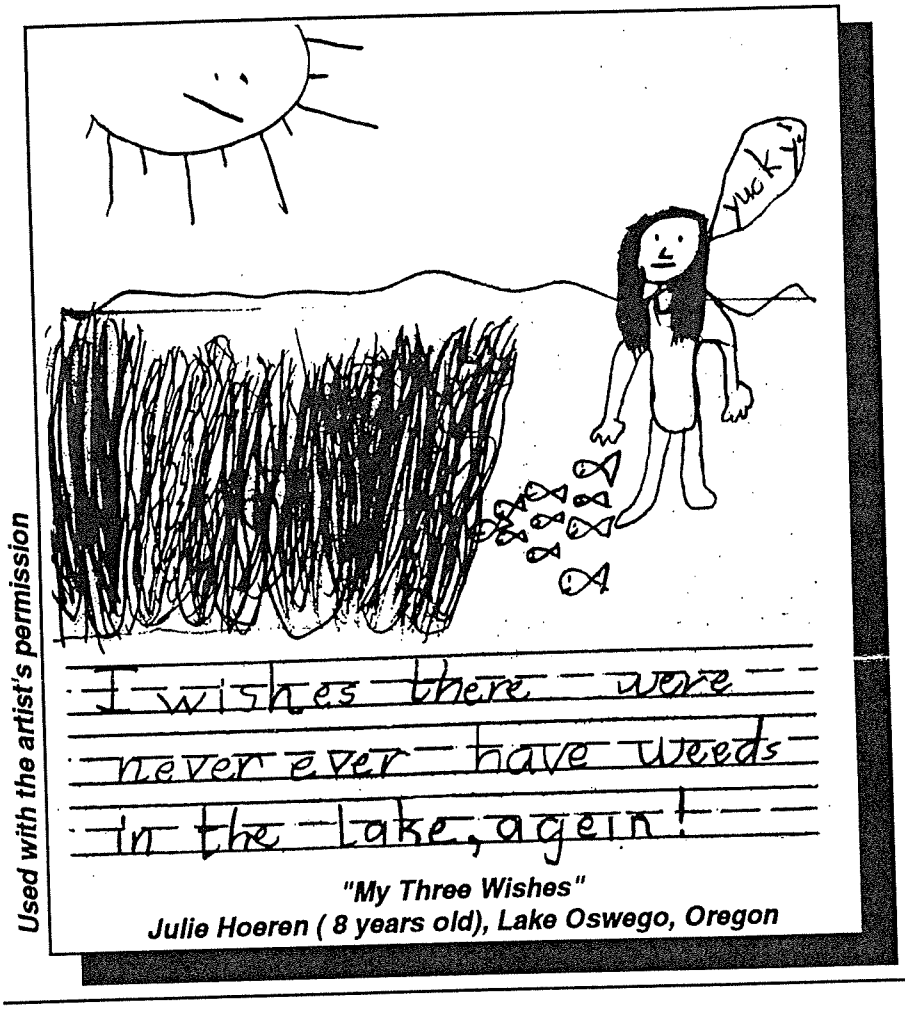
Newsletter of the Oregon Lakes Association

February 1995

1995 Officers and Directors

*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 Management Society.*

Oregon Lakes Association
PO Box 586
Portland, OR
97207



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"My Three Wishes"
Julie Hoeren (8 years old), Lake Oswego, Oregon

In this issue...

Hydrilla Management Workshop Planned

A workshop to begin the development of a contingency plan for managing a hydrilla invasion of Oregon is scheduled for February 13 and 14 at Portland State University. Hydrilla is one of the world's worst aquatic weeds. California has had an ongoing battle with hydrilla for several years. The Oregon Department of Agriculture and the State Weed Board are concerned about the possibility of California's hydrilla infestation spreading into Oregon, and are funding the workshop.

...states that have been slow to react to the spread of hydrilla have been forced to commit funding at a higher level than if controlled at the onset. The "wait and see" and/or "let's study it some more" attitude creates a larger and more expensive problem to be solved in the future.

– Jack Bertron
The Saga of Hydrilla Control in Lake Anna
VLA News, Spring 1993

State and federal agency representatives with lake management responsibilities along with experts on hydrilla and aquatic vegetation management will come together to discuss hydrilla management in Oregon. California spends nearly $2 million per year on hydrilla management alone. Oregon will need a well planned strategy for preventing the entry of hydrilla into the state and for quickly eradicating the plant should prevention fail. Such contingency plan is necessary to avoid extremely costly, and environmentally damaging, remedial measures if hydrilla is allowed to become well-established in Oregon.

Mark Sytsma, at Portland State University, will coordinate the workshop. Experts on hydrilla biology and aquatic vegetation management from California, Washington, and British Columbia will make presentations on the first day of the workshop. On the second day, state and federal agency representatives will discuss and outline a contingency plan for hydrilla in Oregon.

The contingency plan will likely address such issues as:

- who will take the lead in hydrilla management,
- what preventive measures should be taken,
- what management techniques should be used in various types of water bodies, and
- where should surveillance efforts be focused.

The Hydrilla Management Workshop should benefit the lakes of Oregon, and their users. State and federal resource managers will focus their attention on aquatic weed management in Oregon for two days. Unlike many of our other environmental problems, the threat is clear, present, and manageable with appropriate planning. Results of the workshop will be reported in future issues of Lake Wise.

Clatsop Plains Lake Proposal in Review

A public workshop was held on January 9 to review conditions of lakes in the Clatsop Plains as part of the development of a workplan for an E.P.A.-funded Clean lakes study. Suggestions from residents and agency representatives led to the development of a proposal to sample ten public-accessible lakes within the project area. The ten lakes are representative of the more than 22 distinct aquatic areas in the region, whose characteristics range from what are commonly thought of as marshes or swamps to what the average-guy-in-a-boat thinks is a lake. Wetland-lake relationships and waterfowl-wetland-lake relationships may be significant because of seasonal changes and shallowness of the lakes.

The proposal is being reviewed by DEQ prior to being forwarded to EPA's Region X office for funding consideration. What with the uncertainties of funding for the Clean Lakes program, along with the political climate this year, it is anyone's guess if this novel approach to diagnostic and feasibility study of lakes will be supported. But, as someone's logger grandpa used to say, "There's more than one way to skin a cat."

New Clean Lakes Coordinator Named for Oregon

Avis Newell joined the Department of Environmental Quality in October of 1994, as a Lake Water Quality Specialist, and the state's Clean Lake Coordinator. Avis is responsible for securing and overseeing U.S. Environmental Protection Agency funded Clean Lake Projects, such as the Citizen Lake Watch Program, and the proposed Clatsop Plains Study (see the November *Lake Wise* for a description). In addition to the Clean Lake Projects, Avis can provide technical assistance on lakes to Coordinated Resource Management Groups, local government agencies, and homeowner groups.

Avis has a background in aquatic ecology including aquatic chemistry and toxicology, She spent several years in aquatic research. Her most recent research projects included an assessment of the effects of acid rain on surface water chemistry, and evaluation of related lake and stream water monitoring projects.

Gibbons, Larson Featured

OLAers (people who are members of OLA) are making national news. Dr. Harry Gibbons, program manager for lake restoration and water quality services at KCM, was featured in a "Director Profile" article in the December 1994 issue of *LakeLine*, the national magazine of OLA's parent organization, the North American Lake Management Society. The same issue of *LakeLine* contained an article by Dr. Doug Larson, an OLA member, entitled *A Case of Natural Restoration of an Aquatic Ecosystem: Death and Resurrection: The Rebirth of Spirit Lake.*

Lake Lytle Study Nearing Completion

The draft final report summarizing the results of a diagnostic and feasibility study of Lake Lytle has been submitted to DEQ for final review. Lake Lytle is a shallow coastal lake located at Rockaway Beach, north of Tillamook Bay. The project, which was completed by E&S Environmental Chemistry, Inc. of Corvallis, documents current water quality conditions in the lake and evaluates possible causes of the problems. The lake is currently infested with Eurasian watermilfoil (Myriophyllum spicatum), which interferes with recreational uses.

An interesting aspect of the lake history was uncovered when sediment cores were collected from the lake bottom. A sand layer buried four feet deep in the sediments was attributed to a tsunami (tidal wave), which breached the foredune and deposited a distinctive layer of beach sand in the lake. Radiocarbon dating showed the sand layer was deposited 1400 years before present. A copy of the final report is expected to be available from Avis Newell, DEQ Clean Lakes Coordinator (503-229-6018); technical questions regarding the study can be directed to Joe Eilers with E&S (503-758-1330).

New Publications

An Ecological Basis for Ecosystem Management, by M.R. Kaufmann, et al., is a General Technical Report on conservation biology principles for ecosystem management and the integration of ecosystem, social, and economic needs in decision-making. Contact Publications Distribution, U.S. Forest Service Rocky Mountain Station, 3825 E. Mulberry St., Fort Collins, CO 80524. (303) 498-1719. Reference publication GTR RM-246.

Wild Forests: Conservation Biology and Public Policy, by W. Alverson, D. Waller, and W. Kuhlmann, presents a review of the scientific and policy issues surrounding biological diversity in the context of public forest management. Contact Island Press, Box 7, Dept. 5AU, Covelo, CA 95428. (800) 828-1302.

Oregon's Coastal Nonpoint Pollution Control Program

What is the Coastal Nonpoint Pollution Control Program? The Coastal Nonpoint Pollution Control Program is a coordinated effort by state government, in partnership with local governments, consumer and industry groups, and the general public, to improve the way we manage our lands to prevent pollutants from reaching public waters.

What is nonpoint pollution? Discharges of pollutants from pipes, channels, or other discrete sources into our streams, lakes, and rivers are called "point sources" and require permits from the Department of Environmental Quality. Technically, all other sources of water pollution are called "nonpoint sources."

Perhaps a more descriptive term for nonpoint pollution is "polluted runoff." The water from rain and melting snow picks up pollutants, like soil, pesticides, and fertilizers, when it runs over and through the land. Land which has been disturbed from construction, agriculture, forestry, or other kinds of use is very vulnerable to erosion, especially on hillsides, and erosion is a very common form of nonpoint pollution.

Nonpoint pollution also includes pollutants which flow through the land into our groundwater. The thermal (heat) pollution that results when removal of streamside vegetation eliminates the shade that normally keeps waters cool is also considered nonpoint pollution.

How serious is nonpoint pollution? Nationally it is estimated that 76 percent of the pollutants in our lakes, 65 percent of the pollution in our rivers, and 45 percent of the pollution in our estuaries is from nonpoint sources. Here in Oregon, the Willamette River Basin Water Quality Study found that 70 to 80 percent of the river's pollution comes from nonpoint sources.

DEQ coordinated a basin-by-basin study of nonpoint pollution throughout the state in 1988. More than half of the stream miles surveyed showed either moderate or severe impacts from nonpoint sources. In the North Coast basin, 28 percent of surveyed stream miles showed severe nonpoint impacts, and another 54 percent showed moderate impacts; only 18 percent of the stream miles surveyed had no nonpoint source problems. The results from other coastal basins are similar: 67 percent of surveyed stream miles in the Mid-Coast basin showed moderate or severe impacts from nonpoint sources and 62 percent of South Coast basin stream miles were impacted.

What problems have occurred in Oregon's coastal regions from polluted runoff? Coastal salmon runs have been hurt by runoff which has fouled spawning gravel, by waters which are too warm because streamside vegetation has been removed, and by loss of habitat from changes to natural drainage patterns. Shellfish harvesting areas are subject to frequent closures due to high bacteria levels. Bacteria come from animal manures and from malfunctioning septic systems.

Many of our coastal lakes have serious problems from nonpoint pollution related to nearby development. Standard septic systems, even if operating properly, do not do a good job of removing nitrates, and the increased nitrate levels have fueled growths of algae and nuisance weeds. Some communities' drinking water sources are threatened by polluted runoff.

Is the Coastal Nonpoint Program a new program? Yes and no. Oregon already has many programs which operate to protect and enhance coastal waters. These existing programs form the heart of the Coastal Nonpoint Program. However, existing programs do not adequately address the whole range of nonpoint sources, and new efforts are being developed by various state agencies. These new efforts will be coordinated with existing programs to form the Coastal Nonpoint Program.

Why is Oregon doing this? Federal law requires each state with a Coastal Management Program approved under federal law to develop a Coastal Nonpoint Program. Oregon has had an approved Coastal Management Program since 1976, so the state is required to develop a Coastal Nonpoint Program.

The best reason for a Coastal Nonpoint Program in Oregon is the fact that we already have significant problems from nonpoint sources which will only get worse as population and development increase. Current and projected future growth rates are high in Oregon, espe-

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Coastal Nonpoint

cially at the coast. If we don't get control of nonpoint sources soon, this growth and development will lead to even more degradation of our watersheds and even more serious and extensive water quality problems. Here in Oregon we have the opportunity to PREVENT some of the problems other states are now spending huge amounts of money trying to correct.

What kinds of nonpoint pollution will the program address? The Coastal Nonpoint Program contains measures for the control and prevention of pollution from agriculture, forestry, marinas, urban development, dams and channels, and to protect the pollution control functions of our wetlands. It is intended to address nonpoint sources in a coordinated and comprehensive fashion.

Will there be new regulations? Where existing programs are doing the job, no new regulations will be necessary. However, there will probably be new regulations addressing some sources of pollution. Regulations and enforcement activity are NOT the major focus of this program in Oregon. Education and technical assistance, and forming partnerships to work cooperatively to change polluting practices are more important at this stage.

Who is in charge of this program? The Oregon Departments of Environmental Quality and Land Conservation and Development have the responsibility to coordinate development of the Coastal Nonpoint Program. Many other agencies, including the Departments of Forestry, Agriculture, State Lands, Water Resources, Fish and Wildlife, and the State Marine Board, are involved in the planning and implementation. The state agencies will be forming partnerships with local governments, which will have an important role to play.

Who can I contact for more information? Jeff Weber of Oregon's Coastal Management Program is coordinating the program for DLCD. Bobbi Lindberg of DEQ's Eugene Office is helping to coordinate the program within DEQ. Here is how to contact them:

Jeff Weber
Coastal Zone Management Program
800 NE Oregon St., #18
Portland, OR 97232
(503) 731-4065

Bobbi Lindberg
Department of Environmental Quality
1102 Lincoln Street
Eugene, OR 97401
(503) 686-7838, x242

[Information provided by the Oregon Department of Environmental Quality]

Attend a Meeting – Protect a Lake

Meetings to describe the Coastal Zone Management Program will be held at three locations along the coast in February and March. **The Oregon Lakes Association urges members to attend one of these meetings to understand both the Program and what it can do for coastal lakes.** The final Plan is due to the federal government in July; a public hearing will be held in May or June, and there will be a thirty-day public comment period at that time as well. Dates for the public hearing and comment period are not yet known; OLA will pass them on when they are set.

INFORMATIONAL MEETING DATES and PLACES:

South Coast, Wednesday, February 22, 7:00-9:00 p.m., Coos Bay Public Library

North Coast, Tuesday, February 28, 7:00-9:00 p.m., Garibaldi City Hall

Mid-Coast, Wednesday, March 1, 7:00-9:00 p.m., Florence City Council Chambers

Oregon Lakes that Need Attention Listed

by Andy Schaedel

The 1972 Federal Clean Water Act requires each state to identify waters that do not meet water quality standards, or are not expected to meet water quality standards after application of technology based controls required under the Clean Water Act. Such controls include treatment of domestic wastes such as by a Sewage Treatment Plant or enforceable programs to address nonpoint sources of pollution such as controlling of erosion by leaving buffer strips along streams as required under the Oregon Forest Practices Act. The purpose of the list is to identify waters that need additional work beyond existing controls of pollution to achieve or maintain water quality.

In Oregon, the Department of Environmental Quality (DEQ) is required to develop this listing of waters. This list is to be updated every two years. The DEQ is required to develop a priority ranking for these water bodies and to develop Total Maximum Daily Loads which is a process or strategy for controlling pollutants in accordance with the priority ranking.

The DEQ has developed this list as part of its biennial Water Quality Status Assessment Report. This list has been shared annually with OLA members at the Fall conference. As part of the update effort, the DEQ has been seeking comments on:

- an initial list of lakes, rivers and estuaries;
- criteria used to develop the list of waterbodies;
- additional data and information on waterbodies; and
- input for developing priorities.

Thirty nine lakes are currently listed based on data available to the Department through studies supported by Clean Lakes funding. Additional studies, such as those conducted by federal agencies and universities, will be reviewed and the list will be subsequently revised. The Department hopes to have a revised list available by March 1995 for further public comment. The list will be subsequently revised by April 1 of even numbered years.

Andy Schaedel (who is coordinating the 303(d) listing effort) and Avis Newell (Clean Lakes Coordinator) met with the OLA Board to discuss this effort and ask for OLA's assistance in reviewing this effort over time. It is a great opportunity to not only show which lakes needed attention to protect water quality or address problems but to show which lakes have data and to identify lakes from which we need more data.

The Department has used this list to identify candidate lakes for study and action using Federal Clean Lakes funding and to identify statewide and regional issues that need to be addressed. Eleven Clean Lake Studies have been funded in Oregon since the late 1970's.

For further information on this effort, contact Andy Schaedel (503-229-6121) or Avis Newell (503-229-6018).

303 (d) Listed Lakes

Coast Range Ecoregion
North Coast Basin
Cullaby Lake
Lytle Lake
Sunset Lake
Smith Lake
Mid Coast Basin
Clear Lake (Lane County)
Collard Lake
Devils Lake
Mercer Lake
Munsel Lake
Siltcoos Lake
Tahkenitch Lake
Woahink Lake
South Coast Basin
Garrison Lake
North Tenmile Lake
Tenmile Lake
Willamette Valley Ecoregion
Blue Lake
Cottage Grove Reservoir
Fern Ridge REservoir
Lake Oswego
Smith/Bybee Lake
Sturgeon Lake

Klamath Mountain Ecoregion
Emigrant Reservoir
Willow Reservoir
Cascade Ecoregion
Diamond Lake
Lemolo Lake
Deschutes Basin
Odell Lake
Suttle Lake
Eastern Cascade Ecoregion
Lake Billy Chinook
Lake Simtustus
Klamath Basin
Agency Lake
Lake Ewauna
J.C. Boyle REervoir
Lost River Reservoir
Upper Klamath Lake
Mountain Ecoregion
Unity Reservoir
High Desert Ecoregion
Antelope Reservoir
Malheur REservoir
Owyhee Reservoir
Columbia Plateau Ecoregion
McKay Reservoir

What We Do

by Mark Sytsma, OLA President

Some of the members of OLA have been very busy since the last Lake Wise was delivered. Dave Wagner, OLA Treasurer, and I displayed OLA's new, three-panel poster (produced for OLA by KCM, one of our valued Corporate Members) at the BASS Jamboree in Wilsonville and had a great time meeting and discussing OLA with bass anglers from around Oregon. Dub LaShot, a new member from Springfield who joined at the Jamboree, took home a raffled-off copy of the Atlas of Oregon Lakes. Bill Wall (President-Elect) is coordinating display of the OLA poster at the Sportsmen's Show in Portland in early February.

Avis Newell has written and submitted two proposals for OLA to private foundations to help produce a special issue of the scientific journal *Northwest Science* on Oregon lakes. Avis also assembled, mailed, and even hand-delivered the OLA Lake Resource Library to Association members; and researched suppliers, ordered, picked up, and delivered the new OLA bumperstickers that you should have received with your Directory.

Joe Eilers, of E&S Environmental Chemistry (also an OLA Corporate Member) and a Past-President and current board member, is trying to bring more advertising into Lake Wise in an effort to make the Newsletter financially self-supporting.

Andy Shaedel (a Past-President and current board member) and Dave Wagner are coordinating a regional OLA meeting to be held in Florence this spring to discuss how the new Coastal Zone Management Program can be used to protect Oregon's coastal lakes. This promises to be an informative and useful meeting to members interested in protecting and restoring coastal lakes.

The State of the Lakes–1995, Aquatic Vegetation Management Report is nearing the final draft stage. Anyone interested in commenting on OLA's position on aquatic vegetation management issues in Oregon can request a draft version. Major conclusions in the draft report include the need for:

- better interagency coordination in managing aquatic vegetation,
- a sign program for public education,
- beefed up licensing requirements for aquatic pesticide applicators,
- an aquatic vegetation management permit program,
- surveillance and research, and
- funding of aquatic vegetation management in Oregon through fees on boat and boat trailer registrations, marine fuels, and fishing licenses.

Some aspects of the recommended program will be difficult to implement in these tight fiscal times, but aquatic vegetation management in Oregon has been neglected for too long, and it is time for state agencies with lake management responsibilities to address the problem.

A board training session is scheduled for March 4 at Portland State University. Anyone interested in becoming more involved in OLA is encouraged to attend. Contact a board member for information.

As you can see, there is a lot of activity in OLA these days, and there are plenty of opportunities for <u>you</u> to get involved. I believe that our activities will benefit the lakes of Oregon, and that the more people know about what we do, the more people will support us through membership. Our membership is up substantially, but to be more effective in protecting and managing Oregon's lakes we need more members. We are not a confrontational group – which is both a strength and a weakness. It strengthens us because it makes us more effective at facilitating discussion of lake issues and lake protection among diverse users. It is a weakness in that our low profile makes it difficult to attract attention and new members. We must depend upon our membership to recruit new members. In many respects, that is the most effective way to build membership. Your personal request for support of OLA to a neighbor or a friend is the most surefire way to recruit new members. Please make your support of OLA known and ask others to join too.

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

OLA Members:

Do your part to ensure continued Clean Lakes funding in Oregon. The lake resources of Oregon are too valuable to ignore; they need protection and proper management, and the Clean Lakes Program is all there is in Oregon. Lakes are threatened by activities in their watersheds that degrade water quality and invasion by pest plants. Now they face the threat of a cutoff of the only source of funding for their protection and management. Voice your opinion to those who can make a difference.

– Mark Sytsma, OLA President

The following is the text of a letter sent to:

Senator Mark O. Hatfield
Washington D.C.
20510-3701
(202) 224-3753

Senator Robert Packwood
259 Russell Senate Office Bldg.
Washington D.C.
20510
(202) 224-5244

Congresswoman Elizabeth Furse
316 Cannon St.
Washington D.C.
20515
(202) 225-0855

Congressman Jim Bunn
1517 Longworth House Office Bldg.
Washington D.C.
20515
(202) 225-5711

Congressman Wes Cooley
1609 Longworth House Office Bldg.
Washington D.C.
20515
(202) 225-6730

Congressman Ron Wyden
1111 Longworth House Office Bldg.
Washington D.C.
20515
(202) 225-4811

Congressman Peter DeFazio
2134 Rayburn House Office Bldg.
Washington D.C.
20515
(202) 225-6416

I understand that the Environmental Protection Agency is withholding some congressionally allocated funds for FY95 projects pending review by the new Congress. I am writing to encourage you to investigate EPA's hold on these funds and to ask for your support for continued funding of Section 314 of the Clean Water Act (Clean Lakes Program).

The Clean Lakes Program is the major source of funds for lake water quality protection and restoration in Oregon. Without Clean Lakes funding several important programs in Oregon will cease to exist. The program currently supports coordination of the Citizen Lake Watch Program, a popular program that involves the public in sampling for long-term water quality monitoring in Oregon lakes. Through cooperation with Portland State University, the Program supports technical assistance for individuals and state agencies in lake management issues. The Clean Lakes Program is currently funding the development of a workplan for protection and restoration of lakes in Clatsop County, and has provided similar support for lakes across Oregon in the past.

The Oregon Department of Environmental Quality has only a 0.5 FTE position for lakes. Budget constraints limit the ability of the State to make up the difference should funds allocated by the last Congress are withdrawn by the current Congress. The Clean Lakes Program is clearly a necessary and useful program for Oregon. The Oregon Lakes Association believes that Oregon's lakes are a valuable and often overlooked resource that require effective management if they are to be preserved for the enjoyment of future generations, and that the Clean Lakes Program is critical for the health and protection of Oregon's water resources. We encourage you to require that EPA release funds already allocated for Oregon's lakes and to support continued funding of Clean Lakes in the future.

Sincerely,

Mark D. Sytsma
President

Citizens Lake Watch News

Winter 1995

Program notes

Some new staff have joined the Citizen Lake Watch Program. Keith Perkins, a graduate student at Portland State University, is now working part-time, primarily in transferring data from the blue cards to the computer database. Keith will be analyzing and summarizing the data collected by volunteers in 1994. Keith grew up in northern California (but we don't hold that against him) and moved to Oregon to attend Lewis and Clark College. He graduated from Lewis and Clark with a degree in Biology and is now working on his Masters at PSU. He is interested in lake phytoplankton, and has been involved in studies of Oregon coastal lakes, and lakes around Mt. St. Helens. Keith is looking forward to working with volunteers and learning more about Oregon's lakes.

New Lake Watch Volunteers

Winter is a difficult time to recruit new volunteers for lake Watch, but those active folks on the coast do not let a little rain (and a very high lake level) slow them down. **Dean Anderson** and **Robert Edwards** recently joined a hard-working team of volunteers on the Tenmile Lakes. The **Lake Oswego Corporation** also rejoined the Lake Watch program, after a five year hiatus.

Our weather is delightful when framed and glazed, that is, beautiful through a window.

– Horace Walpole, 1771

Lake Watch Program Funds Held by U.S. E.P.A.

The Citizens Lake Watch Program is funded by Environmental Protection Agency through the Clean Lakes Program under section 314 of the Clean Water Act. The General Accounting Office recently requested that EPA hold funds allocated by the last Congress for the Clean Lakes Program for review by the current Congress. EPA has not wholeheartedly supported Clean Lakes Program funding in the past. In fact, nearly every year, EPA drops Clean Lakes from its budget. Fortunately for Oregon's lakes, lake-friendly legislators add the funds back into the EPA's budget. These "Congressionally allocated" funds are currently under review by the new Congress.

The Clean Lakes Program provides funds for the **only** statewide program that deals with lake issues in Oregon. Clean Lakes Program funds currently support the Citizen's Lake Watch Program, technical assistance to agencies, local governments, and citizens on lake management, and program development–looking for new and better ways to manage the lakes of Oregon. In addition, the Clean Lakes Program is funding the development of a work plan to develop a management plan for lakes on the Clatsop Plains in Clatsop County. The health of these lakes, like many on the coast are threatened by development in their watersheds. A similar study of Lake Lytle is in the final stages. Many other lakes in Oregon could benefit from the Clean Lakes Program.

In these belt-tightening times, only the most worthwhile programs should survive. If you believe that the Citizen's Lake Watch Program, this newsletter, and the lakes of Oregon are worth spending your tax dollars on, write to your federal representatives in the House and Senate and let them know. While you are in an active, involved citizen mood, also consider letting your representatives in Salem know that you support spending state funds for the protection and management of Oregon's lake resources.

Lake Watch Volunteer Roster

You are not alone!

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
Lake Oswego Corp.	Lake Oswego

Garrison Lake Improvement Expected

Garrison Lake, in Port Orford, on Oregon's south coast is one of many lakes in Oregon that have benefited from the Clean Lakes and Citizens Lake Watch Programs. Don Martin and Fred McMillan are the Lake Watch volunteers on Garrison Lake. The lake was the principal source of drinking water for Port Orford between 1976 and 1982. During August 1982, heavy phytoplankton blooms (phytoplankton are microscopic plants that float in the water column) in the lake forced the City to shut down its water treatment plant an resume obtaining drinking water from an old source, Hubbard Creek. Water quality and aquatic weed problems in the lake stimulated the Coos-Curry Council of Governments develop a plan to restore the highly eutrophic lake.

The suspected cause of the phytoplankton blooms was the discharge of the City's treated sewage effluent into the south end of the lake as well as discharge from septic systems located around the lake. Treated sewage had been discharged into the lake since the 1960s. Sewage effluent contains nutrients that fertilize lakes and cause the plants in the lake to grow more abundantly.

Between 1988 and 1990 the water quality problems in Garrison Lake were studied under a Clean Lakes Program grant provided by the U.S. Environmental Protection Agency. A citizen's advisory committee was formed to provide public review of the project, and an interagency technical advisory committee was formed to assist with technical matters and provide scientific peer review.

The study identified two major problems: (1) high concentrations of sewage-derived nitrogen and phosphorus promoted phytoplankton growth, which caused oxygen deficits, turbidity, odors, discoloration, and high pH; and

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Garrison Lake

(2) extensive growth of the exotic plants brazilian elodea (*Egeria densa*) and eurasian watermilfoil (*Myriophyllum spicatum*). Streams entering the lake were also contaminated with fecal coliform bacteria and plant nutrients. Roughly five percent of the phosphorus entering the lake came from Mill Creek.

Several options for improving Garrison Lake were proposed in the final report. In order of highest priority, these were: (1) divert sewage effluent from the lake; (2) form a lake management district; (3) improve shoreline septic system performance; (4) harvest rooted vegetation; and (5) improve the biofiltering capabilities of the Mill Creek wetland.

In 1994, the City completed an upgrade of their sewage treatment facilities and diverted the sewage effluent from the lake. Timing of the improvements was fortuitous because activities in the Hubble Creek watershed caused sediment contamination of the of the City's reservoir and forced the use of Garrison Lake as a drinking water source once again. Complaints about taste and odors were common during 1994.

With the diversion of the sewage treatment plant effluent Garrison Lake water quality should improve. The rate of improvement is likely to be slow because the long history high nutrient input into the lake has enriched the sediments, and sediment release of nutrients may continue to cause water quality problems in the future. Garrison Lake already contains very dense brazilian elodea, and any decrease in phytoplankton abundance with the decreased nutrient input will make more light available for rooted aquatic plant growth and worsen the weed problem. Clearly, the Garrison Lake story is far from complete. The Secchi disk measurements and phytoplankton sampling by the Citizen Lake Watch volunteers on Garrison Lake will provide much needed information about how the lake responds to the sewage effluent diversion.

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. More details, including 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 two of Lake Wise), send a sample to the Lake Watch Coordinator: Mark Sytsma, Biology Dept., Portland State University, PO Box 751, Portland, OR 97207.

Special Thanks

The Citizen Lake Watch Program appreciates the help of all the volunteers who participate in the program. Some volunteers, however, deserve special recognition for their generous contribution of time, effort, and resources to the program. John Kelsey, owner of EFW Research on North Tenmile Lake, provided valuable assistance this past summer in helping me sample the Tenmile Lakes, and this past month in giving Avis Newell, Clean Lakes Coordinator for DEQ, a tour of the lakes. John's boat, and its gas-thirsty 90-horse engine, was the perfect platform to work and move around on those big lakes. Hazel's gastronomic pleasures were also much appreciated after a long day sampling. Thanks John and Hazel!

— Mark Sytsma, CLW Coordinator

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.

Lake Lingo

Plankton: Unattached microorganisms living unattached in the water.

Phytoplankton: Plant microorganisms, such as algae, living unattached in the water.

Zooplankton: Protozoa and other animal microorganisms living unattached in the water.

Periphyton: Microorganisms that are attached or growing on underwater surfaces.

Macrophytes: Large (not microscopic) aquatic plants that are rooted or floating under or on the water surface.

Trophic state: A relative description of the biological productivity of a lake.

Productivity: The amount of biological material produced in a lake

Oligotrophic: Lake with very low productivity, usually with low nutrient input (Waldo Lake and Crater Lake).

Eutrophic: Lake with high productivity, usually with high nutrient input (Klamath Lake and Garrison Lake).

Nutrient: Element required for plant growth. Nitrogen and phosphorus are particularly important in lakes.

Point source pollution: A discreet pollution source, such as a pipe, ditch, channel, or animal feedlot. Most point source discharges into surface waters have been eliminated or restricted.

Nonpoint source pollution: Source of pollution that cannot be traced to a discrete source, such as land runoff, drainage, or seepage. Many nonpoint pollution sources are difficult to identify, quantify, and control.

Best Management Practices (BMPs): Activities, either structural (e.g., detention ponds, and oil and grease separators or nonstructural (reduced use of phosphate-containing detergents/ fertilizers and septic tank maintenance) that reduce nonpoint pollution.

Thermal stratification: Development of distinct layers in a deep lake caused by the relationship between water temperature and density. Surface waters warm in summer and become less dense, creating a distinct zone or layer of warm water at the surface. There is very little mixing between the upper, warm surface layer and the lower, colder bottom layer in a stratified lake. Thermal stratification depends on wind speed and direction, lake depth, and air temperature.

Secchi disk: Twenty centimeter, black and white disk used by Citizen lake Watch volunteers and limnologists around the world to measure lake water clarity.

Epilimnion: Upper layer of a stratified lake.

Hypolimnion: Lower layer of a stratified lake.

Metalimnion or **thermocline:** Middle layer of a stratified lake, where temperature changes rapidly with depth. The metalimnion forms a barrier between the hypolimnion and epilimnion.

Turnover: Whole-lake mixing that occurs in the fall in stratified lakes after the epilimnion cools.

Anoxia: Lack of dissolved oxygen in the water. Most of the organisms that we like to see in our lakes require oxygen to survive (some bacteria thrive in the absence of oxygen). Anoxia can occur in the hypolimnion of eutrophic lakes and can reduce the habitat available for fish.

Eutrophication: An increase in the productivity of lakes caused by filling of the lake basin with sediments and increasing nutrient concentrations.

Cultural eutrophication: Increase in lake productivity caused by human activity in the watershed that add nutrients to the lake, such as septic discharge, erosion, fertilization, and agriculture.

Limnologist: A deviant form of humanity that derives pleasure from the practice of limnology.

Limnology: The study of the biology, chemistry and physical processes that occur in lakes. NOT the study of human arms and legs or tree branches.

Open Page continued.....

A Commentary

by Dick Pellissier, Chair
Smith Lake Improvement, Inc.

Property owners along a lake usually first become aware that their lake may have some problems through their notice of what appears to be an increasing amount of aquatic weeds.

A typical cycle of events usually begins when the first meetings are held to address the situation and "do something about it". There is however generally a majority of property owners that are very busy at making a living and raising children, who regardless, will not be putting lake problems at the top of their priority list. The concerned people that are most apt to show up at lake meetings are to the right and left of this relatively unconcerned majority. The right being represented by those old timers in the area who don't want anybody to touch their lake, and those to the left, usually the "progressive" new comers, that are ready to pour in the chemicals and/or grass carp for a quick solution to the problem (that is until it is realized that even chemicals and grass carp cost big $$$$). At this point there is a draw, and the problem is forgotten about at least until most of the progressive newcomers have moved away with their careers to bigger and better things or begin to act like the old-timers. Then the cycle will likely repeat itself, about 20 years or so later.

Nowadays when this cycle begins there is an added dimension, a large body of scientific research on the subject under the general heading of limnology, and in our case an Oregon Lakes Association.

Therefore today when people recognize a problem with their lake, most still want a quick fix, but perhaps it is now possible to better understand these complex problems, and realize why they can't be fixed right away. That is, the problems can be understood, if the scientific information can reach people and they are willing and able to understand This then seems to be the main challenge for the Oregon Lakes Association.

At present it appears that the OLA is reaching obviously the scientific community (most of whom however don't live on lakes and are already very sufficiently educated), and perhaps the chair-people and a few other interested board of director type members for the various local lake groups or associations. This rather select groups understand more than enough of the scientific aspects of lake ecology to work together in a logical way. However, the problem is that the vast majority of lake property owners are still not being reached and thus although many of them see the problems, they don't understand them. As a result they just look at the scientific approach is one of study after study and negligible results on the ground. These people have to be reached, and the scientific reasons for things have got to be explained in a way that the average person, with an average interest in the subject, can understand. At present it appears that many of these people are almost as polarized at one extreme (not wanting their lake touched) or the other (wanting a quick fix, chemicals, carp, or whatever) as they ever were.

The answer may appear to be that this should be the job of local lake groups that either belong to OLA or may have members belonging. Another answer may be that the OLA should make an effort to reach more lake owners directly with at least some of the kind of information such as is published for members in the newsletter "*Lake Wise*".

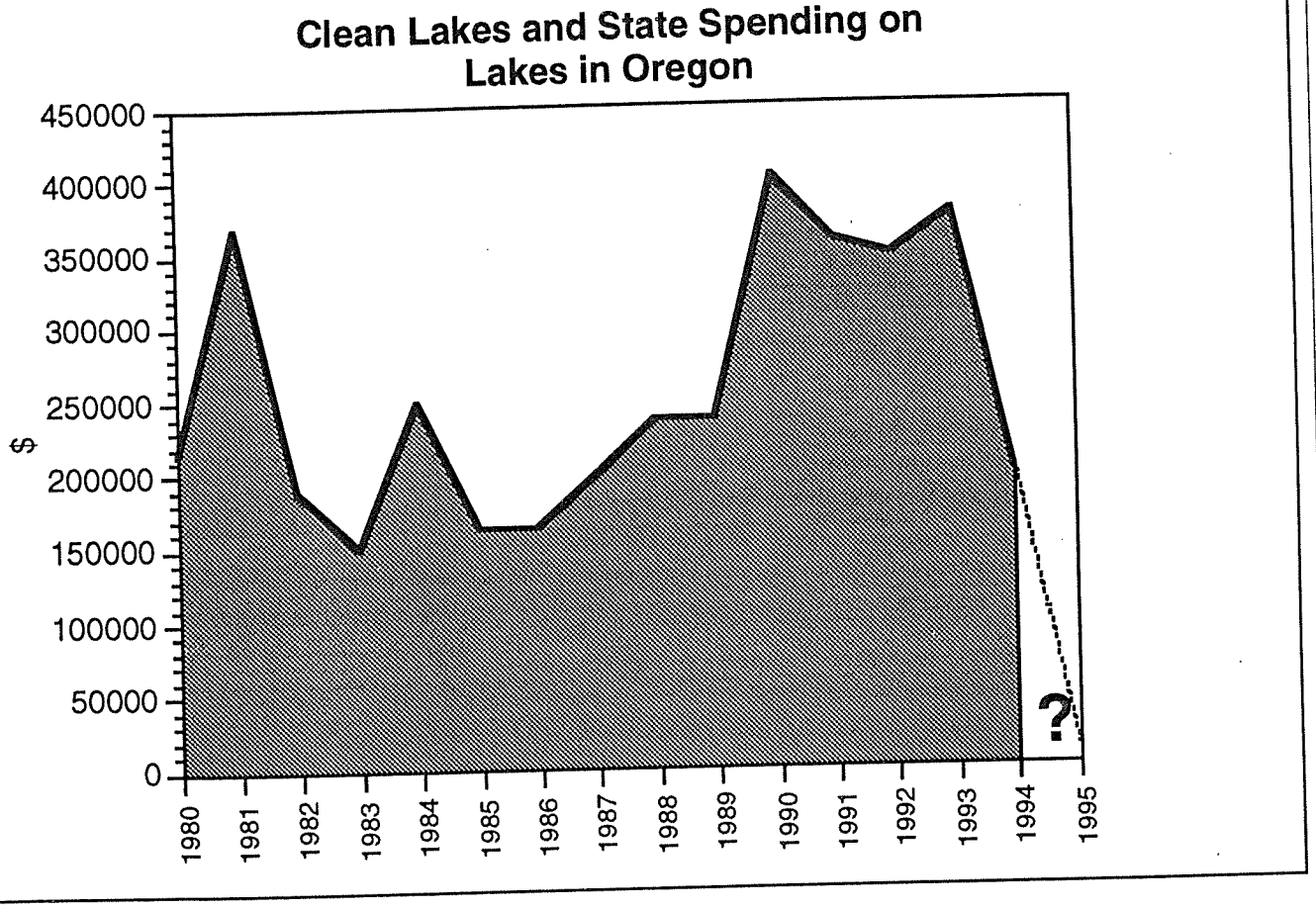
Whatever, this subject needs a lot of attention. Perhaps a start might be to send notices to all people in the area with property along lakes. This could be coordinated through local lake groups. The emphasis could be on basic lake ecology along with news of things that are in fact happening to help solve lake problems.

A conclusion to these rambling comments then is simply a summary; that in one way or another, the Oregon Lakes Association has to reach a lot more people out there so they can all have at least a basic understanding of how lakes work. People need to understand that their lakes can bel fixed in a logical and scientific manner, but that this requires study, and that it cannot happen overnight. Then membership will be pulling together to logically solve our lake problems.

(Editors Note: OLA can provide copies of Lake Wise and other information for Associations to distribute to their members.)

Clean Lakes Spending in Oregon

The figure below illustrates the Clean Lakes (federal funds allocated under section 314 of the Clean Water Act) and State spending on Oregon lakes over the past 15 years. Funding for 1995 is being reviewed by Congress.



OLA Survey Results

The questionnaire sent out with the last Lake Wise resulted in some very good suggestions, some of which have been incorporated into this issue. In general, people liked *Lake Wise*, and valued the OLA "network" of people involved in lake management in Oregon. People thought that the meetings should stress the technical side of lake management–no one saw ours as a simple subject. Respondents were split on the question of whether OLA should take stands on political issues. Several said they would be interested in sharing some of the OLA responsibilities. These people can expect a call from the President! Thanks to everyone for the input, the Board appreciates your opinions and advice.

Lake Wise Publication Schedule

Lake Wise is published in February, May, August, and November. If you would like to submit something for publication in *Lake Wise* try to send it to the address shown on the first page by the 15th of the month prior to publication. Your submissions are encouraged and very much appreciated by the Editor.

Where is the World's Fishiest Lake?

Lake Malawi, southernmost of the great lakes of Africa's rift system (on the border of Tanzania, Mozambique, and Zambia), has more species of fish, including a brilliant menagerie of 500 to 1500 kinds of cichlids, than any other lake in the world. Recognizing the biological significance of these living jewels, the nation of Malawi established the world's first freshwater, primarily underwater, national park in 1980 specifically to protect cichlids.

Almost all of Lake Malawi's species are endemic–found there and nowhere else. Nearly all the cichlids are mouthbreeders. The female carries the fertilized eggs in her mouth until they develop into juveniles. A popular tangerine-colored variety apparently has the ability to change sex. Russia's Lake Baikal in south-central Siberia has more endemic species of freshwater life, some 1500, than any other lake.

Baikal is Earth's oldest and deepest lake, measuring more than a mile (1637 m) from top to bottom and holding one-fifth of the planet's freshwater.

[Reprinted from LakeLine, December 1994]

New Lakes Internet Address Available

James Vennie, Technical Transfer Chairman and Bob Carlson, Kent State University, with NALMS and the State of Wisconsin's support, have established an Internet List Service called: LAKES-L (Lakes List). It's an international computer conference focused on lakes and lake management. Lakes-L is available by free subscription. To subscribe, send an e-mail message to: MAJORDOMO@BADGER.STATE.WI.US

No subject heading is needed. In the body of the message write the following: SUBSCRIBE LAKES-L. You will get back some messages saying you are connected and information. To access all the subscribers of LAKES-L, send a message to :
LAKES-L@BADGER.STATE.WI.US

The message could be a question about lakes or lake methods. If you read a message question and reply to it, all the subscribers will get your reply also. It is a place to distribute information about lakes to all subscribers.

[Reprinted from LakeLine, December 1994]

I think the definition of restoration includes and requires some form of continuous management to guide the natural tendencies of an aquatic habitat's ecology. If the balance of a habitat is upset (by acts of men or nature), perhaps it can never be restored–it can only be managed.

– Jim LaBounty, *LakeLine* Editor

Directories Mailed

All members of OLA should have received a 1995 Membership Directory. The Directory is intended to help people who are concerned about the preservation, restoration, and management of Oregon's lakes get in touch with others with similar concerns. New members are joining all the time and the Directory will be updated in about six months. Thanks go to the Oregon Department of Environmental Quality for assistance in printing and mailing the Directory.

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.

Lake Resource Library Delivered

Association members should have received their OLA Lake Resource Library, a compendium of books and other information about lakes. Many thanks to Avis Newell, OLA Secretary and Clean Lakes Coordinator at the Oregon Department of Environmental Quality (DEQ), for the good work. DEQ provided the materials, packaging, and postage. Please let OLA know if the materials are useful and what new information you would like to receive. In addition, remember that there is strength in numbers. OLA appreciates and encourages Association membership, but we need Indvidual memberships too. **Help OLA be a louder voice for lakes in Oregon by asking the members of your Association to become Individual members of OLA.** OLA can provide an informative brochure that you may want to include with your Association newsletter.

Cullaby, Smith, and Sunset Lakes

Members of the Cullaby Lake Preservation Association, Smith Lake Homeowners Association and lots of residents on Sunset lake, were at the public meeting to review the Clatsop Plains Work Plan, the detailed proposal for the Clean Lakes study in this northwest coast area (see November *Lake Wise*).

Dick Pellessier put together a management plan for Smith Lake that addressed the importance of controlling septic tanks along the shoreline. Dick has had some success his efforts to educate people about the importance of taking action to protect their lake and property values by connecting to Warrenton's sewer system

Mercer Lake

Mercer Lake Homeowners were represented by Dave and Carol Honey at an annual Coordinated Resource Management Meeting in Florence in early January. Mercer Lake is meso-eutrophic, with aquatic weeds and occasional algal blooms, so Dave was concerned about nutrient input to the lake from grazing in the watershed. Homeowner septic systems may also be a source of nutrients to the lake. In addition, noise and erosion from boat wakes are a problem in Mercer Lake, but homeowners are having success posting "NO WAKE" signs, rather than posting speed limits in the lake.

Devils Lake

The Board of Directors of PADL, the Preservation Association of Devils Lake, passed a resolution supporting Lincoln City's efforts to expand its sewer services within the Devils Lake watershed. There is currently a study underway to evaluate the feasibility of running a sewer line around the lake edge for lake-side property owners. The Devils Lake Water Improvement District (DLWID) and the city of Lincoln City are moving forward on a two part program to control sediment sources in the urban growth area around Devils Lake. The program includes an erosion control ordinance to control runoff from construction sites under five acres that are not covered under the DEQ stormwater permit, and an intergovernmental agreement between Lincoln City, DLWID, and perhaps Lincoln County that would put the entire urban growth boundary under City standards. The City would designate the DLWID to act as its agent to administer the program. The DLWID manager (Dave Wagner) will review erosion control plans, issue permits, and do site inspections. The DLWID manager will also have the authority of a city code enforcement officer to make sure the requirements of the ordinance are met.

One morning each week, PADL volunteers count waterfowl on Devils Lake to provide information to DLWID and to establish bird population trends in Oregon. Over a 30-minute period, each volunteer counts all the birds visible at a designated observation point.

Association News continued...

Woahink Lake

A proposed 200-space recreational vehicle park near Woahink Lake has many Woahinkers concerned. Developers of the park are balking at providing more detail about how the proposed park would impact neighboring wells and Woahink Lake, which is a drinking water supply for many lake residents, until they get preliminary approval from the County. According to an article by Eric Fetters in *The Siuslaw News*, the developers admitted that the plan for the park is sketchy, but concluded that the sewage and surface runoff from the park would not harm the lake or Honeyman State Park, which borders Woahink Lake.

According to the Fetters article, the park developer's engineer said that it will take more than 100 years before any contaminants from the park's septic system reach the lake. By then, he said, other increased development around Woahink will have already damaged the lake. He said the sewage output from the park also will have less of an effect than a residential development on the site, comparing the sewage output for the park to that of 45 homes. (emphasis added by *Lake Wise* editor)

Public comment on the proposed park can be submitted until February 10 to Michael Copely, Land Management Division, 125 E 8th St., Eugene, OR 97401 or fax to 687-3947.

Tenmile Lakes

The Ten Mile Lake Owners Association (TLOA) hosted a visit from Mark Sytsma and Avis Newell at their meeting in January. After a discussion of aquatic weed management options, the meeting branched out into a discussion of a variety of lake issues. Mark and Avis also met with Citizen Lake Watch volunteers and assisted the local watershed council with their watershed plan. Mark and Avis also encouraged TLOA to work with the watershed council to develop long-term protection measures for the Tenmile Lakes. TLOA is a young organization, which only recently joined OLA, but judging from the turnout at their meeting and the enthusiastic discussion that developed they have a promising future.

OLA's Corporate Members

KCM[*]
SRI/Shapiro[*]
Aquarius Systems
Resource Management
Electronic Data Solutions
The Cascade Research Group
E&S Environmental Chemistry[*]

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

Dealing with Development

by Richard Klein

Back in the 1970s, as a novice environmentalist fighting potentially harmful development projects, I used to spend my time searching for exactly the right piece of scientific evidence to convince decision-makers that I was right and a developer wrong. And I lost a lot of battles, until I finally realized that I was pursuing the worst possible strategy.

Taking a stand of total opposition to development alienates decision makers. Regulatory agencies, even those with the words "environmental protection" in their names, exist not to protect the environment but to serve as mediators among the many groups with conflicting interests. They must consider the impacts of the proposed development on jobs, taxes, housing costs, and so forth.

Here are a few tips, based on what I've learned over the years:

- Look for a win-win solution that satisfies your concerns while allowing the developer to achieve his or her goals. It is much easier to convince developers or regulatory agencies to modify plans for development than to convince them to stop the project completely.

- Try to understand the perspective of all involved parties. Builders, property owners, and government officials have different priorities than you do – but this does not mean that they are bad people. I have never met a builder who *wanted* to pollute a stream.

- Start your campaign early. Modifying or stopping a project after the bulldozers arrive is extremely difficult.

Richard Klein is President of Community and Environmental Defense Services in Maryland Line, MD. [Reprinted from The Volunteer Monitor, 4(1), 1992]

Daggett Joins SRI/Shapiro

Steve Daggett was recently hired by SRI/SHAPIRO, Inc. in Portland as a Water Quality/Wetland Specialist; he is working on a ongoing monitoring project of a Tualatin-area lake, a northeast Portland stormwater project, and a Clatsop Plains Regional Lake Study proposal. He will take on water quality projects previously worked on by Mark Bautista, who accepted a position with the Portland Bureau of Environmental Services. Steve will also become more involved in the company's wetland determination, delineation, enhancement, mitigation, creation, and restoration projects.

Prior to being hired by SRI/SHAPIRO, Steve completed a statewide watershed assessment for the Oregon Division of State Lands. The Stage 1 Watershed Assessment, funded under an EPA Wetland Program Grant, was designed to be used by the strategic Water Management Group (SWMG) and the governor's Watershed Enhancement Board (GWEB) to prioritize watershed projects and planning around the state. Because of the lack of readily available statewide data related to watershed condition, the assessment primarily focused on prioritizing watersheds based on resource values. Recommended priority watersheds were those that contained the highest resource values, appeared to be the least impacted by human activities, and were at the greatest risk from future human activities. Copies of the report can be obtained from the Division of State Lands in Salem.

Steve completed a Masters degree in Biology (limnology) at Portland State University. His thesis was a broad limnological study of three dunal lakes on the central Oregon coast. He is currently working on an article for the journal *Northwest Science*, about the eutrophication of those lakes. During graduate school he managed the Oregon Department of Environmental Quality Citizen Lake Watch Program. Before returning to school to pursue graduate studies he worked for a number of years as a counselor of at-risk youth. He completed his undergraduate degree in Speech Communication at Oregon State University. Steve is married to Amy Kent, a lawyer who works in US District Court, and is the father of a 17-month old son. In his dwindling spare time, he likes to fish from his drift boat.

Lake Wise Advertising Rates

# Issues	First Issue Date	Deadline	7 sq. in. minimum (Business card-size) Not Corporate Members	7 sq. in. minimum (Business card-size) Corporate Members	Per square inch Not Corporate Members	Per square inch Corporate Members
4	February	January 15	$200	$150	$29	$22
3	May	April 1	$175	$125	$25	$18
2	August	July 1	$150	$100	$22	$15
1	November	October 1	$125	$75	$18	$11

Questions?
Call the Lake Wise Editor at 503-725-3833

Membership Renewals Due

Check your mailing label. If there isn't a (95) in the upper right hand corner, your membership must be renewed. The cost of printing and mailing *Lake Wise* is substantial, to continue to receive *Lake Wise*, to have a voice in how lakes are managed in Oregon in the future, and to be included in the OLA Membership Directory you must be a member in good standing.

RENEW or JOIN NOW!

(you know if you don't do it now you'll forget about it)

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