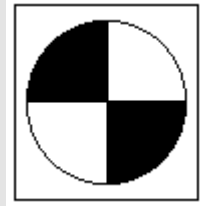


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Editor:  
Roger Edwards

# **LAKE WISE**

**A Voice for Quiet Waters**



**The Oregon Lakes Association Newsletter**

## **Response Planning for Future Blue-Green Algae Blooms is Underway**

The Oregon Department of Human Services convened a meeting to discuss blue-green algae (cyanobacteria) in Oregon water bodies on November 19, 2004. The meeting was attended by 47 people in Portland and 14 more by teleconference links to Bend and Medford. Attendees represented 27 different government agencies, universities, or private businesses. The stated objective of the meeting was to discuss blue-green algae toxins and their potential health hazard in Oregon, and to organize participants for beginning work on developing a collaborative effort and/or guiding principles for multiple agencies to use when dealing with blue-green algae issues and incidents.

The discussions produced overwhelming agreement that toxins from blue-green algae blooms do represent an emerging Oregon public health risk at some level, and that a consistent approach or common guiding principles among agencies regarding responses to blue-green algae blooms would be in the best interests of the public. There were several additional common themes that were emphasized in the presentations:

- ✓ Advisories issued in response to perceived health risks resulted in serious economic loss, both from loss of business revenue and the added costs of monitoring and remediation requirements.
- ✓ The protection of the public welfare is hampered by the lack of consistent and uniform protocols and understanding among agencies and organizations dealing with similar incidents.
- ✓ The agreement on a defensible protocol for sampling, analyzing, and reporting algal data is especially important.
- ✓ There are efficiencies and savings available if the federal, state, and county health agencies can work in tandem to address this threat to public health.

To deal with the more difficult aspect of the meeting's purpose, attendees broke up into committees to develop strategies to communicate the need for, and the purpose of, blue-green algae advisories throughout Oregon; to establish statewide standards to issue and to lift advisories; and to agree upon the details of a blue-green algae monitoring plan. While these are formidable tasks, Oregon is not the first to take them on. Blooms of blue-green algae occur around the world and approaches have been devised to deal with them. The committee deliberations can benefit from this experience. Their ideas and recommendations are to be presented at a conference in February or March of 2005.

## **Diamond Lake Remediation Protocol Announced**

Better times are coming for Diamond Lake. The U.S. Forest Service has announced that it will move forward with the long debated restoration project. Jim Caplan, Forest Supervisor of the Umpqua National Forest made the decision official with the publication of his December 20, 2004, Record of Decision in The News-Review newspaper in Roseburg. The required 45-day appeal period will end on February 3, 2005, and is only open to individuals who made substantive comments to the Draft Environmental Impact Statement.

The Alternative selected for implementation is #5, which was added to the Final Environmental Impact Statement to address concerns raised during review of the DEIS. It is a modification of Alternative 2 that calls for more aggressive rotenone application and a refined strategy for restocking the lake after the treatment. Representatives of the Oregon Departments of Fish and Wildlife, and Environmental Quality expressed their approval of the decision. State Rep. Susan Morgan, who was active with the Diamond Lake Work Group during the preparation of the Draft and Final EIS, also supported the selection of Alternative 5. The other Alternatives under consideration were a "no action" approach (#1), two plans calling for rotenone treatment but differing by then managing the lake as a Basic Yield (#2) or an Intensive Use (#3) fishery, and an attempt to manage the tui chub through long term commercial harvests, spawning disruption, and aggressive predation (#4).

The work to implement Alternative 5 begins this year with the reconstruction of the canal that was used to draw down the lake for the rotenone treatment in 1954. This canal extends about 900 feet into the northwest corner of the lake. On the shore, it runs parallel to Lake Creek beyond USFS Road 4795 and then empties into the creek. The accumulated sediments will be dredged from the canal and then deposited to enlarge a nearby wetland area. The headgate for the canal and for the Lake Creek outlet will both be reconstructed as part of this project.

Drawdown will begin about September 15<sup>th</sup> by increasing the outflow in Lake Creek from natural levels to bankfull flows over a seven-day period. The bankfull flow is estimated to be 110 cfs. This flowrate will be maintained until the drawdown reaches a level 8 feet below the midsummer maximum pool. Beginning at a typical, mid September lake level, an estimated 24,000-acre feet of water would have to be removed to achieve this drawdown. This volume is equivalent to 1,045,440,000 cubic feet and would take 110 days to move at a flowrate of 110 cfs. The weather will certainly be a factor on this phase of the project. Diamond Lake typically receives between 55-65 inches of precipitation annually. Nevertheless, achieving the desired drawdown by April 1, 2006 seems reasonable.

There are numerous advantages presented by this drawdown plan. It will dewater shallow areas of the lake that could serve as chub refuges during treatment. It will concentrate the chub in a smaller volume of water, reducing the amount of rotenone needed for treatment. It will effectively seal the lake outlet, preventing treated water from moving downstream. The timing of the drawdown mimics normal fall/winter flows in Lake Creek and will allow normal spring runoff in the creek.

The rotenone will be applied in the fall of 2006. There will be minimal fish stocking in the lake and catch limits will be relaxed prior to treatment. ODFW will conduct sweeps of the lake with nets and seines to reduce the chub population. A commercial fishing operation will be conducted immediately before the application. Fish

harvested in these sweeps will be available for processing for fish emulsion or fertilizer. Bioassays will be performed with chub and water from the lake to help determine the appropriate dose of both liquid and powdered rotenone. When the decision is made to proceed, liquid rotenone will be applied to all lake areas less than 20 feet deep. Liquid rotenone drips will be set up in the creeks flowing into the lake. The rest of the lake will be treated with the powdered formulation.

After the rotenone application has been completed, the commercial harvester will be employed to gather as many of the carcasses as possible. These fish too are acceptable for processing. Extensive monitoring of the lake, Lake Creek, and Lemolo Lake will continue. Treated water will be kept in the lake until tests show that all rotenone, rotenone by-products, and semi-volatile and volatile organic compounds associated with the treatment are at undetectable or trace levels in the water column and on the lake bottom. It is anticipated that flow from the lake can be restarted in November. This flow will be maintained at 10 cfs until refill is complete.

The concern about tui chub getting back into the lake after the treatment is taken very seriously. An education campaign is planned to prevent an accidental reintroduction. Boat inspections and required washing are further steps under consideration. A "chub watch" will be established to provide an early warning of this eventuality. Stocking predacious fish along with trout for harvest could begin as soon as 2007. The actual restocking schedule will be tied to the lake's recovery and monitoring results. The return of edible zooplankton populations is a key feature in this schedule. Diamond Lake will continue to be managed as a Basic Yield fishery.

More details and an overview of Diamond Lake can be found in the FEIS. It is on the Internet at [www.fs.fed.us/r6/umpqua](http://www.fs.fed.us/r6/umpqua), under the Project & Plans selection.

## Center for Lakes and Reservoirs

### Aquatic Bioinvasion Institute Established in Oregon

The Center for Lakes and Reservoirs (CLR) at PSU and the Smithsonian Environmental Research Center (SERC), a research arm of the Smithsonian Institution in Washington DC, have formed an institute for the study of aquatic invasions. The Aquatic Bioinvasion Research and Policy Institute combines the expertise on freshwater species at the CLR with the marine and estuarine expertise at SERC to form an institute with unprecedented capabilities. As part of the joint institute, Dr. Greg Ruiz, director of the SERC Marine Invasions Research Laboratory at SERC, has received an adjunct faculty appointment at PSU and **Mark Sytsma**, director of the CLR at PSU, will receive a visiting scientist position at SERC.

The joint effort grew out of collaboration between the CLR and SERC on several projects, including ongoing research on methods to verify that ships have conducted a required exchange of ballast water (taken onboard in foreign ports to maintain trim and stability) in mid-ocean to prevent introduction of organisms in foreign port water into Oregon waters; examination of the importance of hull fouling (organisms that grow attached to the outer hull of ships) in introducing organisms to US ports; and a pilot project to enhance efficiency and quality of information in the National Ballast Information Clearinghouse, which contains data on ballast water management aboard every ship that calls on a US port.

The Institute will facilitate comparisons of the aquatic bioinvasion process on the East and West coasts of North America. In addition, the joint program provides a home for SERC research on the West Coast and a home for

### Center for Lakes and Reservoirs (continued)

CLR research on the East Coast. Startup support for the Institute was provided by PSU and SERC. Private foundation and federal support for the effort are also expected.

### CLR Research is Varied and Far-Reaching

Several interesting projects at the CLR are ongoing. We are in the final year of a multiyear effort to assist states in establishing nutrient criteria for lakes. Current work includes collecting sediment cores from lakes in the Puget Lowlands and development of a relationship between sediment diatoms and water column nutrient concentrations. This effort will allow "hindcasting" of pre-european nutrient concentrations to establish historic nutrient concentrations in lakes. **Richard Petersen**, **Rich Miller**, and **Aaron Hook** at the CLR lead this effort. We are also in the final year of a two-year study of *Egeria densa* in the Sacramento-San Joaquin Delta in California. This project is the basis of **Toni Pennington's** doctoral research. The goal of the project is better understanding of this noxious aquatic weed - probably the most common weed in lakes in western Oregon. We are also extending a recently completed survey of aquatic non-indigenous species in the lower Columbia River into the middle reaches of the Columbia. This work includes a detailed review of the literature as well as field sampling in reservoirs planned for this summer. **Mary Pfauth** is currently completing a report on field surveys of aquatic plants in coastal lakes, funded by the US Forest Service. Additional survey work in coastal lakes will occur this summer. We will also conduct a survey of aquatic vegetation in Diamond Lake, prior to drawdown for Tui Chub control. **Steve Wells** is wrapping up his Masters degree research on curly leaf pondweed in Blue Lake. His work focused on the demography of vegetative propagules of this common aquatic weed. Several faculty, graduate students, and technicians have cooperated in a study of the limnology of Waldo Lake for the past two years. Whether this work will continue is unknown at this time, however, several scientific publications should be forthcoming in the next year. **Robyn Draheim** leads the implementation of the Oregon Aquatic Nuisance Species Management Plan, which is currently being updated and revised. Doctoral student **Erik Hanson** is currently at the Romberg Tiburon Center at San Francisco Bay working on biology and behavior of mitten crabs. This species threatens to invade important salmon spawning habitat in Oregon. Erik's work will allow us to predict where the invasion is likely to be successful and will allow us to target our surveillance and management response activities. **Vanessa Howard** is nearing completion of her Masters degree, which involves study of dispersal of *Spartina* species. The Oregon Department of Agriculture has listed this prolific grass as a "targeted" weed in Oregon and has funded the CLR to develop and implement a management plan. In addition, Vanessa is conducting a 'drift card' study to predict where *Spartina* may invade on the Oregon coast. Lastly, **Mark Sytsma** continues to chair the Oregon Invasive Species Council, which has initiated development of a statewide invasive species education and outreach strategy, which we hope you will hear more about in the future. The Council has also mounted an attack on feral swine in Oregon. These critters damage watersheds, and consequently water resources. The Council commissioned a "pest risk assessment" that ranked this species as a high risk species in Oregon – most of the state could be invaded by feral swine. The next step is the creation of a management plan, which Sytsma will develop in the next few months. For more information on this and other ongoing work at the CLR please visit our website at [www.clr.pdx.edu](http://www.clr.pdx.edu) or contact us at 503-725-3834.

### Construction Firm Looking for Work

Aquatic Environments, Inc. has been a corporate member of OLA for two years. Based in California, they travel to shoreline work sites throughout the western states, including Hawaii. Their proprietary equipment may allow them to devise novel approaches to watershed projects. An overview of their capabilities appears on the following page.

## **Wallowa Lake Development Returns as Measure 37 Claim**

The on-again, off-again application to develop a 62 acre parcel of land on the north end of Wallowa Lake has resurfaced as a claim that the property has lost value due to a change in land use regulations that went into effect after purchase of the property. The first development application occurred in the early 1990's and would have created a 72-lot subdivision on 68 acres. This plan was approved by Wallowa County, but was dropped when the US National Park Service purchased a portion of the property to afford some protection to the gravesite of Old Chief Joseph, which is adjacent to the planned subdivision. Early in 2004 a new plan to build a home and a guest house on each of 11 five-acre plots was again approved by the County, but was returned to them for reconsideration by both the Land Use Board of Appeals and the Oregon Court of Appeals. Further action on this application was cancelled at the request of the landowner to make way for the Measure 37 claim.

The landowner of this property is K&B Family Limited Partnership. Their Measure 37 claim is based on the approval of the original 72-lot subdivision. They contend that the denial of their present development plan makes them eligible for compensation under Measure 37. It will be difficult for Wallowa County to find an excess of one million dollars in their \$3 million general fund to repay the loss the K&B Family claims to have incurred, leaving resolution to come from relaxation of land use rules. The property does not adjoin or face the lake. It is on the north side of the terminal moraine, it is zoned Urban Growth-Residential, and it has been included within the Urban Growth Boundary of Joseph for more than 25 years. Opposition to the development centers around protection of geological aspects of the moraines and American Indian cultural issues.

## **Measure 37 is Enacted, Now the Work Begins**

by Roger Edwards

The passage of Measure 37 last fall will usher in a period of uncertainty for all Oregonians as the ramifications of the initiative come into place. Will all the decisions that have gone into the last 30 years of land use planning be swept aside, or will a technicality be found to void this vote of the people, as was the fate of Measure 7 in 2000? While the future will likely find a course between these extremes, the current uncertainty makes it a good time to consider the worth of land use planning in Oregon.

Before there was a Department of Land Conservation and Development, there was zoning. Zoning is a universal means of bringing a level of order to a community. Partitioning lands into sections reserved for specific purposes provides some assurance of continuity and common usage. Investors are more comfortable buying zoned property because of the implied guarantee that their investment plan will be suited for the location. Conforming to the stated rules of a given property zone can become an abridgement of individual freedom, but it is also true that an individual who goes beyond these rules can disrupt the lives of people on adjacent properties. Similarly, sub-dividing a family farm to provide retirement income denies succeeding generations the chance to enjoy this rural setting, and reduces the availability of prime agricultural lands. For reasons such as these, opposition to this approach to land use planning is largely limited to grumbling about a necessary evil.

Zoning is at it's best when preserving the status quo. During times of change however, zoning administrators are subject to complaints of being anti-progress if they resist changing the designation of a particular parcel of land, and overly progressive if they agree. Their decisions can have large consequences and significant pressures can

be brought to bear from either side of the argument. With little or no guidance to provide a rationale for decisions, the decisions made do not always look very far into the future, or even over the next hill. In his opening address to the Legislature in 1973, Governor Tom McCall observed that, "Unlimited and unregulated growth leads inexorably to a lowered quality of life". A majority of the legislators agreed with this assessment and on May 29, 1973, Gov. McCall signed Senate Bill 100, establishing the Land Conservation and Development Commission to bring a higher level of land use planning to Oregon.

The goals of this new agency were to protect farm and forest lands, conserve natural resources, promote orderly and efficient development, ensure coordination between local governments, and provide the opportunity for citizen involvement. To achieve these goals, the LCDC deliberated to produce 14 statewide standards to provide the rationale that had been lacking for land use administrators. They became effective on January 1, 1975. Once in place, all towns, cities, and counties were required to prepare comprehensive land use plans for the lands under their jurisdiction addressing these specific standards: 1) Citizen Involvement; 2) Land Use Planning; 3) Agricultural Lands; 4) Forest Lands; 5) Open Spaces, Scenic and Historic Areas, and Natural Resources; 6) Air, Water, and Land Resource Quality; 7) Areas Subject to Natural Disasters and Hazards; 8) Recreational Needs; 9) Economy of the State; 10) Housing; 11) Public Facilities and Services; 12) Transportation; 13) Energy Conservation; 14) Urbanization. Five additional standards were added later to address 15) Willamette Greenway; 16) Estuarine Resources; 17) Coastal Shorelines; 18) Beaches and Dunes; 19) Ocean Resources. The land use plans produced under this program will typically inventory the lands, resources, and populations within their borders; establish growth boundaries for urban centers; designate areas best suited for further development; and consider the economic, environmental, social, and energy consequences of proposed changes. Plans for all lands in the State were completed by 1986. The plans are required to be updated as needed and rely heavily on zoning ordinances to implement their provisions.

The Legislature specifically declared in Chapter 197 of the Oregon Revised Statutes that, "In order to assure the highest possible level of livability in Oregon, it is necessary to provide for properly prepared and coordinated comprehensive plans for cities and counties, regional areas, and the State as a whole", and that, "Land conservation and development must be complementary". Other groups saw a different formula for a quality life style and opposition to the Legislature's approach to land use planning mounted quickly. Citizen's initiatives to repeal or weaken the provisions of senate Bill 100 qualified for the ballot but were defeated in 1976, 1978, and 1982. Numerous assaults on the program were also voted down or vetoed in subsequent legislative sessions. The Land Use Board of Appeals was established in 1979 to provide a dedicated means of recourse for property owners at odds with specific land use decisions. In 2000, Measure 7 passed with 54% of the vote, but was stricken down for being too general to meet the requirements of a valid initiative. The wording was refined and was again approved as Measure 37 in the last election. The margin of victory was 61% in favor.

Under Measure 37, landowners can be compensated for, or exempted from, land use changes occurring after their purchase if the change restricts the use or reduces the value of the property. This compensation is due 180 days after a claim is filed or the claimant can seek redress in the civil courts. Claims cannot address recognized public nuisances, public health and safety regulations, regulations to comply with federal laws, or regulations dealing with the sale of pornography or nude dancing performances. Governor Kulongoski vowed to "effectively implement Measure 37 in a manner that is fair and that balances the rights of landowners with the quality of life standards of our communities" when he presented the temporary rules that have been developed to process Measure 37 claims. There are already more than 80 claims that have been filed. These claims seek compensation ranging from nothing to \$33 million.

**LAKE WISE**  
**The Oregon Lakes Association**  
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**OLA Mission:** The Oregon Lakes Association, a non-profit organization founded in 1988, promotes understanding, protection, and thoughtful management of lake and watershed ecosystems in Oregon. For additional information on OLA, write to the address above, or visit our website.

OLA welcomes submissions of material that furthers our goals of education and thoughtful lake management in Oregon, and is grateful for the corporate support that helps sustain the organization. Corporate members are offered a one-time opportunity to describe their product or service to Lake Wise readers. These descriptions are not endorsements, and opinions appearing in Lake Wise are not OLA policy statements.

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The fair balance point between landowners and their communities may prove to be elusive. Large cash settlements are not likely to be used very often, which leaves the resolution to be crafted from waivers or relaxation of existing regulations. In isolated instances, this approach may satisfy the complaints of landowners without threatening the context of the local land use plan. If multiple landowners in a particular jurisdiction are eligible for this option however, the comprehensive land use plan there could be effectively voided. The rules put in place to process Measure 37 claims essentially examine them for completeness and merit. Neighbors to lands designated in a claim will have a chance to express their concerns, and claimants will be able to address concerns that are raised. The toughest hurdle may be the provision that states, "The Claim may be denied on any other basis authorized by law." The first of the final decisions for specific claims are due in May 2005.

By its very nature, there are substantial elements of "the greatest good for the greatest number" philosophy in land use planning. It follows then that there will be "some harm to a few", and those who are harmed deserve some benefit according to 61% of Oregon's electorate. Regardless of how often the question comes up, balancing the rights of a few against the rights of the many is not a simple task. It is also becoming more apparent that enacting legislation with a citizen's initiative does not provide a finely crafted solution, but it does seem to be the only way to get some legislation enacted.

### **Place and Date for Next OLA Conference is Set**

Mark your calendars now so when September 30 and October 1, 2005 draw near, you will still be free to attend the annual OLA Conference. The meeting will be in the Eugene area. There will be a business meeting, open to all members, on Friday evening to discuss organization matters. The formal sessions will take place on Saturday. All ideas for posters or presentations are welcome. Send abstracts to our PO Box 345 in Portland or e-mail our webmaster. Check future issues of Lake Wise for more details.

