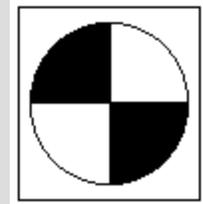


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Editor:
Roger Edwards

LAKE WISE

A Voice for Quiet Waters



The Oregon Lakes Association Newsletter

OLA Charts Course for Wallowa Lake

The Oregon Lakes Association was formed in 1990, largely as a delayed by-product of the 1972 Clean Water Act. Officially known as the Federal Water Pollution Control Act, this legislation was passed over President Nixon's veto with a three year budget of \$23.7 billion. The Act was designed to make the nation's waterways "fishable and swimmable" by reducing the discharge of pollutants that they received. One aspect of this laudable goal was contained in Section 314 of the Act and called specifically to assess and rehabilitate lakes. The work this money stimulated led to the formulation of the North American Lake Management Society in 1980, and the publication of the *Atlas of Oregon Lakes* in 1985. Four of the *Atlas*'s six authors were charter members of OLA.

In 1992, OLA received a well deserved recognition from the Internal Revenue Service as a 503 (c) 1, non-profit organization. Funding for lake projects became scarce later in the 1990's when Section 314 of the CWA was allowed to sunset in favor of Section 319, which addresses non-point source degradation of aquatic systems in general. There were still benefits to lakes with this new protocol, but they were mostly indirect effects from upstream improvements. By clipping coupons and relying on the volunteer efforts of the membership, OLA has achieved some success in fostering communication and working relationships with other individuals, groups, and agencies concerned with lakes and watershed protection. This coordinating effort became even more pronounced when the concept of watershed councils focused local resources on specific remedial actions. Amid some controversy, the elected OLA Board agreed to a joint meeting with the neighboring Washington NALMS Chapter in 2006. While the meeting was a distinct departure from the grass roots discussions OLA has organized in the past, it proved to be very successful both technically and financially.

Membership in OLA was originally and continues to be centered in the Portland area. There is good representation on the coast from Astoria/Warrenton south to Port Orford with clusters in Lincoln City, Florence, and Lakeside. The Willamette Valley and Roseburg also have good member numbers. There are many more members in Klamath Falls and central Oregon now than in the early years of the organization. While this distribution does not reflect lake proximity, it has a logical correlation to population centers. It follows then that OLA has a limited presence in eastern Oregon.

The juxtaposition of a turgid treasury and the realization that new members might be found in this overlooked, lake rich corner of the State has led to the decision to hold the annual OLA Conference this year at Wallowa Lake. Details are still under development, but the target dates are September 12-14. The call for papers is underway so workers with lake related interests in the vicinity of northeastern Oregon are encouraged to contact OLA through the website, www.oregonlakes.org. The prospect of a Wallowa Lake Conference has come up multiple times during past OLA sessions, but this was the first time that enthusiasm for the venture overcame the cries of caution. The topography of Wallowa County makes it a true scenic wonderland, but it also makes it hard to get to. It is not a place easy to pass through. You need a reason to visit the Eagle Cap Wilderness, Hells Canyon, Wallowa Lake, or Joseph OR. OLA is providing this opportunity.

Odell Lake Resort Earns “Oregon Clean Marina” Status

When your travels next take you to Odell Lake, do pause to admire the flag flying from the marina at Odell Lake Resort, at the southeast end of the lake. The flag displays the logo of the Oregon Clean Marina program and signifies that the Odell Lake Resort has taken the extra trouble to make certain their marina uses the best management practices in the conduct of its business. This volunteer program was started in 2006 by the Oregon State Marine Board and now has 24 certified marinas. Odell Lake Resort received their certification last July and is the first, and only, lake marina in this select group.

Certification requires meeting at least 80% of the applicable items on the Clean Marina checklist. The checklist addresses policies on boater education, facility management, hauling and storing boats, fueling, mechanical activities, painting and fiberglass repair, and emergency planning. There are 19 legal and 21 program requirements, and 40 optional practices about these issues on the checklist. An Oregon Clean Marina will have met all 40 of the legal and program requirements, and enough of the optional practices to have achieved the threshold percentage. There is a guidebook that explains the checklist entries in greater detail. Clean Marinas must verify annually that they are upholding the provisions of the program, and schedule a re-inspection every third year. The program is well described on the Oregon State Marine Board website, www.boatoregon.com.

A Useful Primer on Aquatic Invertebrates

The Izaak Walton League of America is a conservation organization founded in 1922, which looks after the nation's streams much as NALMS looks after lakes. There is an Oregon Division listed on the web that lists representatives in Aloha, Ashland, Colton, Corvallis, Eugene, Grants Pass, Silverton, and Vernonia. In 2006, the League published a book titled *Guide to Aquatic Insects and Crustaceans*. It is an updated, 2nd edition of their *Monitoring Guide to Aquatic Invertebrates*, published in 1992. Both works are intended to be used as part of the Izaak Walton League's "Save Our Streams" monitoring program, a biological study of aquatic habitats developed in 1983 with the Ohio Department of Natural Resources.

The guidebooks were prepared with streams and aquatic invertebrates of the eastern U.S. in mind, but because their identifications rarely go beyond the taxonomic level of Order, they are equally useful for categorizing macroinvertebrates from northwestern lakes. It is refreshing to find a fieldguide that recognizes the impossibility of identifying tiny creatures on a lakeshore without a microscope, a reference library, and a resident expert. Instead, the user is asked to compare a specimen to 30 logically arranged, illustrated, either/or questions. This process places the specimen in one of 31 common invertebrate groups, which are also discussed in greater detail in the text.

Just as an aid to macroinvertebrate identification, this fieldguide would be a worthy library addition, but it also presents a rational approach to habitat characterization. It is a "how to" book that also discusses "why". The sampling methodology is fully described and has been thoughtfully crafted. The sampling methods however, are essentially stream oriented. Nevertheless, the habitat characterization procedure is based on indicator organisms and species diversity, and it would be applicable to lakes once a standardized lake sampling protocol has been established. The use of a bottomless, 5 gallon plastic bucket to establish the area of the lake bed to be sampled is one approach to a standard, macroinvertebrate sampling procedure for lakes.

Once the organisms of the invertebrate sample have been categorized, the individuals in the different groups are tallied. Of the 31 groups in the key, 24 are characterized as being sensitive, less sensitive, or tolerant of poor habitat conditions. For example, the indicator species considered tolerant of poor conditions includes aquatic worms, black flies, midge flies, leeches, and lunged snails. The number of groups in each of these divisions is multiplied by a weighted factor; 3 for sensitive, 2 for less sensitive, and 1 for tolerant. The sum of these products give an estimate of the water quality rating, using the rationale that a tolerant species can be found in a high quality habitat, but it is unlikely that a sensitive species could survive in a poor habitat. In this scheme, the habitat quality with a value of <11 is poor, 11-16 is fair, 17-22 is good, and >22 is excellent.

The *Guide to Aquatic Insects and Crustaceans* is a 74 page paperback, published by Stackpole Books. Its cost is \$7.95 at bookstores or at www.iwla.org.

Dissolution of Blue and Fairview Lake Land Trust Produces a Ripple

In January, a letter was delivered to OLA from the Blue and Fairview Lake Land Trust announcing their decision to discontinue their corporation and disperse the corporate assets. A substantial check was enclosed with the expectation that the money would encourage and strengthen OLA's mission of service to the community. The receipt of this donation is appreciated and it has bolstered OLA's decision to extend our reach at the Willowa Lake Conference in September. New members who are recruited from this meeting would be a fitting legacy for an organization that has worked diligently on behalf of the wetlands habitat, open spaces, and aquifers of the Blue and Fairview Lake area in east Multnomah County.

The Land Trust was formed in the mid 1990's under a U.S. EPA technical assistance grant to investigate the contamination plume that threatened the drinking water wells of a growing community. The hydrogeology of the area was in turmoil due to the ongoing development of an adjacent well field to serve the City of Portland, and the discovery of a plume of industrial solvents in an aquifer of concern for both Fairview residents and Portland. There were many entities and agencies drilling test wells and conducting pump tests to investigate ground water conditions, but little of this research was chiefly concerned with the risks facing homeowners around Blue and Fairview Lakes. The Land Trust contracted the Engineering Department at Portland State University to describe the current understanding of pertinent hydrogeology and evaluate the remediation strategy to restore the aquifers from the perspective of Blue and Fairview Lake residents. Their report was included in the Oregon DEQ Decision of Record on this issue.

There was also lots of work for the Land Trust during the extensive residential development of Fairview Lake. Discussions of setback distances, weed encroachment, suitable riparian zone landscaping, flood preparation, and familiarizing new homeowners about living on a lake shore all served as a continuing purpose for the Land Trust. As their lake community stabilized however, the list of action items diminished and the decision to disband gained approval. Their past achievements though, make their recognition of OLA highly valued.

Lake Trips for Armchair Travelers

There are good days in March to visit a nearby lake, but variable weather conditions puts some peril in scheduling such an outing too far in advance. It is now possible however, to take a virtual lake expedition almost anytime with *Google Earth*. All of Oregon is now mapped at a resolution level that provides imagery

detailed enough to almost make it seem that you are there. It is an inexpensive way to travel too because the basic version of *Google Earth* is free. While there are system configuration requirements, a computer with an internet connection running Window 2000, Mac OS x 10.4, or better will likely be adequate. Searching for “Google Earth” or going directly to <http://earth.google.com> will get your journey underway. The navigation controls are intuitive, so there is little need to consult the tutorials. If it looks like fun, download the program.

A good beginning for your first adventure is to verify that your homestead is on the map. Rotate the Earth so your front door is close to the center of the screen and zoom in. You may need to make some centering adjustments, but it should be quickly apparent who was at home in the neighborhood when the last scan was completed. To visit prominent destinations, like Wallowa Lake, you just need to type in the name or address in the “Fly To” box. More obscure sites may need manual over-ride to navigate to the correct view of the Earth before decreasing the altitude of your perspective. Latitude and longitude are among the ways to navigate to a specific location. Below an altitude of about 20,000 feet, labeling appears to identify selected features of the image. These labels conform to the U.S. Geological Survey’s Geographic Names Information System, as part of the work to maintain *The National Map*, which in turn, is the reference standard for U.S. geography.

The GNIS is the official register for all place names appearing in Federal publications. It provides the recognized name for physical and cultural geographic features, other than roads and highways. Each feature in the dataset is assigned a unique, numeric identifier. The State, County, USGS topographic map, and geographical coordinates of its location are identified, as are variant names and spellings, its designation, classification, and historic and descriptive information. Elevation is included in this information, but the value is not official. There are 33 terms to describe the classification of a feature, which range from airport to woods. Lake, reservoir, and swamp are included in this list, but pond, pool, or marsh, are not.

There are currently over two million recognized names in the GNIS and it continues to grow. A work of this magnitude is subject to errors and there is a procedure in place to submit corrections. Duplication is a common problem. An example from Douglas County shows that the GNIS assigned the identifier 1133709 to Weaver Reservoir for the impoundment at latitude 45.5415, longitude -123.2978 on May 22, 1986. The elevation at this location is correctly given as 584’. However, on September 1, 1993, the identifier 1160707 was assigned to Thurman Weaver Reservoir, which is located at latitude 45.5423 and longitude -123.3006. The elevation of this location is 812’. *Google Earth* shows there is just a single reservoir at this location, and the coordinates for Thurman Weaver Reservoir more accurately describe its position. The coordinates for Weaver Reservoir locate a spot on a side hill a few feet to the southeast of the dam.

Unrecognized names are another issue with the GNIS. In their principles, policies, and procedures, it is stated that, “As a general policy, the U.S. Board on Geographic Names avoids excessive or needless naming of features.” Certainly it is difficult to keep track of the features that have been named, but it is also bothersome to have prominent features on a map unidentified. Unrecognized, local names often come into play between these opposing points of view. Maps that carry local names are accepted as justification for the eventual recognition of those names. Such maps show the existence of some agreement about the local name of a feature, and suggest that some benefit is gained by having a name for the feature, both of which are elements of the recognition process. As a demonstration of the level of completeness the GNIS has attained for Oregon’s standing waters, examples of unrecognized lakes and reservoirs are listed below. Readers are encouraged to practice their *Google Earth* skills and visit a few of these sites. They have been selected from most of Oregon’s 36 counties in hope that one or two examples will be nearby or familiar. By completing this assignment, readers will also gain an appreciation of what a useful tool *Google Earth* can be on their computer.

**Some Oregon Lakes and Reservoirs not Listed on
Geographic Names Information System**

COUNTY	LAKE	LAT.	LONG.	DESCRIPTION
Baker	Salmon Creek Res.	44.8	-117.96	Res behind 41' dam on Salmon Ck, 6 mi W of Baker City OR.
Benton	Adair Pond	44.67	-123.22	Panfish pond behind 17' dam on Callaway Ck tributary, just S of Adair Village.
Clackamas	Cripple Creek L.	45.12	-122	Hdwtrs of Cripple Ck, 1+ mi W of Hideaway L.
Clatsop	Big Creek Pond	46.16	-123.6	Former gravel pit on Big Ck, just S of Hwy 30 at Knappa Junction OR.
Columbia	Trojan L.	46.05	-122.89	Man-made lake on grounds of former Trojan power plant.
Crook	Desert Creek Res.	43.75	-120.25	Res behind 46' dam on Desert Ck, 5 mi N of Hampton OR.
Curry	Ferry Creek Res.	42.07	-124.27	Res behind 65' dam on Chetco R tributary, just upstrm of Brookings OR.
Deschutes	Middle Green L.	44.09	-121.73	Lava dam lake, largest & lowest of three Green Lakes, upstrm of Sparks L.
Douglas	Little Timpanogas L.	43.41	-122.12	Oval, deepest in the middle lake, dwnstrm & immed SW of Timpanogas L.
Harney	Martha L.	43.49	-119.31	Roundish lake, upstrm & immed S of Derrick L.
Hood River	Tanner L.	45.56	-121.9	Hdwtrs of Opal Ck, nr Multnomah Co, & 2.5 mi S of Dublin L.
Jackson	Grizzly Creek Res. 2	42.29	-122.4	Pool behind 10' dam on NF Grizzly Ck, upstrm & 4 mi N of Howard Prairie Res.
Jefferson	Gillworth Res.	44.4	-121.34	Res behind 26' dam on Squaw Ck, nr Deschutes Co, 3 mi NW of Deep Canyon Res.
Josephine	All Sportsmans Pond	42.43	-123.35	Barrow pit turned into wheelchair accessible park in Grants Pass OR.
Klamath	Badger L.	42.47	-122.24	Upstrm & just NE of Fourmile L, & immed N of Woodpecker L.
Lake	Hunters Hot Springs	42.22	-120.37	Group of pools immed W of Hwy 395, 2 mi NW of Lakeview OR.
Lane	Dans L.	43.78	-122.04	Pond immed E of northern end of L Kiwa & just N of Lower Rigdon L.
Linn	North Peak L.	44.42	-122.1	On NE slope of North Peak, a spur N of Echo Mtn summit.
Malheur	Arock Diversion Dam	42.91	-117.41	Res behind 20' dam on Jordan Ck, 3 mi NW of Rock Ck Res.
Marion	Monument L.	44.69	-122.31	Hdwtrs of Lawhead Ck on SE slope of Monument Peak, upstrm of Big Cliff Res.
Morrow	Morrow Pond #2	45.84	-119.71	This remaing pond is S of I-84, just W of Boardman exit.
Multnomah	Benson L.	45.58	-122.12	Lake immed S of I-84 & dwnstrm of Multnomah Falls.
Polk	Gordon Buhler Res.	45	-123.34	Res behind 17' dam in Salt Ck drainage, S of Buhler Res & NW of Hoekstre Res.
Tillamook	Classic L.	45.75	-123.9	Pond in Anderson Ck drainage, 2 mi NE of Neahkahnie L & N of Nehalem OR.
Umatilla	Indian L.	45.37	-118.55	Res behind 50' dam on Jennings Ck, nr Union Co & 10 mi SW of Meacham L.
Union	Jimmy Creek Res.	45.08	-117.9	Res behind 42' dam on Jimmy Ck, 4 mi E of Shaw Res.
Wallowa	Monday Basin L.	45.09	-117.11	Marshy hdwtrs of Imnaha R tributary, 1 mi W of L Frances.
Wasco	Bikini Pond	45.68	-121.29	Columbia R pond in Meyer State Park, W of Rowena OR.
Washington	Holcomb L.	45.57	-122.88	Marshy area on Holcomb Ck nr jct w/ Rock Ck.
Wheeler	Beaver Pond Res.	44.44	-119.82	Res behind 30' dam on Rock Ck tributary, just NE of Rock Ck L.
Yamhill	Tustin L.	45.24	-123.17	Marshy, E bank oxbow of N Yamhill R, 1 mi W of Hawn Ck Res.

Center for Lakes and Reservoirs to study Siltcoos Lake water quality and macrophytes

Rich Miller and Mark Sytsma, Center for Lakes and Reservoirs, Portland State University,
and Mark Chandler, Dunes City Water Quality Control Committee

Siltcoos Lake background. Portland State University's Center for Lakes and Reservoirs (CLR) will conduct a 15 month study of Siltcoos Lake's water quality and macrophytes problems. Siltcoos Lake is a large (1280 hectares), shallow (mean depth 3.3 m; maximum depth 6.7 m) lake located on the Pacific coast, 6 miles south of Florence, Oregon¹. Several permanent streams feed the lake from its 176 square kilometer watershed including Woahink Creek, the outflow from Woahink Lake². The outflow from Siltcoos Lake is regulated by a dam on the Siltcoos River 4 km upstream from the Pacific. Much of the watershed is forested and used for timber harvest, residential development, and some agricultural production.

The lake is popular for recreational activities, particularly fishing for wild coastal Coho salmon, rainbow trout, cutthroat trout, largemouth bass, bluegill, crappie, and yellow perch³. The Oregon State records for Coho salmon and coastal cutthroat trout were caught in Siltcoos Lake. The lake is also the domestic drinking water source for approximately 125 of the 1330 residents of the lakeshore town of Dunes City and numerous residents outside the city limits⁴.

Water Quality Problems. During the fall of 2007 a health advisory against usage of Siltcoos Lake for drinking and other domestic use was issued by Dunes City, the South Coast Water District, the Lane County Health Department, and the Oregon Department of Human Services⁵. The advisory was the result of a dense bloom of the potentially toxigenic blue-green algal species *Anabaena planktonica*. Residents dependent upon Siltcoos Lake were forced to find alternate domestic water sources for a total of 52 days. This incident was just the latest in a series of water quality problems including dense algal growth⁶, high pH values⁶, and excessive growth of non-native aquatic macrophytes such as Brazilian elodea (*Egeria densa*), parrotfeather (*Myriophyllum aquaticum*), and two-leaf water milfoil (*Myriophyllum heterophyllum*)⁷. Due to the algal and macrophytes problems in Siltcoos Lake, the Oregon Department of Environmental Quality (DEQ) classified Siltcoos Lake as water quality impaired⁸. Dunes City has acted on water quality concerns for both Siltcoos and Woahink Lakes by issuing a temporary building moratorium⁹, a septic tank maintenance ordinance¹⁰, and an ordinance limiting phosphorus use¹¹. The city is also in the process of implementing erosion control and stormwater management ordinances.

Scope of Study. In order to determine the sources and extent of water quality and macrophytes problems, CLR will partner with Dunes City, the Siuslaw Watershed Council, Honeyman State Park, the South Coast Water District, and DEQ. Collaboration with Dunes City will be especially close as the Dunes City Water Quality Control Committee has been monitoring water quality in Siltcoos and Woahink Lakes for several years and will continue monitoring Woahink Lake⁶. Funding for the study will be provided through DEQ's Non-Point Source Pollution Implementation 319 Grant program which provides funds to address non-point sources of pollution affecting coastal, river, lake, drinking and ground-water resources.

The study will 1) quantify water quality and macrophyte conditions within the lake, both seasonally and spatially, 2) determine the contributions of sub-watersheds to nutrient loading and 3) disseminate information to resource managers, residents, and visitors. Data collected will be used to assess the total maximum daily load (TMDL) of nutrients that will result in acceptable water quality conditions. Data will also be used to identify and prioritize restoration activities. Successful implementation of TMDL limits to reduce nutrient loading to the lake can be expected to reduce algae densities, decrease turbidity, and increase light penetration of the

water. Since rooted aquatic plants, like the noxious weed *Egeria densa*, obtain most nutrients from the sediment, decreased nutrient concentrations in the water column are not expected to impact noxious weed growth in the lakes. Rather, increased light penetration is expected to enhance rooted aquatic plant production. Therefore, a vegetation management plan for the lakes will be an important component of an integrated management strategy for Siltcoos Lake.

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10. Dunes City. 2006. Ordinance number 173. An ordinance to establish a new chapter 157 within the Dunes City Code of Ordinances entitled "Septic System Maintenance." Dunes City, OR. <http://dunescity.com/ord_docs/ordinance_173.htm>
11. Dunes City. 2007. Ordinance number 190. An ordinance creating title XIV "Water quality protection" to the code of Dunes City and adding Chapter 140 "phosphorus reduction to that title, and declaring an emergency. Dunes City, OR. <http://dunescity.com/ord_docs/ORDINANCE%20NO.%20190.htm>

Challenge to Proposed Waldo Lake Rule Gains Stature

The U.S. Forest Service decision last April to adopt the alternative of their Environmental Assessment for Managing Recreation Use at Waldo Lake that would ban the use of gas boat motors and float planes in 2009 is now undergoing a court challenge. Steven Stewart filed an objection to the ruling to retain his opportunity to motor around the lake with his family, as he had done with his father, "Stub" Stewart, founder of Bohemia, Inc., a publically traded, Oregon forest products company. Columbia Seaplanes Pilots Association has joined Stewart in the case. They have raised the question of the Forest Service's right to regulate use of a lake that is a navigable water owned by the State of Oregon. The general public has a right to fully enjoy navigable waters for a wide variety of uses including navigation, commerce, recreation, and fishing.

The Forest Service has carefully explained the reasoning that led to their decision, both in the EA and in their decision notice. Their ruling to ban internal combustion engines and float planes from the lake has wide, popular approval. But in the Eugene hearing in the Court of Judge Thomas Coffin on February 24th, their representative was unable to cite the justification for Forest Service rulemaking in this case. A time frame was established for a reply, and this answer will certainly have a bearing on the outcome of the challenge.

LAKE WISE
The Oregon Lakes Association
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OLA Mission: The Oregon Lakes Association, a non-profit organization founded in 1990, 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.

Visit our website: www.oregonlakes.org

Invasive Species to be Featured on Upcoming Oregon Field Guide

In the 20 years they have been doing the show, the Oregon Field Guide team at Oregon Public Broadcasting has had numerous calls to expose a variety of foreign plants and animals that have taken root here and have generated significant changes in the landscape. While each of these invaders have interesting profiles, the accumulative impact that they are having on the State, the nation, and the world is truly alarming. Oregonians complain of Asian green crab predation on local clams and oysters, and China decries how American *Spartina* grass is encroaching on their shellfish populations and mangrove stands. International trade is at the heart of the problem, and with the capability of modern transportation, there are few places on Earth that are not just a few hours away from the first parry of a new invader. They can arrive as both unnoticed hitchhikers, in the ballast water of seagoing freighters for example, or as an anxiously awaited exotic import. Have you seen any nutria lately? The lack of natural enemies in their adopted habitat give these invasive species a competitive advantage over natives, allowing them to disrupt and dominate their surroundings.

In an effort to combat the detrimental effect of these disruptions, Oregon Field Guide has joined with SOLV, The Nature Conservancy, Oregon State University, Portland State University, The Statesman Journal, and Oregon Invasive Species Council to educate the public about this threat and enable them to actively oppose it. *The Silent Invasion*, a one hour, special episode of Oregon Field Guide will air Thursday, April 22 at 8:00pm on OPB. Resources on Oregon's known invaders and hotlines to report new sightings will be identified, and a list of smart alternatives for your garden is promised. A calendar of community projects provides hands-on opportunities to join the frontline in this conflict. Do mark your calendar for this special, and you might want to watch for reruns of the March 20th episode too for an Oregon Field Guide look at Diamond Lake after the tui chub have been eliminated.