

BCLSS Newsletter

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"Furthering Lake Stewardship Through Communication and Education"

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Kokanee vs. Mysis Shrimp in Okanagan Lake

Through September and the first part of October two Vancouver Island fishing boats, the Outrageous and the Trident Isle, were on Okanagan Lake trawling for Mysis shrimp.

In 1966 Mysis shrimp were introduced to Okanagan Lake with the well meaning of providing the adult kokanee with a larger food supply. Not all went as planned and it turned out that the shrimp and juvenile kokanee were competing for the same food source, zooplankton and phytoplankton. As the Mysis shrimp numbers grew, the amount of kokanee dwindled. In turn, the rainbow trout, which rely on kokanee as their primary food source, have also decreased in vast numbers.

Thirty-three years later there are over an estimated 81 billion shrimp in the lake measuring about 2 cm in length each. If you add up the weight of all the mysids, by coincidence it turns out to be the equivalent weight of the kokanee that used to be in the lake when there were millions of them.

The trawlers are using nets that range in size and target depth, but who's mouth can be up to 50 feet wide and 40 feet deep. The nets are dragged at varying speeds, depths and times of day in order to determine the most effective way to catch the shrimp, by minimizing the catch of fish. Catches that were being pulled in weighed as much as 90 kilograms in a half an hour.

The shrimp caught in the experimental trawling was offered as free samples to potential buyers, including farmers who could use it for livestock feed, aquariums, fish farms and pet stores. It is believed that there is a market out there and it could even help BC's economy.

Scientists believe that the explosion in the number of shrimp is only one of the challenges faced by the kokanee. Human activity along the lake is also having a large impact on the numbers. Development along the shoreline takes away habitat and many of the creeks that

flow into the lake do not run as often as they used to due to agricultural use. With a decrease in flow from creeks and an overall increase in lake temperatures, the possibility of effective spawning is dwindling.

There is currently a no-kill kokanee restriction on Okanagan Lake because of the decreased numbers. It is believed that if the shrimp population is kept under control, the kokanee will have a better chance of survival.

Katimavik Students in Smithers

"Katimavik is an eight-month program that offers people aged 17-21 the opportunity to experience life with 10 other people of the same age group, working in three different regions of Canada in a wide variety of projects. Over the course of the program participants live in three regions of Canada, learn French, and acquire an abundance of work experience.

From January to August of 1999 the Katimavik Program was here in Smithers, BC bringing with it new groups of volunteers to town. Several non-profit organization in Smithers took part in the program and have benefited greatly over the last 8 months from the volunteer assistance provided by the youth participants. Work placements for the volunteers included the BC Lakes Stewardship Society (in cooperation with Smithers Ministry of Environment)

The BC Lakes Stewardship Society and the Smithers Ministry of Environment received one Katimavik participant during each of the three rotations - Our three Katimavik students were Eloise Gaudreau, Catherine Gagne and Brice Fields, two of which were predominantly French speaking and the other English speaking.

The overall objective surrounding the tasks they were given was focused on helping further develop the lakes stewardship program in Skeena Region.

In the Smithers and Burns Lake area the Ministry of Environment Lands and Parks has been involved with several Lakes Stewardship Societies - namely: The Tyhee Lake Protection Society, The Lake Kathlyn Protection Society, The Lakes Protection Society and the Tchesinkut Lake Watershed Protection Society.

The projects completed by participants would have taken a long time to do or might have been impossible to complete if it were not for the hard work and dedication of the Katimavik volunteers. These included but were not limited to:

- Loons - morphology, diet, habitat, nest disturbance was researched and a new chapter was written and inserted into the Tyhee Lake Management Plan by Eloise.
- "Taking Care of the Loon" - To increase public awareness of the loon population on Tyhee Lake and how to preserve the population an information a brochure was created by the students for distribution by BC Parks and Environment.
- Revision and formatting of the Tyhee Lake Management Plan.
- Floating signs were constructed and posted near nesting habitat on Tyhee Lake to protect these areas from human disturbance.
- Signs were also posted in and around the Tyhee Lake Provincial Park to increase public awareness and ask people to take care and not disturb them during the nesting season.

- The Tyhee Tyhee Lake Management Plan was submitted to BCLSS for posting on their web page.
- Catherine was given the opportunity to present at the BC Lakes Stewardship Society Conference in Prince George - she told the audience a bit about herself and provided first hand information about the Katimavik Program.
- Brice organized the participation of several of our lakes groups in the Secchi Dip In Event as well as getting much of the formatting for the Tchesinkut and Francois plan appendices in order.

Work in progress:

- Revision and formatting of the Francois Lake Management Plan - being done in conjunction with the Tchesinkut Plan
- Research was started on a couple of issues that have been brought to our attention by the Lake Protection Society - information will be added to the Lake Management Plan document

Thanks to the participant's help we have been able to keep the spirit of lake stewardship going in the Bulkley Valley-Lakes District. They have made it possible to reach a whole new group of lake stewards by helping us prepare the Tyhee Lake Management Plan document for posting to the BCLSS web pages as well as help raise public awareness on the importance of habitat protection for the Tyhee Lake loon population. The work that was put into the preparation of the Tchesinkut and Francois Lake Management Plans for web posting has moved these plans forward a great deal. We expect to complete this work with the help of future Katimavik volunteers when the program returns to the Smithers in January 2000.

We hope that we have provided these youth with transferable working skills in the areas of computer and public relations as well as an appreciation of the importance of a healthy environment for the future. We have enjoyed the young women and gentleman who worked with us and thoroughly support the Katimavik program. Our community and the four local lakes protection societies have greatly benefited from the presence of Katimavik participants."

Lisa Westenhofer

What are our Local Groups up to?

Christina Lake Stewardship Society

Christina Lake received a government grant to work on Fisheries related stuff in their area. They have been studying the fish in Christina Lake as well as the streams that surround it. To date, the stream work is finished and now they are working on the fish in the lake with a company that they have partnered up with. In August Christina Lake held a Lake Awareness Day to keep people up to date on environmental issues and water quality. They are trying to get better participation next year so they are working with other clubs to that their activities can be consolidated to one or two weekends in the summer.

Shannon Lake Community Association - Parks Committee

The mandate of this group is 'Conservation through the enhancement, education,

development and preservation of the parks in the Shannon Lake Neighborhoods'. Over the past year they have had many projects on the go, with having over 75 volunteers come out with Project C.O.O.L. (a group of volunteer divers and grounds people) to clean the garbage out of the lake. They had tremendous sponsorship from the business community who provided prizes for everyone who came out. Their main project at the moment is keeping Shannon Lake clean. In conjunction with Community Clean Up Month (through the regional district) they organize a clean up day of Shannon Lake Regional Park and Shannon Lake. Their next clean up day is on April 8, 2000.

Cusheron Lake Algal Bloom

One of the member groups of BCLSS - at Cusheron Lake on Saltspring Island - went through a notable experience in September. Cusheron lake is a moderately productive lake - with spring phosphorus in the 15-25 ug/L range - and thus very noticeable algal growth in normal times. In early September a very heavy algal bloom began to occur. There is a water utility that draws water from the lake and it was having extreme difficulty with its filters clogging. Residents that used the lake as drinking water were having plugged filters and many noticed the taste and odor of the water had changed for the worse! The Secchi transparency fell to half a meter and Ministries of Environment and Health were contacted.

The concern was that the bloom might be toxic and after the algae was identified as a blue-green (a cyanobacteria - Aphanizomenon), the local Health Unit issued an order that water from the lake was not to be used. The lake was sampled for algal toxins and sent to the University of Alberta for analyses. The results came back negative but the whole episode (everybody was without water for a week) was a very instructive one in that it made everyone aware of how important their lake was.

The local stewardship group (led by Wayne Hewitt) has been sampling the lake, and will now be leading an effort to have a Watershed Management Plan put together that will minimize the amount of phosphorus entering the lake. Their watershed is a very complex one with septic tank, watershed land use issues and education all very large issues. A big job!

Internal Affairs

We have a Northern Director!

At our last conference call on September 9, 1999, Lisa Westenhofer of Smithers was asked to be our Northern Director, which she accepted. Lisa has been involved with BCLSS for the past few months on subjects such as the Katimavik students and the Tyhee Plan. Lisa can be contacted in the following ways: mail: 3726 Alfred Ave, Bag 5000, Smithers, BC, V0J 2N0 Phone: (250) 847-7304 E-mail: LisaWestenhofer@gov.bc.ca

E-Team term comes to an end

Our E-team student, Sage Karras, is finished her term on October 22, 1999. Some of the biggest accomplishments that she has done are coordinating the Secchi Disk Dip In, starting the Lake Keepers manual and upgrading the new and improved web page.

Charitable Tax Status All of the papers to become a charitable group have been submitted and will be reviewed some time between December of this year and March of next year by the charitable tax status committee.

Still Calling for Stewardship Projects

If you or your organization have any ideas for projects that would help protect and restore your lake, let us know. We are willing to help you get funding for your project by helping you find sources and write proposals. Even if you have an idea and don't have an organization, we can help you form one.

If you are interested, call our toll free line at 877 BC LAKES (225 2537) or e-mail Michelle at <mailto:bclss@hotmail.com>

Call for Lake Stories

We are still holding our Lake Story Contest. If you have a story that you would like to share that is lake or stream related, we would like to hear it. It could be anything from a fishing or boating experience, to falling in the water, or even seeing the ogopogo.

Stories should try not to be no more than 250 words in length and should be submitted by Dec. 31, 1999. Submissions can be e-mailed to bclss@hotmail.com, faxed to 250 868 1027 or mailed to us at our mailing address on the front page of the newsletter.

Check out our New and Improved Webpage found at two Sites!

We now have a New and Improved webpage that you can visit at two locations. The original location, found at www.scrn.org/bclss, is still in the process of being updated as our webman Steve is a very busy fellow as he runs a company as well. If you keep checking back at the site, though, it will be updated soon. The second site is hosted by NALMS and can be found at <http://www.nalms.org/bclss/www.nalms.org/bclss/home.htm>. This site is up and running, but does not have the discussion forum links working yet (we are working on it). Links will be added and hooked up as we find information. You will find that the new webpage is easier to use and includes much more information that the old site had. If you find any problems or have any comments or suggestions you can direct them to Michelle by emailing <http://www.nalms.org/bclss/bclss@hotmail.com>

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Lakes in British Columbia - each as unique as a fingerprint but equally susceptible to the pressures of habitat loss and pollution. Protecting your lake means protecting the whole ecosystem - the fish, plants, aquatic life, water quality and physical habitat in the watershed that surrounds it.

AGRA Earth & Environmental can provide environmental and engineering services aimed to revitalize or maintain a healthy lake community. Our expertise is wide-ranging and includes the following disciplines:

- Aquatic Habitat Enhancement

- Water Resource Management
- Fish and Fish Habitat Inventories
- Flood and Erosion Control
- Lake Inventories
- River Diversion and Crossing
- Water Quality (Drinking Water)
- Hydraulic Structures
- Water Quality (Aquatic Life)
- Shoreline Stabilization
- First Nations Training
- In-Stream Flows and Water Quality
- Facilitation for Community Groups
- Wastewater Treatment

AGRA has 10 offices in BC. Please contact one close to you for more information.



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- Nanaimo (250)-758-1887
- Prince George (250)-564-3243
- Smithers (250)-847-8783
- Victoria (250)-382-5141

Visit their Web Page at <http://www.nalms.org/bclss/www.agra.com/ae>