

2016

## Lakelse Watershed Initiatives

A Summary Report of the Main Initiatives within the Lakelse Watershed



Storm Carol

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Hidden River Environmental Management

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## Lakelse – Watershed Initiatives

Funding to support the Lakelse Watershed Coordinator and other watershed Initiatives/projects for 2016 continued to be administered by RDKS and has been provided by:

- RDKS – grant in lieu – Kemano funds @ 10% per year: \$ 41 K (core funding for position, expenses)
- Training and projects \$8,050.00

**Total RDKS \$49,050.00**

*Other Sources:*

▪ LWSS (via DFO–PIP contract)	\$3,000.00 (project specific)
▪ Employment and Social Development Canada	\$3,300.00 (summer student)
▪ DFO (via Pacific Salmon Commission)	\$25,000.00 (project specific)
▪ Northern Health	\$1,000.00 (project specific)
▪ LNG Canada	\$800.00 (project specific)
▪ LWSS (via Pacific Salmon Foundation)	\$2,700.00 (project specific)
▪ FLNRO – Recreation Branch	\$1,000.00 (project specific)
▪ MoTI/Nechako Northcoast	\$500.00 (project specific)

**TOTAL ADDITIONAL FOR INITIATIVES \$ 37,300.00**

In addition to direct funding, agencies and volunteer organizations leveraged significant in-kind support including staff, expertise, equipment and logistical assistance. Participants listed below:

*Fisheries and Oceans Canada (DFO):*

- North Coast - Resource Restoration Unit (Smithers/Terrace)
- North Coast – Stock Assessment (Prince Rupert)
- North Coast – Community Involvement Program (Terrace)

*BC Ministry of Forests, Lands and Natural Resource Operations (FLNRO)*

- Habitat Protection Officer – Terrace
- District Recreation Officer – Terrace
- Impact Assessment Biologists – Smithers

*BC Parks/Parks Contractor – Lakelse Lake Provincial Park*

- Advertising
- gifts

*Ministry of Transportation and Infrastructure - Terrace*

*Regional District of Kitimat Stikine (RDKS)*

- Planning and Administration

*Northwest Community College*

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- Instructors
  - Use of laboratory space and equipment

*Northern Health (NH)*

- Public Health

*Lakelse Watershed Stewards Society (LWSS)*

- Directors and Community Volunteers

*Terrace Rod and Gun*

- Community Volunteers

*Deep Creek Hatchery*

- equipment

## AGENCY SUPPORT AND PARTNERING – WATERSHED COORDINATOR

The goal of a collaborative approach to Lakelse Watershed is to provide the necessary agency support to enable cooperation, exchange of information and resources, reduction or elimination of duplicated efforts, and provide valuable continuity and connectivity between the various stakeholders and partners.

The key role of the Watershed Coordinator is to facilitate and coordinate – people, projects and resources.

The position provides coordination between government agencies, interest groups and stakeholders in matters directly associated with the Lakelse watershed, its development, assessment, planning and management. As such the Watershed Coordinator continues to:

- Assists all agencies/stakeholders (and their consultants) with their endeavors within Lakelse watershed,
- Pursues additional funding for administration, projects and events where appropriate,
- Develops an annual work plan in conjunction with agencies, interest groups, funders and stakeholders,
- Facilitates meetings, conferences, workshops, projects or events pertaining to the watershed,
- Establishes and attempts to maintain positive communication with government agencies, sponsors, partners, stakeholders, funding agencies and community,
- Creates and administers budgets and reports for the watershed initiatives,
- Maintains and updates LWSS website on their behalf,
- Initiates and carries out public relations and media initiatives,

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- Assists agencies, interest groups and stakeholders with projects related to Lakelse watershed, its development, planning and management where feasible.

Core funding is provided by a cash- in-lieu grant from RDKS as approved by the Board of RDKS annually. Reporting on routine coordinator activities is done once per month with invoicing. This is provided to the RDKS Treasurer and the Lakelse Watershed Stewards Society contract administrator (President).

Additional reporting on specific projects plus a financial report is done to RDKS Board annually by the Watershed Coordinator. This report is also shared with other watershed partners and funding sources. Enquiries about any project or initiative to date are encouraged. Contact the Watershed Coordinator for details.

As part of this funding arrangement with RDKS, additional funding (addition to core funding) should be made evident for continued program support. Outcomes and deliverables associated with these additional funds are identified by each source (contract, statement of works, “deliverables”) and are reported on separately as required.

A variety of projects were undertaken in 2016 by partnering agencies. Some were suitable and appropriate to include volunteer participation; others were not. A report of Lakelse Watershed Stewardship Society activities is provided separately by the Society per their agreement with RDKS, which outlines their projects for 2016.

## WATERSHED – WORKS AND INITIATIVES

### *PROJECTS UNDERWAY IN THE WATERSHED THROUGHOUT 2016 INCLUDED:*

- Williams Creek Sockeye Seining- LWSS and Terrace Rod and Gun Club, DFO, BC Parks, HREM, Watershed Initiatives.
- Lakelse Lake Water Sampling – Ministry of Environment, LWSS, Watershed Initiatives, Terrace Rod and Gun Club
- Northern Health Water Sampling – Northern Health, LWSS, and Watershed Initiatives
- Lakelse Watershed Water Sampling -- Terrace Rod and Gun Club, NWCC, LWSS, Watershed Initiatives, and FLNRO
- Lakelse Watershed Fish Sampling – LWSS and Watershed Initiatives
- Lakelse Watershed Invertebrate Sampling – LWSS, NWCC, and Watershed Initiatives
- Northwest Community College Field Day – DFO, NWCC, and Watershed Initiatives
- Scully Creek Sockeye Salmon Enumeration – Remote Underwater Camera Project – LWSS, DFO, Terrace Rod & Gun, BC Hydro and LNG Canada

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- Scully Creek Education Day – DFO and Watershed Initiatives
  - Furlong Bay Interpretive Walks and Talks – BC Parks, Pacific Salmon Foundation, Deep Creek Fish Hatchery, LWSS, and Watershed Initiatives
  - Crystal Creek Signage – MoTI, Nechako Northcoast Construction, and Watershed Initiatives
  - Granite Creek Signage – FLNRO, Kitimat Rod & Gun, LWSS, BC Hydro, Pacific Salmon Foundation and Watershed Initiatives

### WILLIAMS CREEK SOCKEYE SEINING

For the third consecutive year, members of the Lakelse Watershed Stewards Society and Terrace Rod & Gun Club worked with the Department of Fisheries and Oceans to determine the amount of wild and hatchery Sockeye salmon that returned to spawn in Williams Creek. Seining and gillnetting took place from August to September and over 4,439 individual sockeye were handled during the eleven site visits. Using the Lincoln-Peterson mark recapture sampling method, an estimated 11,137 Sockeye salmon were determined to have spawned in Williams Creek in the summer of 2016.



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## LAKELSE LAKE WATER SAMPLING

Water quality data concerning temperature, turbidity, depth, pressure, dissolved oxygen, conductivity, and pH was collected from May to August at four different sampling locations within Lakelse Lake. Following a field visit from Jessica Penno and Lisa Torunski, Impact Assessment Biologists from the Ministry of Environment, lake profiles were recorded at 1-meter intervals (as opposed to the original 5-meter intervals) in order to provide more accurate readings at varying depth profiles. With continued sampling, any future trends or changes in water quality within Lakelse Lake will be able to be observed due to the data collected and in collaboration with insight from MoE biologists.



## LAKELSE WATERSHED WATER SAMPLING

From May to November water quality data concerning temperature, turbidity, depth, pressure, dissolved oxygen, conductivity, and pH was collected weekly at 15 sampling locations throughout the Lakelse Watershed. Locations were selected with the intent to cover the entire watershed, in order to capture baseline data for control sites and represent areas that may be affected by proposed industrial development. A new sampling location on a tributary to Clearwater Lake was added to the route in order to more accurately monitor any changes to the watershed due to nearby development. With continued sampling, any immediate changes to water quality could be observed in real-time and any long-term trends in water quality will be visible.



### NORTHERN HEALTH WATER SAMPLING

In an effort to insure public safety, beaches off of Lakelse Lake were sampled this summer in order to test for the presence of E. coli. Water samples were collected at the Furlong Bay Campground, Lakelse Lake picnic site, and Gruchy's Beach and sent to Northern Health's lab for testing.

### LAKELSE WATERSHED FISH SAMPLING



In order to gain an understanding of the presence and absence of the various fish species that reside within the streams in the watershed, a fish sampling collection took place in mid-October on all the streams that were being sampled for water quality. Minnow traps

where placed in all sites for 24 hours and collected the following day. Upon collection, fish were identified and enumerated in order to determine fish distribution in the tributaries feeding into Lakelse Lake. Results from the fish data collection can be seen in the table below.

Stream Name	Coho (CO)	Cutthroat (CT)	Dolly Varden (DV)	Sculpin (SS)	Rainbow Trout (RT)
Sockeye	12	8	9	0	0
Williams	1	0	0	3	0
Langley (Hull)	14	0	0	0	0
Granite	30	0	0	1	0
Mountain	4	0	0	0	1
Scully	26	4	1	0	1
East Highway	0	0	0	0	0
Clearwater Trib.	0	7	2	0	0
Ena 1	0	0	0	0	0
Ena 2	0	0	0	0	0
Clearwater	0	3	1	1	0
Westside	0	0	0	0	0
Eel	3	0	0	0	0
Upper Herman	2	6	0	0	0
Upper Mink	0	0	0	0	0

## LAKELSE LAKE INVERTEBRATE SAMPLING



In order to further evaluate the health of streams within the Lakelse Watershed and their ability to support fish populations, invertebrate samples were collected from the 15 streams currently included in the water sampling route. Following sampling, invertebrates were placed in an alcohol solution for preservation. Through the use of the NWCC lab, samples were sorted and invertebrates were identified using a microscope. The main

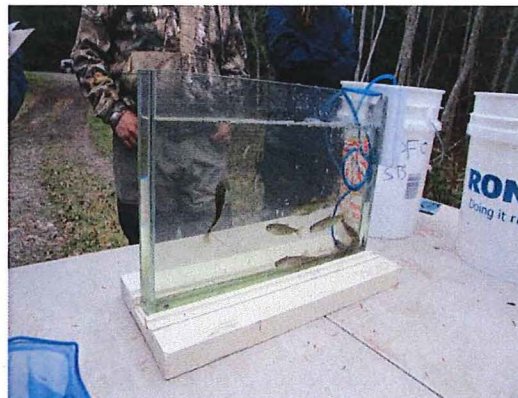


invertebrates sorted in the lab included Stoneflies, Caddisflies, and Mayflies. These three classes of invertebrates are very sensitive to pollution and high levels of organic sediment input, so can be useful in indicating changes to the surrounding environment. See the table below for invertebrate results from the streams located in the route.

Stream Name	Stonefly	Mayfly	Caddisfly	Worm	Midgefly larva	Scud	Clam	Snail	Black fly larva
Sockeye	10	27	22	1	0	0	1	0	0
Williams	12	7	0	0	7	0	0	0	0
Langley	1	7	3	33	31	0	0	0	1
Granite	1	22	29	1	0	0	0	0	0
Mountain Creek	3	0	8	20	0	17	0	1	0
Scully	16	3	6	1	0	0	0	0	0
East Highway Clearwater	3	20	3	2	0	0	4	13	13
Clearwater Tributary	25	5	12	0	39	0	0	0	0
Ena 1	0	0	1	4	0	2	8	3	0
Ena 2	38	35	15	72	15	1	12	3	0
Clearwater	4	0	29	2	11	2	214	118	0
Upper Mink	1	0	28	4	20	0	0	0	0
Upper Herman	0	4	0	17	0	1	0	1	16
Eel	11	64	37	7	0	0	2	0	0
Westside	30	31	21	27	0	0	0	0	0

## NORTHWEST COMMUNITY COLLEGE FIELD DAY

On April 8<sup>th</sup>, a biology class from NWCC was met at Eel Creek, a tributary to Lakelse Lake, where they learned about invertebrate collection, fish identification, and the basics of operating a ProDSS water quality meter. Through a partnership with the DFO, a fish viewing tank was also brought to the site and all fish collected from minnow traps were observed in the tank during fish identification. Students were encouraged to participate in LWSS volunteer opportunities and local career options in the environmental science field were discussed.



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## SCULLY CREEK SOCKEYE SALMON ENUMERATION

On August 6<sup>th</sup> of 2016 an underwater camera was installed in Scully Creek to monitor the number of adult Sockeye salmon returning to spawn. In an effort to improve the previous year's methods, a fish fence was installed downstream of the camera in order to prevent the double counting of fish who may move upstream and downstream while determining where to spawn. The camera was checked weekly to back-up data and insure visibility. The footage will be viewed this winter to determine the total number of Sockeye that returned to spawn in Scully Creek.



## SCULLY CREEK EDUCATION DAY

This summer, sixth graders from Uplands Elementary School visited the southern part of Lakelse Lake next to Scully Creek to learn more about the fish that live in the surrounding area. Using a beach seine, students helped catch fish along the shore in order learn how to identify the juvenile fish species that live in the lake. Minnow traps were also placed in Scully Creek and students compared the species found in the stream vs. lake. Additionally, students learned about the lifecycle of Sockeye salmon and were taken to view the underwater camera used to count spawning fish in Scully Creek. The importance of keeping the lake and its tributaries free of harm was highlighted in order to encourage future environmental stewardship of the watershed.



### FURLONG BAY INTERPRETATIVE WALKS AND TALKS

Running from early June to late August, five interpretative walks were given along the Twin Spruce trail in Lakelse Lake Provincial Park in a partnership with BC Parks. Ways in which to identify and protect important salmon habitat were emphasized as the trail crossed over various types of aquatic habitats. At the end of the walk, a table was set up with a viewing tank next to Salmon Creek. Minnow traps were collected from the stream through the help of participants, and fish caught were identified in the tank.



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## CRYSTAL CREEK SIGNAGE

After residents on the east side of Lakelse Lake expressed concern over an unmarked creek, MoTI and Nechako donated time and funds in order to make the creek noticeable to the public and road maintenance contractors. The sign was installed and is now in plain view from 1<sup>st</sup> Avenue.



## GUNSIGHT TRAIL SIGNAGE

The signage in the Gunsight trail parking lot kiosk is now complete with two posters in place. One poster touches on the history of the hatchery on Hatchery Creek and the other provides information to hikers on the popular trail route to Gunsight Lake.



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## MOVING INTO 2017

The year 2016 was very busy in the Watershed and we were provided the opportunity to encourage watershed stewardship locally through partnerships with Uplands, NWCC, and BC Parks. The continuation of data collection initiatives put in place last year and enhancement of those, has made for a more consistent and robust set of baseline data including water quality, fish, and invertebrates which can be used to monitor any changes to the watershed in the future.

Some of the projects for 2017 will include the placement of bat boxes in second growth forests surrounding Lakelse Lake, continuation of the underwater camera projects, water sampling of the Lakelse Watershed and Lake, and a water quality sampling course provided to interested volunteers and community members.

*Sincerely,*

*Mitch Drewes, R.B. Tech  
Lakelse Watershed Initiatives*