



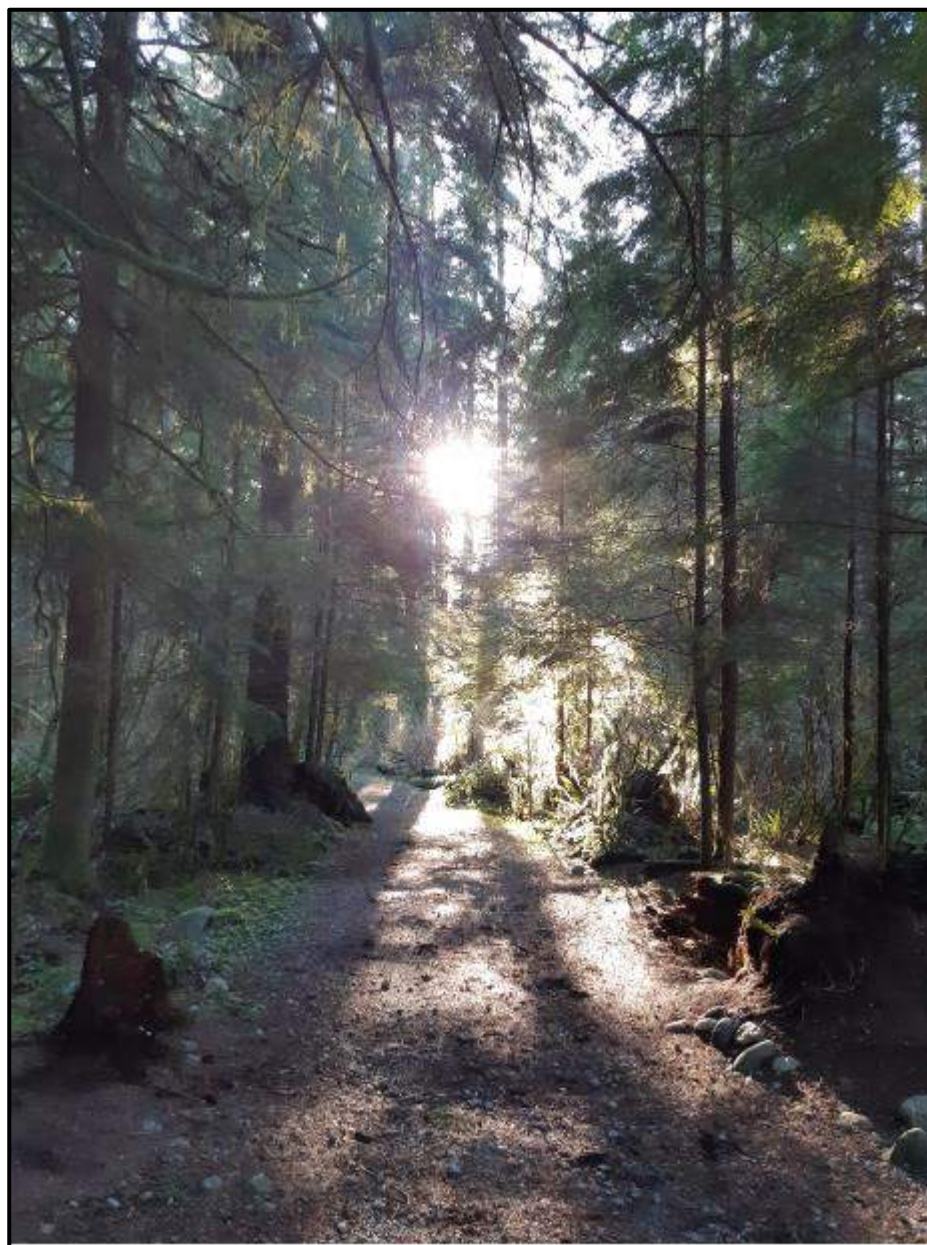
Alouette River Management Society (ARMS)
2019 Annual Report on Activities

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Updated: 30 March, 2020

This report is prepared with generous funding provided by the City of Maple Ridge. The Alouette River Management Society reserves the right to all photographs with exception of Maple Ridge News articles.

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Allco Park, January 2019

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Alouette Reservoir Levels in 2019

In March at our ARSRP spring meeting, BC Hydro informed our committee that it was very likely that there would not be the flows necessary to facilitate the annual outmigration of the kokanee/sockanee smolts. This news took some time to hit home in the meeting but was made very real to us when ARMS staff and directors went up to the Alouette Reservoir on April 4 to view the reservoir level. We came back from that site visit extremely disturbed as we were now in a position where there was no way for the kokanee smolts to leave the reservoir and to continue the annual return of adult sockeye to the Alouette system although there was some speculation as to whether any smolts would leave via the low-level outlet at the base of the Alouette dam. BC Hydro is required in their water license to keep reservoir levels at an operating range at or above 121.85 metres from April 15 to June 14 to allow smolts to exit the reservoir.

However, the estimated level on the date ARMS went out to view the reservoir was around 116 metres. BC Hydro had drawn down the reservoir in fall-winter 2018-2019 in anticipation of the rains, however, in February 2019 the rainfall that was received in the Alouette basin was the lowest recorded on BC Hydro's records. The impact on the Alouette Watershed Sockeye Fish Passage Feasibility Project was that only 1 kokanee smolt (mortality) was found in the downstream rotary screw trap operated by Katzie First Nation and LGL Limited during the annual survey. This in turn meant that we have potentially lost a year of adults returning to the Alouette River in 2023. ARMS sent a letter to BC Hydro CEO Chris O'Riley on April 5 outlining our concerns that were now apparent with the management of the reservoir levels. On April 24, ARMS received a letter back from BC Hydro in response (see Appendix A for ARMS letter)

In 2019, ARMS directors and staff met with BC Hydro representatives and attended presentations by BC Hydro staff on no fewer than eight (8) times on matters related to fish passage, reservoir operations, entrainment, Alouette and Stave water use plan and license applications.

On November 16, ARMS President sent a letter to BC Hydro CEO Chris O'Riley and the Director of Water Rights and Comptroller, Ted White outlining ARMS' concerns regarding the overall management of the Alouette and Stave reservoir systems specifically around proposed seismic upgrades at the north basin diversion tunnel and the low-level outlet in the Alouette dam. (see Appendix B for ARMS letter)

ARMS continues to advocate for the Alouette Watershed through regular dialogue with BC Hydro senior staff and management.



Left: Alouette Reservoir – 4 April 2019, big cedar stump for comparison



Below: Alouette Reservoir – 4 April 2019, looking north



Top and bottom: Walking south towards Alouette dam, 4 April 2019

26th Annual Ridge Meadows Rivers Day



The 26th Annual Ridge Meadows Day was a hit despite the downpour! The celebration took place at the Rivers Heritage Centre and Allco Fish Hatchery in Maple Ridge, British Columbia. This annual event took place in conjunction with BC Rivers Day and World Rivers Day. This worldwide celebration of rivers was founded by BCIT Rivers Institute Chair, Mark Angelo.

This year, we celebrated the 40th anniversary of the Allco Fish Hatchery program and held a special recognition ceremony to acknowledge some of the important individuals and groups who have contributed greatly to this long-running BC Corrections program. Awards were presented by Fisheries and Oceans Canada Director of Oceans and the Salmonid Enhancement Program, Brigid Payne to Fraser Regional Correctional Centre (FRCC) Warden Rick Lacroix and Deputy Racette. ARMS founding director, Geoff Clayton, spoke about the forward-thinking people that started the program back in 1979, Jim Jose and others, and the amazing work done by the residents of the FRCC over the many years to enhance salmonid stocks in the Alouette system and others in the Lower Mainland.

VIPs in attendance included MLA's Bob D'Eith, Lisa Beare, Mayor of Maple Ridge Mike Morden and Councillors Yousef, Meadus and City of Pitt Meadows Councillor Gwen O'Connell.

How many people attended/involved on event day?

- # of volunteers – 66
- # of hours contributed including set-up/take-down – 452
- # of people attending including public and exhibitors – 450

Our long-time favourites included kids' trout fishing pond, birdhouse building, honey bee hive observation, Michelle Hersey and the Nylon Zoo Salmon tent, and free face painting with Mehndi & More Body Art.



We had lots of fun musical entertainment all day with Synergy, Lisa Rae Simons, Spandy Andy and the Carnival Band! The music was held on the main stage under the REMAX tent. Lisa Rae was a lot of fun with her mixing and mashing fun songs and physical movement for kids! We added several new entertainers to our line up in 2019 including Spandy Andy who was super-energetic and fun. He was a real crowd-pleaser with his zany dance moves, quirky personality and vibrant outfits. Other new family entertainment included much-loved local Maple Ridge puppeteer group, “The Well-Worn Trail”. They entertained the public with a short set of environmental stories, songs and puppet play.



New Features:

In 2019, we launched our first shuttle service from Garibaldi High School down to Allco Park and back. This proved to be a very helpful service for the public. With our feedback from this service we hope to offer it again this year with improvements.



Special Recognition:

- Allco 40th Anniversary Recognition – Department of Fisheries and Oceans Canada Brigid Payne to present award to Fraser Regional Correctional Centre Warden Rick Lacroix and Deputy Brent Racette. DFO Community Advisor for the Salmon Enhancement Program/Allco Fish Hatchery program, Scott Ducharme in attendance and ex-DFO Community Advisor Maurice Coulter-Boisvert.
- ARMS 1st Annual Bursary Award winner – \$750 cheque went to Heather Kelly
- ARMS Most Valuable Volunteer 2019 – Recognition certificate went to Shravinya Saravanakumar
- ARMS 1st Annual Nature Photo Contest 2019 – Kristina Brisbin



Ridge Meadows RIVERS DAY

Financially sponsored by

 MAPLE RIDGE PARKS, RECREATION & CULTURE	<u>\$1500</u>
 PORT of vancouver	<u>\$950</u>
 FWCP Fish & Wildlife COMPENSATION PROGRAM	<u>\$900</u>
 GLASS WORLD	<u>\$500</u>
INNERGEX	<u>\$300</u>



Amazing Rivers Day volunteers!







Bottom: Most Valuable Volunteer 2019 – Shravinya Saravanakumar

Environmental Exhibitors



Family Entertainment



Rivers Day Prize Winners





ARMS 1st Annual Bursary Winner – Heather Kelly

ALLCO Fish Hatchery 40th Anniversary



Unveiling the new ALLCO Fish Hatchery sign

We are very grateful to have had the full support of the Fraser Regional Correctional Centre, City of Maple Ridge's Parks, Recreation and Culture department, BC Federation of Driftfishers, the Port of Vancouver, Maple Ridge-Pitt Meadows Agricultural Association, REMAX, the Fish and Wildlife Compensation Program and the Kiwanis Club. Our core volunteers included the Maple Ridge Lions, 1st Laity View Scouts and local high school students – without them we would not have been able to put on such a great event.



The poster features a banner of colorful pennants at the top. The main title 'Ridge Meadows RIVERS DAY' is in large, bold letters, with a small blue fish icon above the 'o' in 'Meadows'. Below it, 'Celebrating 40 years of ALLCO Fish Hatchery' is written in a blue, bubbly font. A fishing lure is positioned to the right of the title. In the top right corner is the Alouette River Management Society logo, which includes a stylized fish. The text 'THANK YOU TO ALL OUR SPONSORS, SUPPORTERS, EXHIBITORS & VOLUNTEERS!' is centered in a bold, serif font. Below this is a paragraph of text and a silhouette of a fish with a rainbow tail. The bottom section lists sponsors in two columns, with logos for several organizations on the right side.

Ridge Meadows RIVERS DAY

Celebrating 40 years of ALLCO Fish Hatchery

THANK YOU TO ALL OUR SPONSORS, SUPPORTERS, EXHIBITORS & VOLUNTEERS!

Ridge Meadows Rivers Day was made possible by the amazing support we received from so many businesses, community groups and individuals.

Fraser Regional Correctional Centre	Whats on! Ridge Meadows	Financial Sponsors:  MAPLE RIDGE PARKS, RECREATION & CULTURE  FWCP Fish & Wildlife COMPENSATION PROGRAM  PORT of vancouver  GLASS WORLD INNERGEX
Alouette Correctional Centre for Women	Maple Ridge Agricultural Association	
DonCol Nature Products	Black Sheep Pub & Grill	
Speed Pro Signs	Grow & Gather Trice Farms LTD	
Maple Ridge-Pitt Meadows News	Haney Builders Supplies	
BC Federation of Drift Fishers	The Keg Maple Ridge	
Minuteman Press	Kiwanis of Golden Ears	
Maple Ridge Lions	Starbucks 240th	
Save On Foods #938	Blue Heron Winery	
Partners In Health	Thrifty's Food Maple Ridge	
Foamer's Folly	Meadow Gardens Golf Course	
Triple Tree Nursery	Maple Ridge Liquor Store	
Canadian Tire Maple Ridge	White Spot Maple Ridge	
REMAX	London Drugs	
Wildplay Maple Ridge	Kanaka Creek Coffee	
Trevor Linden Fitness - Club 16	AJM Disposal Services LTD.	
Domino's Pizza Garibaldi Crossing	Haney Sewing & Sound	
Mr. Pets Maple Ridge	Hatch Match'r Fly and Tackle	
Marks Work Wearhouse	T's-Once Upon a Tea Leaf	
	Outer Limits Clothing Co	

To learn more about the Alouette River Management Society visit our website www.alouetteriver.org

Environmental Education

In 2019, teachers were again keen to take advantage of the experiential focus of the B.C. School Curriculum with many returning teachers as well as new teachers reaching out for environmental workshops or tours. Our education delivery **increased 52%** from 93 classes in 2018 to **179 individual** Pre-K, Elementary and Secondary level classes or groups in 2019.

Our Wildlife Workshop instructor, Jasmine Sidhu, delivered most of these sessions in the spring and fall with help from summer students and ARMS regular staff. Jasmine has grown enormously in her repertoire of nature-based education workshops and continued to be received very well by teachers and students. We reached **4005 students in 2019** which was an **increase of 27%** on our 2018 numbers of **1100 students** reached. These students were preschool age to grade 9 from January 30th to December 5th, 2019. We went to **56 different schools in SD42, Mission School District, Surrey, Coquitlam, and Langley School Districts.**

EDUCATION PROGRAMS by Total Cumulative Hours	For 2019
In-Class	3154
Watershed Education & Hatchery Tours	1665
Habitat Programs	1188
Eco-Camps	1040
TOTAL Education hours	7047

EDUCATION PROGRAMS by Number of students reached	For 2019
In-Class	2103
Watershed Education & Hatchery Tours	1110
Habitat Programs	792
Eco-Camps	231
TOTAL STUDENTS REACHED	4236

ARMS delivered environmental education to these schools in 2019:

Maple Ridge – SD42

- Albion Elementary School
- Alouette Elementary School
- Blue Mountain Elementary School
- ɔ̃sq̃ənelə Elementary School
- Eric Langton Elementary School
- Fairview Elementary School
- Glenwood Elementary School
- Golden Ears Elementary School
- Hammond Elementary School

- Harry Hooge Elementary School
- James Cameron School
- Kanaka Creek Elementary School
- Laity View Elementary School
- Maple Ridge Elementary School
- Maple Ridge Environmental School
- Meadowridge School
- Webster's Corner Elementary School
- Whonnock Elementary School
- Yennadon Annex
- Yennadon Elementary School

Pitt Meadows – SD42

- Davie Jones Elementary School
- Edith McDermott Elementary School
- Highland Park Elementary School
- Pitt Meadows Elementary School
- Pitt Meadows Secondary School

Other school districts

- Leigh Elementary School, Coquitlam
- Edwin S. Richards Elementary School, Mission
- Hatzic Elementary School, Mission
- Lynn Fripps Elementary School, Langley
- Moody Elementary School, Port Moody
- Our Lady Fatima Catholic Elementary School, Coquitlam
- Panorama Heights Elementary School, Coquitlam
- Pebble Hill Elementary, Twissawassen
- Rochester Elementary School, Coquitlam
- St. Francis Xavier School, Vancouver
- Surrey Traditional Elementary School, Surrey
- William Watson Elementary School, Surrey

Pre-schools and other groups

- Albion Good Beginnings Daycare
- Bluebell Daycare
- Cedar Roots Aboriginal Education Program
- City of Maple Ridge Parks, Recreation and Leisure
- Cottonwood Childcare Centre
- Family Support Centre Maple Ridge
- Kids by Design Preschool
- Love to Learn Preschool
- Maple Ridge Church summer camp
- Maple Ridge Girl Guides

- Malcolm Knapp Research Forest-UBC LAND One program
- Meadow Montessori School
- Montessori Corner
- Pitt Meadows Brownies
- Whonnock Conscious Care Preschool
- Worms and Wee Ones Parent & Tot Group



ARMS hosted a total of 6 spring and summer camps in 2019 with our Eco Camps supervisor, Dan Mikolay heading up the team. High school volunteers and Canada Summer Jobs students proved to be excellent camp leaders and assistants and without them our camps would not run.

Spring break camps in March were themed “The Science of Harry Potter Continues!” and “The Adventures of Pixar!”. They proved to be a very popular themes with **46 children registered** for this eco-camp over two weeks, making it the most successful spring break camp ARMS has ever offered the community.

Summer camps ran in July and August with a **total of individual 185 registrations over 4 weeks** for either a full week or daily. Themes offered to children for summer included “Harry Potter and the Lost Horcrux”, “The Adventure of Pixar Continues”, “Build It! Bake It Part 2!”, “Pixelmon!”, and “Forest Explorers”.

ALOUETTE RIVER MANAGEMENT SOCIETY
www.alouetteriver.org

The Alouette River Management Society is here to bring your child's learning, games, building, and character in life. ARMS specializes in environmental education and is committed to reconnecting children back to nature and outdoor play. We encourage teamwork, creativity, independence, leadership and building new friendships.

2019 Summer Eco-Camps

Harry Potter & the Lost Horcrux!
Age: 7-12 | Fee: \$180/full week - or - \$40/day
Traveling, exploring and magical world, come with us to the world of Harry Potter! Continue to explore the world of Harry Potter, the wizarding world, and the secrets of the Horcruxes. We'll be exploring the world of Harry Potter through a series of fun, interactive games and play.
July 25 - 29, 2019 | Mon - Fri 9:00am - 2:00pm

The Adventure of PIXAR continues!
Age: 4-12 | Fee: \$145/full week - or - \$35/day
Can you find the Pixar in the world? How can you become a Pixar? Weekly adventures featuring the Pixar characters and the Pixar world. We'll be exploring the world of Pixar through a series of fun, interactive games and play.
August 6 - 10, 2019 | Mon - Fri 9:00am - 2:00pm

Pixelmon
Age: 6-12 | Fee: \$180/full week - or - \$40/day
It's Minecraft, it's Pokémon, it's Pixelmon!
Explore the world of Pixelmon, the world of Minecraft and the world of Pokémon. We'll be exploring the world of Pixelmon through a series of fun, interactive games and play.
August 12 - 16, 2019 | Mon - Fri 9:00am - 2:00pm

Forest Explorers
Age: 7-12 | Fee: \$180/full week - or - \$40/day
We have a new mystery to solve in the Alouette Park and we need your help! Learn how to identify plants and animal species to solve the mystery. We'll be exploring the world of the forest through a series of fun, interactive games and play.
July 29 - August 2, 2019 | Mon - Fri 9:00am - 2:00pm

Build it Bake it Part 2
Age: 7-12 | Fee: \$180/full week - or - \$40/day
Get ready with building games while enjoying the natural resources in our area. Make your own bread and enjoy the results of your work. We'll be exploring the world of building and baking through a series of fun, interactive games and play.
July 22 - 26, 2019 | Mon - Fri 9:00am - 2:00pm

Join us for Pro D Days!
"A Day with... Wizard!" - Friday, October 19, 2018
"A Day with... Mr. River Mouse!" - Friday, November 9, 2018
"A Day with... a Superhero!" - Friday, January 25, 2019
"A Day with... an Eco Ranger!" - Monday, April 29, 2019
Age: 6-12 | 8:30am - 3:30pm | Fee: \$125/4 days - or - \$36/day
Limited availability, register today!

****NEW**
EXTENDED CAMP HOURS
NOW AVAILABLE!**
Drop off 8:30am - 9:15am &
Pick up 2:00pm - 4:45pm
ONLY \$15/day extra

To learn more or to register email anna@alouetteriver.org or call 604-467-6401



Canada Summer Jobs Program 2019

Our summer students were extremely enthusiastic, professional and a lot of fun to work with again! We were truly lucky to receive funding through the CSJ program. Every year in January, ARMS writes a grant proposal and submits it hoping to receive funding to hire college-aged students who will be able to assist us with delivering much-needed community programs and outreach in the Alouette Watershed. In 2019, the summer students were trained in and assisted us by planning storm drain marking events, native tree planting workshops and invasive plant pulls. They also reached out to local groups including daycare centres and retirement homes to offer fun and educational environmental workshops. The students also planned the summer camps in conjunction with our camp supervisor, including all activities, leading their assigned camp theme, working with high school volunteers and delivering high-quality outdoor-focused camps. **Net earnings from spring and summer camp registrations was \$20,179!** Much needed income to ensure these camps continue to be offered.

Canada Summer Jobs Funds Six Summer Students \$22,000



Taylor Irving

Taylor is pursuing a Bachelors of Science in Ecological Restoration at BCIT and is eager to apply the knowledge gained through her education to a practical setting.



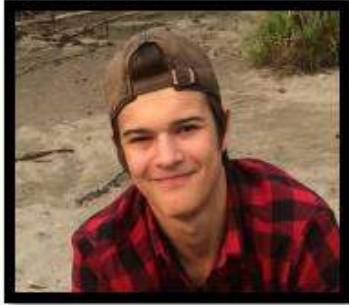
Harlowe Steele

Harlowe is a fourth-year student athlete at San Diego State University majoring in Environmental Engineering. She is passionate about sustainability and environmental stewardship.



Ashley Chun

Ashley is a fourth-year student studying a double major in Geography and Environmental Studies at the University of Victoria. She believes educating children is a key step for society to develop in a sustainable way.



Connor Kaloff

Connor is a third-year student at Douglas College in the Bachelor of Physical Education and Coaching Program. He is passionate about working with children.



Heather Kelly

Heather is a second-year student at the University of the Fraser Valley in the Bachelor of Science Program and is majoring in Biology with a concentration in Pre-Medicine



Reujen Macarayan

Reujen is a fourth year biology student at KPU. He joins the ARMS team again this year as an Eco-Camp & Outreach Assistant.

Canada Summer Jobs post on ARMS website

Without our Canada Summer Jobs students, ARMS would not have been able to put on such wonderful programming for children, get into municipal parks on a weekly basis for outreach and other important environmental projects. **We were extremely lucky to receive funding from the Government of Canada, totalling \$22,344 for six amazing students.**

UBC – Community Field Experience Program

ARMS hosted 3 volunteer UBC practicum teachers in the spring at the Rivers Heritage Centre. This was a great help to ARMS and a valuable learning experience for the practicum students. The Teacher Candidates assisted in delivering some educational programming and we were lucky again in 2019 with one teacher candidate having carpentry skills! These skills were put to good use in the River Heritage Centre. The student built new doors for our education cabinets and hand-crafted 2 education resource display cases. Our teacher candidates also assisted us in planning new workshop content, observing workshops delivered in classrooms and delivering some sessions in classrooms.



Angela Zylmans is a teacher candidate from the University of British Columbia. She is completing part of her teaching practicum – a three week community field experience – at Alouette River Management Society. Angela grew up on a farm in Richmond and currently lives on farmland in Ladner, hence her love for animals and nature. She also has a degree in human geography which she obtained from UBC. Completing her CFE at ARMS has given her the opportunity to combine many of the things she is passionate about; children, animals, and environmental stewardship. Angela will use what she has learnt during her time at ARMS to educate children on the importance of taking care of the environment and giving back to the community.

ARMS website post

With the continued support of the City of Maple Ridge, ARMS can deliver interactive, relevant, and engaging educational programming to youth in Maple Ridge. Raising environmental awareness in our youth so that they may become better stewards of the Alouette Watershed and their local environment is one of ARMS' key priorities.



Young bee-lovers check out a portable hive (thanks to City of Maple Ridge and TD FEF funding)

Plentiful Pollinators Project



TD Friends of the
Environment
Foundation

As part of The Plentiful Pollinators Project led by ARMS, with summer students taking the lead on activities, ARMS organized a community pollinator education event on June 17, 2019 at Chartwell Willow Retirement Community. The Plentiful Pollinators Project was funded by TD Friends of the Environment Foundation. The primary purpose of this project was to engage with community members about pollinator species, including education on the importance of pollinators on our ecological and food systems. This comprised of an observation beehive and presentations by the “The Bee Lady”, Loretta Jackson, including a honey tasting for attendees. Secondly, pollinator-friendly flowers and shrubs were planted with event attendees in their community gardens bed at Chartwell Willow Retirement Community to create more pollinator habitat in the community. The event was successful in **reaching 35 retired residents** from Chartwell Willow Retirement Community, staff members, and an elementary class of students and their teacher from St. Patrick’s School.



Planting activity at Chartwell Willow Retirement Community

To begin planning this event, Michelle Zavaglia, Lifestyle & Program Manager for Chartwell Willow was contacted, to gauge interest in the activity and to secure a date. Upon getting approval from Chartwell Willow to hold the activity our summer students, Harlowe and Taylor, visited the site to determine space requirements for the event and how many pollinator plants would be required. After the site visit, different options for plants were explored, including finding plants that bloomed at different times of the year and that catered to different pollinator species. To purchase the plants, Harlowe and Taylor visited multiple nurseries to try and obtain any donations or discounts on the plants purchased. Amsterdam Nurseries in

Pitt Meadows, B.C., was chosen as a supplier offering a 20% discount to show their support for the project and ARMS.

Two observation areas were set up for event attendees. The first area consisted educational material about different pollinator species, books for attendees to read, and bees wax candles to give away. There was a beekeeper suit displayed and other beekeeping materials for attendees to view. The second area had information on the beehives at ARMS, honeybee educational material, and the observation beehive.



Top: ARMS pollinator education tent.

Bottom: Summer students Taylor, Harlowe and Angela with Loretta Jackson in bee observation hive tent.

Pollinator Presentation and Honey Tasting

Loretta Jackson, “The Bee Lady”, lead this portion of the event, which included an observation beehive, honey tasting and beeswax candle making activity. During the presentation she discussed the importance of bees, their life cycle and habits, and answered all questions from the attendees. At the end of the presentation, attendees were given the opportunity to taste different flavours of honey.



Loretta Jackson presenting to Chartwell Willow residents



Chartwell Willow residents helping ARMS staff plant and water new pollinator flowers

The event was attended by **35 residents from Chartwell Willow Retirement Community**. We also had partial visits from staff members from the retirement centre and a class of students with their teacher from St. Patrick’s School. During the event, all attendees expressed interest in all aspects of the event and were eager to join in activities. In total, **16 new plants were donated and installed with the value of \$70.**

Some feedback we received from Michelle Zavaglia, Lifestyle & Program Manager for Chartwell Willow, includes:

"The residents really loved this program ... they loved the bee talk and everyone who came to the presentation was impressed by the knowledge that Loretta shared about the bees. The honey tasting was a favourite and some who couldn't remember all the info did remember that. [T]he teacher of the students from St Pat's who were here express their gratitude for a wonderful surprise ending to the visit here (which was the bee program)."

CEED Centre Society Outreach and Plant Donation

On June 18, 2016, an outreach activity was held at the CEED Centre Society in Maple Ridge. The purpose of this event was to educate a seniors group on the importance of pollinator species, specifically bees, including their life cycle, food habits, habitat requirements, and the plight currently faced by pollinators. Before the activity commenced, Harlowe and Taylor assessed the community gardens at the Centre for the need of more pollinator plants, including how many would be needed and light and water requirements. The plants were purchased from Amsterdam Nurseries at the same time as the plants for Chartwell Willow Retirement Community and qualified for a 20% discount.

The presentation included the observation beehive, written educational material, and beeswax wrap craft activity at the end. **There were 16 plants donated to the CEED Centre Society with the value of \$70.** This event was successful in **reaching 15 senior community members** and all participants expressed gratitude when the activity ended.



Left: Loretta, "The Bee Lady", educating community members on bees. Right: Promotional material about ARMS and funder

Cottonwoods Child Care Centre

On June 25, 2019, 14 pollinator plants were donated to Cottonwoods Child Care Centre after they reached out to ARMS regarding creating pollinator habitat and gardens for educational purposes. Arrangements were made with Barb Kark of Cottonwoods Child Care Centre surrounding the size of the garden beds and what type of plants would be required. A variety of plants were purchased, with the focus being on hardy plants so they could withstand being handled by children. The total donation value was \$60.

This planting event was a great opportunity for the children at Cottonwoods to get hands-on experience planting pollinator gardens and will increase their future knowledge and appreciation of pollinators and the plants required in these types of habitats. Barb Kark provided the following positive feedback:

“Giving them the experience planting (many children do not outside of daycare) and taking ownership of their own garden has been amazing!! The children love their garden. They are learning how to take care of their plants and why we need them. Now they are constantly looking for bees and butterflies!! Thank you so much for this opportunity!”



Before and after shots of garden beds at Cottonwoods Child Care Centre



Children at Cottonwoods Child Care Centre planting donated plants

ARMS Pollinator Gardens, Event Date: June 22nd, 2019

This gardening and planting event held at The Alouette River Management Society (ARMS) on June 22nd was a part of the Plentiful Pollinator Project. The objective of this event was to provide and increase the pollinator habitat and food sources onsite at ARMS. ARMS coordinated and led this event with the support of Canada Summer Jobs students.

The lead-up to this event included researching possible plants needed, buying the plants, and advertising the event to potential volunteers. When researching pollinator plants, the summer students decided to exclusively buy perennials to increase the longevity of the pollinator gardens. They targeted plants with long bloom times and that bloomed at different times of the year, so that the bees and other pollinators would have access to flowers for a long period for time throughout the spring, summer, and fall.



Before (above) and after (below) the event of a bed in the north garden.

The summer students sent applications to many nurseries in the Maple Ridge and Ridge Meadows area requesting any possible discounts they could offer towards this project. The students settled on Amsterdam Greenhouses and Garden Centre, located in Pitt Meadows, who were generous enough to offer a 20% discount for the all plants bought for the Plentiful Pollinators Project. Over \$200 was spent on perennials to be planted in the River Heritage Centre pollinator beds.

To promote this event, our summer student, Harlowe Steele, created a poster that was shared on the ARMS website as well as other social media platforms. This event was advertised alongside the community bee workshop hosted by ARMS to motivate volunteers to attend both events. The poster was also announced on the ARMS Facebook page as well as some other local neighbor Facebook groups.



Event promotion on various social media and community platforms.

The gardening done on this day was alongside a community bee workshop, led by Loretta Jackson. **Fourteen volunteers attended the event**, including four children under the age of ten, as well as our summer students and ARMS staff. The volunteer group began with weeding the north garden beds, pulling out all weeds and invasive species. The number of weeds pulled from the garden totalled around three full wheelbarrows. The next step was to add new soil to the garden beds and plant the pollinator perennials. During this time, the group of volunteers learned more about pollinator gardens from Loretta, Greta and the summer students. They also shared their existing knowledge of bees/beehives and gardening. **In total, 35 plants were established** in the north garden beds.

Work on the River Heritage Centre pollinator gardens continued Monday, June 24th with all six ARMS summer students. This work included bringing wheelbarrows of mulch to complete the north garden beds. They moved to the east garden beds to weed, add soil, plant the remainder of the plants, and finish with mulch. One wheelbarrow of weeds was removed from the east garden beds. This completed the restoration of the River Heritage Centre pollinator garden beds.



Pictures: North garden beds after planting event.



Top: Pollinator plants in east garden beds

Bottom: Volunteers observe beehive workshop

The goals of this event were to replenish the River Heritage gardens with new pollinator plants and educate the volunteers on the importance of pollinators, to education the public about the importance of providing forage and habitat for a variety of pollinators year-round and to create a sense of community.

In total, **44 perennial plants were established** in the north and east garden beds at ARMS, including 19 different species with varying blooms times and lengths. A total of **4 wheelbarrows full of weeds were removed** from both the north and east gardens. This was a very successful event, as **14 volunteers donated their labour** to gardening while gaining new information and experiences with ARMS. Much of the success of this event was its attachment to the beekeeping clinic; many of the volunteers showed up at ARMS specifically for the beehives and were also willing to donate their time towards the gardening aspect of the day. Hopefully these perennials will take well and be well-maintained so that this event, if done next year, will not need to replace many of the perennials planted

Thank you to the TD Friends of the Environment Foundation for funding the Plentiful Pollinators Project.



**TD Friends of the
Environment
Foundation**



Morse Creek Restoration and Freshwater Stewardship Project



The Alouette River Management Society raised environmental awareness and addressed a few key components to improve Morse Creek. Key components of this project included community litter pick up events, invasive plant species removal, native plantings, assessing baseline water quality and aquatic invertebrate information. Several stakeholders and organizations were involved over the course of the project including the BC Wildlife Federation, Eric Langton Elementary School, the City of Maple Ridge, residents and community members.

Several different events and activities took place in 2019 to revitalize Morse Creek, keeping in mind this is a multi-year project with multiple funding sources. The Alouette River Management Society would like to thank **Mustang Survival for funding \$3000, Pacific Salmon Foundation \$5000 and the Recreation Foundation of British Columbia \$5000.** There was also considerable in-kind from volunteer labour, equipment, materials and other support.

Partnership with the British Columbia Wildlife Federation

The BC Wildlife Federation partnered with ARMS during one of their 'Reel Fishing' Workshops. This is a unique workshop that combines fishing practices with conservation and habitat restoration experiences. This workshop took place on May 25th with ARMS staff and 15 volunteers. The group worked to restore a section of Morse Creek by removing litter along the riparian zone and planting 50 five-gallon plants. A mixture of plants was used including salmonberry, huckleberry, Indian plum, sword fern, vine maple, red osier dogwood, elderberry and salal.



BCWF volunteers at Morse Creek, Maple Ridge, B.C.

Partnership with Eric Langton Elementary School

The restoration of Morse Creek included work done with two grade 6/7 classes with **46 students from Eric Langton Elementary School**. Garbage removal was the first course of action which took place on February 21st. Many large items were retrieved from the creek including a box spring, mattress, shopping cart, tire and other scrap metal pieces. The City of Maple Ridge Operations picked up the items once the event had finished.

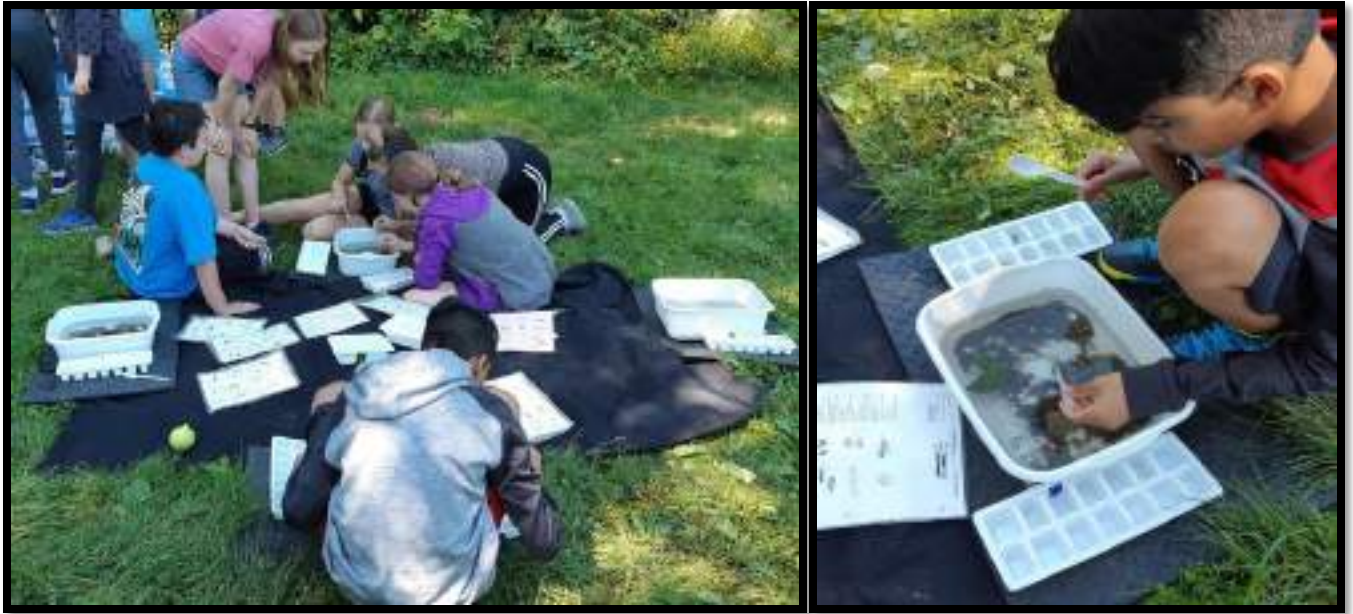


Left: Eric Langton Elementary School

Right: Councillor Ryan Svendsen and ARMS Treasurer Doug Stanger

In May, ARMS summer students conducted an introductory presentation to both Eric Langton elementary classes explaining the importance of the project and the plan for their classes to get involved. These two classes participated in three activities at Morse Creek including water quality testing, invasive species removal, native species planting, storm drain marking and litter pickup.

The first activity took place on June 11. The classes were separated into groups and rotated through stations; Morse Creek aquatic invertebrate identification, Alouette aquatic invertebrate analysis, and water quality testing with a YSI probe. With these three activities, the children were able to analyze the quality of the water in Morse Creek and compare that to the quality of the Alouette River.



Morse Creek Water Bug Activity with Eric Langton students

On June 20, the Eric Langton students participated in an invasive plant species pull and a native species planting. They learned about invasive species and their negative impacts on the environment, and why native species need to be protected. The students pulled English ivy off trees in Reg Franklin Park. **Six (6) large garbage bags** of English ivy was removed by the students. **Sixty (60) native plants were installed by Eric Langton students.** Each student had the opportunity to establish a native plant in the riparian area of the creek. These plants were placed in an area that will support and stabilize the creek bank and will also prevent people from having full access to the creek.



Before (left) and after (right) native planting.



Eric Langton students having fun with native plants!



Far left: Pulling English ivy at Reg Franklin Park, Maple Ridge.



Middle and right: Before and after ivy pull

The third and final activity completed with the students was a litter pickup and storm drain marking demonstration. The students used tongs and bags to pick up garbage in Reg Franklin Park. ARMS summer students controlled the sharps container and advised the elementary students to not pick up any glass or other sharps. After this activity, a storm-drain painting demonstration took place at the entrance of the park. The Eric Langton students saw how to indicate that the drain leads to fish habitat and learned why this is an important step in restoring Morse Creek.



Community Event at Morse Creek and Reg Franklin Park

A volunteer event was also planned and implemented on July 20th. This event was open to the general public to pull English Ivy and paint storm drains. Volunteers removed ivy along stream banks near Morse creek and from many trees in the area. Volunteers also painted yellow fish on storm drains in this surrounding Reg Franklin Park area focusing on those that would lead into Morse Creek.



Another successful English ivy removal at Reg Franklin Park, Maple Ridge



Morse Creek Project - Media Mention #1: Maple Ridge News

Eric Langton students helping out with stream restoration. (Contributed)

Downtown Maple Ridge creek gets some attention

River group wants to improve fish habitat in Morse Creek

- [PHIL MELNYCHUK](#)
- Jul. 4, 2019 6:00 a.m.
- [LOCAL NEWS](#)
- [NEWS](#)

The [Alouette River Management Society](#) is taking on a new restoration project.

And it's not deep in the rain forest, but in downtown Maple Ridge.

Over the next year, the river care group is focusing on a section of the little-known, inner city stream known as Morse Creek, a tributary that runs north of Eric Langton elementary on Edge Street, crossing beneath 224th Street and flowing into the Alouette River.

Over the next year, "multiple volunteer activities will be organized ... in an effort to rejuvenate Morse Creek, engage the public and foster partnerships around this cause," the society said in a release. The group wants to restore the stream and improve water quality in that part of the stream and has already organized outreach activities with Eric Langton elementary by getting Grade 6 and 7 students to help rehabilitate the stream in Reg Franklin Park, which is almost located in the centre of downtown.

On July 20, volunteers will remove invasive plants such as blackberry bushes or ivy that can crowd out native plants. They'll also be painting markers on the road showing people that the storm drains lead to the creek. "Both of these activities are essential first steps in stream restoration and create a connection with the creek where we live," said the release.

Sophie Sparrow, with the society, said that 110 trees and shrubs already have been planted to protect parts of the stream and that it will be a multi-year restoration effort to improve the park in a heavily used area. The park is subject to litter and vandalism and the society is working with the City of Maple Ridge to find the best way to deal with that, Sparrow added. The stream goes underground into culverts in order to cross 224th Street, then re-emerges on the west side to continue to the Alouette River.

"It's nutrient-bearing. It's not salmon-bearing," Sparrow said. But improving water quality upstream will improve water quality and the fish habitat that is farther downstream Morse Creek, she added. Everyone's welcome to help out on the Saturday event and can respond to: sophie@alouetteriver.org.

The Pacific Salmon Foundation and the Recreation Foundation of B.C., are each donating \$5,000, **while Mustang Survival is contributing \$3,000** for the restoration efforts.

Morse Creek Restoration Project



Thanks to our AMAZING funders this year for our Morse Creek Restoration Project! We have combined funding of \$13,000 from Pacific Salmon Foundation (\$5000), Recreation Foundation of B.C. (\$5000) and Mustang Survival (\$3000) to run a range of environmental activities to raise awareness about healthy freshwater ecosystems, engage youth in outdoor activities and citizen science as well as creating learning opportunities for local community, teacher candidates and summer students!

The restoration of Morse Creek started with two classes from Eric Langton Elementary. Grade 6 and 7 students participated in three activities at Morse Creek including water quality testing, invasive plant removal, native tree and shrub planting, storm drain marking and litter pickup. The first activity took place on June 11. The classes were separated into groups and rotated through stations; Morse Creek aquatic invertebrate identification, Alouette aquatic invertebrate analysis, and water quality testing with a YSI probe. With these three activities, the children were able to analyze the water quality in Morse Creek and compare that to the quality of water taken from the South Alouette River at the Allco Fish Hatchery site.



On June 20, the Eric Langton students participated in an invasive plant pull and a native species planting. They learned about invasive species and their negative impacts on the environment, and why native species need to be protected. The students pulled English Ivy off trees in Reg Franklin Park, which was collected up in 6 large garbage bags and taken away by the City of Maple Ridge Park Operations. 60 native plants were purchased from Piroche Plants Inc. who gave ARMS a 20% discount for the project. Each student had the opportunity to plant a native tree in the riparian area of the creek. These plants were placed in an area that will support and stabilize the creek bank, and will also hopefully deter people from cutting through the native vegetation.



The third and final activity completed with the students was a litter pickup and storm drain marking demonstration. The students used tongs and bags to pick up garbage in Reg Franklin Park. ARMS summer students controlled the sharps container and advised the elementary students to not pick up any glass or other sharp items. After this activity, Sophie Sparrow demonstrated the "yellow fish on drains" activity. The students learned that storm drains lead to fish habitat and what goes down our drains impacts fish health. This is an important step in restoring Morse Creek.



RECREATION FOUNDATION

Other Community Programs Hosted by ARMS

Owls, Wildlife and Endangered Species (OWLES) Project

Funder: Maple Ridge Community Foundation Grant

Grant Amount: \$1500

ARMS hosted a free community event on March 9th 2019 to kick off our OWLES Project. The workshop was open to the public by way of RSVP. **Over 50 community members attended this free event, with a waitlist of double that number again.**

Raptors Ridge, a local wildlife group, was invited to present a one-hour “birds of prey” talk including different types of owls. Two live owls were brought out for participants to get up close and personal. Workshop attendees also dissected an owl pellet and identified the species found within. This was a fun, educational activity which showed young children and their families the types of prey that owls rely on and more importantly, the reason conserving habitat for owls is so vital for a healthy functioning ecosystem. ARMS staff also provided step by step guided instructions on how to build a screech owl habitat. **Each family who wanted to participate could build a screech owl box to take home for free (valued at \$50).**

The **Maple Ridge Community Foundation (MCRF)** was recognized within event advertisement on various social media platforms. At the beginning of the workshop, ARMS staff introduced the OWLES project and the grant provided by the MRCF which enabled ARMS to host the community event for free along with other activities for 2019. **This event was a huge success and was featured on the front page of the Maple Ridge News, in the Alouette River newsletter and on ARMS social media platforms.**

ARMS was able to purchase **almost \$1000 worth of bird houses to provide ongoing habitat education in school district 42** where children ages 5 – 13 years old build a chick-a-dee house to take home and put up in their neighbourhood. Our new wildlife educator, Jasmine, spent many hours in 2019 building birdhouses and owl boxes with students in our school district. Additionally, ARMS logo T-shirts were purchased and distributed to volunteers of the program.

The general public and schoolchildren in SD42 were engaged in environmental education about wildlife in their community and were provided with habitat to put up in their own backyards for endangered species. The community who took part in this project will see the results of their habitat boxes being used year after year connecting them with nature.

Photos from March 9th OWLES Community Event:



Bring your
own food for
snack break!

O.W.L.E.S

Owls, Wildlife, & Endangered Species

FREE COMMUNITY WORKSHOP

Free!
Free!
Free!
Free!
Free!

ARMS is hosting an educational workshop & fundraising event.

100% of all proceeds go to ARMS education programs

- Raptors Ridge Presentation featuring LIVE owls!
- Learn about food chains, ecosystems, & habitats.
- Dissect an owl pellet and reconstruct skeletons to reveal what an owl ate.
- Build a screech owl habitat box from recycled cedar, take it home and put it up ready for nesting.



ALL AGES & FAMILIES WELCOME!

Saturday, March 9th 2019 11:00am - 1:00pm
24959 Alouette Road, Maple Ridge

at the Rivers Heritage Centre



*****Space is limited*****



**Raptors Ridge
Birds of Prey**

Please RSVP your attendance by Friday, March 8th 2019
at 604-467-6401 OR email sophie@alouetteriver.org

This workshop is hosted by the Alouette River Management Society and is funded by the 2019 Maple Ridge Community Foundation Grant. Thank you!
www.alouetteriver.org



**Maple Ridge
Community
Foundation**



MAPLE RIDGE & PITT MEADOWS

THE NEWS



Arts:
Emerald
Figs to put
on their
workbenches
11

Wednesday, March 15, 2017 • mapleridgepitt.com • ext. 7575 • (office) 604-467-1122 • (delivery) 604-466-6297

Printed Press Media



Application to process for conditional pot stores

Liquor branch looking to open pot stores in Maple Ridge

City looks at tacking on \$500 fee for pot store applications

Free Webshots
photosharing.webshots.com

The B.C. Liquor Distribution Branch wants to open two more restricted alcohol stores in Maple Ridge.



Art: 100% 100%

Who?

For the first time, Raptor Ridge Birds of Prey brought a first-hand look at the bird's life cycle to a workshop with the Alouette River Management Society on Saturday at the River's Heritage Centre.

OWLES Community Workshop

The Alouette River Management Society hosted a free owls, wildlife and endangered species workshop on March 9th where participants had the chance to get up close to two different owl species presented by Raptors Ridge. The attendees also engaged in an owl pellet dissection and a step by step guided instruction on how to build a screech owl box with donated wood kits by DonCoil Nature Products. 50 people attended with a waitlist. ARMS is grateful for the help of 4 fantastic volunteers who helped take photos, accept donations and assist with the activities. The event raised \$350 which will go towards future education programs. This free community event was funded by the Maple Ridge Community Foundation Grant.



Thank you!



ARMS outreach in the community

Each year, ARMS adds new and interesting events to our calendar to raise public awareness about the Alouette Watershed and the work that our group is actively involved in to protect, conserve and promote the ecological health of our rivers and streams. In 2019, we attended the “Goodbye Chums!” event in the Kanaka Watershed hosted by KEEPS, and with the help of our summer students, we were able to host weekly outreach tables in Maple Ridge Park, Whonnock Lake Park, and Cross’s Cabin. We were also able to attend the Ridge Meadows Home Show again this year with the **financial help of AjM Disposals Ltd.**



Volunteers at Goodbye Chums! – April 28, 2019

Our summer students also attended the Haney Farmers Market to promote ARMS and the Pollinator Project. We successfully met with many members of the community and educated them on ARMS mission and activities. As we also brought the observation hive, we were able to entice people over to our information booth to chat with us about our resident honeybees. We were also successful in promoting ARMS Summer Camps and selling “I love ARMS!” bumper stickers for the first time. At Maple Ridge Park, summer students met with many parents enjoying the playground area, providing information about ARMS Summer Camps and the Alouette Fish Passage Initiative.



Volunteer at Ridge Meadows Home Show - May 4, 2019



Left: ARMS summer students at Cross's Cabin Right: At Maple Ridge Park with ARMS and Adopt-a-Block tents

Maple Ridge Adopt-A-Block Program (AAB)

This year Maple Ridge Adopt-A-Block saw amazing growth in our program! We had **29 new adoptions in total!** The breakdown of this was: 25 individual/family memberships, 1 business membership, 1 group/charity membership and 2 new school memberships. To date there are **currently 113 actively enrolled members** to the Adopt-A-Block Program. These 113 members are currently **monitoring more than 141 sections** of Maple Ridge, as some adopt more than one section and others choose to extend the boundaries of their adopted locations. This is almost a 25% increase in adoptions from 2018.

Total registered members in Adopt-a-Block: 113

Total adopted blocks, parks, trails and streams: 141

On Saturday February 2nd the Coordinator met with the Kiwanis Club of Golden Ears in Memorial Peace Park for their group program and safety orientation.



ARMS and Maple Ridge Adopt-A-Block maintained a working partnership with Sitter 604, Aryan Saed, to engage community members in local events he hosts in the Albion area. We also created new working relationships with BC Wildlife Federation. These are excellent relationships for Adopt-A-Block to have because it creates strong inter-community ties while establishing new avenues for individuals to advance Adopt-A-Block initiatives to better the City of Maple Ridge through collaborative efforts.

AjM Disposal Services remains a major ambassador for the program, picking up members extra garbage free of charge. The Ridge Meadows Association for Community Living continue to work on orders of branded bags needed for the program.



Left Technologies out and about with their Maple Ridge Adopt-a-Block equipment

A long-standing feature of the AAB Program is the installation and maintenance of street signs for participating groups and/or businesses. This feature continues to be available for individual and family Program members as well. We increased the fee for business from \$50/year for a minimum two-year agreement (\$100) to \$150/year for a minimum two-year agreement (\$300 upfront). It must be noted that municipal street signs of recognition are installed only upon the basis of explicit signed consent by Program members. Thus, current quantifiable Program signage may not accurately reflect the membership base.

Garbage grabbers and our reusable bags continued to be signed-out by members at only one location again in 2019. The Maple Ridge Leisure Centre continued its construction and was not able to be a pick-up point for the adopt-a-block equipment. The Rivers Heritage Centre remained a pick-up location or the AAB coordinator made arrangements with new members to drop off equipment at their home address. This equipment can be kept by members for the duration of the adoption commitment period or until members decide to opt out of the Program.

Brochures were printed and distributed at all the above events. A space in the Maple Ridge Library and Maple Ridge City Hall was also reserved for AAB where brochures were available to the general public. Adopt-A-Block was advertised frequently on ARMS social media and in the Alouette River Newsletter. **The coordinator also continued the partnership with What's On! Ridge Meadows for free advertising of its community events.**

The **Adopt-A-Block Program** organized and/or participated in **37 different activities in 2019**. These included:

1. Environmental Advisory Committee Communications – January 16 2019
2. UBC practicum student orientation – January 24 2019
3. Allco Park Clean Up Event – January 31 2019
4. Kiwanis Orientation – February 2 2019
5. Reg Franklin Park Clean up – February 21 2019
6. OWLES event – March 9 2019
7. Maple Ridge Clean up event – March 13 2019
8. Spring Break Kids Camps - March 18 – 29 2019
9. Deer Fern Park Clean up – April 6 2019
10. Maple Ridge Earth Day - April 13 2019
11. Good Bye Chums Event Kanaka – April 28 2019
12. Ridge Meadows Home Show - May 3,4,5 2019
13. ARMS 3rd annual fundraiser event May 23 2019
14. BC Wildlife Federation Clean up – May 25 2019
15. Adopt-a-Stream Eric Langton presentation – June 5 2019
16. Adopt-a-Stream Aquatic Invertebrate Study – June 11 2019
17. ARMS Appreciation Event – June 13 2019
18. Father's Day Fish Release June 16 2019
19. Adopt-a-Park Reg Franklin Planting event – June 20 2019
20. Maple Ridge Park outreach - June 28 2019
21. Maple Ridge Park outreach – July 5 2019
22. Nature Kids Event – July 7 2019
23. Cross Cabin Clean up – July 10 2019
24. Morse Creek Ivy Pull – July 20 2019
25. Country Fest – July 27, 28 2019
26. ARMS Summer Camps July + August 2019
27. Habitat Building workshop – August 8 2019
28. Allco Park Clean up – August 17 2019
29. CTV Alouette Garbage interview – August 19 2019
30. Streamkeepers Training for Adopt-a-Stream – Sept 7,8 2019
31. Rivers Day, September 22 2019
32. BCWF clean up event – October 19 2019
33. Cedar Roots Aboriginal Event – October 24 2019
34. Pollinator Workshop – October 26 2019
35. Annual Fish Hatchery Tour – Nov 3 2019
36. Cedar Roots Aboriginal Event – November 28 2019
37. Winter Craft Event – Dec 8 2019

The Maple Ridge Adopt-a-Block Program is hosting a clean up event in ALLCO Park! Join us in keeping our community clean one park, stream, trail and block at a time.

Adopt-A-Block Program

ALLCO Park

Lunch Time CLEANUP

with the Maple Ridge Adopt-A-Block Program

*Everyone welcome!
Equipment supplied*

Jan 21, 2019
11:00am-
12:00pm
ALLCO Park

Contact Sophie for more information at adoptablock@alouetteriver.com or 604-463-9699



The Maple Ridge Adopt-a-Block Program is hosting a clean up event in Reg Franklin Park! Join us in keeping our community clean one park, stream, trail and block at a time.

**Everyone Welcome!
Equipment Supplied**

Reg Franklin Park
12155 Edge Street Maple Ridge

Lunch Time CLEANUP

with the Maple Ridge Adopt-A-Block Program

Adopt-A-Block Program

MAPLE RIDGE
British Columbia

10:00am-12:00pm
Reg Franklin Park
February 21st
2019

Contact Sophie for more information at adoptablock@alouetteriver.com or 604-463-9699





Maple Ridge Park Shoreline Cleanup

The Maple Ridge Adopt-a-Block Program is hosting a shoreline cleanup event along the South Alouette River in Maple Ridge Park.

ALOUETTE RIVER

 JOHNS AT MAPLE RIDGE PARK
 (23200 Fern Crescent)
 Wednesday March 13, 2019
 1:30-3:30pm

Equipment supplied!

Everyone welcome!


 Adopt-A-Block

Help keep our community clean! Clean park, stream, trail and block at a time!

Questions? Contact: info@adoptablock.com or 604-463-5603





Above: SD42 Cedar Roots Aboriginal Education Program cleaning up at Reg Franklin Park, October 24.

Adopt-a-Block Initiatives in 2019

Last year, we worked on our social media messaging around stream stewardship and the importance of keeping our waterways clean and free from litter. To this end, we asked the public to take up the challenge of taking photos of any dumped refuse in or near the Alouette River. Public response allowed us to notify the City of Maple Ridge of the areas where dumping occurred.



We also received many calls from local residents living along the South Alouette River last summer, particularly to do with tubing and littering. With the help of one of our talented summer students, Ashley Chung, we created an information brochure which our summer students handed out to the public at regular community outreach events and local festivals including the Maple Ridge-Pitt Meadows Country Fest and Pitt Meadows Canada Day. There was a lot of interest in the community and in the media, with Omni TV coming out to interview and shoot video to discuss the issues of river tubing and the environmental impacts with ARMS' Executive Director.

HERITAGE RIVER

Environmental Impacts
The Alouette River is habitat and a source for many key native species, including the Pacific salmon. It is one of only two remaining rivers in the Fraser Valley. It received its Heritage status in 1998 to promote environmental stewardship and conservation. There are five different salmon species: Rockies, Coho, Chinook, Pink, and Chum, returning to the Alouette Watershed every year providing essential nutrients to other species in the area. Therefore, it is crucial to make sure they come back each year.



Since the Alouette River is a highly polluted area, it has been allowed to grow from its historical natural state. Small pieces of garbage and plastics can easily be mistaken for food by animals leading them to starve to death due to the lack of nutrients.

On a larger scale, keeping the river clean is essential to keeping the Fraser River and our oceans healthy, as debris and litter in the Alouette River eventually flows into our oceans. Let's all work together to make a difference!



CONTACT US

Alouette River Management Society
604-463-8685

Report Incidents to:
Fisheries and Oceans Canada
Owenby, Rachel, Report Officer
Monday
1-800-ARM-4-333

BC Commissioner Services
Report All Injuries and Fatality
(800) 775-7622

Adopt-A-River
OFFER 2024
604-463-8685

3420 Alouette Road, Maple Ridge, BC, V4R 1B8

<https://www.alouetteriver.org>





ALOUETTE TUBING





Alouette River Management Society



LITTER & DISPOSAL

ALWAYS PACK OUT WHAT YOU PACK IN!

What to do with old fishing lines

- Wire fishing line can be recycled at Ridge Meadows Recycling Society. Depot located at 34080-33rd Street in Maple Ridge.
- Plastic fishing line cannot be recycled. Instead, wrap the line around your hand multiple times and cut through it. Then put the line into a container before throwing it out. **WRAP!** This prevents animal injury and habitat disruption.
- Old float tubes are not recyclable. However, you can repurpose the material or use them as rafts for future use or for objects.



DO YOU TUBE THE ALOUETTE?

The Alouette River is a popular tubing destination. However, river and bank erosion can be caused by improper packing out and disposal of debris. Packing out and disposal of debris along the river for many years is normal.

Let's make sure our river stays healthy and clean by keeping our river and banks healthy and happy!

If you see any large or small debris or litter, please report it to the river, contact Rachel Owenby at 604-463-8685 or email a.owenby@alouetteriver.org. Up to you to agree with the river or the community.



SAFETY RECOMMENDATIONS

- Check weather and river conditions.
- Wear your seat belt.
- Have a float plan: where you are starting, where you are going, and where you are getting off.
- Be cautious of low water levels. The amount of water in the river can change rapidly.
- Call a float plan by number your float plan.
- Be cautious of water in the area.
- Be aware of other tubers and swimmers.
- Know your limits.



ARMS Executive Director interviewed by Omni TV, Maple Ridge Park.



Alouette River Sockeye and Fish Passage Project

ARMS is a member of the Alouette River Sockeye Reanadromization Project (ARSRP) committee, a group which is dedicated to seeing fish passage over the Alouette Dam for sockeye salmon and other resident salmon species which would use the Alouette Lake for spawning and rearing. This group meets each year in spring and fall to work on projects that are currently aimed at researching the viability of restoring Alouette sockeye salmon above the Alouette dam. The group was successful in its funding application to the Fish and Wildlife Compensation Program (FWCP) for Year 3 of its eleven-year plan to determine the feasibility of restoring a self-sustaining sockeye salmon run back in the upper Alouette watershed. **The committee was approved for \$97,908.70** to run its adult sockeye enumeration and kokanee smolt enumeration for Year 3 of the project.

In 2019, the ALLCO fish fence was in operation from the end of June to the end of October. During the initial installation of the fence there was a two-week period where the fence was under water for maintenance issues.

This year, **fifteen (15) adults returned between July 22 and October 16**. Ten (10) out of the fifteen (15) sockeye were sampled at the Allco trap location, five (5) were caught and sampled at the BC Hydro trap just below the Alouette Dam. Fourteen (14) were successfully transported to Alouette Lake, one fish died in the trap. Fork length measurements were taken of all sockeye along with scale and tissue samples. The measurements indicated an average fork length of 60.3cm.

The genetic sampling identified all 15 adults originated from Alouette stock. That was fantastic news! 100% Alouette stock! Between the return years of 2005-2012, the smolt to adult (return to the hatchery fish fence) survival of the Alouette sockeye has ranged from a low of 0.06% in the 2011 smolt year to a high of 1.33% in the 2008 smolt year. (Mathews, 2015 unpublished data).

Since 2007, up to and including the 2019 season, **361 adult sockeye salmon have returned** to the Allco fish fence, **298 of those have been successfully released into the reservoir**. This project aligns with Fish and Wildlife Compensation Program's Alouette Watershed Coastal Action Plan. The priority which is addressed are:

- Sub-objective 1 - ALU.RLR.SB.18.01 Conduct technical feasibility assessment. Sockeye Salmon passage at Alouette Dam. Compensation requires increasing present biological productivity to offset hydro development-related declines in productivity. There are myriad ways to compensate for fisheries impacts, and some work better for some species than others and some may be more suited to certain physical settings.

The last sockeye to enter the trap on October 16th 2019 was unusually late, in full maturation colors. This is the second fish recorded to return in full maturation colors for two years running. Unfortunately, no scale samples could be taken from this fish, however DNA samples were obtained along with fork length measurements. All returning sockeye were in great health and strong swimmers.



Red sockeye at Alouette Reservoir, 16 October, 2019

Year of Adult Return	Number of Returned Adults	Number of Adults Released Alive into Alouette Reservoir
2007	38	5
2008	54	53
2009	45	43
2010	115	103
2011	11	8
2012	45	43
2013	10	7
2014	0	0
2015	4	0*
2016	6	6
2017	3	1
2018	15	15
2019	15	14
Totals	361	298

Return and release numbers for Adult sockeye returns to the Allco fish fence

Another RED SOCKEYE arrived in OCTOBER 2019!



BC Hydro (BCH) Trap

The Alouette River Sockeye Reanadromization Project (ARSRP) Committee was shocked to hear the news when a mature male sockeye arrived in the BC Hydro fish trap on October 16th. "We were absolutely amazed to see this bright colored salmon in our trap. It is even more exciting to find out this Sockeye is of Alouette origin . This gives us more hope and helps to strengthen the case to BC Hydro for fish passage around the Alouette Dam for all salmon species " said Greta Borick-Cunningham ARMS Executive Director. Fourteen sockeye returned in the usual window of July - September. All 15 returning sockeye have been identified by Fisheries and Oceans Canada as Alouette Stock.



Oct 16 2019 Sockeye in BCH trap

ARMS Fall 2019 e-newsletter feature

As an additional note, at the beginning of 2019 BC Hydro and ARMS had some initial discussions with regards to the possibility of the Alouette sockeye hatchery being open for operation in time for the 2020 adult sockeye season. BC Hydro presented their initial proposal to the ARMS board. This presentation included some indication that BC Hydro would fund the necessary work to get the Alouette sockeye hatchery running. Later in March of 2019, BC Hydro presented their initial proposal to the ARSRP committee and provided some clarification that BC Hydro would be funding the annual adult sockeye enumeration, spring kokanee smolt outmigration enumeration.



ARSRP committee meeting, March 2019

BC Hydro offered to pay for the work necessary to upgrade the Alouette hatchery to accommodate Alouette sockeye however, they were also trying to include the Coquitlam River sockeye in this proposal. ARMS expressed its concerns about the logistics of raising both Alouette and Coquitlam sockeye eggs and fry from the Alouette research facility. Many of these concerns were around the lack of enough water supply to cover the year-round incubation and raising of the salmon.

As a result of these initial discussions with BC Hydro, the ARSRP committee did not apply to the Fish and Wildlife Compensation Program for its annual grant to continue with monitoring studies for adult sockeye and kokanee smolts leaving the Alouette Reservoir. As at time of writing, we are still waiting to hear the next steps or concrete details from BC Hydro with regards to the 2020 outmigration and adult sockeye salmon season.

Salmon Spawner Surveys

ARMS coordinated spawner surveys for the eleventh (11) year running in the same four tributaries within the Alouette Watershed. Spawner surveys provide information about the number of adult salmonids that reach the spawning grounds, and the proportion that spawn successfully. Fisheries managers use the term escapement to describe the number of fish that escape the various fisheries. These tributaries include Coho Creek, Latimer Channel, Millionaire Creek, and the North Alouette River.

Twelve volunteers including two ARMS members, two SFU students, two BCIT students, four community residents and 1st Laity View Scouts Coordinator, surveyed the tributaries for three months using the provided spawner survey kits. Included in each kit: note binder with loose-leaf waterproof paper, tally counter, fish knife, whistle, thermometer, two sets of propylene gloves, measuring tape, first aid kit, polarized glasses, and tote.

At the Allco Fish Fence, **a total of 1799 adult spawners were counted** (not including sockeye). **Pink 20, chum 1398, coho 292 and chinook 20 came back to the fence.** The adult returns were late in arriving for 2019 and the Allco fish fence was down several times due to BC Hydro controlled spills. As the fall rains were late, this was considered a possible reason for the late returns with low water in the tributaries of the Alouette River.

2019 Salmon Spawner Surveys

ARMS coordinated spawner surveys for the eleventh year running in the same four tributaries within the Alouette Watershed. Spawner surveys provide information about the number of adult salmonids that reach the spawning grounds, and the proportion that spawn successfully. Fisheries managers use the term escapement to describe the number of fish that escape the various fisheries. These tributaries include Coho Creek, Latimer Channel, Millionaire Creek, and the North Alouette River. Twelve volunteers surveyed the tributaries for three months using the provided spawner survey kits. This year Chum salmon numbers were extremely low on all tributaries. Only 1 Chum was spotted in Millionaire creek over 10 weeks. Previous years have seen between 30 - 160 salmon spawning. On Coho Creek there were 7 chum which has seen 60 - 200. Latimer Channel saw 164 chum with a usual count of 550 - 1100!




ARMS Winter 2019 e-newsletter feature







ARMS volunteers surveying on Latimer Channel

ARMS Community Events and Tours

Father's Day with the Alouette River Management Society



June 16th ARMS and Adopt-a-Block partnered with the Nature Kids BC to provide a community event full of fun! Allco Fish Hatchery operated by BC Corrections transported Chinook salmon fry to Maple Ridge Park to release into the South Alouette River. Participants released 5000 baby salmon into the river where they will begin their journey in the wild. Chinook are the largest species of Pacific Salmon, infact the record size catch in British Columbia was 57kg!



ARMS spring 2019 e-newsletter feature

ANNUAL ALLCO FISH HATCHERY TOUR

On November 3rd, ARMS toured 32 individuals around the Allco Fish Hatchery as part of educating the public about the Alouette Watershed and ARMS work. Attendees left informed about the operation of the hatchery, fish fence and trap along with how the keystone species, salmon, tie into our ecosystem.

Participants were excited to view ARMS staff, Sophie Sparrow, pull out a chum salmon from the fish trap.



ARMS hosted its first annual **Winter Craft Event** on December 8th. There were multiple stations set up for the public to participate in, including wreath making, bees wax wraps, candles and lip balm making. We also had owl habitat building and a local craft business, The Crazy Craftin' Chick, join the event who had a selection of items for sale.





Lovely music accompanied the 1st Annual Winter Craft event at the River Heritage Centre on December 8.

ARMS Leverage – Cash and In-kind

2019 Successful Grant Applications - Totalled \$230,396.70

1. **\$97,908.70** - Fish and Wildlife Compensation Program (FWCP) – *Alouette Watershed Sockeye – Fish Passage Feasibility Project – Year 3*
2. **\$54,450** - BC Community Gaming grant – *ARMS Education, Rivers Heritage Centre, Adopt-a-Block and Stewardship Programs*
3. **\$22,344** - Canada Summer Jobs (Canadian Government) – 6 summer students for *Environmental Education and Eco-camps*
4. **\$21,344** – Pacific Salmon Foundation (PSF) – *Allco Hatchery Emergency Well Redevelopment*
5. **\$5,000** – TD Friends of the Environment Foundation – *Plentiful Pollinators Project*
6. **\$5,000** – City of Pitt Meadows – Adopt-a-Program
7. **\$5,000** – Recreation Foundation of British Columbia – *Morse Creek & Freshwater Stewardship Project*
8. **\$5,000** – Pacific Salmon Foundation (PSF) – *Morse Creek & Freshwater Stewardship Project*
9. **\$3,000** – Mustang Survival - *Morse Creek & Freshwater Stewardship Project*
10. **\$2,500** – Maple Ridge Community Foundation – *O.W.L.E.S Project*
11. **\$2,500** – Department of Fisheries and Oceans – *Community Salmon Education programming*
12. **\$1,500** - City of Maple Ridge Parks & Leisure Festival grant – *26th Annual Ridge Meadows Rivers Day*
13. **\$1,500** - Pacific Salmon Foundation (PSF) – *Invasive Species Removal at 232nd Street Channel*
14. **\$1,500** – Pacific Salmon Foundation (PSF) – *Allco Hatchery Upgraded Lighting System*
15. **\$950** - Port of Vancouver - *25th Annual Ridge Meadows Rivers Day*
16. **\$900** - Fish and Wildlife Compensation Program Community Grants - *25th Annual Ridge Meadows Rivers Day*

Fundraising Activities - \$9,316.00

ARMS continued its fundraising activities including our 3rd Annual Fundraiser Dinner held at the Maple Ridge Equi-Centre Ranch Pub and Grill, Rotary Duck Race ticket sales and Bruce Muir Painting Raffle.

The 3rd Annual Fundraiser Dinner was sold out again (100 tickets!). Donations for our silent auction items came from many local businesses, with community groups, individuals and levels of government supporting our event.

Charitable Donations - \$17,293.50

- Stewart Family Foundation - \$8,750 – Morse Creek Restoration Project
- Bahamas Patagonia - \$2,415 – Special Edition Record Sales Donation
- Liz and Geoff Hancock - \$1000
- Josine Eikenlenboom - \$1000
- Kiwanis Golden Ears - \$750
- DonCol Nature Products - \$700
- Glassworld - \$500 – Rivers Day
- Mike Stark - \$478.50
- Haney Club of Rotary - \$450
- Lynn Peters - \$300
- Maple Ridge Lions – \$250
- AjM Disposals Limited - \$250
- Justin Bennett - \$250
- Pour and Pose Yoga Event - \$200

Volunteer Hours Contributed - \$43,660

Number of Volunteer hours contributed: 2183*

Volunteer activities included: board member meetings, water quality surveys, park clean-ups, accounting, mapping, membership input, habitat box building, spring and summer break camps, data entry, wildlife and pollinator gardening, community outreach, fundraising, research, driving ARMS festival trailer, creating education resources, native plantings, invasive plant pulls, shooting video footage and creating Youtube videos, writing grants, Rivers Day preparations, volunteer orientations, poster designing, salmon spawner surveys and more.

*Does not include Maple Ridge Adopt-a-Block volunteer hours

Maple Ridge Adopt-a-Block Program In-kind Value – \$116,714

Number of Volunteer hours contributed by 113 volunteers (estimated) - 5650 hours.

(City of Maple Ridge in-kind \$3,656)

(Other \$100)

2019 ARMS Project Values (including in-kind)

- Morse Creek Restoration and Freshwater Stewardship PV: **Estimated \$36,185**
- Plentiful Pollinator Project PV: **Estimated \$16,600**
- Alouette Watershed Sockeye-Fish Passage Feasibility Project – Year 3 PV: **Estimated \$225, 608**
- ARMS-Allco Fish Hatchery Education Program PV: **Estimated \$145,796**



Plentiful Pollinators event at Chartwell Retirement Village

2019 Chronology of ARMS Activities

(does not include Education bookings or Adopt-a-Block events)

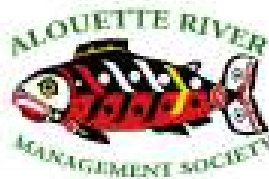
January 10	Maple Ridge Earth Day meeting (ARMS organizes the Opening Ceremonies)
January 17	ARMS board meeting
	Innergex staff tour of the Alouette/Innergex coho-overwintering channel
January 29	Site meeting with Hemmera at Alouette-Innergex Overwintering coho channel
January 30	ARMS staff First Aid Course training
January 31	Allco Park clean-up with Maple Ridge Adopt-a-Block
February 2	Maple Ridge Adopt-a-Block orientation meeting with Golden Ears Kiwanis Club
February 4	Emergency Response Meeting with City of Maple Ridge staff
February 7	Alouette Fish Passage Committee Meeting and BC Hydro Presentation
	ARMS attended Maple Ridge Earth Day meeting
February 21	Maple Ridge Adopt-a-Block clean-up event at Reg Franklin Park
	ARMS fundraising committee meeting
	Heritage Awards Presentation Ceremony – ARMS attended with Fraser Regional Correctional Centre for award
February 23	ARMS attended the Federal Government’s Wild Salmon Policy Presentation in North Vancouver
February 26	Presentation of Annual Report/Activities to City of Maple Ridge Mayor and Council
March 4	Pre-meeting for Alouette River Sockeye Reanadromization Committee - Spring 2018
March 5	Meeting with Maple Ridge-Pitt Meadows MP, Dan Ruimy at constituency office
	Presentation of Annual Report/Activities to City of Pitt Meadows Mayor and Council
March 7	ARMS attended Maple Ridge Earth Day meeting
March 9	Public workshop – O.W.L.E.S event at River Heritage Centre
March 11	Alouette River Sockeye Reanadromization Project (ARSRP) spring meeting
March 13	Maple Ridge Adopt-a-Block clean-up at Maple Ridge Park
March 14	ARMS board meeting

March 18-22	Spring break camps
March 21	ARMS attended Maple Ridge Earth Day meeting
March 25-29	Spring break camps
March 31	ARMS attended KEEPS Nature Recycling event
April 4	Site visit to Alouette Reservoir regarding level concerns ARMS attended Maple Ridge Earth Day meeting
April 6	Maple Ridge Adopt-a-Block clean-up event at Deer Fern Park
April 8	ARMS Strategic Plan Milestones meeting
April 11	Annual General Meeting at Maple Ridge Library (guest speakers Mike and Roma Leon of Katzie Development Corp Ltd – Lower Alouette Watershed Restoration Project)
April 20	Pitt Meadows Earth Day – ARMS attended
April 21	Maple Ridge Earth Day – ARMS and Maple Ridge Adopt-a-Block attended
April 23	ARMS attended Council meeting UBC Teacher Candidates start for 3-week community service program
April 26	ARMS attended Pitt Meadows Earth Day
April 27	ARMS attended Katzie Longhouse event with SFU Ecological Education Masters Program cohort
April 28	ARMS attended KEEPS Goodbye Chums
April 29	ARMS attended student interviews at Eric Langton Elementary School
April 30	Alouette-Innergex Overwintering Channel – habitat monitoring
May 3-5	Ridge Meadows Home Show – ARMS attended
May 4	Port Moody Fingerling Festival - ARMS attended
May 6	Summer student interviews
May 7	Site visit to Reg Franklin Park with CMR Parks Manager Erin Gorby Summer student interviews Coniagas Channel salmon surveys
May 8	Summer student interviews Coniagas Channel salmon surveys
May 9	Summer student interviews

	ARMS board meeting
May 10	Summer student interviews
May 13	Pitt Meadows Scouts – Storm drain painting event
May 22	Storm drain painting – training with Girl Guides Leader
May 23	3rd Annual Fundraiser Dinner at Maple Ridge Equi-Sports Centre
May 25	Community Honeybee Hive Workshop at ARMS
	BC Wildlife Federation and ARMS native planting and litter clean-up event at Reg Franklin Park
May 27	Summer students start – Environmental Projects
May 28	Summer student interviews continue – Summer camp coordinators
May 29	Reg Franklin site visit and post-planting assessment
	Maple Ridge Adopt-a-Block clean up event at Maple Ridge Park
May 30	Alouette River Sockeye Reanadromization Committee meeting in Burnaby
May 31-June2	ARMS staff attend DFO Salmon Enhancement Program Biannual Workshop in Nanaimo
June 4	Site visit with Gerry Leering (National Fish Passage Improvement Coordinator for Canadian Wildlife Federation) at Golden Ears Park
June 4	ARMS fish passage sub-committee meeting
June 5	ARMS attend workshop with summer students at Eric Langton Elementary
	ARMS President and Executive Director meeting with Katzie FN Chief Cunningham
June 8	Maple Ridge Park Outreach with ARMS and summer students
June 10	UBC Community Field Experience student starts
June 11	Eric Langton Elementary and Morse Creek study
June 12	ARMS attends Coquitlam River Watershed Roundtable
June 13	ARMS board meeting, film fest and volunteer BBQ
June 16	Father's Day Fish Release at Maple Ridge Park with Maple Ridge Lions – Pancake Breakfast for Litter Heroes
June 17	Chartwells planting event with ARMS and summer students
June 18	CEED Centre bee workshop with seniors

June 19	Pitt Meadows Adopt-a-Program event in Harris Park
June 20	Eric Langton Elementary and Reg Franklin Park planting and English ivy removal
June 21	Whonnock Lake outreach with summer students
June 22	Community bee workshop at River Heritage Centre, ARMS Public pollinator planting event at River Heritage Centre with summer students
June 24	Final summer students start
June 28	Maple Ridge Park outreach with summer students BC Hydro meeting with Director of Environment Karen Popoff
July 5	Maple Ridge Park outreach – summer students
July 9	Site visit to Pitt Meadows pump stations along dykes
July 11	High school student camp orientations
July 15 – 19	“Harry Potter and Lost Horcrux” Summer camp – full week at ARMS
July 17	TD FEF cheque presentation for “Plentiful Pollinators Project”
July 20	Morse Creek English ivy pull Community bee workshop at River Heritage Centre with ARMS
July 22 – 26	“Build It! Bake It 2!” Summer camp – full week at ARMS
July 25	ARMS Fish Passage subcommittee meeting – Alouette Water Use Plan
July 27 – 28	Maple Ridge-Pitt Meadows Country Fest – ARMS and Adopt-a-Block attended
July 29 – Aug 2	“Nature Detectives” summer camp– full week at ARMS
July 31	Ecofish and DFO site visit of upper Alouette hatchery
August 7	Pitt Meadows clean up event
Aug 12- 16	“Pixelmon” Summer camp – full week at ARMS (second offering)
August 17	Community bee workshop at River Heritage Centre with ARMS
August 18	ARMS outreach attends Golden Meadows Honey Farm summer farmers’ market
August 19	Floating down the river with ARMS
September 7-8	Streamkeepers Training weekend hosted by ARMS
September 10	Meeting with CMR Parks & Recreation Children’s Department re Camps 2020
September 12	ARMS attended Katzie Eco-restoration project sign unveiling in Lower Alouette Watershed.

September 13	BC Hydro Alouette Reservoir Operations – presentation to CMR, CPM, MLA’s and ARMS
September 19	ARSRP fall meeting
September 22	26 th Annual Ridge Meadows Rivers Day & Allco Hatchery 40 th Anniversary
September 23	Alouette/Stave reservoir site tour with BC Hydro
September 26	Invasive Species Council of Metro Vancouver – Fall Forum public hatchery tour
October 1	Salmon spawner survey training with Pacific Streamkeepers Federation trainer Zo Ann Morten
October 2	Rotary Duck Race Cheque Presentation at Meadow Gardens Golf Club
October 3	Latimer Channel Spawner surveys
October 7	Climate Hub meeting with local environmental groups
October 10	Board meeting
October 16	ARMS Fish Passage sub-committee meeting
October 17	Meeting with BC Hydro Director of Environment Karen Popoff
October 19	BC Wildlife Federation event with ARMS
October 21 – Nov 1	Various chum egg-takes with DFO and Lower Mainland community hatchery groups including BCIT Fish and Wildlife Program students, Mossom Creek, Seymour Salmon Society, Morten Creek and Noons Hatchery
October 24	Litter clean up in Reg Franklin Park with Cedar Roots Aboriginal after-school group
October 26	Community bee workshop at River Heritage Centre with ARMS
October 29	BC Hydro Alouette Reservoir operations presentation to CMR council – ARMS present
November 3	ARMS annual Allco Community Fish Hatchery tour for the public
November 4	ARMS fish ladder presentation to Maple Ridge Environmental School
November 7	Board meeting
November 12	ARMS attended CMR staff presentation on Green Infrastructure strategy
November 14	ARMS met with MLA Bob D’Eith to discuss BC Hydro operations on the Alouette reservoir and Stave systems
December 8	ARMS 1 st Annual Winter Craft event



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5 April, 2019

Mr Chris O'Riley
President and Chief Operating Officer
BC Hydro
333 Dunsmuir Street
Vancouver, B.C. V6B 5R3

Dear Mr O'Riley

Re: Alouette Dam Fish Flushing Flows 2019

We are aware that the inflows into the Alouette Lake Reservoir are below normal and that this will not allow the reservoir to reach a sufficient elevation for B.C. Hydro to provide flushing flows for out migrating fish.

It is also obvious that the phytoplankton, zooplankton and other primary lifeforms in the reservoir are dying as the reservoir bottom is exposed and is drying out. This must be having a negative effect on all of the fish and higher trophic level species.

This is very shocking and disheartening as ARMS has had numerous conversations with BC Hydro and the Water Comptroller's department over the years about the negative impact the low levels that are contained within BC Hydro's licenses would have on the aquatic life within the reservoir, and the river itself, if BC Hydro were to opt to operate to the letter of their licenses.

It is concerning to ARMS that BC Hydro has made a management decision that has impacted the health of the aquatic life dependent on higher levels in the reservoir, because their licenses permit such, and ARMS continues to argue that this outcome is exactly why the levels contained within the licenses need to be adjusted to a higher level, so this can never happen again.

As per the orders of Water Licenses 124724, 124725 and 124726, BC Hydro must be able to provide a minimum flow release into the Alouette River, to enhance downstream fisheries habitat, by setting the low-level outlet (LLO) to its fully open position at all times. ARMS is very concerned that the low reservoir levels will impact the reliance of this flow that we have worked so hard to achieve through our historical negotiations with the authorities involved.

It is our understanding that the design of the low-level outlet (LLO) is such that there is a vertical column leading into the horizontal chamber of the LLO, therefore the use of this outlet for smolt release is an inferior option that should not have been depended on.

This is obviously of grave concern to ARMS as we try to rebuild the stocks of Pacific salmon and other species utilizing the Alouette watershed, especially those dependent upon the portion of the watershed above the Alouette Dam.

Until that time, due to these very concerning circumstances, ARMS would like the following questions addressed at BC Hydro's earliest opportunity.

1. What was the decision process that allowed the reservoir levels to become so low?
2. What compensatory actions are being considered to offset the impacts in the reservoir and the river?
3. Is BC Hydro monitoring the impacts in the watershed including the types of species dying on the exposed reservoir bottom? Will BC Hydro be using these data to estimate the short- and long-term effect on fish numbers and productivity in the reservoir?
4. How do you intend to meet the 122.00 metres GSC for recreation that is defined within the licenses and retain the minimum flows for fish habitat?
5. Does B.C. Hydro expect there will be adequate water for a flushing flow for the out migrating kokanee smolts?
6. How do you intend to live up to the terms of the monitoring provisions within the Order, part of which requires enumeration of smolts in the Alouette River, intended to measure the effectiveness of the minimum flow releases, which now may not be met? To determine the Kokanee out-migration in 2019?
7. How will the Nutrient program be delivered as the reservoir level is nowhere near the boat launching facilities?
8. What is the effect on water temperature in the reservoir and being released into the South Alouette River with the low levels?
9. Is the Water Comptroller aware of the status of the reservoir and the impact that it may have on the orders provided within the licenses? Have the Provincial and Federal fisheries and environmental agencies been apprised of the situation? What is their response and direction?
10. Please advise whether B.C. Hydro is diverting any water from the Alouette system into the Stave system for power generation or any other reason? If so, ARMS strongly urge the diversions to be ceased to help allow the reservoir to be raised to the level required to provide the flushing flows.

11. This issue also raises an on-going concern relating to transparency that ARMS believes the public is entitled to from an operations perspective. From this experience, will BC Hydro introduce, along with the existing ability for the public to review the reservoir levels and the river flows, the ability for the public to view the disposition of the valve and the flow rates relating to the outtake tunnel leading to the Stave?
12. Is B.C. Hydro able to take any other actions to assist in this year's kokanee smolt out migration?
13. Please explain why BC Hydro has provided minimal information or communication of this issue, thus requiring ARMS and possibly others to reach out to raise our concerns and garner answers that should have been proactively forthcoming from BC Hydro? This behaviour is not consistent with the collaborative approach of the Water Use Planning process and the subsequent fish passage initiative.

In closing, ARMS suggest this year's events are one more reason why having properly designed and built fish passage would avoid this type of challenge for the fish.

Until that time, ARMS expects BC Hydro's immediate attention to this matter, as we believe it will cause egregious harm to our collective efforts to return Pacific salmon stocks to healthy, viable populations, if BC Hydro does not adequately deal with the situation this year and moving forward.

The board of directors of ARMS looks forward to your response. Please do not hesitate to call me if you require further clarification regarding our questions.

Sincerely
On behalf of the Board of Directors of ARMS,

Cheryl Ashlie
President
Alouette River Management Society.



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13 November, 2019

Mr. Chris O'Riley
CEO, BC Hydro

Mr. Ted White
Director and Comptroller of Water Rights
Water Management Branch
Province of British Columbia

Dr. Robert Schubak
Director of Dam Safety
BC Hydro

Ms. Rebecca Reid
Regional Director General—Pacific Region
Fisheries and Oceans Canada

Ms. Jennifer McGuire
ADM—Environment & Climate Change
Province of British Columbia

Dear BC Hydro and agency staff:

Re: Earthquake Upgrades on the Alouette Generating Station Intake and Dam

On September 13, 2019 BC Hydro made presentations to the Maple Ridge, Pitt Meadows City staff and Hon. MLA Lisa Beare and MLA Bob D'Eith regarding proposed upgrades to the BC Hydro facilities at Alouette Reservoir and other associated actions relating to the Corporation's activities on the ALU generating system. ARMS directors and staff were present at that meeting. At that time Dr. Schubak (BCH) described the plans to reduce the risk of Alouette Dam failure up to a 1:10,000-year probability earthquake, and generating-station intake rebuild, and gave a brief review on the proposed construction schedule. This was in addition to updates on fish passage and water licensing.

For the purposes of identifying the information to all the addressees, ARMS has attached the presentation to this letter.

Firstly, ARMS applauds BC Hydro's initiative to improve the safety for people and infrastructure downstream of the Alouette Dam. We recognize that BC Hydro is obligated to mitigate any risks to the surrounding residents and has the authority to act accordingly. However, the work plans as described to both City's staff and ARMS, raised several questions and concerns for the Alouette

River Management Society, which we feel BC Hydro had ample time and a responsibility to address. As much as ARMS agrees with the safety concern, we do not accept it as an excuse to disregard the following important environmental issues.

ARMS' concerns are in regard to environmental/fishery issues associated with the project and obligations under regulation, legislation and policy and fiduciary responsibilities to First Nations and rights and titles. Furthermore, during the presentation for this work there was no indication that the environmental and social impacts are going to be adequately assessed by BC Hydro nor proper redress (mitigation/compensation) put in place. Questions were asked of the presenters by people in attendance, but definitive answers were not provided.

Thus, in order to start to address the outstanding issues, our concerns are outlined below.

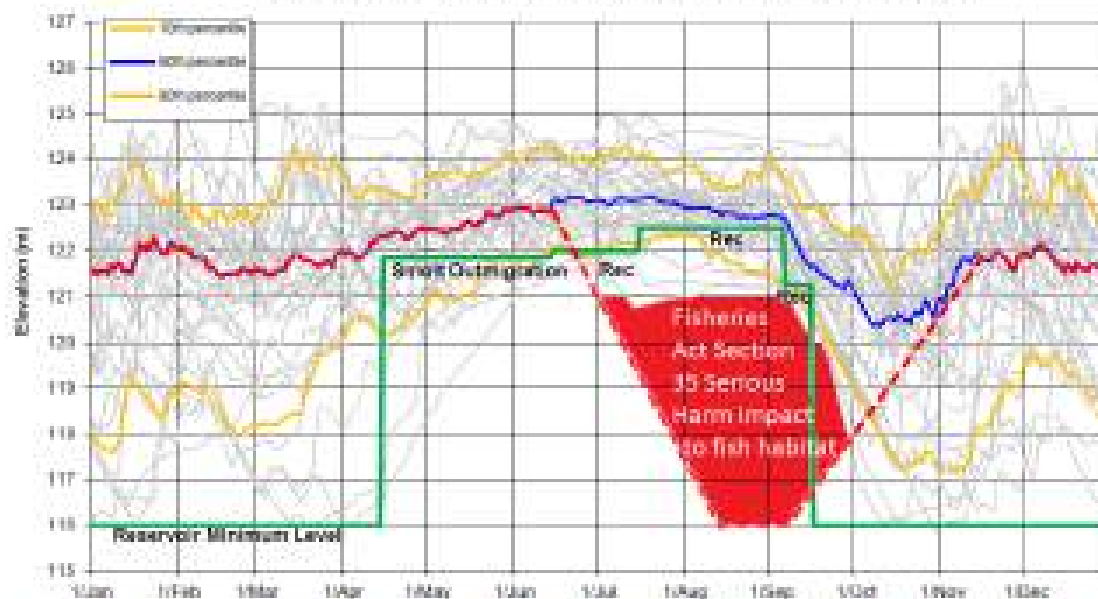
Rehabilitating the Diversion Tunnel/Adit Gates and Tunnel

As described in the Maple Ridge presentation of September 13, our concerns outlined in this letter are primarily in regards to the upgrading refurbishing the gates and diversion tunnel, LLO ("low-level outlet", minimum river flow pipe) through the Dam, in addition to the adit upgrades at the Alouette Generating Station. Of note, these projects will require drawing down the Alouette Reservoir commencing in July 2020 and into the autumn, and with subsequent recurring deep withdrawals in summers 2022 and 2023.

The impacts to fisheries and their issues and to sockeye salmon will involve the following:

1. Sockeye fry, after first emerging from spawning redds, utilize the shallow littoral zone of large lake and reservoirs for the first stage of their lives, normally several weeks to a month-and-a-half. This has been extensively detailed in a current DFO draft report on the subject that has not yet been released to the public. For the Alouette Reservoir, this specific habitat is normally and consistently inundated during these critical early life-stage of sockeye due to recreation constraints. Other littoral rearing fish species will also be harmfully affected due to the deleterious effects to the shallow-zone as a result of this project. The deep drawdowns will harmfully alter these historical habitats (watered since at least 1984; see figure below) and cause **Serious Harm** Section 35 of the **Canada Fisheries Act** to these habitats. Because the 2020 (and the 2022 and 2023) drawdowns will dewater the littoral habitats in an highly non-normal fashion, notwithstanding the allowance to go down to 116 metres is "legal" under the their British Columbia water license, BC Hydro cannot simply assume that the "new littoral area" will be of the same quality, or quantity, as the quantum usually seen during its normal and regular spring/summer operations. This issue is important and is outstanding and needs to be addressed as per the legal requirements under Canadian law. There is no indication from the presentation that BC Hydro has dealt with, or intends on dealing with, this important issue. (also c.f., Downton Reservoir deep drawdown 1990's and the subsequent public issues associated with this deleterious action.)

Alouette Reservoir Levels (1984 - 2018, WUP Target, 2020 Drawdown)



Serious Harm to limnral and pelagic fish habitats during proposed deep drawdown 2020, 2022, 2023

2. The deep drawdowns are potentially and likely to negatively change the plankton dynamics of the reservoir. This has the very real probability of affecting the productivity of the sockeye salmon production in the Alouette Reservoir. Note that the Maple Ridge presentation did not provide a quantum of the reduction of surface area of the reservoir during the critical rearing period for sockeye salmon rearing. This **Serious Harm** issue needs to be addressed as an impact associated with the re-development of both the adit and tunnel, low-level outlet pipe given that this is a requirement under Section 35 under the Canada Fisheries Act. Again, BC Hydro has shown no willingness to deal with this key Canadian legal requirement based on their public presentation.
3. There is currently a reservoir fertilization program, adding liquid nitrogen and phosphorus, that enhances sockeye juveniles that is being undertaken on Alouette Reservoir. This salmon restoration program is delivered by the BC Ministry of Environment and Climate Change Strategy UBC science staff. The deep drawdown proposed by BCH will disrupt this operation insofar as the current infrastructure of the fertilization storage (see figure below) is not capable of delivering the fertilizer to the low elevations that BC Hydro expects to achieve in 2020, 2022, and 2023. BC Hydro and the agencies need to deal with this appropriately.

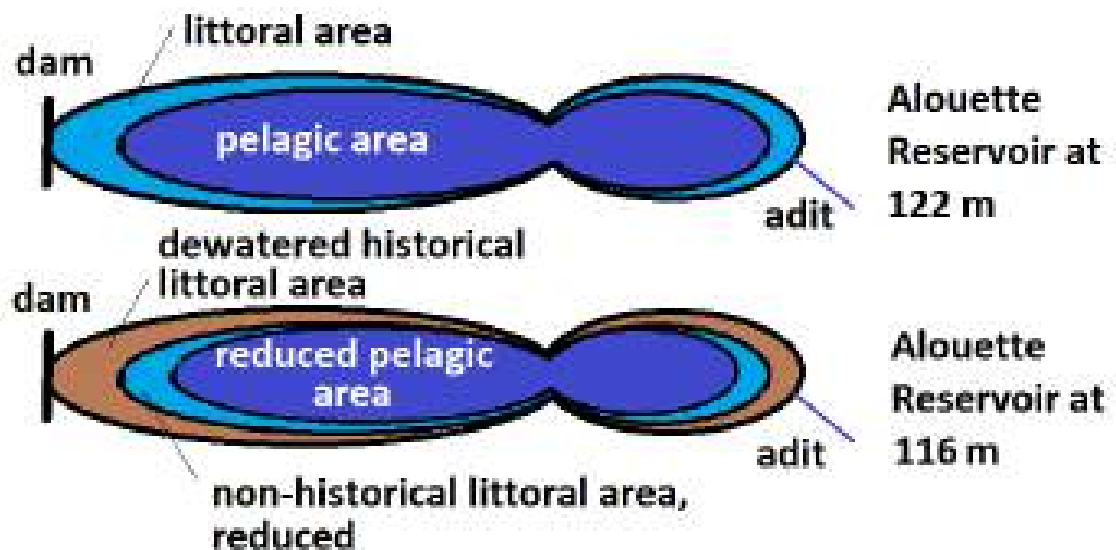


↓ tank-to-water surface
to increase by
↑ additional 6 m



Tank farm and spring-summer reservoir elevations. Deep drawdown will increase this by 6 m.

4. In its September 13 presentation, BC Hydro asserted that there would be no change to entrainment of fish as a function of the deep drawdowns. ARMS submits that, given that BC Hydro currently has absolutely no idea as to the current level of entrainment of fishes through the adit into Stave Reservoir and, in particular, age 0+ and pre-smolt 1+ sockeye juveniles, it is making a deliberately false statement that the passage of fishes through the adit will not change during deep drawdown. An empirical understanding of the entrainment of nerkids, at the various life stages is absolutely imperative to properly protect this resource in the face of effects by hydro-electric production, both now and during the project, and post-construction. Currently, BCH has an authorization with DFO to allow entrainment (subject to a WUP review which is pending); given that the parameters under the construction scenario will radically change, ARMS submits that this agreement is probably legally null-and-void during the tenure of the project.
5. What was not clarified by BC Hydro in the September 13 Maple Ridge presentation is whether or not the upgrades to the low-level outlet pipe, tunnel or the adit will result in post-project changes to flow regimes (e.g., discharge amounts), or reservoir levels. For example, in the redevelopment of the low-level outlet pipe, will the diameter of the intake or the pipe be reduced? And, thus, affect the river flow capacity? In the context of the fact that if the system operations of the Alouette Reservoir or tunnel/adit change as a function of these upgrades, then there is the potential for increased impacts to fish and fish habitat. And this needs to be both assessed and addressed under Canada Fisheries Act habitat legislation. Such a scenario was seen to occur as a result of the Stave Falls redevelopment project, as an example. BC Hydro did not enlighten the attendees at the Maple Ridge meeting as to what would happen post-construction in these regards.



Effects on pelagic and littoral areas to spring/summer sockeye littoral and pelagic habitats in Alouette Reservoir.

Legislative and Regulatory Obligations

In the context of BC Hydro's obligations under provincial and federal legislation, there are several issues that need to be considered. Notwithstanding that these upgrades are important and need to be done, they will still require Section 11 authorizations under the British Columbia Water Sustainability Act in order to work in and about a stream. Under the process of a Section 11 Authorization of the BC WSA the public can appeal to the Environmental Appeal Board if it feels that BCH has been negligent or not undertaken due diligence in respect to the Project.

At this time there is no indication that BC Hydro has obtained these authorizations.

Historical Obligations Under Legislation

Given that BC Hydro is currently diverting and using unlicensed water through the adit into Stave Reservoir (and that it does not have a valid license to use this water), is applying for a renewal of a license that is about to expire, and is undergoing major revisions to its infrastructure, ARMS submits that this is the time to address these outstanding historical issues. ARMS points out that just south of the Canadian border, the US requires such upgrades via FERC (Federal Energy Regulatory Commission) to address historical impacts during the relicensing process. The Baker Lake (reservoir) facility is a good example of how the proponent was required to address

outstanding fisheries issues in order to continue to operate with a renewed license. Thus, ARMS opposes any renewal of diversion licenses on the Alouette watershed until the salient environmental and fiduciary First Nations issues are addressed. They include:

1. Fish passage for all migratory fishes at the Alouette Dam. This will involve a commitment to provide resources to construct a fishway so that all species of migratory salmon and trout have a reasonable chance of accessing their historical spawning and rearing areas.
2. Commitment and resources to quantify and address entrainment of salmon smolts and other life-history stages of fishes at the adit must be obtained prior to the authorization of any construction.

Conclusion

This letter reiterates and expands upon those questions that were outstanding as part of the presentation at Maple Ridge Library on September 13, 2019. ARMS also sees a requirement by the environmental agencies to use this project to address long standing (90+ years) impacts caused by the original construction and ongoing operation of the dam, generating station and diversion facilities. And for BC Hydro and senior governments to meet their legislative requirements and fiduciary obligations to First Nations, and to the environment and fisheries. In the context of these serious outstanding issues, because BC Hydro sends power to the US under the USMCA trilateral agreement, it is selling “environmentally dirty power” to the United States. Given that BC Hydro derives an estimated \$65 million additional annual revenue from the Alouette watershed water flows in its downstream projects on the Stave watershed, it is not economically unreasonable for it to address these longstanding fisheries issues forthwith.

ARMS has been working in good faith with BC Hydro and the other stakeholders (ENV, DFO, Katzie First Nation, LGL) at the Alouette River Sockeye Re-anadromization Program table, which is fulfilling the steps defined within the Fish Passage Feasibility Framework. We believe that the proof we have been asked to provide for feasibility of a fish passage has been addressed and that it is more than reasonable to consider it within this project. We further assert that the intentions of ARMS and Katzie First Nation is to restore all historic fish populations to the Alouette watershed. Although the comments in our letter have been sockeye-centric, the fish passage is intended for all species. Moreover, we affirm that our concerns relating to the dam upgrade project be addressed, so that any further setbacks on our efforts on restoring fish are avoided.

As a final key note and tied directly to the upgrades of the low-level tunnel and the adit, the application by BC Hydro to now renew one of its diversion licenses on the Alouette Reservoir is critically important vis a vis the intent of the original decision-makers of to not provide it to the applicant in perpetuity. Clearly, the water authority of the time implicitly understood, in the early part of the 20th century, that social, First Nations and environmental standards change over time. And they wrote this license in such a way that it would expire so that future generations could resolve any outstanding issues before being re-issued. Further, it is our firm opinion, based in law, that the purpose of an open public licence review period, prior to a water licence being renewed, or potentially cancelled, is to open a public window to gather a fuller understanding of the following potential impacts in the continuation and renewal of said water licence: These may

include, but are not limited to the following: social-economic, environmental, fisheries, health, First Nations, recreational, riparian holders below the Alouette Dam, provincial and municipal Parks that border the Alouette Lake/ Reservoir watershed, other water licences on the watershed that may be impacted. The time to resolve those issues is now.

And, until these issues are dealt with, ARMS, with all the resources that are available to it, will strongly oppose BC Hydro moving forward with the proposed upgrades and re-licensing efforts.

Sincerely,

Per:

A handwritten signature in black ink, appearing to be 'Greta', with a horizontal line extending to the right.

Greta Borick-Cunningham, Executive Director
For Cheryl Ashlie, President
Alouette River Management Society

cc.

Katzie First Nation, Chief Grace George, Councillor Rick Bailey
Kwantlen First Nation, Chief Marilyn Gabriel, Councillor Tumia Knott
Hon. Premier John Horgan
Hon. Minister Energy, Mines, and Petroleum Resources, Michelle Mungall
Hon. Minister for Tourism, Arts and Culture, MLA Maple Ridge-Pitt Meadows Lisa Beare
Hon. Minister for Fisheries, Oceans and the Canadian Coast Guard, Jonathan Wilkinson
City of Maple Ridge Mayor and Councillors
City of Pitt Meadows Mayor and Councillors
MLA Maple Ridge-Mission, Bob D'Eith
Opposition Critic for Energy, Mines and Petroleum Resources, MLA Tom Shypitka
Leader of the Official Opposition, MLA Andrew Wilkinson Q.C.
Leader of the Third Party, MLA Dr. Andrew Weaver

Appendix C

Media Mentions

A20 Wednesday, February 6, 2019

The Maple Ridge Pitt Meadows News

www.mapleridgepittmeadowsnews.com

Ruimy makes pitch for fishway to Alouette Lake

MP presents report to PM

Phil Melnychuk
pmelnychuk@mapleridgepittmeadowsnews.com

Dan Ruimy has made his pitch for a fish passage to Alouette Lake reservoir to the highest office in the land.

Now, it remains to be seen if Prime Minister Justin Trudeau is listening.

Ruimy presented a report that calls for a fish passage connecting South Alouette River to Alouette Lake to improve the returns of salmon runs.

Access to the lake where sockeye salmon spawn after returning from the Pacific Ocean has been cut off by a concrete dam built in the 1920s by B.C. Hydro to raise water levels for the Stave



MP Dan Ruimy presents report to prime minister.

Lake reservoir. "This report advocates for safe fish passage in our community and comes from three years of consultation, meetings and roundtables with local stakeholders," Ruimy said on Facebook.

He made the same pitch to the House of Commons in a brief speech Thursday.

"Over the years, our water ways have been

disconnected creating challenges for those who depend on the well-being of the Alouette watershed," Ruimy told fellow MPs.

"For our salmon to thrive, there should be no barriers to their life and spawning cycles."

He wanted to find long-term solutions to provide sustainability. "There is no better time to act than now,"

Ruimy said.

The report was based on three years of consultations involving Katzie and Kwakwaka'wan First Nations, the Alouette River Management Society and the Kanaka Education and Environmental Partnership Society, and calls for fish access to the reservoir and for fish friendly pumps at the Kennedy Road pump station in Pitt Meadows.

Ruimy also presented the report to Fisheries Minister Jonathan Wilkinson.

According to ARMS, the Alouette dam led to "dramatic declines" in all five Pacific salmon species. With access to the lake blocked, sockeye became landlocked and known as kokanee. Chinook and pink salmon also disappeared, said ARMS.

'Federal funding could finance fishway'

Getting salmon back in to Alouette Lake goal of Maple Ridge conservation group

Neil Garbett
neilgarbett@plovernews.com

When the federal fisheries minister came to Maple Ridge, Society (ARMS) has been looking for a fishway to allow spawning salmon to return to Alouette Lake. A study by Peter Ward and Associates in 2010 estimated it would cost \$2.8 million to build it beside the spillway and get to the top of the 16-metre dam.

Cheryl Adelle, ARMS president, said there could be many ways for her organization to use the new funding, but the fish passage minister ARMS primary goal.

And, she said, it seems to fit within the general scope of recovery for aquatic species at risk.

She said there was an earlier funding commitment ARMS hoped could be a source of funds that details have not been

It was constructed as part of the Slave Falls Dam and Powerhouse.

For almost a decade, the Alouette River Management Society (ARMS) has been looking for a fishway to allow spawning salmon to return to Alouette Lake. A study by Peter Ward and Associates in 2010 estimated it would cost \$2.8 million to build it beside the spillway and get to the top of the 16-metre dam.

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Funds should be available to construct a fishway allowing salmon to return to Alouette Lake.

fortification.

"There should be ten pots of money we could tap into," she said.

Adelle is now encouraged by the increasing number of people and agencies getting behind the fish ladder project, on the occasion. The City of Maple Ridge, Katzie and Kwakwaka'wakw First Nations, B.C. Hydro and Fisheries and Oceans are all involved, she said.

"I am feeling more optimistic than I've ever felt about it," she said. "These series of be more acceptance."

"So many voices are coming to the table, really wanting this to be done, sooner than later." The key, she said, will be showing that creating the fish passage will create a strong return with many fish returning to spawn.

The challenge, she said, will be

the river's "infinite" work hydro." That work aside, it's good to know the financial means to do the work appears to be available.

"I will take any announcements of money, and of working with us, as good news."

Ross Davies, of the Katzie First Nation and First Nations Partnership Society, said any education component for the funding would be well with the work KEEPS is doing.

file is the education coordinator for KEEPS, and said the society brought approximately 5,400 students through the Bull River, Humber or other watershed activities. It generally offers education to 5,000-plus students per year.

He said population studies or studying off-channel habitat are other areas where KEEPS would get involved. The society has been releasing coho and chinook salmon around the Lower Mainland, and he said coho salmon are "the real story" of all fish. "Monitoring of coho that they 'get no respect'."

But he said the hardy coho can be found spawning in different areas or in "the pond behind the trail."

"Places you can't believe you would find them," he said. "You don't have to go to the Adams River to see salmon spawning—they're right here."

Davies said KEEPS will look at how the new funding fits with the organization's activities.

www.mapleridgepittnews.com

Alouette Lake levels back to normal

'Release of young salmon delayed'

Phil Malnychuk
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The Alouette Lake reservoir has filled up and more or less reached its normal levels, says the Alouette River Management Society.

"It's hard to believe it should have been in April," Gena Borick-Cunningham, with the society, said last week.

Borick-Cunningham said that the level had reached 121.9 metres on Wednesday, May 22. That level allows juvenile sockeye — raised in the lake as part of the efforts to re-establish a sockeye salmon run — to escape down the spillway gate and into the South Alouette River, then out to the Pacific Ocean.

While the levels have risen, it still means that the fish were delayed a month in getting down the river. Usually, the juvenile salmon in the river by April 15.

The group had worried that low levels in the lake earlier this year would have hurt the fish. It's not known if being delayed a month will affect survival chances of the salmon, Borick-Cunningham said.

Usually, between 30,000 and 60,000 young sockeye escape into the river each spring, with the hopes of returning in four years to the base of the Alouette River dam, where they are captured and tracked around the dam and dumped back into the lake to spawn.

The spillway gate should remain open until June 15.

Last year, 15 sockeye returned to spawn.



Spill gate is now open to allow sockeye to get to the ocean.

ARMS has been releasing juvenile sockeye into the river for 11 years with the hopes of rebuilding the run that was extinguished in the 1920s, when construction of the Alouette dam blocked fish access to the lake.

The target level between mid-April and mid-June is at or above 121.85 metres, and from mid-June to mid-July it is 122 m.

ARMS president Cheryl Ashlie acknowledged B.C. Hydro is permitted to bring the water level as low as it did.

But Hydro did not bring the water level up quickly enough to meet the April 15 target, she added.

Hydro said the low water levels were caused by the demand for electricity and dry weather this past winter.

"High electricity demand due to record cold temperatures in February and a dry February and March has resulted in low water levels at many of our reservoirs, including Sive and Alouette," Kevin Aquino, with Hydro, said previously.

According to Environment Canada records for the Pitt Meadows weather station, there was 42.9 mm of rainfall in March. That compares to 147 mm in March 2018, which was a dry year.

ARMS concerned about trash in the Alouette

Pamphlet to raise awareness on keeping Alouette River clean

Colleen Flanagan
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The Alouette River Management Society has released a pamphlet for outdoor enthusiasts about keeping the river clean while tubing.

The pamphlet came out about two weeks ago and reminds people that it is one of only two heritage rivers in the Fraser Valley where five salmon species return to each year: sockeye, coho, chinook, pink and chum.

Greta Borick-Cunningham, with ARMS, said that it has only been within the last couple of years that people putting out viral videos on social media have attracted others to the area.

"And it's really getting a lot of attention," she said, adding that the Alouette has been listed in the top three rivers to tube



(Contributed)

Sophie Sparrow, with ARMS, cleaned the banks along the Alouette River last week and this is the garbage she picked up.

on in B.C.

Borick-Cunningham also said that they get anecdotal reports of people leaving their litter on the sides of the river banks, inner tubes being left on the banks and flip flops floating down the river.

But, she said, tubing is a great activity and it gets people outdoors so ARMS just wants to bring awareness to those environmental concerns, "that go along with any type of recreational activity where people maybe don't have that awareness."

They will be handing out the pamphlet at different places around the city including the Maple Ridge Park, Davidson's Pool and at the Maple Ridge Pitt Meadows Country Festival this weekend where they will have a booth set up by Richard's Racers.

Borick-Cunningham would like tubers to remember that there are sockeye coming up the river at this time of the year and to try and keep as much trash out of the river as possible.