

**DROUGHT
UPDATE >**

PULLOUT INSIDE

WATER REGION 3

State ^{OF OUR} Streams 2015

WATER QUALITY EDITION



French Creek at Hatchery

The Drinking Water & Watershed Protection (DWWP) Program has been working with community partners, including provincial & local government, environmental stewardship organizations, private forest companies and volunteers to monitor water quality across our region since 2011 with the Community Watershed Monitoring Network. **For more information, please visit: www.dwwp.ca**



**DRINKING WATER
WATERSHED
PROTECTION**

**REGIONAL
DISTRICT
OF NANAIMO**

The Community Watershed Monitoring Network

Program 2 under the Drinking Water and Watershed Protection Action Plan outlines the goal to improve information about the region's water resources in terms of quantity and quality. The Community Watershed Monitoring Network (CWMN) furthers this program action, by collecting water quality data to track stream health. Partnership between local stewardship group volunteers, BC Ministry of Environment, the RDN DWWP program and Island Timberlands has enabled this expansion of monitoring in our region.

Water quality is sampled in 17 watersheds and 51 sites across the region.

- 5 samples in the low flow (Aug - Sept)
- 5 samples in the fall flush (Oct - Nov)

water quality indicators

TURBIDITY

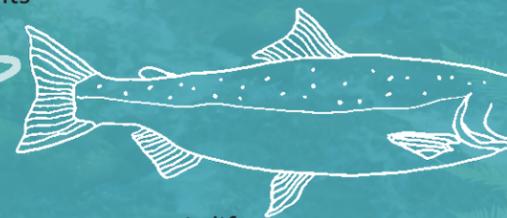
suspended particles in water; linked to higher levels of contaminants

DISSOLVED OXYGEN

oxygen dissolved in water supports aquatic life; lower when stream flow is reduced

TEMPERATURE

affects processes in water and in aquatic life



This DWWP program is linked to Indicator 5 of our Regional Growth Strategy (RGS) monitoring program which measures progress towards achieving Goal 2 of the RGS: to "protect and enhance the environment and minimize ecological damage related to growth and development". With regard to fresh water, the RGS identifies a strategy to meet this goal, of "protecting the quality and quantity of ground water and surface water". The RGS seeks to maintain the long term sustainability of these water resources. Please see the Monitoring the RGS website at www.rdn.bc.ca/rgsmonitoring for more information.

WATER REGION 3 French Creek



- 1 BIG QUALICUM
- 2 LITTLE QUALICUM
- 3 FRENCH CREEK
- 4 ENGLISHMAN RIVER
- 5 SOUTH WELLINGTON TO NANOOSE
- 6 NANAIMO RIVER
- 7 GABRIOLA ISLAND

This publication highlights:

French Creek & Grandon Creek.

For more monitoring results details and other streams in the region, see the full report at

www.dwwp.ca

FRENCH CREEK



Challenges

The first three years of CWMN data showed exceedences of Drinking Water Guidelines for temperature, dissolved oxygen and turbidity at one or more sample sites. Results from additional lab analysis completed for E.coli in 2014 exceeded the guideline in the lowest most CWMN sample site at Barclay bridge. Potential sources are trace effluent inputs from recently decommissioned septic systems, animal scat or other bacteriological inputs. The Ministry of Environment has designated French Creek as a 'Sensitive Stream' under the Fisheries Protection Act, stating that it requires special management attention due to the risk to fish populations from inadequate water flows and other habitat concerns such as bank erosion. French Creek is subject to low streamflows in the summer period, which puts fish populations at risk. This watershed is extremely important for many different species of fish, including coho, chinook, chum and pink salmon, as well as stressed populations of steelhead and cutthroat trout. Concerns with bank erosion exist from historic agriculture and logging practices that removed streamside vegetation that hold banks in place.



Details

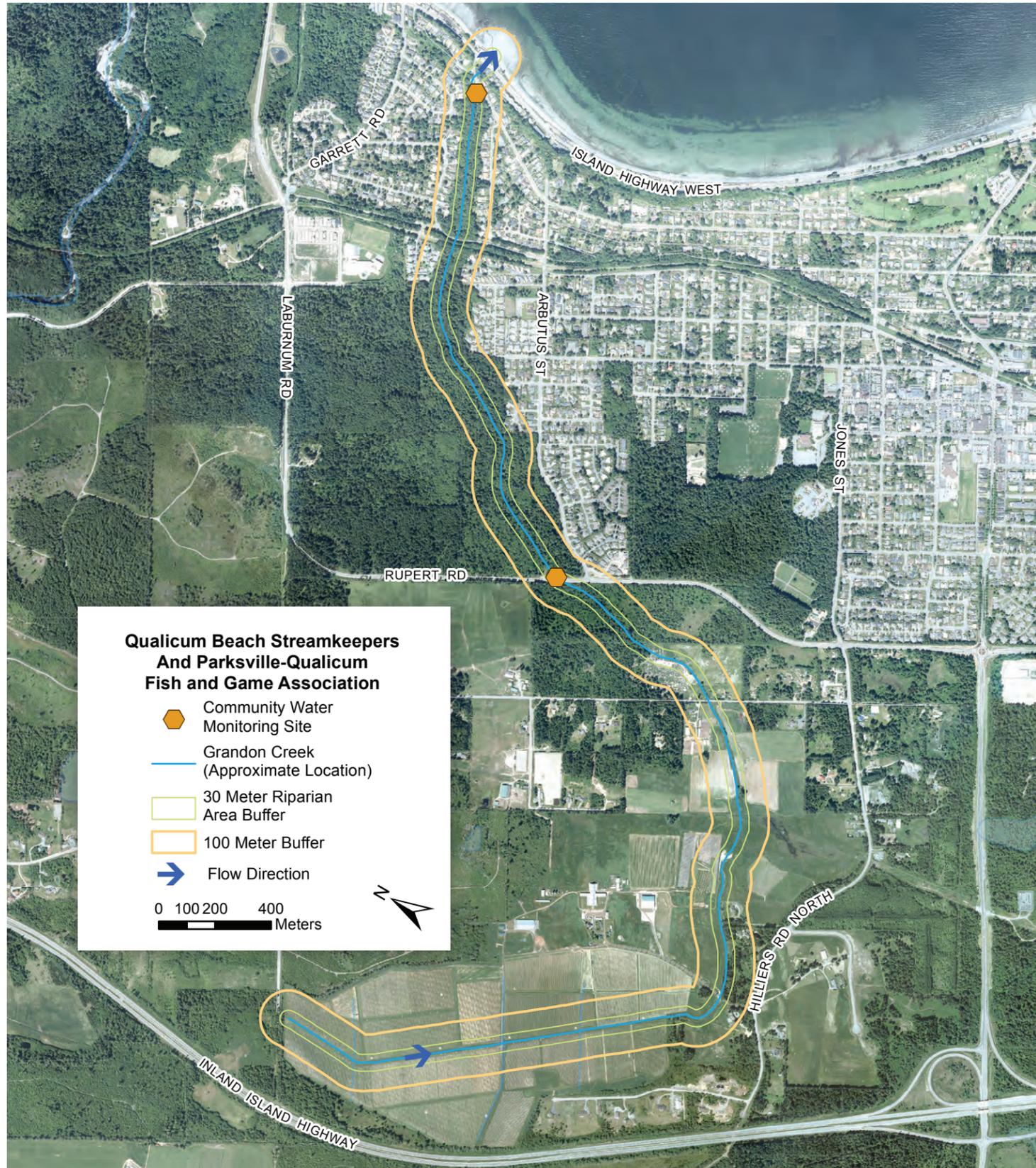
Water Region three is within the traditional territories of the Qualicum First Nation. With a drainage area of 69.7 square kilometers, French Creek is the largest watershed in this Water Region. Land uses include privately managed forest lands in the upper watershed with agriculture lands and residential homes in the mid and lower watershed. Commercial and light industrial developments are present where the creek passes through the Coombs area. Since 1995 French Creek has been designated a 'Community Watershed' and through interaction with groundwater, is an important source of the community's water supply. A major tributary is Hamilton Creek with flows originating from Hamilton Marsh, the largest body of water in this watershed. Hamilton Marsh contributes stream flow to French Creek year round and is an important biodiverse ecosystem.



Opportunities

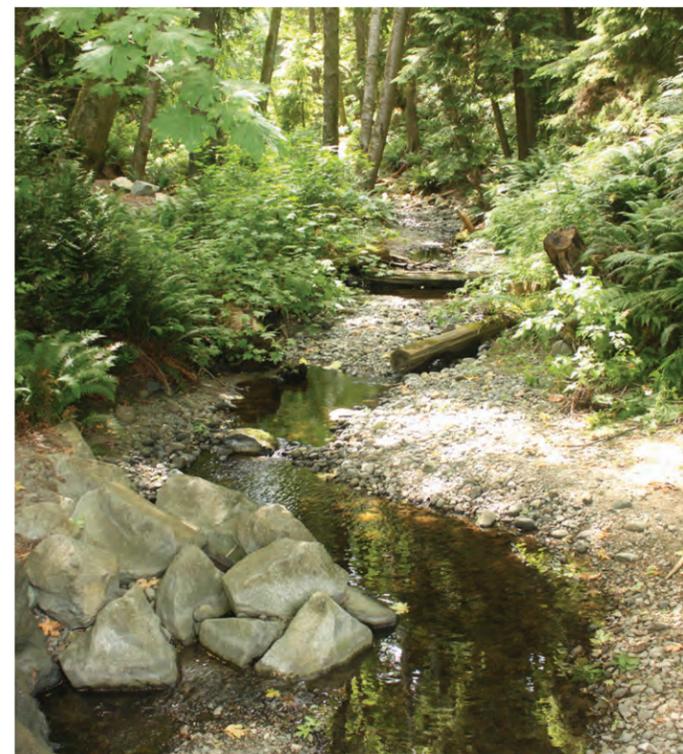
To maintain stream bank stability and viable fish habitat it is important that erodible floodplains have a healthy mature riparian forest. The Friends of French Creek Conservation Society (FFCCS) have and continue to plant trees alongside the creek for bank stabilization, complete weed control such as removal of the invasive Hogweed, educate the public about the local ecology of the creek, and physically repair the stream to improve water flow characteristics. In June of 2015 the FFCCS completed physical stream assessments of reaches above the lower and upper CWMN sites to discern the causation of exceedences of the Provincial Drinking Water Quality Guidelines. More reaches will need to be completed in the near future to complete the picture and determine future restoration sites. To learn more or volunteer with the FFCCS contact coomunications@ffccs.ca.

GRANDON CREEK



Challenges

Historically, the upper reaches of Grandon Creek have been ditched through Agricultural lands and stormwater has been directed to the creek, both increasing the potential of sediment and contaminants entering the waterway. Stormwater and runoff from adjacent properties can increase peak flows and lead to erosion of unstable banks, filling spawning gravel and fish rearing pools with fine sediment. Winter peak flows have the capacity to create deposits of fine sediment, raising the levels of the gravel beds. This impacts the survival of any fish eggs laid in those gravel beds as when flows subside they are exposed to the air.



Details

Grandon Creek has a drainage area of 7.2 square kilometers. The upper reaches are surrounded by agricultural lands, while the ravine of the lower reaches is a forested park with walking trails bordered by residential homes. Containing mature native stands of Alder, Maple, Fir, Cedar and Balsam, the park provides a dense canopy cover to the portion of the creek that runs through it. Fish species that populate this creek are cutthroat trout, coho and chum salmon. In 2001 a fishway was introduced to overcome the culvert barrier at Crescent Road West, a staff gauge and data logger to monitor flow levels were also installed at this site.



Opportunities

On properties that drain towards the creek, impervious surfaces can be reduced, to minimize rapid run-off entering the creek that may bring with it contaminants and cause bank erosion. Vegetated swales (rain gardens) and other methods of slowing rainwater runoff can be increased to encourage infiltration. Through partnerships, Qualicum Beach Streamkeepers (QBS) have completed many projects on Grandon Creek, including a June 2015 physical stream assessment. The streamkeepers' main focus is on habitat restoration, such as removing sediment build-ups, creating deeper pools for rearing, adding better spawning gravel, strategically securing large woody debris in the pools for shade and cover, fortifying eroding banks with protective boulders and replanting the streamside with native plants. There are opportunities to protect, restore, and monitor local fish habitat and learn more about your local streams with the many hands-on projects that the QBS are a part of. To learn more contact info@qbstreamkeepers.ca.

WORKING TOGETHER



ACTIONS

- ✓ Keep stream banks naturally vegetated
- ✓ Refrain from chemical use in landscape maintenance
- ✓ Pick up after your dog, ensure dog waste and poop bags stay out of waterways
- ✓ Minimize impervious surfaces – deal with rainwater on site to limit what runs-off into the stream, potentially carrying contaminants, contributing to erosion and flash flooding



ACTIVITIES

- ✓ Continuous monitoring in local waterways helps to promote watershed health awareness in our communities
- ✓ Environmental stewards are trained every year how to monitor our watersheds and collect data to provincial standards
- ✓ Trend reports created from the first three years of data determine which sites would benefit from additional monitoring
- ✓ CWMN results continue to highlight areas for improved watershed management, physical stream assessments, outreach and education

GET INVOLVED

Departure Creek Streamkeepers
operates under auspices of NALT
volunteer@nalt.bc.ca

Lantzville-Nanosee Streamkeepers
nanoseesteamkeepers.blogspot.ca
cpollak@shaw.ca

Nile Creek Enhancement Society
www.nilecreek.org | Nile.creek@shaw.ca

Friends of French Creek Conservation Society
www.ffccs.ca | communications@ffccs.ca

Mid-Vancouver Island Habitat Enhancement Society
www.mvihes.bc.ca | info@mvihes.ca

Qualicum Beach Streamkeepers
www.qbstreamkeepers.ca
info@qbstreamkeepers.ca

Island Waters Fly Fishers
www.iwff1.ca | rschiefke@shaw.ca

Nanaimo & Area Land Trust
www.nalt.bc.ca | volunteer@nalt.bc.ca

VIU - Fisheries & Aquaculture Department
www2.viu.ca/fisheries | daniel.fox@viu.ca

For trend reports, monitoring sites and program outline please visit
www.rdn.bc.ca/CWMN



**DRINKING WATER
WATERSHED
PROTECTION**



**REGIONAL
DISTRICT
OF NANAIMO**