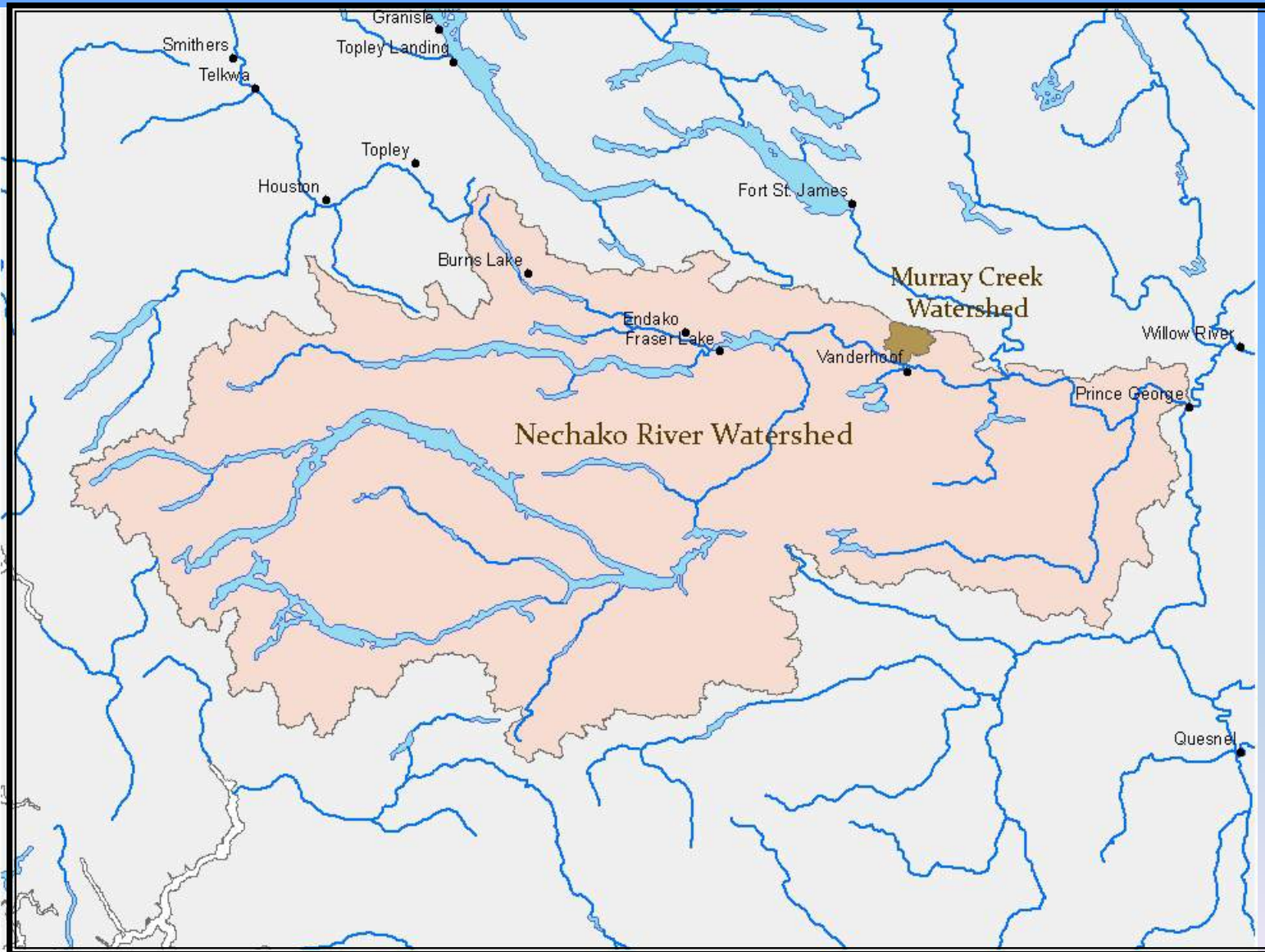
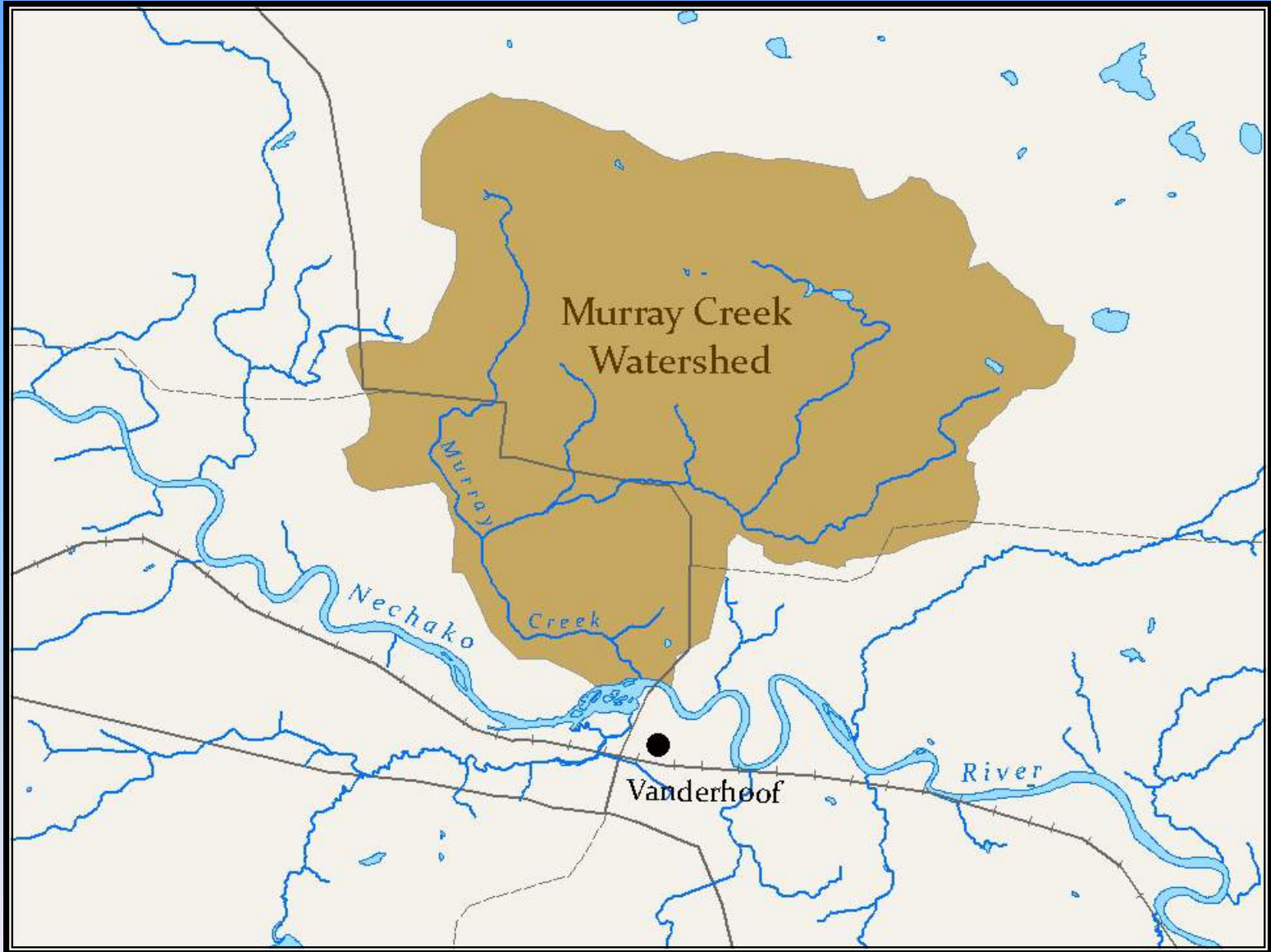


Nechako Environment Water Stewardship Society

“NEWSS”







Murray Creek Demonstration Project



The ranching community benefits from a healthy watershed, both economically and socially.

Murray Creek Watershed

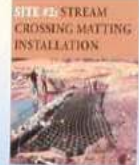
Murray Creek flows out of the Blue Mountains from the agricultural community and into the Nechako River at Goodhue!



YOU ARE HERE
The project site is located in the Murray Creek watershed, which is a sub-watershed of the Nechako River. The site is located in the agricultural community and is near the Nechako River at Goodhue.



SITE #1: PREPARING THE SITE
The installation is designed to prevent the hardened stream crossing (C2) and catchment area. The Nechako RIBC stream channel rock weir installation prevents the stream from making out during high flow.



SITE #2: STREAM CROSSING MATTING INSTALLATION
Laying down the matting that will help stabilize the stream bottom at the crossing site, allowing for catchment and machine crossing.



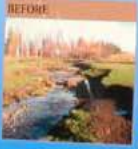
SITE #3: BOULDER PLACEMENT
Boulders were placed under the stream to ensure that the crossing would not wash out above and below the crossing.



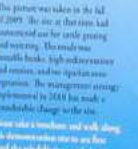
SITE #4: STREAM BANK HARDENING
Boulders, or rip-rap, are used to stabilize and harden the stream bank to minimize the erosion of stream. The boulders also create structure and habitat for fish.



SITE #5: ROOT WADS
Rootwads were installed at the stream crossing to improve stream meandering and prevent the banks from eroding. The root wads during high flow create excellent habitat for fish.



BEFORE
This picture was taken in the fall of 2009. The site at that time had no stream crossing and was used for cattle grazing and mowing. The stream was eroding banks, high sedimentation and erosion, and low riparian vegetation. The management strategy implemented by SCD has made considerable change to the site.



SITE #6: ROCKS AND LOGS
Stabilized riparian zone rocks and logs together to prevent and reduce stream bank erosion. Rocks stabilize the stream bed and logs create structure and habitat for fish. The logs are placed in the stream to create structure and habitat for fish.



SITE #7: STABILIZATION DURING HIGH FLOW
Additional armoring was required to protect stream bank when during high water events. Willow and red willow riprap were placed along the stream bank for stabilization and to bank the stream. Fish erosion control structures.



SITE #8: CREEK MEANDERING
Meandering creek flow slower and are at less risk of erosion. We protected the banks with rocks to prevent wash out and the development of straight creek channels.



SITE #9: TREE PLANTING
Cattle for grazing will need to be planned and we want a healthy riparian zone to be established.



SITE #10: TREE REPLACEMENT
We removed the existing vegetation which were too large enough for the stream flow and potential fish passage. The new trees which is suitable for high water flows and does not obstruct the stream. We fish habitat or fish passage.

THE STAKEHOLDERS: Stakeholder participation is key to the success of this and future rehabilitation projects on Murray Creek. This project would not have been possible without the time efforts and support from these groups: • Vanderhoof Fish & Game Club • Nechako Valley Regional Caribou Association • BC Cattlemen's Association • ERBP Program • District of Goodhue • Regional District of Bulkley-Nechako • Ministry of Environment - Environmental Stewardship Division • School District #11 • Pacific Salmon Foundation • Rita Tasso Allen • DFO • Forest Stewardship and Watersheds Program

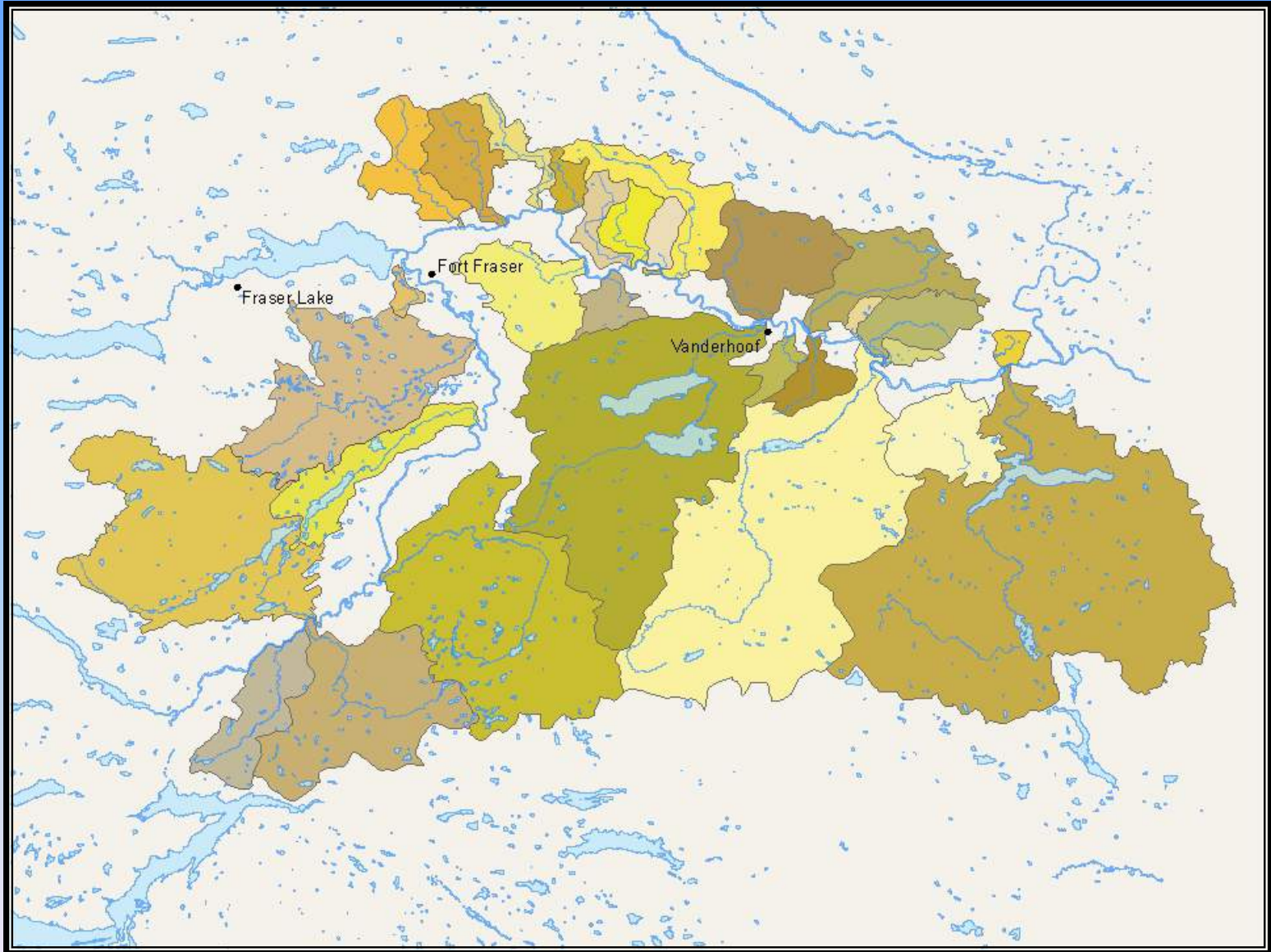
NEWS- our proposal

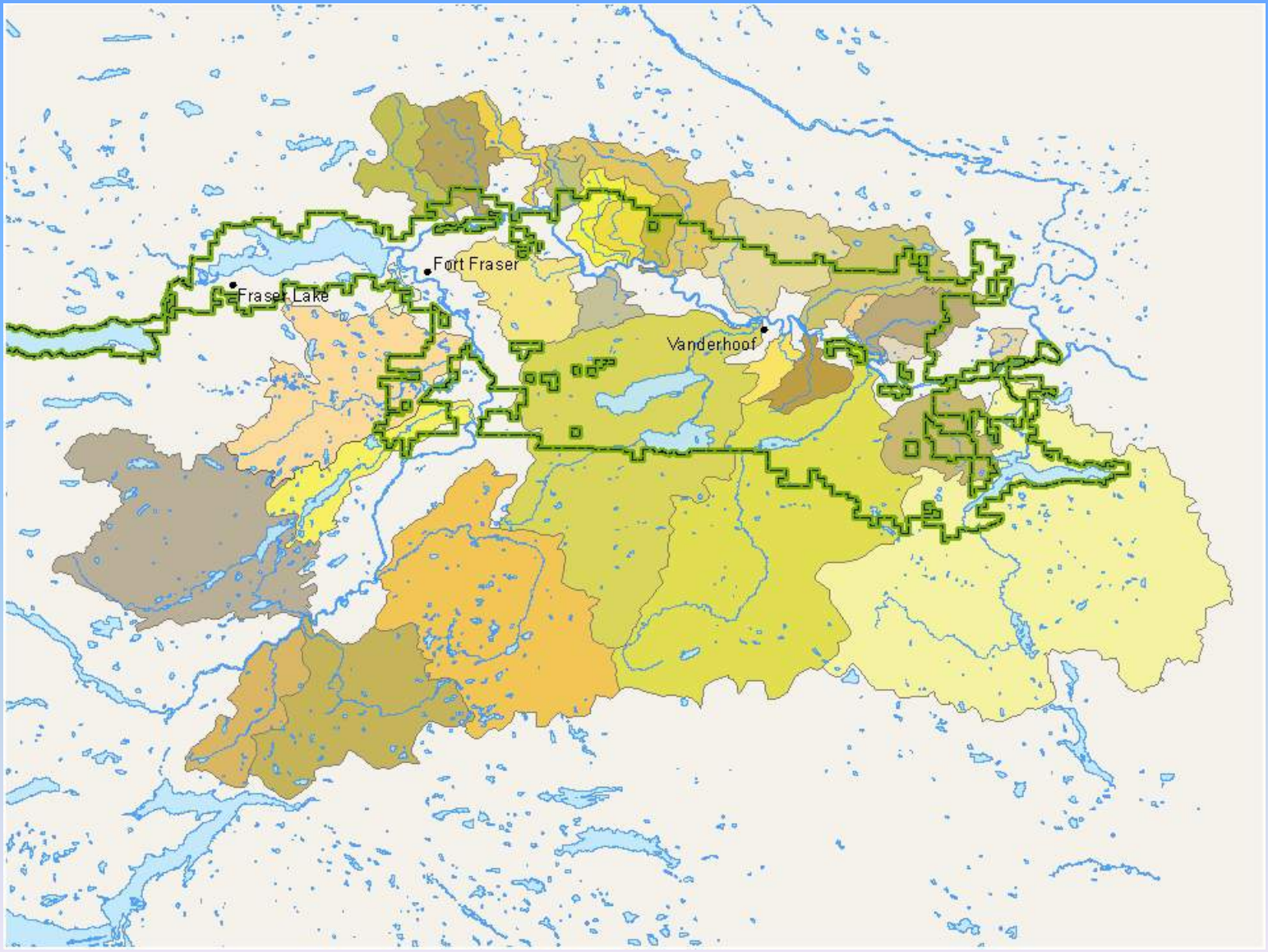
NEWS meets the objectives of the NEEF including:

- Options that address enhancement related to flow changes in the Nechako River.
- Options that seek to rehabilitate fish habitat and fish populations in the Nechako River.
- Options that promote education and stewardship of water in the Nechako watershed.

NEWS-Objectives

1. Facilitating the rehabilitation of streams that flow through the Nechako Agricultural Belt into the Nechako River.
2. Facilitating watershed planning that provides a framework to protect, maintain and restore a healthy natural watershed.
3. Collaborate to improve the mapping of aquifers that lie beneath the Nechako Plateau and foster an improved understanding of the role healthy streams and riparian areas play in the dynamic interaction of surface and groundwater.
4. Assisting government to meet its stated vision for a cleaner and healthier environment.
5. Facilitating and participating in environmental stewardship and education opportunities for schools, universities and the community at large, including stream rehabilitation, water quality, Nechako white sturgeon and salmonids
6. Developing a program to administrate a “Gold Label” certification standard for agricultural products produced in the Nechako Valley by identifying opportunity to recognize agriculture producers that have Farm Stewardship Plans in place and demonstrate land stewardship practices that operate in harmony with healthy streams.





Land Settlement Boundary

- Made up of many industries and individuals
- Woodlots, Forest Licenses, Farmers, Ranchers, gravel pits, First Nations, Towns, Municipalities, Regional Districts, Parks, protected areas, pastures etc....
- Stakeholders

NEWSS Proposed Operating Area

Watershed Name	Area (ha)	Length of Stream Within ALR (m)	Length of Stream Outside ALR (m)	Area of Watershed With ALR (ha)	Area of Watershed Outside of ALR (ha)
<i>Chilco Creek</i>	5,744	13,359	1,275	4,341	1,403
<i>Clarke Creek</i>	965	5,775	1,450	538	428
<i>Clear Creek</i>	8,679	8,387	16,727	2,129	6,550
<i>Cluculz Creek</i>	90,500	33,698	50,025	12,170	78,330
<i>Croft Creek</i>	2,771	3,829	0	2,771	0
<i>Cutoff Creek</i>	9,034	0	23,129	0	9,034
<i>Engen Creek</i>	9,938	11,858	0	9,938	0
<i>Greer Creek</i>	41,037		63,074	0	41,037
<i>Halsey Creek</i>	1,901	3,654	5,825	361	1,541
<i>Hullat Creek</i>	8,842	5,218	0	8,842	0
<i>Kluk Creek</i>	3,009	0	18,558	0	3,009
<i>Knight Creek</i>	10,065	20,056	8,254	5,324	4,741
<i>LeDuc Creek</i>	722	1,436	0	722	0
<i>Leona Creek</i>	1,055	2,122	0	969	86
<i>Martens Creek</i>	2,122	5,797	0	2,122	0
<i>Moss Creek</i>	2,024	2,526		1,510	515
<i>Murray Creek</i>	12,056	12,750	2,942	6,188	5,868
<i>Neuco Creek</i>	3,483	12,500	0	3,483	0
<i>Nine Mile Creek</i>	6,784	6,095	12,662	822	5,962
<i>Phillips Creek</i>	86	1,615	0	86	0
<i>Puttah Creek</i>	1,110	0	3,606	22	1,088
<i>Redmond Creek</i>	3,246	10,358	0	2,554	692
<i>Sinkut River</i>	60,727	21,644	53,692	15,863	44,864
<i>Smith Creek</i>	24,841	13,252	23,552	4,014	20,826
<i>Stoney Creek</i>	56,220	36,311	16,049	29,966	26,254
<i>Swanson Creek</i>	23,216	0	30,605	0	23,216
<i>Tahultzu Creek</i>	8,993	8,915	20,383	1,702	7,290
<i>Targe Creek</i>	36,977	0	48,809	0	36,977
<i>Tatsutnai Creek</i>	6,665	4,170	16,351	616	6,049
<i>Trankle Creek</i>	3,087	14,201	2,576	2,208	878
Totals	445,900	259,527	419,542	119,260.8	326,639.5
	ha	m	m	ha	ha

NEWSS - issues

- Water stewardship practices
- Watershed health
- Aquifer health considered
- Restoration of streams and river
- Education – for everyone
- Community Health
- Collaboration with communities, residents and Industries
- Adaptation

NEWSS

- NEWSS has the foundations, history and partnerships
- School Districts and Universities are critically important
- We envision a collaborative approach with First Nations, Government agencies and the stakeholders in the defined area.

NEWSS meets the objectives of NEEF

- Options that address enhancement related to flow changes in the Nechako River.
- Options that seek to rehabilitate fish habitat and fish populations in the Nechako River.
- Options that promote education and stewardship of water in the Nechako watershed.

Partners and Collaborators

We are pleased to have some of the leading experts in their field here and would invite their comment & any questions:

- Dr Margot Parkes – UNBC
- Dr Ronald Chapman – Chief Medical Health Officer – Northern Health
- Chelton van Geloven –MFLNRO watersheds
- Dave Tamblyn – Northern Health – Ground water

