



BRITISH  
COLUMBIA

Ministry of  
Environment and  
Climate Change Strategy



# Ministry of Environment Debris Action Plan

July 27, 2022



# Executive Summary

The total number of known debris sites across the province is 649. Removal of debris and clean up of debris sites is ongoing. The Phase 1 (debris removal prior to freshet) has been completed for all of the major watercourses, and has been moved to Appendix D. Phase 2 debris removal (post freshet) will address any remaining debris. The table below breaks down by each watercourse.

Watercourse	Outstanding Permits	Number of Known Debris Items (all identified, photographed and geotagged)	Removal Timeline
Nicola	None	102 debris sites identified of which: <ul style="list-style-type: none"> <li>● 57 debris sites have removal completed; and</li> <li>● 6 have been assessed and concluded not to be removed</li> </ul> This leaves 39 additional sites as work in progress	High flow advisory issued and with continued water levels rising work has paused. Linear Debris Removal crews have now demobilised. Watercourse levels will be monitored and additional details of Phase 2 planned activities to be provided in future reports.
Coldwater	None	73 debris sites identified of which <ul style="list-style-type: none"> <li>● 36 debris sites have removal completed; and</li> <li>● 8 have been assessed and concluded not to be removed</li> </ul> This leaves 29 additional sites as work in progress	High flow advisory issued and with continued water levels rising, work has been paused. Linear Debris Removal crews are cleaning up and have now demobilized. Watercourse levels will be monitored and additional details of Phase 2 planned activities to be provided in future reports.
Thompson	None	12 debris sites identified of which <ul style="list-style-type: none"> <li>● 6 debris sites have removal completed</li> </ul> This leaves 6 sites remaining as identified	Debris removal has been paused due to freshet. Additional debris sites may be assessed as new debris are identified from freshet
Tulameen	None	152 debris sites identified of which: <ul style="list-style-type: none"> <li>● 34 debris sites have removal completed; and</li> <li>● 17 have been assessed and concluded not to be removed</li> </ul> This leaves 101 sites remaining as work in progress	Debris removal has been paused due to freshet. Additional debris sites may be assessed as new debris are identified from freshet.

# Executive Summary - continued

Watercourse	Outstanding Permits	Number of Known Debris Items (all identified, photographed and geotagged)	Removal Timeline
Similkameen	None	129 debris sites identified of which: <ul style="list-style-type: none"> <li>● 14 debris sites have removal completed; and</li> <li>● 10 have been assessed and concluded not to be removed</li> </ul> This leaves 105 sites remaining as identified or work in progress.	Debris removal has been paused due to freshet. Additional debris sites may be assessed as new debris are identified from freshet.
Fraser River	Some sites require updated DFO permit	68 debris sites identified of which <ul style="list-style-type: none"> <li>● 38 debris sites has removal completed; and</li> <li>● 5 have been assessed and concluded not to be removed</li> </ul> This leaves 25 sites remaining as identified.	Debris removal is in progress, Contractors are assessing dates but all timelines subject to freshet river levels.
Chilliwack River & Vedder River/Canal	Some sites require updated DFO permit	57 debris sites identified <ul style="list-style-type: none"> <li>● 16 debris sites has removal completed;</li> <li>● 1 have been assessed and concluded not to be removed</li> </ul> This leaves 40 sites remaining as identified.	Additional debris sites may be assessed as new debris are identified from freshet.
Coquihalla River	None	44 debris sites identified of which: <ul style="list-style-type: none"> <li>● 37 debris sites have removal completed; and</li> <li>● 6 have been assessed and concluded not to be removed</li> </ul> This leaves 1 site remaining as identified.	Additional debris sites may be assessed as new debris are identified from freshet.
Other sites (Bella Coola & Kingcome)	ARC, DFO and FOR	12 debris sites identified. <ul style="list-style-type: none"> <li>● 7 Bella Coola sites concluded not to be removed.</li> <li>● 3 Kingcome sites concluded not to be removed</li> </ul> This leaves 2 sites remaining as identified.	Additional debris sites may be assessed as new debris are identified from freshet.

# Executive Summary - continued

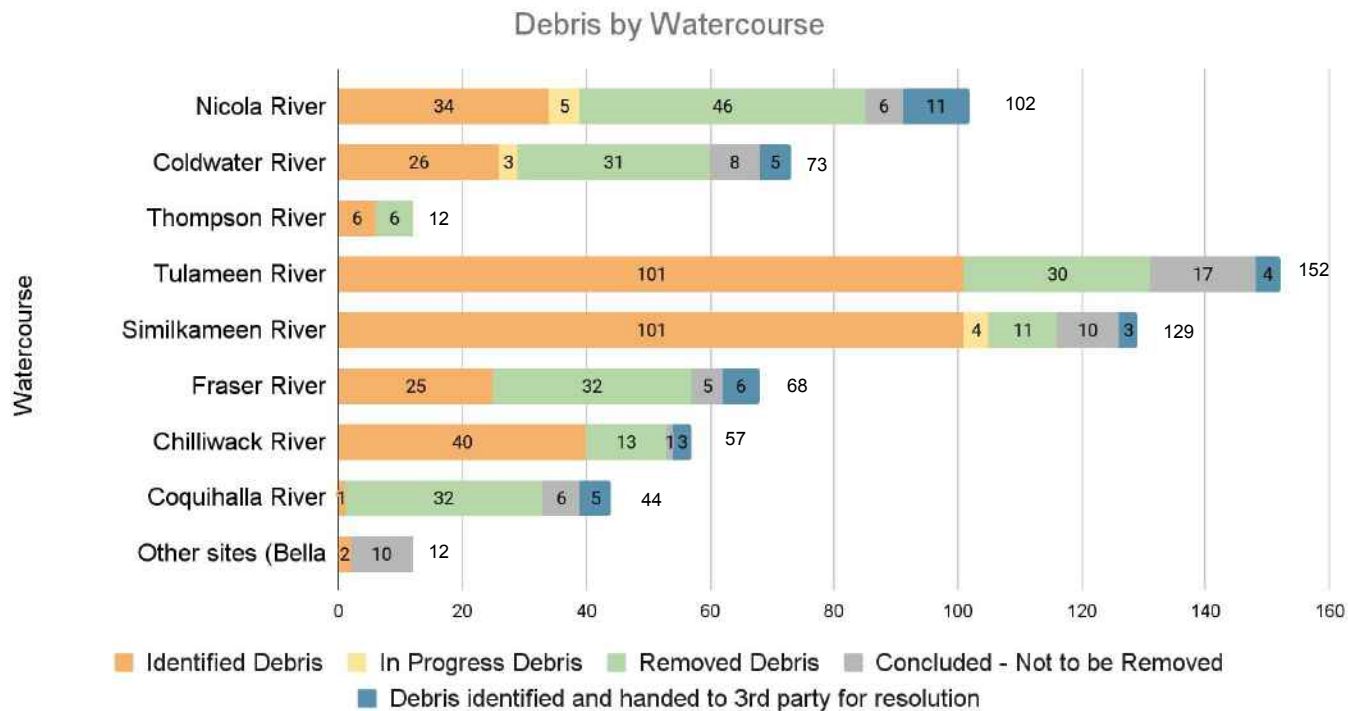
Watercourse	Contractors	First Nations Contacted To Date
Nicola	<ul style="list-style-type: none"> <li>● Debris removal: Quattro Constructors, Arnett &amp; Burgess (A&amp;B), Valley Helicopters, Kootenay Helicopters, Rock Solid Industries, Coastal Restoration Society (CRS)</li> <li>● Qualified Environmental &amp; Archeological Professional: Golder</li> <li>● Field Work Management: Arnett &amp; Burgess (A&amp;B)</li> </ul>	<ul style="list-style-type: none"> <li>● Cooks Ferry IB: Continuous and ongoing</li> <li>● Shackan IB: Continuous and ongoing</li> <li>● Nooaitch IB: Continuous and ongoing</li> <li>● Lower Nicola IB: Continuous and ongoing</li> <li>● Coldwater IB: Continuous and ongoing</li> <li>● Lytton IB: Continuous and ongoing</li> <li>● Biweekly call with First Nations groups in progress</li> </ul>
Coldwater	<ul style="list-style-type: none"> <li>● Debris removal: Quattro Constructors, Arnett &amp; Burgess (A&amp;B), Valley Helicopters, Kootenay Helicopters, Rock Solid Industries, Coastal Restoration Society (CRS)</li> <li>● Qualified Environmental &amp; Archeological Professional: Golder</li> <li>● Field Work Management: Arnett &amp; Burgess (A&amp;B)</li> </ul>	<ul style="list-style-type: none"> <li>● Cooks Ferry IB: Continuous and ongoing</li> <li>● Shackan IB: Continuous and ongoing</li> <li>● Nooaitch IB: Continuous and ongoing</li> <li>● Lower Nicola IB: Continuous and ongoing</li> <li>● Upper Nicola IB: Continuous and ongoing</li> <li>● Lytton IB: Continuous and ongoing</li> <li>● Coldwater IB: Continuous and ongoing</li> <li>● Nicomen IB: Continuous and ongoing</li> <li>● Biweekly call with First Nations groups in progress</li> </ul>
Thompson	<ul style="list-style-type: none"> <li>● Debris Removal: Quattro Constructors, Arnett &amp; Burgess, Valley Helicopters, Kootenay Helicopters, Rock Solid Industries</li> <li>● Qualified Environmental &amp; Archeological Professional: Golder</li> <li>● Field Work Management: Arnett &amp; Burgess (A&amp;B)</li> </ul>	<ul style="list-style-type: none"> <li>● Cooks Ferry: Continuous and ongoing</li> <li>● Biweekly call with First Nations groups in progress</li> </ul>
Tulameen	<ul style="list-style-type: none"> <li>● Debris Removal: TriValley and multiple other local contractors</li> <li>● Qualified Environmental &amp; Archeological Professional: Tetra Tech and Golder</li> <li>● Field Work Management: Clearview Demolition</li> </ul>	<ul style="list-style-type: none"> <li>● Upper Similkameen IB: Continuous and ongoing</li> <li>● Lower Similkameen IB: Continuous and ongoing</li> <li>● Biweekly call with First Nations groups in progress</li> </ul>



# Executive Summary - continued

Watercourse	Contractors	First Nations Contacted To Date
Similkameen	<ul style="list-style-type: none"> <li>● Debris Removal: TriValley and multiple other local contractors</li> <li>● Qualified Environmental &amp; Archeological Professional: Tetra Tech and Golder</li> <li>● Field Work Management: Clearview Demolition</li> </ul>	<ul style="list-style-type: none"> <li>● Upper Similkameen IB: Continuous and ongoing</li> <li>● Lower Similkameen IB: Continuous and ongoing</li> <li>● Biweekly call with First Nations groups in progress</li> </ul>
Fraser River	<ul style="list-style-type: none"> <li>● Debris Removal: Stqó:ya Construction</li> <li>● Qualified Environmental Professional: Stantec</li> <li>● Qualified Archeological Professional: Stolo Nation</li> <li>● Field Work Management: RAM Consulting</li> </ul>	<ul style="list-style-type: none"> <li>● Mainland Coast Salish First Nations continuous and ongoing</li> <li>● Biweekly call with First Nations groups in progress</li> </ul>
Chilliwack River & Vedder River/Canal	<ul style="list-style-type: none"> <li>● Debris Removal: Stqó:ya Construction</li> <li>● Qualified Environmental Professional: Stantec</li> <li>● Qualified Archeological Professional: Stolo Nation</li> <li>● Field Work Management: RAM Consulting</li> </ul>	<ul style="list-style-type: none"> <li>● Mainland Coast Salish First Nations continuous and ongoing</li> <li>● Biweekly call with First Nations groups in progress</li> </ul>
Coquihalla River	<ul style="list-style-type: none"> <li>● Debris Removal: Stqó:ya Construction</li> <li>● Qualified Environmental Professional: Stantec</li> <li>● Qualified Archeological Professional: Stolo Nation</li> <li>● Field Work Management: RAM Consulting</li> </ul>	<ul style="list-style-type: none"> <li>● Mainland Coast Salish First Nations continuous and ongoing</li> <li>● Biweekly call with First Nations groups in progress</li> </ul>

# Executive Summary - continued



**Total Debris Sites**  
**649**

**Total Debris Sites Remaining**  
**336**

**In Progress**  
**12**

**Total Debris Sites Removed**  
**201**

**Total Concluded Not to be Removed**  
**63**

**Debris identified and handed to 3rd party for resolution**  
**37**

*\*Note the Tulameen and Similkameen figures contain a number of new mid size debris that may be possible to remove by the linear debris crew hand picking teams. If so these will be removed from this list of large sites in the forthcoming weeks.*

# Overview

The Purpose of this document is to give the reader a pictorial overview of the debris sites (human-made and natural) found to date across the province of British Columbia that were affected by the November 2021 atmospheric river flooding event.

A list of known debris sites found to date are summarized under each watercourse section. In some cases the debris sites have human-made debris mixed with woody debris or debris that has been buried. The photos on the map may not always highlight all the debris in the area, they are updated as new information becomes available. There are ongoing assessments of known debris, as assessments are completed debris concluded as not in scope for removal will be shown as such on this document.

The identification, assessment and removal of work for Phase 1 has been completed and moved into Appendix D for all watercourses. Phase 1 refers to work completed prior to freshet. Phase 2 will commence in the watercourses post freshet.

	Watercourses	Page
1	Nicola River (Highway 8; Spences Bridge to Merritt)	8
2	Coldwater River (Highway 5)	22
3	Thompson River	33
4	Merritt Region Linear Debris Removal	39
5	Tulameen River	43
6	Similkameen River	65
7	Fraser River	87
8	Chilliwack River & Vedder River/Canal	98
9	Coquihalla River	109
10	Other sites (Bella Coola & Kingcome)	116
11	Appendix A - Waste Management Strategic Plan	121
12	Appendix B - Containment Sampling Plan	123
13	Appendix C - Glossary	126
14	Appendix D - Phase 1 (December - April) Debris removal	127



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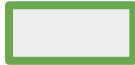
Nicola River  
Highway 8:  
Spences  
Bridge to  
Merritt



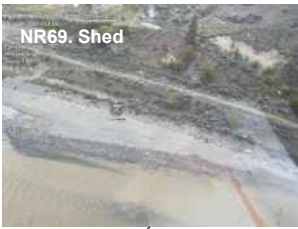
# Nicola River - Highway 8 - Spences Bridge to Merritt

OVERVIEW			
Work objectives	Community discussions status	Known debris	Permits status
<p>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure.</p> <p>2. Preserve cultural and historically significant areas.</p>	<p>Ongoing communication with the bands and local authorities as the project planning progresses on specific operational matters.</p> <p>Recurring biweekly project update call with all local authorities and First Nations groups in the area scheduled for Thursday at 1:05pm. Representatives from the following groups are invited:</p> <ul style="list-style-type: none"> <li>● Coldwater IB</li> <li>● Cooks Ferry IB</li> <li>● Lower Nicola IB</li> <li>● Lytton IB</li> <li>● Nicomen IB</li> <li>● Nooiatch IB</li> <li>● Shackan IB</li> <li>● City of Merritt</li> <li>● Thompson Nicola Regional District</li> </ul> <p>In person meeting for Nicola, Coldwater and Thompson held on June 30 with First Nations and local communities.</p>	<p>102 debris sites identified in total</p> <p>Phase 1 (see Appendix D)</p> <ul style="list-style-type: none"> <li>● 45 debris sites have removal completed;</li> <li>● 6 have been assessed and concluded not to be removed; and</li> <li>● 6 are to be completed by another ministry</li> </ul> <p>Phase 2</p> <ul style="list-style-type: none"> <li>● Site work started, first removal July 19, 2022.</li> <li>● 6 site has removal completed;</li> <li>● 5 sites are work in progress;</li> <li>● 34 additional sites identified.</li> </ul>	<p>Permit applications for Phase 2 work submitted to FOR and DFO on Jun 15.</p> <p>Phase 1 permits included:</p> <ul style="list-style-type: none"> <li>● ARC Heritage Investigation Permit 2021-0453; NOI was issued Feb 28;</li> <li>● FOR Approval A3006975 issued for Feb 14; and</li> <li>● DFO Authorization issued Feb 14 under Approval 22-HPAC-00156</li> </ul> <p>Phase 2 permits included:</p> <ul style="list-style-type: none"> <li>● DFO Authorization issued July 18,2022.,Approval 22-HPAC-00816.</li> <li>● FOR Approval A3006975 appended July 18 ,2022.</li> </ul>

# Nicola River - Known Debris



Denotes a new item on this week's report.



NR69. Shed



NR70. Sheet Metal



NR95. Metal + pump house, wood Box and red fence

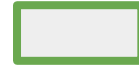


NR96. Various debris in camping area



NR71. Jersey barriers(3)

# Nicola River - Known Debris

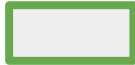


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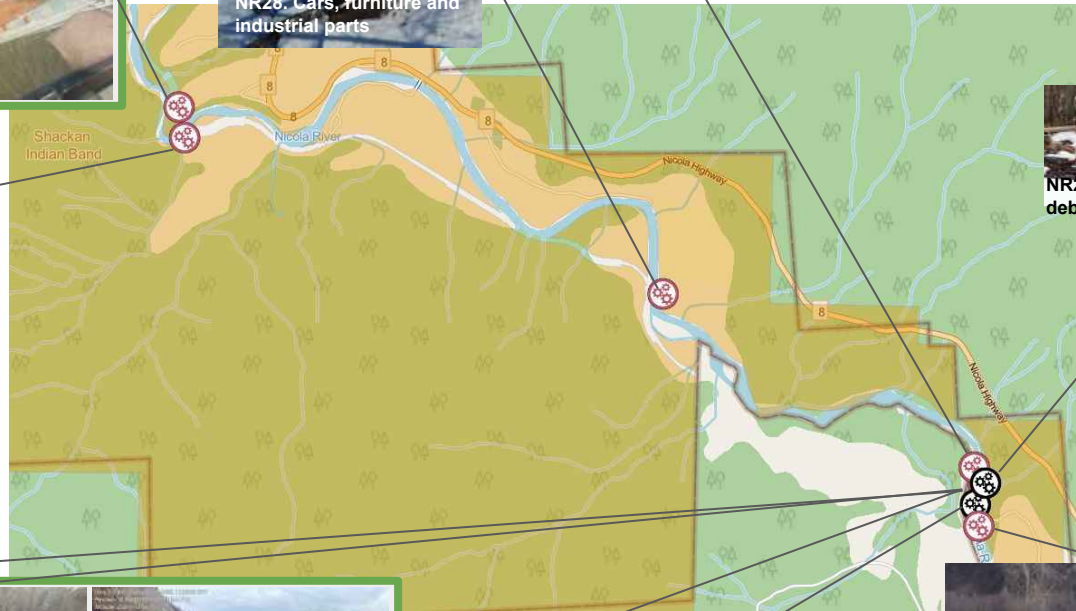
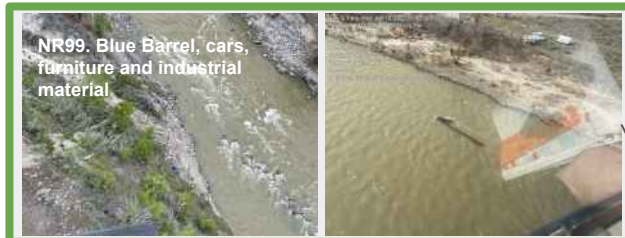




# Nicola River - Known Debris

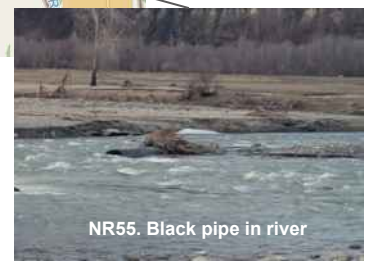


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NR81. Culvert

NR30. Human made debris consisting of telephone poles, wheels and household items (no picture available)





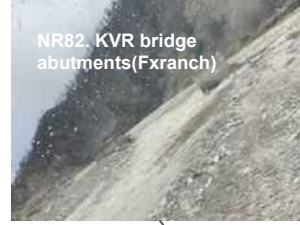
# Nicola River - Known Debris



NR78. Culvert x 2



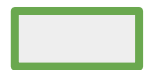
NR98. Metal frame, metal debris and cable spool



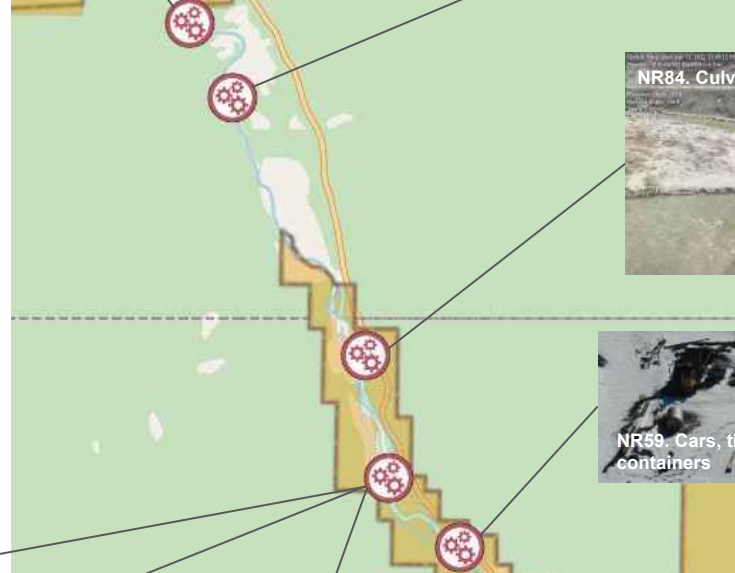
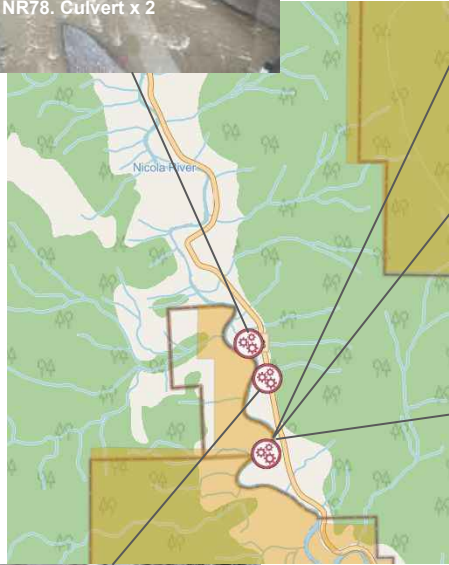
NR82. KVR bridge abutments(Fx ranch)



NR83. Unknown structure



Denotes a new item on this week's report.



NR84. Culvert



NR59. Cars, tires and metal containers



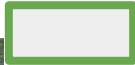
NR79. Culvert in water



NR101. Farm equipment, black fridge and sheet metal



# Nicola River - Known Debris

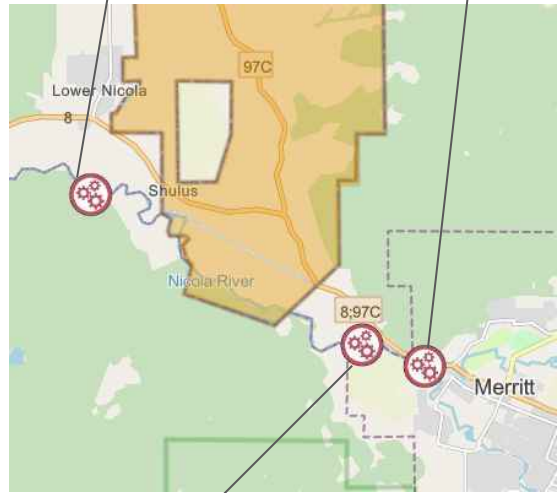


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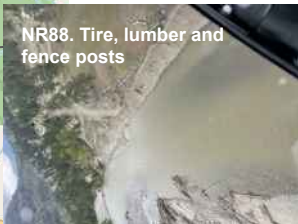


NR92. Red object in water

NR94. Submerged car (photo upcoming)



NR87. Horse trailer with fish tank



NR88. Tire, lumber and fence posts



NR85. Culvert



NR86. Embedded metal in gravel bar



NR102. Fish ladder and green tank lid



NR89. Red object in water

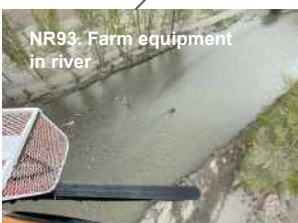
**IN PROGRESS**



NR90. Truck + other red car part

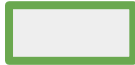


NR91. Metal frame

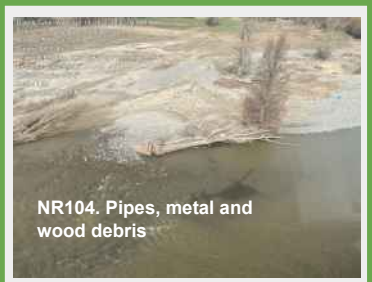


NR93. Farm equipment in river

# Nicola River - Known Debris

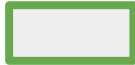


Denotes a new item on this week's report.





# Nicola River - Known Debris



Denotes a new item on this week's report.



IN PROGRESS

NR105. Hot water tank, furniture, tires, metal and shopping carts



NR50. Metal pipes



NR48. Metal sheets and wires



IN PROGRESS

NR105. Hot water tank, furniture, tires, metal and shopping carts



# Nicola River Response Action Plan

Action plan for post-freshet work	Estimated timeline for removal
<ul style="list-style-type: none"> <li>• Debris will be assessed and human made debris that poses a high risk will be prioritized</li> <li>• Heavy equipment will include excavators, rock truck, flatbed trucks and other specialized equipment</li> <li>• Linear debris removal crews will be utilized for small anthropogenic debris</li> <li>• Helicopters will be utilized to support debris removal</li> <li>• Entrance routes and staging areas for equipment and debris are being reviewed and will be communicated to stakeholders prior to mobilization</li> <li>• Once debris has been removed from the waterway, contractors will follow waste management plans</li> <li>• Crews will stop work if human remains are found or unanticipated archaeological sites are discovered</li> <li>• Natural debris will be reviewed by QP, DFO and FOR to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Dates are still being assessed and expect debris removal to commence in the Nicola River on July 22 ; below are initial dates and are subject to change as assessments are completed:               <ul style="list-style-type: none"> <li>○ NR-70, 71, 80, 89, 105: in progress</li> <li>○ NR-78, 79, 90, 91: week of Jul 31</li> <li>○ NR 99, 103: week of Aug 3</li> <li>○ NR-73 to NR-76: week of Sept 6</li> <li>○ NR-97: week of Sept 10</li> </ul> </li> <li>• Additional dates to be provided in future reports.</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Arneet &amp; Burgess (A&amp;B), Quattro Constructors, Valley Helicopters, Rock Solid Industries, Coastal Restoration Society (CRS)            Qualified Environmental &amp; Archeological Professional: Golder            Field Work Management: BNC Industrial</p>	<ul style="list-style-type: none"> <li>• Waste will be staged and sorted</li> <li>• Legal owners will be notified</li> <li>• Metals will be salvaged or recycled</li> <li>• Unsalvageable waste will be sent to landfills under proper disposal protocols</li> <li>• See Appendix A Waste Management Strategic Plan</li> </ul>

# Nicola River Response Action Plan

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>• Area is under a heat warning, ongoing assessments by field supervision and crews on field work;</li><li>• Continued with debris removal<ul style="list-style-type: none"><li>◦ Jersey barriers</li><li>◦ Misc. large debris</li></ul></li><li>• Mobilized equipment to submerged vehicle at NR-72;</li><li>• Removed submerged vehicle (NR-72) that was previously thought to be a dump truck; and</li><li>• Mobilized equipment to LG rail bridge abutments at NR-80; and</li><li>• Commenced removal of LG rail bridge abutments at NR-80.</li></ul>	<ul style="list-style-type: none"><li>• Continue with LG rail bridge abutment removal at NR-80;</li><li>• Continue with misc. debris removal;<ul style="list-style-type: none"><li>◦ NI-70: includes sheet metal</li><li>◦ NI-71: jersey barriers</li><li>◦ NI-89: red objects in river</li></ul></li><li>• Start debris removal of wood, metal, lumber and fences;</li><li>• Continue to identify any new debris as river levels continue to decline; and</li><li>• Monitor heat wave warning.</li></ul>
Relevant contacts	
<p>Contact for Contractors questions: <a href="mailto:kirandeep.dhillon@pwc.com">kirandeep.dhillon@pwc.com</a> Contact for Ministry of Environment: <a href="mailto:doc.ops.eep@gov.bc.ca">doc.ops.eep@gov.bc.ca</a></p>	

# Nicola River Field Progress



*Access to dump truck at NR-72*



*Excavator removing submerged vehicle at NR-72*



*Excavator removing submerged vehicle at NR-72*

# Nicola River

Map ID	Contractor ID*	Description	Type	Status	Removal date
NR-24	NI_31.1	Metal pile mixed with natural debris	Human-made	Removed	2022-05-18
NR-28	NI_28.7	Cars, furniture and industrial parts	Human-made	Identified	TBD
NR-30	NI_06.8Tele	Telephone poles, wheels and household items	Human-made	Removed	2022-05-18
NR-48	NI_57.2	Metal sheets and wires	Human-made	Removed	2022-06-01
NR-50	NI_61.0	Metal pipes	Human-made	Removed	2022-05-24
NR-54	NI_07.9	Mobile home	Human-made	Removed	2022-05-26
NR-55	N/A	Black pipe in river	Human-made	Identified	TBD
NR-59	NI_41.5	Cars, tires and metal containers	Human-made	Identified	TBD
NR-69	NI_2.7_shed	Shed	Human-made	Identified	TBD
NR-70	NI_3.33_sheet_metal	Sheet Metal	Human-made	In Progress	TBD
NR-71	NI_4.97_jerseybarriers	Jersey barriers(3)	Human-made	In Progress	TBD
NR-72	NI_8.1_submerged_vehicle	Vehicle-under water-suspected blue dump truck	Human-made	Removed	2022-07-26
NR-73	NI_8.7_bridgerail	Bridge-rail visible in gravel bar	Human-made	Identified	TBD
NR-74	NI_9_powerpole	Power pole on bank-wire across hwy 8	Human-made	Identified	TBD
NR-75	NI_9.3_asphalt_roadsection	Asphalt road section in river	Human-made	Identified	TBD
NR-76	NI_9.4_powerpole	Power pole in river-wire attached	Human-made	Identified	TBD
NR-77	NI_10.9_3culvert	3 culverts + road debris	Human-made	Identified	TBD
NR-78	NI_17.2_2culvert	Culvert x 2	Human-made	Identified	TBD
NR-79	NI_17.6_culvert_water	Culvert in water	Human-made	Identified	TBD
NR-80	NI_25_rail_abutments	LG Rail Bridge abutments in river(Shackan)	Human-made	In Progress	TBD
NR-81	NI_31_BNC_culvert	Culvert	Human-made	Identified	TBD
NR-82	NI_32.13_KVR_bridgeabutment	KVR bridge abutments(Fxbranch)	Human-made	Identified	TBD
NR-83	NI_33.9_dangling_bldg	Unknown structure	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



# Nicola River

Map ID	Contractor ID*	Description	Type	Status	Removal date
NR-84	NI_38.2_culvert	Culvert	Human-made	Identified	TBD
NR-85	NI_43.1_culvert	Culvert	Human-made	Identified	TBD
NR-86	NI_46.85_metal_embedded	Embedded metal in gravel bar	Human-made	Identified	TBD
NR-87	NI_47_BNC_heavy	Horse trailer with fish tank	Human-made	Identified	TBD
NR-88	NI_47.5_tire_fences	Tire, lumber and fence posts	Human-made	Identified	TBD
NR-89	NI_51.4_red_object	Red object in water	Human-made	In Progress	TBD
NR-90	NI_52.0_truck	Truck + other red car part	Human-made	Identified	TBD
NR-91	NI_53.9_bedframe	Metal Frame	Human-made	Identified	TBD
NR-92	NI_64.24_redobject_water	Red object in water	Human-made	Identified	TBD
NR-93	NI_71.25_farmeq	Farm equipment in river	Human-made	Identified	TBD
NR-94	N/A	Submerged car	Human-made	Identified	TBD
NR-95	NI_2.4	Metal + pump house, wood Box and red fence	Human-made	Identified	TBD
NR-96	NI_6.95	Various debris in camping area	Human-made	Identified	TBD
NR-97	NI_11.3	Shed, culvert, blue pipe and unknown debris	Human-made	Identified	TBD
NR-98	NI_18.7	Metal frame, metal debris and cable spool	Human-made	Identified	TBD
NR-99	NI_24.7	Blue Barrel, cars, furniture and industrial material	Human-made	Identified	TBD
NR-100	NI_31.1	Metal road sign pole and metal roof pieces	Human-made	Identified	TBD
NR-101	NI_40	Farm equipment, black fridge and sheet metal	Human-made	Identified	TBD
NR-102	NI_43.4	Fish ladder and green tank lid	Human-made	Identified	TBD
NR-103	NI_56.6	Metal debris, furniture and tires	Human-made	Identified	TBD
NR-104	NI_60.05	Pipes, metal and wood debris	Human-made	Identified	TBD
NR-105	NI_69.88	Hot water tank, furniture, tires, metal and shopping carts	Human-made	In Progress	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



02

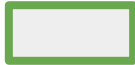
Coldwater  
River:  
Highway 5

# Coldwater River - Highway 5

## OVERVIEW

Work objectives	Community discussions status	Known debris	Permits status
<ol style="list-style-type: none"> <li>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure.</li> <li>2. Preserve cultural and historically significant areas.</li> </ol>	<p>Ongoing communication with the bands and local authorities as the project planning progresses on specific operational matters.</p> <p>Recurring biweekly project update call with all local authorities and First Nations groups in the area scheduled for Thursday at 1:05pm. Representatives from the following groups are invited:</p> <ul style="list-style-type: none"> <li>• Coldwater IB</li> <li>• Cooks Ferry IB</li> <li>• Lower Nicola IB</li> <li>• Upper Nicola IB</li> <li>• Lytton IB</li> <li>• Nicomen IB</li> <li>• Nooiatch IB</li> <li>• Shackan IB</li> <li>• City of Merritt</li> <li>• Thompson Nicola Regional District</li> </ul> <p>In person meeting for Nicola, Coldwater and Thompson held Jun 30 with First Nations and local communities.</p>	<p>73 debris sites identified in total</p> <p>Phase 1 (see Appendix D)</p> <ul style="list-style-type: none"> <li>• 34 debris sites have removal completed;</li> <li>• 8 have been assessed and concluded not to be removed;</li> </ul> <p>Phase 2</p> <ul style="list-style-type: none"> <li>• 2 sites have removal completed;</li> <li>• 3 sites as work in progress</li> <li>• 1 have been assessed and concluded not to be removed;</li> <li>• 25 additional sites identified.</li> </ul>	<p>Permit applications for Phase 2 work submitted to FOR and DFO on Jun 15.</p> <p>Phase 1 permits included:</p> <ul style="list-style-type: none"> <li>• ARC Heritage Investigation Permit 2021-0453; NOI was issued Feb 28;</li> <li>• FOR Approval A3006975 issued for Feb 14; and</li> <li>• DFO Authorization issued Feb 14 under Approval 22-HPAC-00156; and</li> <li>• Juliet Creek FOR approval issued Mar 7 under Approval A3007002</li> </ul> <p>Phase 2 permits include</p> <ul style="list-style-type: none"> <li>• DFO Authorization issued July 18,2022.,Approval 22-HPAC-00816. FOR Approval A3006975 appended July 18 ,2022.</li> </ul>

# Coldwater River



Denotes a new item on this week's report.



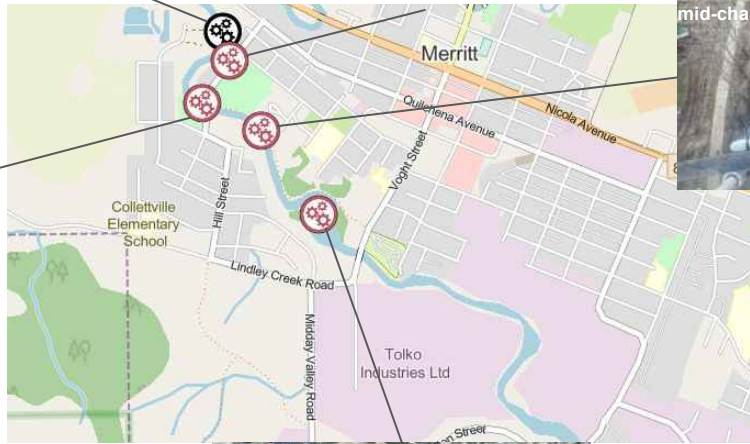
CW69. Culvert on bank

**REMOVED**

CW64. Section of steel culvert along river bank (picture to be provided)



CW49. Door mid-channel



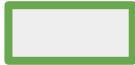
CW50. Small debris jam mid-channel



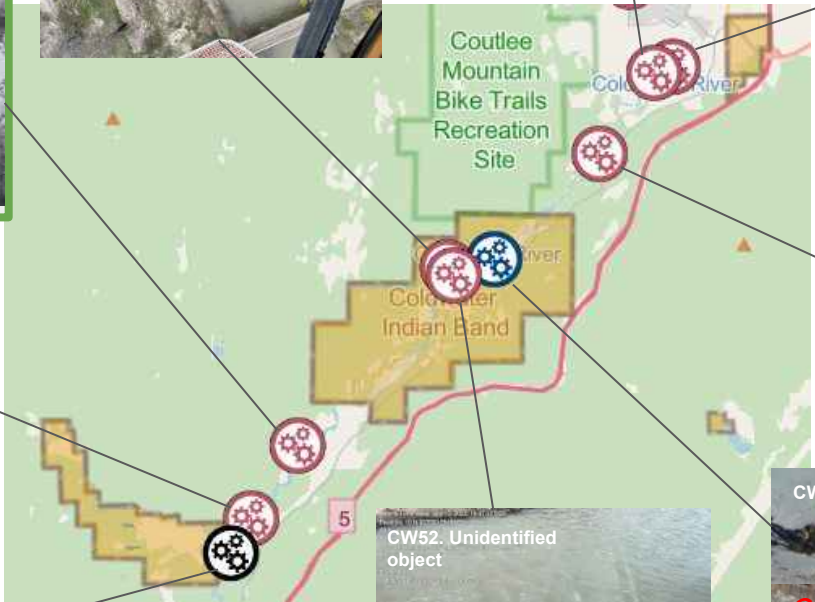
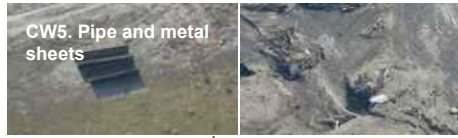
CW51. Concrete structure in channel



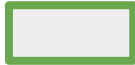
# Coldwater River



Denotes a new item on this week's report.

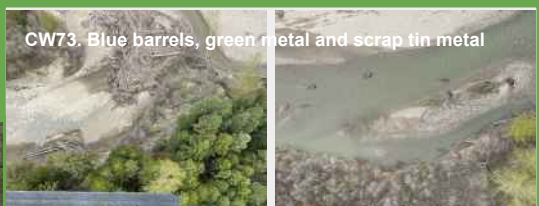


# Coldwater River



Denotes a new item on this week's report.

CW73. Blue barrels, green metal and scrap tin metal



CW55 Steel Trailer frame



CW57. Large steel piece



CW73. Blue barrels, green metal and scrap tin metal



CW61. Green roof piece + other metal piece



CW39. Green object in natural debris.



CW59. Green roof piece



CW56. Culvert on farm bank



CW58. Sheet metal



CW65. Farm equipment in stream





# Coldwater River



 Denotes a new item on this week's report.

# Coldwater River Response Action Plan

Action plan for post-freshet work	Estimated timeline for removal
<ul style="list-style-type: none"> <li>• Debris will be assessed and human made debris that poses a high risk will be prioritized</li> <li>• Linear debris removal crews will be utilized for small anthropogenic debris</li> <li>• Helicopters will be utilized to support debris removal</li> <li>• Entrance routes and staging areas for equipment and debris is being reviewed and will be communicated for each location with stakeholders prior to mobilization into each work area</li> <li>• Where bridge piece dismantling will specialised equipment, including cranes and cutting torches</li> <li>• Once debris has been removed from the waterway, contractors will follow waste management plans</li> <li>• Crews will stop work if human remains are found or unanticipated archaeological sites are discovered</li> <li>• Natural debris will be reviewed by QP, DFO and FOR to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Dates are still being assessed and debris removal has commenced in the Coldwater River on July 19; below are initial dates and are subject to change as assessment are completed:               <ul style="list-style-type: none"> <li>○ CW-70, 73, 75: week of Jul 30</li> <li>○ CW-72: Aug 2</li> <li>○ CW-55, 57, 58, 59: Aug 3</li> <li>○ CW-67 to CW-68: Aug 4</li> <li>○ CW-53: Aug 9</li> </ul> </li> <li>• Additional dates to be provided in future reports.</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Arnett &amp; Burgess (A&amp;B), Quattro Constructors, Valley Helicopters, Rock Solid Industries, Coastal Restoration Society (CRS)            Qualified Environmental &amp; Archeological Professional: Golder            Field Work Management: BNC Industrial</p>	<ul style="list-style-type: none"> <li>• Waste will be staged and sorted</li> <li>• Metals will be salvaged or recycled</li> <li>• Unsalvageable waste will be sent to landfills under proper disposal protocols</li> <li>• See Appendix A Waste Management Strategic Plan</li> </ul>



# Coldwater River Response Action Plan

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>• Area is under a heat warning, ongoing assessments by field supervision and crews on field work;</li><li>• Continued with misc debris removal;</li><li>• Mobilized equipment for debris removal; and</li><li>• Removed CW-69.</li></ul>	<ul style="list-style-type: none"><li>• Continue with debris removal;<ul style="list-style-type: none"><li>○ CW-55, 57, 58, 59: includes misc metal, roof, sheet metal</li><li>○ CW-67: includes access mats</li><li>○ CW-68: culvert</li><li>○ CW-72: culvert and blue barrels</li></ul></li><li>• Continue with misc. debris removal;</li><li>• Continue with farm equipment removal;</li><li>• Continue to identify any new debris as river levels continue to decline; and</li><li>• Monitor heat wave warning.</li></ul>
Relevant contacts	
<p>Contact for Contractors questions: <a href="mailto:kirandeep.dhillon@pwc.com">kirandeep.dhillon@pwc.com</a> Contact for Ministry of Environment: <a href="mailto:doc.ops.eep@gov.bc.ca">doc.ops.eep@gov.bc.ca</a></p>	

# Coldwater River Field Progress



*Removing farm equipment at CW-65*



*Removing vehicle out of Coldwater River.*



*Removing metal at CW-74*

# Coldwater River

Map ID	Contractor ID*	Description	Type	Status	Removal date
CW-5	N/A	Pipe, metal sheets	Human-made	Identified	TBD
CW-10	CW_13.0	Damaged cars	Human-made	Concluded - Out of Scope	N/A
CW-39	CW_31.4_roof	Green object	Human-made	Identified	TBD
CW-44	CW_25.9_culvert	Culvert and other concrete pieces	Human-made	Identified	TBD
CW-49	CW_0.7_door	Door midchannel	Human-made	Identified	TBD
CW-50	CW_1.0_debris_jam	Small debris jam mid-channel	Human-made	Identified	TBD
CW-51	CW_1.5_concrete	Concrete structure in channel	Human-made	Identified	TBD
CW-52	CW_14.9_mystery_boat	Unidentified object	Human-made	Identified	TBD
CW-53	CW_15.3_whitemetal_water	White metal in water	Human-made	Identified	TBD
CW-54	CW_27.0_Dfcamper	Camper	Human-made	Removed	2022-07-19
CW-55	CW_31.1_metal	Steel Trailer frame	Human-made	Identified	TBD
CW-56	CW_31.2_culvert	Culvert on farm bank	Human-made	In Progress	TBD
CW-57	CW_31.3_roof	Large steel piece	Human-made	Identified	TBD
CW-58	CW_31.4_sheet_metal	sheet metal	Human-made	Identified	TBD
CW-59	CW_31.6_roof	Green roof piece	Human-made	Identified	TBD
CW-60	CW_37.6shed	Shed and exposed line in Water- Land Owner - to be reassessed after flood	Human-made	Identified	TBD
CW-61	CW_39.2_roof	Green roof piece + other metal piece	Human-made	Identified	TBD
CW-62	CW_64_Spanning_logjam	Log jam	Natural	Identified	TBD
CW-63	CW_64.9_Spanning_logjam	Log jam	Natural	Identified	TBD
CW-64	N/A	Section of steel culvert along river bank	Human-made	Identified	TBD
CW-65	CW_32	Farm equipment in stream	Human-made	In Progress	TBD
CW-66	CW_51.3	Concrete abutment	Human-made	Identified	TBD
CW-67	CW_62.8	Access mat in channel	Human-made	Identified	TBD
CW-68	CW_63.0	Culvert on gravel bar	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# Coldwater River

Map ID	Contractor ID*	Description	Type	Status	Removal date
CW-69	CW_0.3	Culvert on bank	Human-made	Removed	2022-07-27
CW-70	CW_5.3_roof	Small green roof piece + pallet + pipe + green metal	Human-made	Identified	TBD
CW-71	CW_9.0_culvert	Culvert	Human-made	Identified	TBD
CW-72	CW_23.0_culvert	Culvert and blue barrels	Human-made	Identified	TBD
CW-73	CW_29.8_bluebarrels	Blue barrels, green metal and scrap tin metal	Human-made	Identified	TBD
CW-74	CW_33.35_bluebarrel	Blue barrel and metal box	Human-made	In Progress	TBD
CW-75	CW_60_yellowbarrel	Yellow and blue barrels	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.





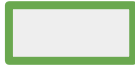
03

# Thompson River

# Thompson River

OVERVIEW			
Work objectives	Community discussions status	Known debris	Permits status
<ol style="list-style-type: none"> <li>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure</li> <li>2. Preserve cultural and historically significant areas</li> </ol>	<p>Ongoing communication with the bands and local authorities as the project planning progresses on specific operational matters.</p> <p>Recurring biweekly project update call with all local authorities and First Nations groups in the area scheduled for Thursday at 1:05pm. Representatives from the following groups are invited:</p> <ul style="list-style-type: none"> <li>● Cooks Ferry IB</li> <li>● Lytton IB</li> <li>● Nicomen IB</li> </ul> <p>In person meeting for Nicola, Coldwater and Thompson held on Jun 30 with First Nations and local communities.</p>	<p>12 debris sites identified in total</p> <p>Phase 1 (see Appendix D)</p> <ul style="list-style-type: none"> <li>● 6 debris sites have removal completed;</li> </ul> <p>Phase 2</p> <ul style="list-style-type: none"> <li>● 6 sites remaining as work identified and paused due to water levels.</li> </ul>	<p>Golder is continuing to identify permit needs for Phase 2 anthropogenic debris removal. Permit applications are to be submitted once water levels decrease and updated debris locations are confirmed.</p> <p>Phase 1 permits included:</p> <ul style="list-style-type: none"> <li>● ARC Heritage Investigation Permit 2021-0453; NOI was issued Feb 28;</li> <li>● FOR Approval A3007030 issued for Apr 15; and</li> <li>● DFO Authorization issued Apr 11 under Approval 22-HPAC-00305.</li> </ul>

# Thompson River



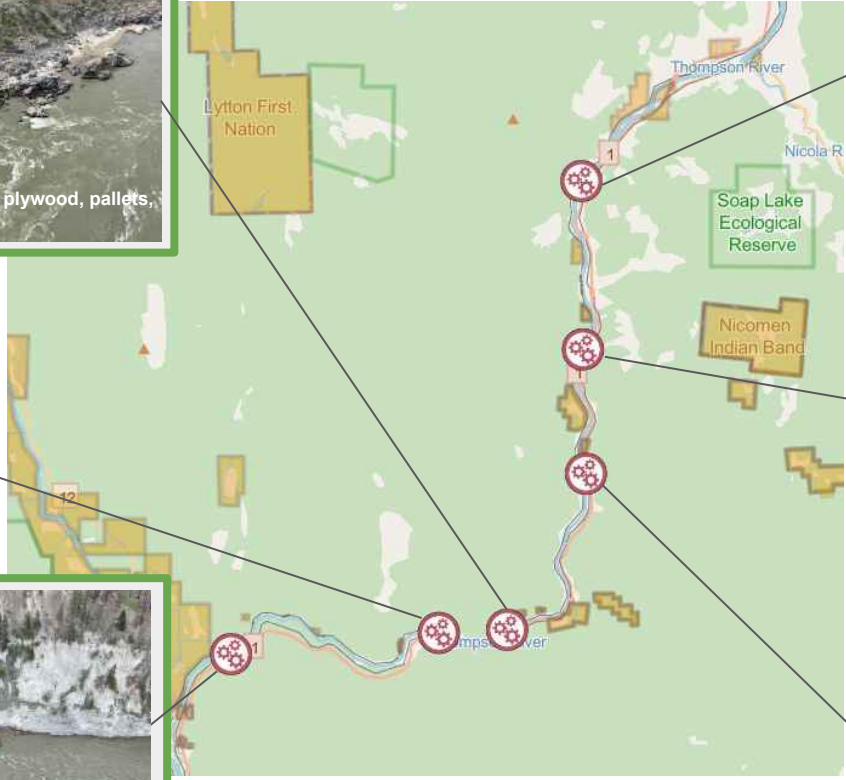
Denotes a new item on this week's report.



THR-11: Lumber, plywood, pallets, building pieces



THR-5: Wood and plastic debris mixed with natural debris



THR-10: Wooden object (furniture)



THR-12: White debris edge water



THR-9: Lumber, pallets, plywood, wood panels



THR-6: Wood and paper debris

# Thompson Response Action Plan

Action plan for post-freshet work	Estimated timeline for removal
<ul style="list-style-type: none"> <li>● Debris will be assessed and human made debris that poses a high risk will be prioritized</li> <li>● Linear debris removal crews will be utilized for small anthropogenic debris</li> <li>● Helicopters will be utilized to support debris removal</li> <li>● Entrance routes and staging areas for equipment and debris is being reviewed and will be communicated asap</li> <li>● Once debris has been removed from the waterway, contractors will follow waste management plans</li> <li>● Crew will stop work if human remains are found or unanticipated archaeological sites are discovered</li> <li>● Natural debris will be reviewed by QP, DFO and FOR to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>● Updated timelines will be provided in future reports;</li> <li>● Additional debris may be found, identified and reported in future reports as reconnaissance flights are completed over the watercourse and assessing any new debris identified from freshet.</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Arneet &amp; Burgess (A&amp;B), Quattro Constructors, Valley Helicopters            Qualified Environmental &amp; Archeological Professional: Golder            Field Work Management: BNC Industrial</p>	<ul style="list-style-type: none"> <li>● Waste will be staged and sorted</li> <li>● Legal owners will be notified</li> <li>● Metals will be salvaged or recycled</li> <li>● Unsalvageable waste will be sent to landfills under proper disposal protocols</li> <li>● See Appendix A Waste Management Strategic Plan</li> </ul>



# Thompson Response Action Plan

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>Continued monitoring watercourse; and</li><li>Continued with debris Phase 2 large anthropogenic and linear debris planning.</li></ul>	<ul style="list-style-type: none"><li>Continue with debris assessments as water levels drop</li></ul>
<b>Relevant contacts</b>	
Contact for Contractors questions: <a href="mailto:kirandeep.dhillon@pwc.com">kirandeep.dhillon@pwc.com</a> Contact for Ministry of Environment: <a href="mailto:doc.ops.eep@gov.bc.ca">doc.ops.eep@gov.bc.ca</a>	

# Thompson River

Map ID	Contractor ID*	Description	Type	Status	Removal date
THR-5	N/A	Pieces of wood in and on the banks of the river	Natural	Identified	TBD
THR-6	N/A	Wood and paper scraps on banks.	Natural	Identified	TBD
THR-9	TR_3.15	Lumber, pallets, plywood, wood panels	Human-made	Identified	TBD
THR-10	TR_11.91	Wooden object (furniture)	Human-made	Identified	TBD
THR-11	TR_14.33	Lumber, plywood, pallets, building pieces	Human-made	Identified	TBD
THR-12	TR_25.60	White debris edge water	Human-made	Identified	TBD

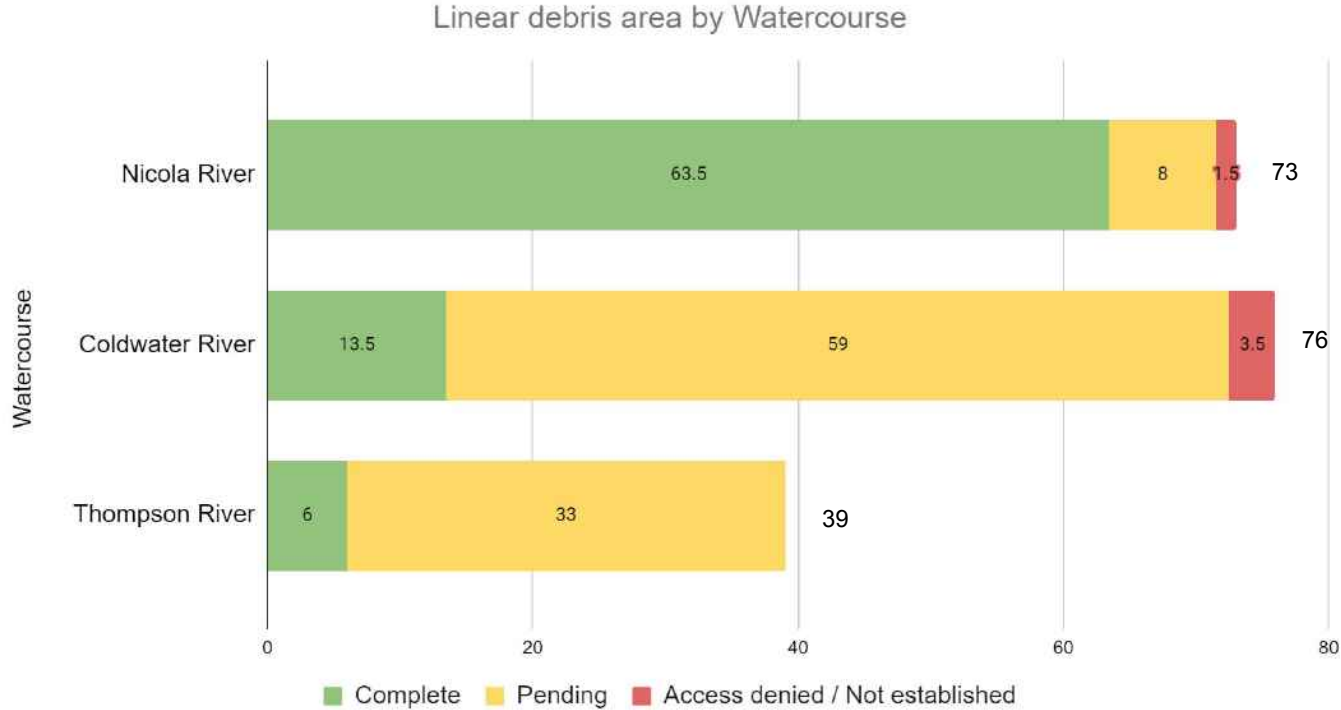
\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



04

# Merritt Region Linear Debris Removal

# Linear Debris Progress in KMs - Merritt Region



<b>Total KMs</b> 188
<b>Complete</b> 83
<b>Pending</b> 100
<b>Access denied / Not established</b> 5

# Linear Debris Progress - Merritt Region

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>• Area is under a heat warning, ongoing assessments by field supervision and crews on field work;</li><li>• Continued with survey along Coldwater River;</li><li>• Removed 2,144 kg of anthropogenic debris for week of Jul 18 to Jul 24 on the Coldwater River; and</li><li>• Continued with planning for Nicola and Thompson River linear debris removal</li></ul>	<ul style="list-style-type: none"><li>• Continue with debris removal at Coldwater CW_0.0 to CW_40.0;</li><li>• Continue with planning for NI_0.0 to NI_73.0; and</li><li>• Continue with planning for TH_0.0 to TH_39.0.</li></ul>
Relevant contacts	
<p>Contact for Contractors questions: <a href="mailto:kirandeep.dhillon@pwc.com">kirandeep.dhillon@pwc.com</a> Contact for Ministry of Environment: <a href="mailto:doc.ops.eep@gov.bc.ca">doc.ops.eep@gov.bc.ca</a></p>	



# Linear Crew Field Progress



*Linear debris work along Coldwater River*



*Linear debris removal at Coldwater River*



05

# Tulameen River

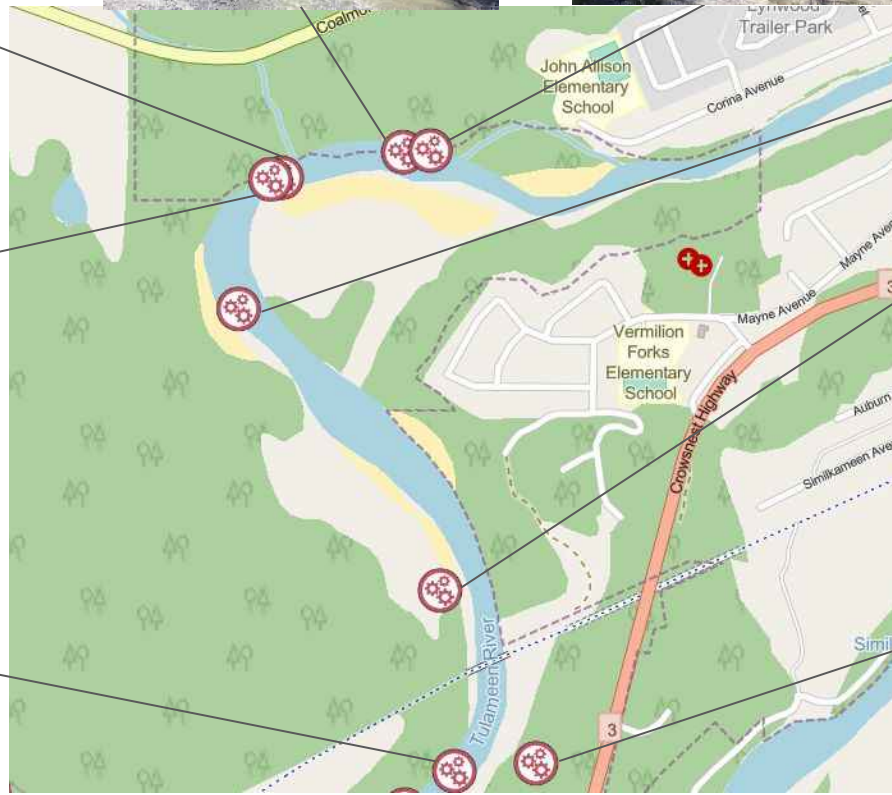
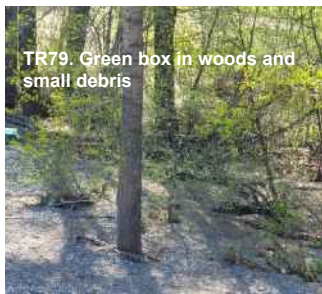
# Tulameen River

## Overview

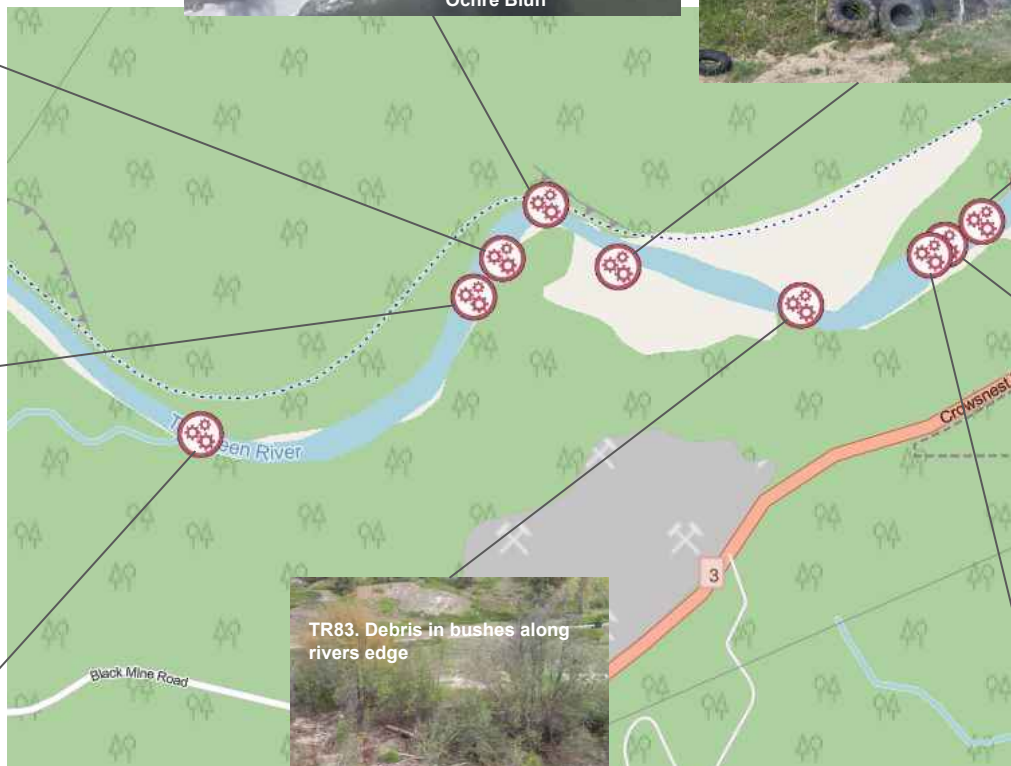
Work objectives	Community discussions status	Known debris	Permits status
<ol style="list-style-type: none"> <li>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure.</li> <li>2. Preserve cultural and historically significant areas.</li> </ol>	<p>Ongoing communication with both Upper Similkameen IB (USIB) and Lower Similkameen IB (LSIB), Regional District of Okanagan-Similkameen, town of Princeton and Tulameen fire department.</p> <p>Recurring project update call with all local authorities and First Nations groups in the area scheduled every second Thursday at 3.05pm. Representatives from the following groups are invited:</p> <ul style="list-style-type: none"> <li>• Lower Similkameen IB</li> <li>• Upper Similkameen IB</li> <li>• Town of Princeton</li> <li>• Regional District of Okanagan</li> <li>• Tulameen Fire Dept</li> </ul>	<p>152 debris sites identified in total</p> <p>Phase 1 (see Appendix D)</p> <ul style="list-style-type: none"> <li>• 34 debris sites have removal completed; and</li> <li>• 17 have been assessed and concluded not to be removed</li> </ul> <p>Phase 2</p> <ul style="list-style-type: none"> <li>• 101 sites identified for removal.</li> </ul>	<p>Tetra Tech has submitted the DFO permit for Phase 2 anthropogenic debris. FOR has conditionally extended to Oct 15 for instream work outside of the fish timing window (Aug 7 - Oct 15).</p> <p>Phase 1 permits included:</p> <ul style="list-style-type: none"> <li>• ARC Heritage Investigation Permit 2021-0453; NOI was issued Feb 28;</li> <li>• FOR Approval A8006163 issued for Feb 11 and permit extension issued Apr 14; and</li> <li>• DFO Authorization issued Feb 7 under Approval 22-HPAC-00125.</li> </ul> <p>Phase 2 permits included</p> <ul style="list-style-type: none"> <li>• DFO Authorization issued July 18, 2022 22-HPAC-00766</li> </ul>



# Tulameen River



# Tulameen River





# Tulameen River



TR98. Propane tank (photo upcoming)



# Tulameen River





# Tulameen River

TR102. Unknown debris  
(photo upcoming)



TR57. Culvert right side



Blue tarp wrapped in trees



TR72. Metal wrapped around trees in  
woody debris



TR67. White debris on rocks



TR65. Tarp debris in river on edge



TR53. Exposed culvert



TR56. Small white plastic on  
bank left side



TR64. Metal debris in trees in  
riparian area

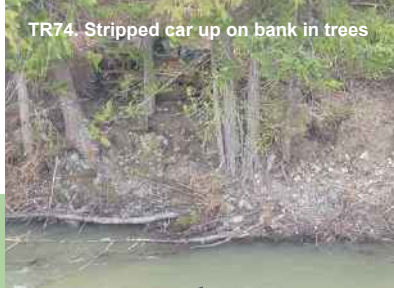


TR66. Metal and other debris in river and  
on bank

# Tulameen River



TR75. Tire in river against rock



TR74. Stripped car up on bank in trees



TR77. Car bumper in woody debris



TR103. Camper door stuck on woody debris



TR104. Tarp buried in silt



TR71. Plastic debris on rivers edge or white metal



TR70. Potential trailer or metal debris on rivers edge



TR73. White debris on river bank in trees

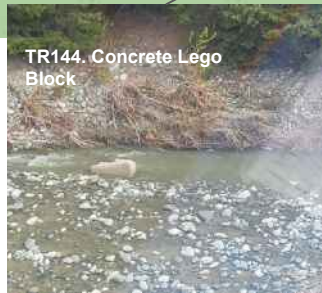


TR69. Red debris on rivers edge





# Tulameen River





# Tulameen River



# Tulameen River



TR130. Black piece of debris on sand bar



TR127. Several pieces of debris wrapped up in the woody debris pile on the sand bar



TR129. Black piece of debris on sand bar



TR128. Several pieces of white debris on sand with in the wood debris



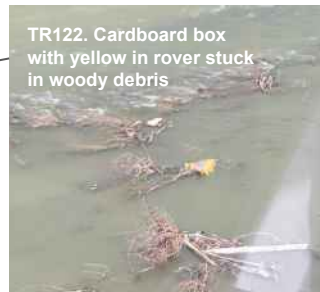
TR126. White debris in woody debris pile



TR125. Metal T bar sticking up in river



TR124. Plastic tank and other debris in woody debris pile



TR122. Cardboard box with yellow in river stuck in woody debris



TR23. Metal item in river in edge



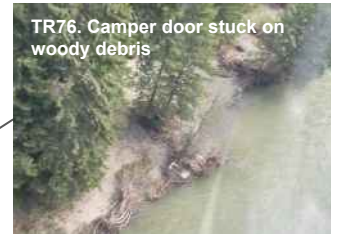
TR121. Metal debris in woody debris pile



# Tulameen River



# Tulameen River





# Tulameen River





# Tulameen River Response Action Plan

Action plan for post-freshet work	Estimated timeline for removal
<ul style="list-style-type: none"> <li>● Develop site specific debris removal work plans and engage with LSIB and USIB to assist with sequence/scheduling of work.</li> <li>● TetraTech to review site specific plans and provide direction re access and biological mitigation measures (as per the Section 11 permit extension)</li> <li>● TetraTech to assess natural debris to determine if it poses a threat to public safety and/or infrastructure.</li> <li>● Identify entrance routes and staging areas for equipment and debris planning and ensure all necessary access agreements are in place</li> <li>● Once debris has been removed from the waterway, contractors will follow waste management plans</li> <li>● Crew will stop work if human remains are found or unanticipated archaeological sites are discovered</li> <li>● Discussions ongoing with USIB and LSIB for subcontractors and professional resources</li> </ul>	<ul style="list-style-type: none"> <li>● TR-44 is in the vicinity of Ochre Bluff, still assessing and in discussions with USIB and LSIB;</li> <li>● Dates are still being assessed and debris removal will commence in the Tulameen River on Aug 3; below are initial dates and are subject to change as assessment are completed:               <ul style="list-style-type: none"> <li>○ TR-63 to TR-67: week of Aug 3</li> <li>○ TR-58 to TR-61: Aug 4</li> <li>○ TR-57, TR-68 to TR-78: week of Aug 8</li> <li>○ TR-105 to TR-120: week of Aug 12</li> <li>○ TR-144 to TR-146: week of Aug 16</li> <li>○ TR-121 to TR-123: week of Aug 19</li> </ul> </li> <li>● Additional dates to be provided in future reports.</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Multiple local contractors            Qualified Environmental &amp; Archeological Professional: TetraTech            Field Work Management: Clearview Demolition</p>	<ul style="list-style-type: none"> <li>● Waste will be staged and sorted</li> <li>● Legal owners will be notified</li> <li>● Metals will be salvaged or recycled</li> <li>● Unsalvageable waste will be sent to landfills under proper disposal protocols</li> <li>● See Appendix A Waste Management Strategic Plan</li> </ul>

# Tulameen River Response Action Plan

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>• Area is under a heat warning, ongoing assessments by field supervision and crews on field work;</li><li>• Continued with scouting of river as levels have dropped;</li><li>• Continued with determining access; and</li><li>• Continued with planning.</li></ul>	<ul style="list-style-type: none"><li>• Continue with planning;</li><li>• Continue scouting for additional debris and access;</li><li>• Continue to identify any new debris as river levels continue to decline;</li><li>• Monitor heat wave warning; and</li><li>• Commence debris removal for Phase 2.</li></ul>
<b>Relevant contacts</b>	
<p>Contact for Contractors questions: <a href="mailto:kirandeep.dhillon@pwc.com">kirandeep.dhillon@pwc.com</a> Contact for Ministry of Environment: <a href="mailto:doc.ops.eep@gov.bc.ca">doc.ops.eep@gov.bc.ca</a></p>	

# Tulameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
TR-44		Pole like objects beside river	Human-made	Identified	TBD
TR-53		Exposed culvert	Human-made	Identified	TBD
TR-54	TU_2.7	Metal/Plastic Debris in woody debris	Human-made	Identified	TBD
TR-55	TU_2.8	Metal Debris against tree on edge of river	Human-made	Identified	TBD
TR-56	TU_9.2	Small white plastic on bank left side	Human-made	Identified	TBD
TR-57	TU_10.8	Culvert right side	Human-made	Identified	TBD
TR-58	TU_15.9	Jersey barrier, piece of RV trailer and small scattered debris	Human-made	Identified	TBD
TR-59	TU_16.3	Trailer debris in woody debris pile, white debris in river bank in trees	Human-made	Identified	TBD
TR-60	TU_16.35	Plywood in woody debris	Human-made	Identified	TBD
TR-61	TU_16.85	Cardboard and metal stuck in woody debris	Human-made	Identified	TBD
TR-62	TU_17.0	Debris in silt on rivers edge	Human-made	Identified	TBD
TR-63	TU_17.1	Metal bar laying on river bank	Human-made	Identified	TBD
TR-64	TU_17.375	Metal debris in trees in riparian area	Human-made	Identified	TBD
TR-65	TU_17.5	Tarp debris in river on edge	Human-made	Identified	TBD
TR-66	TU_17.7	Metal and other debris in river and on bank	Human-made	Identified	TBD
TR-67	TU_17.875	White debris on rocks	Human-made	Identified	TBD
TR-68	TU_17.95	Blue tarp wrapped in trees	Human-made	Identified	TBD
TR-69	TU_18.5	Red debris on rivers edge	Human-made	Identified	TBD
TR-70	TU_18.55	Potential trailer or metal debris on rivers edge	Human-made	Identified	TBD
TR-71	TU_18.6	Plastic debris on rivers edge or white metal	Human-made	Identified	TBD
TR-72	TU_18.75	Metal wrapped around trees in woody debris	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# Tulameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
TR-73	TU_19	White debris on river bank in trees	Human-made	Identified	TBD
TR-74	TU_19.3	Stripped car up on bank in trees	Human-made	Identified	TBD
TR-75	TU_17.20	Tire in river	Human-made	Identified	TBD
TR-76	TU_19.5	Camper door stuck on woody debris	Human-made	Identified	TBD
TR-77	TU_19.6	Car bumper in woody debris	Human-made	Identified	TBD
TR-78	TU_19.9	Debris in wooded area	Human-made	Identified	TBD
TR-79	TU_3.00	Green box in woods and small debris	Human-made	Identified	TBD
TR-80	TU_3.10	Culvert	Human-made	Identified	TBD
TR-81	TU_3.30	Yellow Plastic on bank and debris in woody pile on bank	Human-made	Identified	TBD
TR-82	TU_4.00	Small scattered debris on left bank	Human-made	Identified	TBD
TR-83	TU_4.10	Debris in bushes along rivers edge	Human-made	Identified	TBD
TR-84	TU_4.30	Tire in bush	Human-made	Identified	TBD
TR-85	TU_4.40	Tarp under wood debris	Human-made	Identified	TBD
TR-86	TU_4.50	Green tarps and other plastic on right bank and under woody debris	Human-made	Identified	TBD
TR-87	TU_4.60	Purple item in silt and small debris in area	Human-made	Identified	TBD
TR-88	TU_4.70	Tarps, blankets or other debris buried in silt.	Human-made	Identified	TBD
TR-89	TU_5.30	Tires	Human-made	Identified	TBD
TR-90	TU_5.60	Metal debris in woody debris	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# Tulameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
TR-91	TU_5.70	Debris and culvert on rivers edge	Human-made	Identified	TBD
TR-92	TU_6.30	Debris on river bank	Human-made	Identified	TBD
TR-93	TU_7.00	Small culver sticking up on river bank	Human-made	Identified	TBD
TR-94	TU_7.20	Small white plastic or metal on sand bar	Human-made	Identified	TBD
TR-95	TU_7.25	Large pile of woody debris with small plastic or metal debris in it	Human-made	Identified	TBD
TR-96	TU_7.40	Debris in woody debris pile	Human-made	Identified	TBD
TR-97	TU_7.50	Metal debris on river bank	Human-made	Identified	TBD
TR-98	TU_7.55	Propane tank	Human-made	Identified	TBD
TR-99	TU_7.60	Metal debris on river bank	Human-made	Identified	TBD
TR-100	TU_7.80	Black plastic along bank in woody debris	Human-made	Identified	TBD
TR-101	TU_10.40	Metal debris trapped on tree on edge of river	Human-made	Identified	TBD
TR-102	TU_13.31	Unknown debris	Human-made	Identified	TBD
TR-103	TU_19.40	Camper door stuck on woody debris	Human-made	Identified	TBD
TR-104	TU_20.00	Tarp buried in silt	Human-made	Identified	TBD
TR-105	TU_21.10	Propane tank and other debris in flood plain in woods	Human-made	Identified	TBD
TR-106	TU_21.40	Tire on river bank	Human-made	Identified	TBD
TR-107	TU_21.60	Metal debris on river bank	Human-made	Identified	TBD
TR-108	TU_22.90	Metal debris in river flood plain on rocks	Human-made	Identified	TBD
TR-109	TU_23.15	Large amount of metal and other debris on river bank	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



# Tulameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
TR-110	TU_23.20	Log stack and woody debris piles	Natural	Identified	TBD
TR-111	TU_23.25	Maroon car door sitting on sand bar on rocks	Human-made	Identified	TBD
TR-112	TU_23.50	Old wooden and metal structure right on river bank hanging	Human-made	Identified	TBD
TR-113	TU_23.60	Log stack and woody debris piles	Natural	Identified	TBD
TR-114	TU_24.00	Debris within the woody debris piles	Human-made	Identified	TBD
TR-115	TU_24.10	Woody Debris pile	Natural	Identified	TBD
TR-116	TU_24.20	Log stack	Natural	Identified	TBD
TR-117	TU_25.50	Woody Debris pile	Natural	Identified	TBD
TR-118	TU_26.00	White object buried in silt	Human-made	Identified	TBD
TR-119	TU_26.10	Object buried within the woody debris on sand bar	Human-made	Identified	TBD
TR-120	TU_26.20	White plastic on rivers edge.	Human-made	Identified	TBD
TR-121	TU_27.00	Metal debris in woody debris pile	Human-made	Identified	TBD
TR-122	TU_27.20	Cardboard box with yellow in rover stuck in woody debris	Human-made	Identified	TBD
TR-123	TU_27.25	Metal item in river in edge	Human-made	Identified	TBD
TR-124	TU_27.30	Plastic tank and other debris in woody debris pile	Human-made	Identified	TBD
TR-125	TU_27.60	Metal T bar sticking up in river	Human-made	Identified	TBD
TR-126	TU_27.85	White debris in woody debris pile	Human-made	Identified	TBD
TR-127	TU_28.65	Several pieces of debris wrapped up in the woody debris pile on the sand bar	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# Tulameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
TR-128	TU_28.67	Several pieces of white debris on sand with in the wood debris	Human-made	Identified	TBD
TR-129	TU_29.20	Log stack	Natural	Identified	TBD
TR-130	TU_29.75	Black piece of debris on sand bar	Human-made	Identified	TBD
TR-131	TU_30.20	Log stack	Human-made	Identified	TBD
TR-132	TU_30.35	Metal debris in tress and woody debris on river bank	Human-made	Identified	TBD
TR-133	TU_30.40	Large amount of debris from trailer and other items	Human-made	Identified	TBD
TR-134	TU_30.55	Large amount of debris on river bank in flood plain.	Human-made	Identified	TBD
TR-135	TU_30.60	Metal bar up on river bank	Human-made	Identified	TBD
TR-136	TU_30.75	Multiple piece of debris within the woody debris area	Human-made	Identified	TBD
TR-137	TU_31.00	Woody debris	Natural	Identified	TBD
TR-138	TU_31.25	White PVC pipe on river bank	Human-made	Identified	TBD
TR-139	TU_31.30	Long metal pipe in silt	Human-made	Identified	TBD
TR-140	TU_31.40	Green pipe sitting on ground near woody debris	Human-made	Identified	TBD
TR-141	TU_31.70	Log brush piles	Natural	Identified	TBD
TR-142	TU_31.80	Log brush piles	Natural	Identified	TBD
TR-143	TU_31.90	Log stacks	Human-made	Identified	TBD
TR-144	TU_33.20	Concrete Lego Block	Human-made	Identified	TBD
TR-145	TU_33.25	Lego blocks	Human-made	Identified	TBD
TR-146	TU_33.30	Concrete Lego Block	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# Tulameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
TR-147	TU_35.30	Barrel in flood plain	Human-made	Identified	TBD
TR-148	TU_52.07	Log jam in River	Natural	Identified	TBD
TR-149	TU_52.30	Log jam in River	Natural	Identified	TBD
TR-150	TU_58.10	Log jam in River	Natural	Identified	TBD
TR-151	TU_58.20	Log jam in River	Natural	Identified	TBD
TR-152	TU_67.00	Log jam in River	Natural	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



06

# Similkameen River

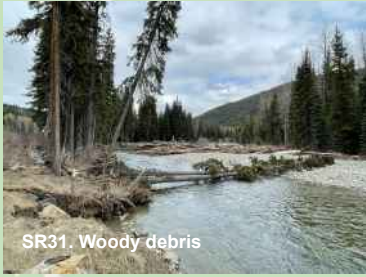
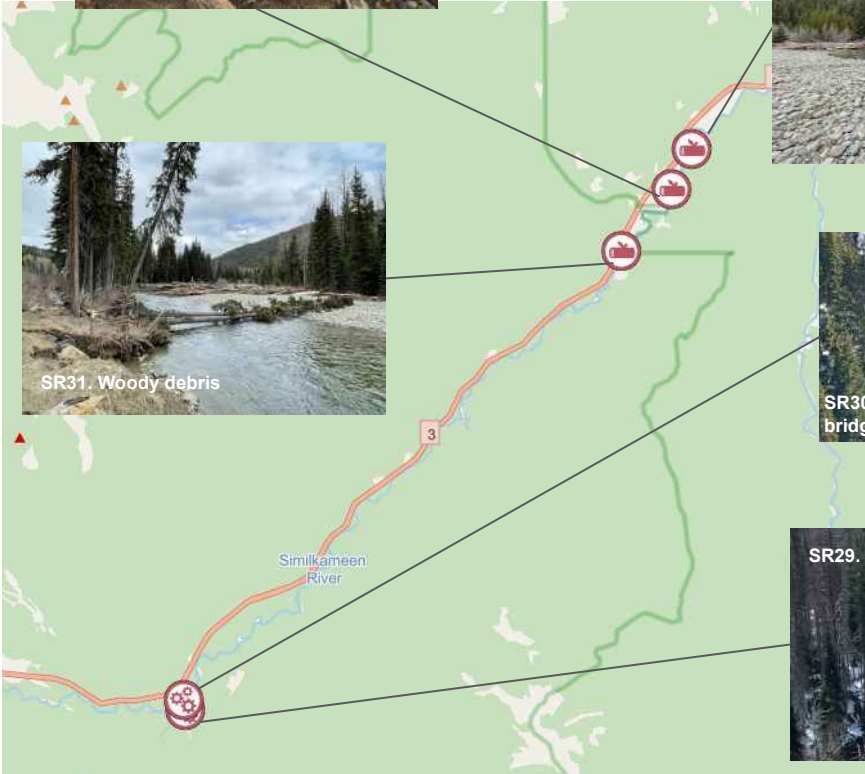
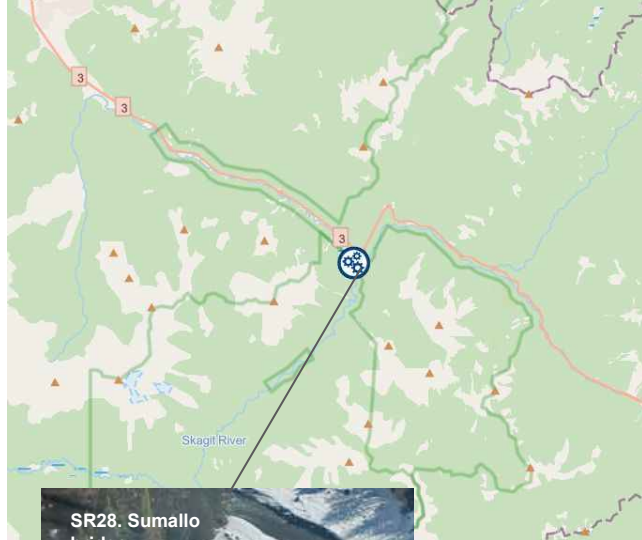
# Similkameen River

## OVERVIEW

Work objectives	Community discussions status	Known debris	Permits status
<ol style="list-style-type: none"> <li>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure.</li> <li>2. Preserve cultural and historically significant areas</li> </ol>	<p>Ongoing communication with both Upper Similkameen IB (USIB) and Lower Similkameen IB (LSIB) as the planning of the project moves forward. Also communicating with Regional District of Okanagan-Similkameen and town of Princeton.</p> <p>Recurring project update call with all local authorities and First Nations groups in the area scheduled every second Thursday at 3.05pm. Representatives from the following groups are invited:</p> <ul style="list-style-type: none"> <li>• Lower Similkameen IB</li> <li>• Upper Similkameen IB</li> <li>• Town of Princeton</li> <li>• Regional District of Okanagan</li> <li>• Tulameen Fire Department</li> </ul>	<p>129 debris sites identified in total</p> <p>Phase 1 (see Appendix D)</p> <ul style="list-style-type: none"> <li>• 12 debris sites have removal completed; and</li> <li>• 9 have been assessed and concluded not to be removed</li> </ul> <p>Phase 2</p> <ul style="list-style-type: none"> <li>• 100 sites identified</li> <li>• 4 sites removal completed; and</li> <li>• 4 sites are work in progress.</li> </ul>	<p>Tetra Tech has submitted the DFO permit for Phase 2 anthropogenic debris, permit expected week of Jul 18. FOR has conditionally extended to Oct 15 for instream work outside of the fish timing window (Aug 7 - Sep 30).</p> <p>Phase 1 permits included:</p> <ul style="list-style-type: none"> <li>• ARC Heritage Investigation Permit 2021-0453; NOI was issued Feb 28;</li> <li>• FOR Approval A8006162 issued for Feb 11 and permit extension issued Apr 14; and</li> <li>• DFO Authorization issued Feb 7 under Approval 22-HPAC-00125.</li> </ul> <p>Phase 2 permits included</p> <ul style="list-style-type: none"> <li>• DFO Authorization issued July 18, 2022 22-HPAC-00766</li> </ul>



# Similkameen River



# Similkameen River

SR129. Blue Shed  
(photo upcoming)

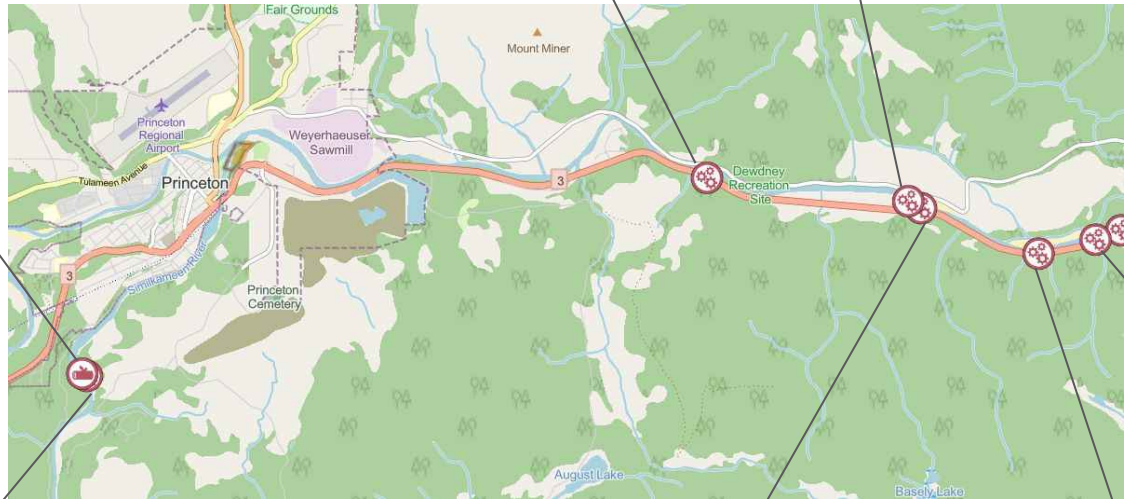
SR128. Tire Tube  
(photo upcoming)

SR124. Misc Debris  
(photo upcoming)

SR125. Tin  
(photo upcoming)

SR126. White Bag  
(photo upcoming)

SR127. Fridge  
(photo upcoming)

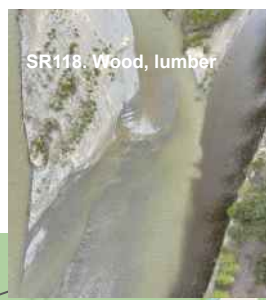


SR33. Woody debris



SR34. Sheet metal,  
propane tank

# Similkameen River



SR121. Metal debris  
(photo upcoming)

SR123. Hot Water Tank  
(photo upcoming)

SR122. Tractor tire  
(photo upcoming)

SR119. Tire  
(photo upcoming)

SR119. Tires  
(photo upcoming)



SR114. Blue barrel  
(photo upcoming)

SR113. Tire  
(photo upcoming)





# Similkameen River



SR108. Debris against bank



SR107. Debris field in trees

SR112. Misc Debris (photo upcoming)

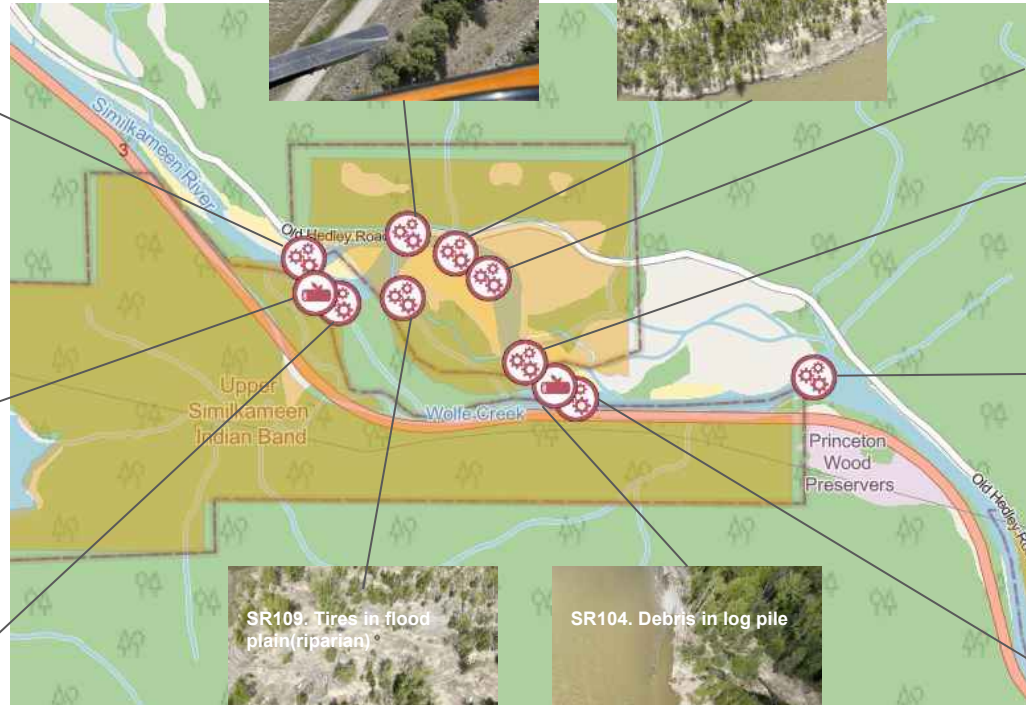
SR106. Misc Debris (photo upcoming)

SR105. Five Tires (photo upcoming)



SR111. Debris in log pile

SR102. Tire (photo upcoming)



SR110. Tarp, Tire (photo upcoming)

SR103. Rubber Mat, Semi Tires (photo upcoming)



SR109. Tires in flood plain (riparian)



SR104. Debris in log pile



# Similkameen River



SR100. Small debris on bank



SR98. Tires in flood plain (riparian)

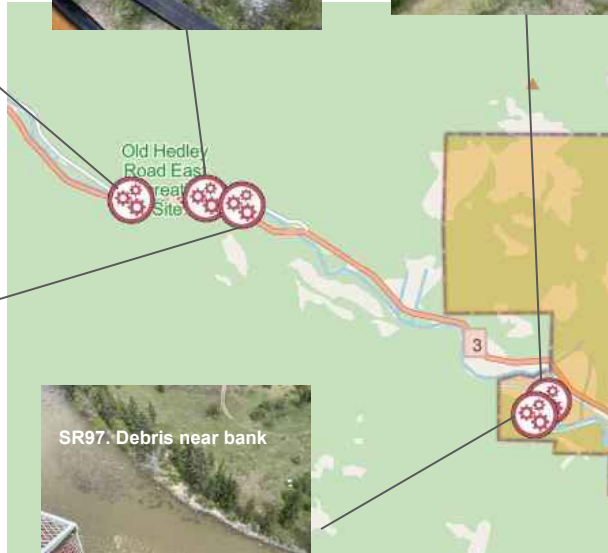


SR87. Debris against tree in water



SR86. Tires in flood plain (riparian)

SR101. Tin (photo upcoming)



SR99. Tarp (photo upcoming)



SR97. Debris near bank



SR85. Tarp (photo upcoming)

# Similkameen River

SR96. Tire  
(photo upcoming)

SR95. Car Body

SR25. Overturned car

SR94. Tire on gravel bar

SR90. Upside down  
vehicle in water

SR92. Lumber on gravel  
bar

SR93. Washed out culvert  
in channel

SR91. Tire in river

SR26. Truck with trailer

SR88. Tire in water on  
gravel bar

SR89. Car  
(photo upcoming)

REMOVED

REMOVED

REMOVED

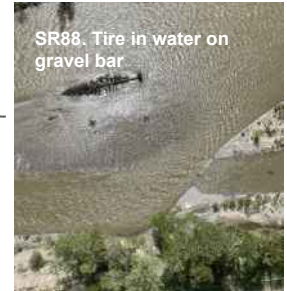
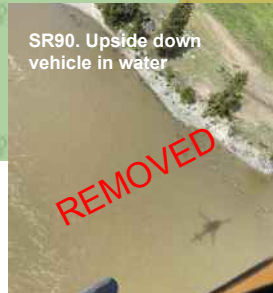
IN PROGRESS

REMOVED

IN PROGRESS

IN PROGRESS

IN PROGRESS

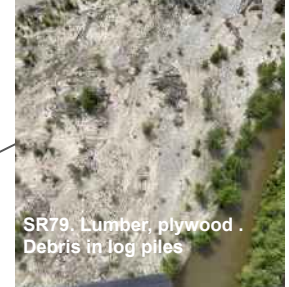


# Similkameen River



SR82. Misc. Debris  
(photo upcoming)

SR80. Tire  
(photo upcoming)



SR83. Blue Barrel  
(photo upcoming)

SR81. Sign  
(photo upcoming)

SR78. Tire x2  
(photo upcoming)





# Similkameen River

SR76. Pallet  
(photo upcoming)



SR73. White debris in  
water

SR72. Barrel  
(photo upcoming)

SR69. Black Pipe & Tire  
(photo upcoming)

SR68. Tire on gravel bar

SR75. Misc. Debris  
(photo upcoming)

SR74. White Debris  
(photo upcoming)

SR71. Tire  
(photo upcoming)

SR70. Tire  
(photo upcoming)



# Similkameen River



SR67. Tire on gravel bar

SR66. Tractor Tire  
(photo upcoming)



SR66. Debris in log pile



SR61. Tire on gravel bar



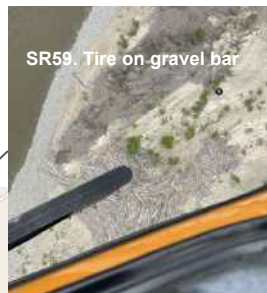
SR64. Misc. Debris  
(photo upcoming)

SR63. Tire  
(photo upcoming)

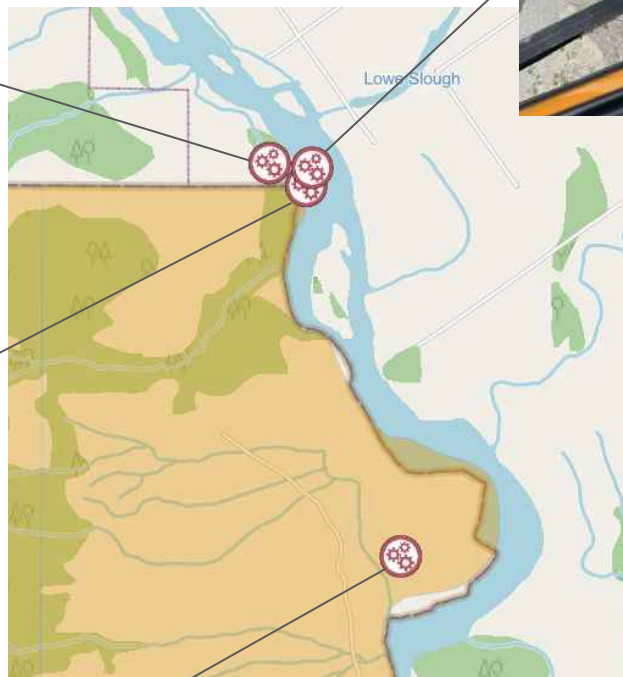
SR62. Misc. Debris  
(photo upcoming)

SR60. Paddleboat & Tire  
(photo upcoming)

# Similkameen River



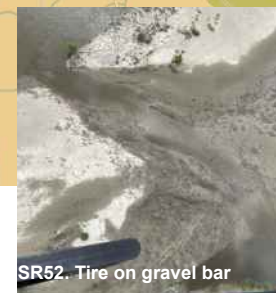
SR58. Tractor Tire  
(photo upcoming)



SR54. Tire  
(photo upcoming)



SR57. Tire  
(photo upcoming)



# Similkameen River

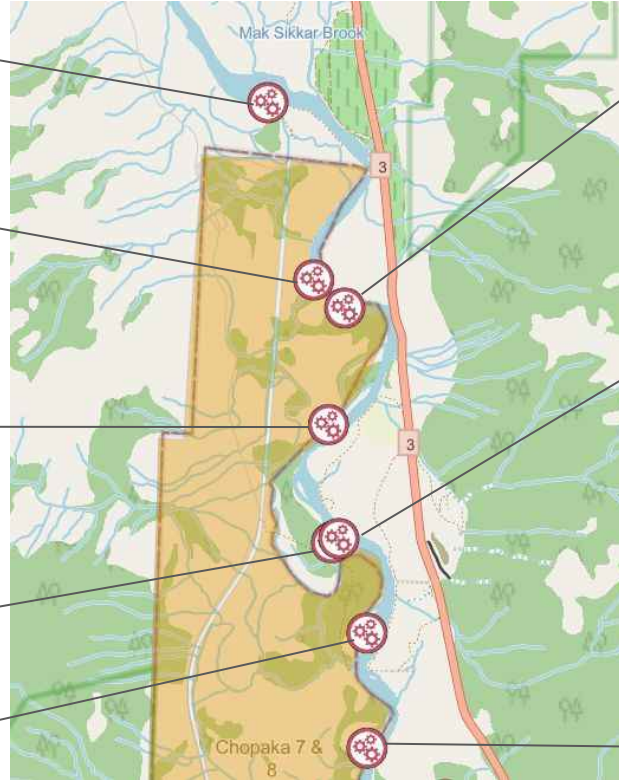
SR51. Barrels  
(photo upcoming)

SR50. Truck Cab  
(photo upcoming)

SR48. Tire, Green Cap  
(photo upcoming)

SR47. Parachute  
(photo upcoming)

SR45. Apple Crates  
(photo upcoming)



SR49. Silver Object  
(photo upcoming)



SR23. Tarp slightly buried  
in sandbar

SR44. Misc. Debris  
(photo upcoming)

# Similkameen River

SR42. Fruit box  
(photo upcoming)



SR41. Barrels



SR38. Tire on gravel bar



SR37. Tire on gravel bar



SR36. Lumber, plywood  
on gravel bar

SR43. Tin  
(photo upcoming)



SR40. Blue barrels,  
lumber in log pile



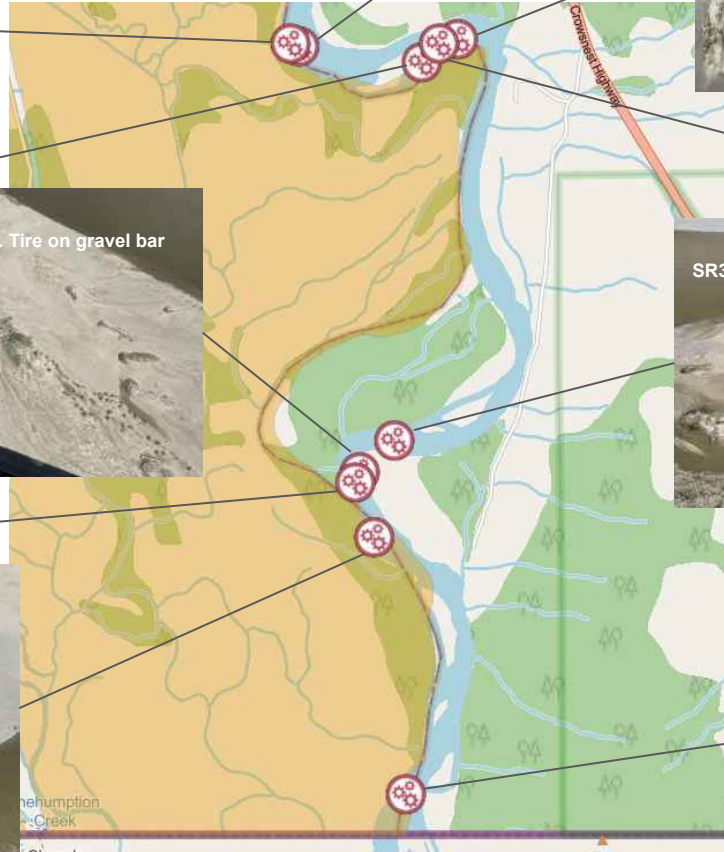
SR39. Tire on gravel bar



SR24. Blue barrels



SR35. Fruit, boxes,  
lumber, debris in log pile





# Similkameen River Response Action Plan

Action plan	Estimated timeline for removal
<ul style="list-style-type: none"> <li>● Identify newly exposed human made debris and large woody debris deposits during/after freshet.</li> <li>● Develop site specific debris removal work plans and engage with LSIB and USIB to assist with sequence/scheduling of work.</li> <li>● TetraTech to review site specific plans and provide direction re access and biological mitigation measures (as per the Section 11 permit extension)</li> <li>● TetraTech to assess natural debris to determine if it poses a threat to public safety and/or infrastructure.</li> <li>● Identify entrance routes and staging areas for equipment and debris planning and ensure all necessary access agreements are in place</li> <li>● Once debris has been removed from the waterway, contractors will follow waste management plans</li> <li>● Crew will stop work if human remains are found or unanticipated archaeological sites are discovered</li> <li>● Discussions ongoing with USIB and LSIB for subcontractors and professional resources</li> </ul>	<ul style="list-style-type: none"> <li>● Dates are still being assessed and debris removal has commenced in the Similkameen River on Jul 22; below are initial dates and are subject to change as assessment are completed:               <ul style="list-style-type: none"> <li>○ SR-91 to SR-94: in progress</li> <li>○ SR-99 to SR-101: week of Aug 2</li> <li>○ SR-102 to SR-125: week of Aug 9</li> <li>○ SR-126 to SR-129: week of Aug 17</li> </ul> </li> <li>● Additional dates to be provided in future reports.</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Multiple local contractors            Qualified Environmental &amp; Archeological Professional: TetraTech            Field Work Management: Clearview Demolition</p>	<ul style="list-style-type: none"> <li>● Waste will be staged and sorted</li> <li>● Legal owners will be notified</li> <li>● Metals will be salvaged or recycled</li> <li>● Unsalvageable waste will be sent to landfills under proper disposal protocols</li> <li>● See Appendix A Waste Management Strategic Plan</li> </ul>

# Similkameen River Response Action Plan

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>• Area is under a heat warning, ongoing assessments by field supervision and crews on field work;</li><li>• Started debris removal for Phase 2;</li><li>• Started removal in Manning Park;</li><li>• Removed car body, overturned car, misc. debris; and</li><li>• Continued identifying debris becoming visible with water levels dropping in area.</li></ul>	<ul style="list-style-type: none"><li>• Continue with bridge removal at Manning Park;</li><li>• Continue with debris removal;</li><li>• Continue with woody debris assessments;</li><li>• Continue to identify any new debris as river levels continue to decline; and</li><li>• Monitor heat wave warning.</li></ul>
Relevant contacts	
<p>Contact for Contractors questions: <a href="mailto:kirandeep.dhillon@pwc.com">kirandeep.dhillon@pwc.com</a> Contact for Ministry of Environment: <a href="mailto:doc.ops.eep@gov.bc.ca">doc.ops.eep@gov.bc.ca</a></p>	

# Similkameen River Progress



*Car removal SR-95*



*Manning Park bridge work*



*Concrete removal at Manning Park*

# Similkameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
SR-19	N/A	Blue tarp slightly buried in the sandbar	Human-made	Identified	TBD
SR-23	N/A	Tarp slightly buried in the sandbar	Human-made	Identified	TBD
SR-24	N/A	Blue barrels entangled in woody debris	Human-made	Identified	TBD
SR-25	N/A	Overturned car	Human-made	Removed	TBD
SR-26	N/A	Truck with trailer	Human-made	Identified	TBD
SR-27	N/A	Log debris	Natural	Identified	TBD
SR-28	N/A	Sumallo bridge	Human-made	Identified	N/A
SR-29	N/A	Chuwanten bridge	Human-made	Identified	TBD
SR-30	N/A	78-83 bridge	Human-made	Identified	TBD
SR-31	N/A	Woody debris	Natural	Identified	TBD
SR-32	N/A	Woody debris	Natural	Identified	TBD
SR-33	N/A	Woody debris	Natural	Identified	TBD
SR-34	N/A	Sheet metal, propane tank	Human-made	Identified	TBD
SR-35	SR_0.20	Fruit, boxes, lumber, debris in log pile	Human-made	Identified	TBD
SR-36	SR_1.50	Lumber, plywood on gravel bar	Human-made	Identified	TBD
SR-37	SR_1.79	Tire on gravel bar	Human-made	Identified	TBD
SR-38	SR_1.81	Tire on gravel bar	Human-made	Identified	TBD
SR-39	SR_2.11	Tire on gravel bar	Human-made	Identified	TBD
SR-40	SR_4.50	Blue barrels, lumber in log pile	Human-made	Identified	TBD
SR-41	SR_4.72	Barrels	Human-made	Identified	TBD
SR-42	SR_5.25	Fruit box	Human-made	Identified	TBD
SR-43	SR_5.25	Tin	Human-made	Identified	TBD
SR-44	SR_5.70	Misc. Debris	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



# Similkameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
SR-45	SR_6.90	Apple Crates	Human-made	Identified	TBD
SR-46	SR_7.90	Large tarp in logs	Human-made	Identified	TBD
SR-47	SR_7.90	Parachute	Human-made	Identified	TBD
SR-48	SR_9.10	Tire, Green Cap	Human-made	Identified	TBD
SR-49	SR_10.60	Silver Object	Human-made	Identified	TBD
SR-50	SR_10.95	Truck Cab	Human-made	Identified	TBD
SR-51	SR_13.20	Barrels	Human-made	Identified	TBD
SR-52	SR_15.80	Tire on gravel bar	Human-made	Identified	TBD
SR-53	SR_18.60	Tire on gravel bar	Human-made	Identified	TBD
SR-54	SR_18.68	Tire	Human-made	Identified	TBD
SR-55	SR_20.30	Tire on gravel bar	Human-made	Identified	TBD
SR-56	SR_20.35	Tire on gravel bar	Human-made	Identified	TBD
SR-57	SR_23.40	Tire	Human-made	Identified	TBD
SR-58	SR_25.65	Tractor Tire	Human-made	Identified	TBD
SR-59	SR_25.75	Tire on gravel bar	Human-made	Identified	TBD
SR-60	SR_28.08	Paddleboat & Tire	Human-made	Identified	TBD
SR-61	SR_28.10	Tire on gravel bar	Human-made	Identified	TBD
SR-62	SR_28.40	Misc. Debris	Human-made	Identified	TBD
SR-63	SR_30.37	Tire	Human-made	Identified	TBD
SR-64	SR_30.68	Misc. Debris	Human-made	Identified	TBD
SR-65	SR_30.74	Debris in log pile	Human-made	Identified	TBD
SR-66	SR_31.00	Tractor Tire	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# Similkameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
SR-67	SR_31.13	Tire on gravel bar	Human-made	Identified	TBD
SR-68	SR_32.05	Tire on gravel bar	Human-made	Identified	TBD
SR-69	SR_32.10	Black Pipe & Tire	Human-made	Identified	TBD
SR-70	SR_32.73	Tire	Human-made	Identified	TBD
SR-71	SR_33.30	Tire	Human-made	Identified	TBD
SR-72	SR_33.30	Barrel	Human-made	Identified	TBD
SR-73	SR_33.80	White debris in water	Human-made	Identified	TBD
SR-74	SR_34.62	White Debris	Human-made	Identified	TBD
SR-75	SR_37.58	Misc. Debris	Human-made	Identified	TBD
SR-76	SR_39.00	Pallet	Human-made	Identified	TBD
SR-77	SR_44.20	Unknown large in river /CWD	Human-made	Identified	TBD
SR-78	SR_45.20	Tire x2	Human-made	Identified	TBD
SR-79	SR_47.30	Lumber, plywood . Debris in log piles	Natural	Identified	TBD
SR-80	SR_47.68	Tire	Human-made	Identified	TBD
SR-81	SR_48.18	Sign	Human-made	Identified	TBD
SR-82	SR_49.88	Misc. Debris	Human-made	Identified	TBD
SR-83	SR_51.30	Blue Barrel	Human-made	Identified	TBD
SR-84	SR_52.00	Tire edge water	Human-made	Identified	TBD
SR-85	SR_54.80	Tarp	Human-made	Identified	TBD
SR-86	SR_55.40	Tires in flood plain(riparian)	Human-made	Identified	TBD
SR-87	SR_58.45	Debris against tree in water	Human-made	Identified	TBD
SR-88	SR_59.95	Tire in water on gravel bar	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# Similkameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
SR-89	SR_60.25	Car	Human-made	Identified	TBD
SR-90	SR_60.35	Upside down vehicle in water	Human-made	Removed	TBD
SR-91	SR_61.15	Tire in river	Human-made	In Progress	TBD
SR-92	SR_61.40	Lumber on gravel bar	Human-made	In Progress	TBD
SR-93	SR_61.45	Washed out culvert in channel	Human-made	In Progress	TBD
SR-94	SR_61.93	Tire on gravel bar	Human-made	In Progress	TBD
SR-95	SR_62.50	Car Body	Human-made	Removed	2022-07-27
SR-96	SR_63.40	Tire	Human-made	Removed	2022-07-27
SR-97	SR_66.30	Debris near bank	Human-made	Identified	TBD
SR-98	SR_66.50	Tires in flood plain(riparian)	Human-made	Identified	TBD
SR-99	SR_72.96	Tarp	Human-made	Identified	TBD
SR-100	SR_73.50	Small debris on bank	Human-made	Identified	TBD
SR-101	SR_74.63	Tin	Human-made	Identified	TBD
SR-102	SR_85.70	Tire	Human-made	Identified	TBD
SR-103	SR_86.65	Rubber Mat, Semi Tires	Human-made	Identified	TBD
SR-104	SR_86.75	Debris in log pile	Human-made	Identified	TBD
SR-105	SR_86.95	Five Tires	Human-made	Identified	TBD
SR-106	SR_87.30	Misc. Debris	Human-made	Identified	TBD
SR-107	SR_87.50	Debris field in trees	Human-made	Identified	TBD
SR-108	SR_87.70	Debris against bank	Human-made	Identified	TBD
SR-109	SR_87.85	Tires in flood plain(riparian)	Human-made	Identified	TBD
SR-110	SR_88.00	Tarp, Tire	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# Similkameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
SR-111	SR_88.10	Debris in log pile	Human-made	Identified	TBD
SR-112	SR_88.20	Misc Debris	Human-made	Identified	TBD
SR-113	SR_91.00	Tire	Human-made	Identified	TBD
SR-114	SR_91.02	Blue Barrel	Human-made	Identified	TBD
SR-115	SR_91.30	Debris in log pile	Human-made	Identified	TBD
SR-116	SR_92.20	Debris in log pile	Human-made	Identified	TBD
SR-117	SR_92.40	Tires	Human-made	Identified	TBD
SR-118	SR_93.10	Wood, lumber	Natural	Identified	TBD
SR-119	SR_93.45	Tire	Human-made	Identified	TBD
SR-120	SR_93.60	Tires	Human-made	Identified	TBD
SR-121	SR_93.65	Metal Debris	Human-made	Identified	TBD
SR-122	SR_93.70	Tractor Tire	Human-made	Identified	TBD
SR-123	SR_93.85	Hot Water Tank	Human-made	Identified	TBD
SR-124	SR_94.20	Misc Debris	Human-made	Identified	TBD
SR-125	SR_94.48	Tin	Human-made	Identified	TBD
SR-126	SR_95.10	White Bag	Human-made	Identified	TBD
SR-127	SR_96.40	Fridge	Human-made	Identified	TBD
SR-128	SR_96.60	Tire Tube	Human-made	Identified	TBD
SR-129	SR_98.80	Blue Shed	Human-made	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.





07

Fraser River

# Fraser River

## OVERVIEW

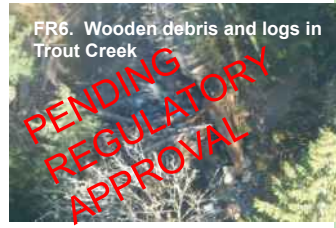
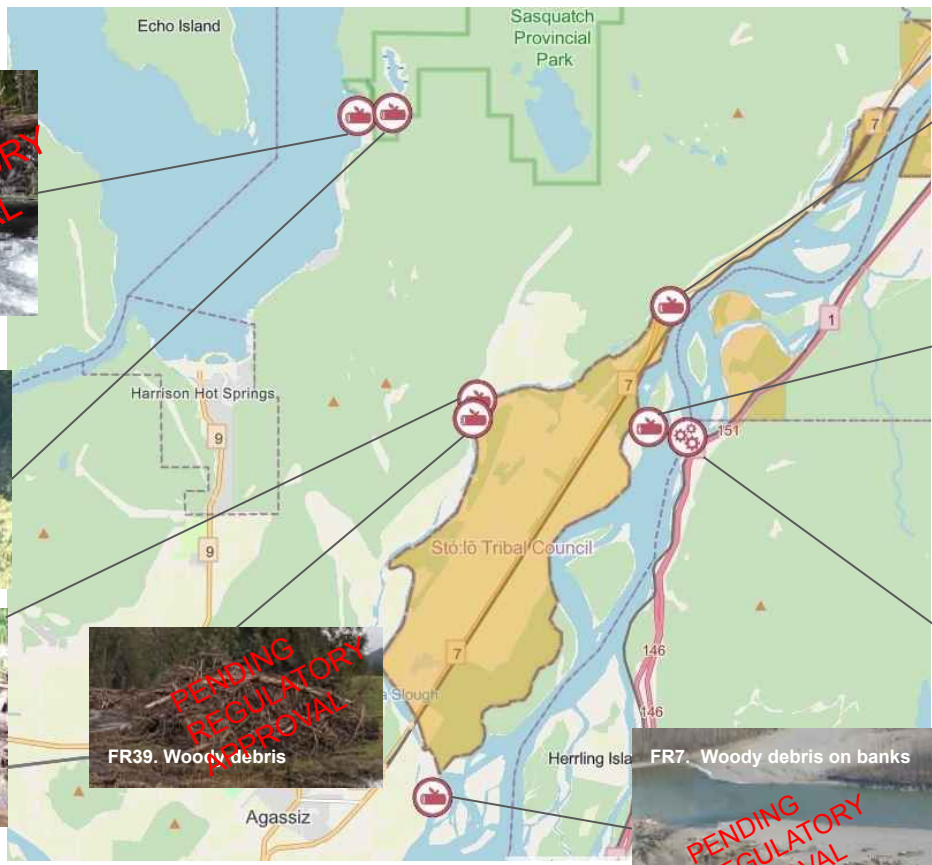
Work objectives	Community discussions status	Known debris	Permits status
<ol style="list-style-type: none"> <li>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure</li> <li>2. Preserve cultural and historically significant areas.</li> </ol>	<p>Continuing to schedule calls and visits with the remaining communities based on their availability.</p> <p>Recurring biweekly project update call with all local authorities and First Nations groups in the area scheduled every Thursday at 11am.</p>	<p>69 debris sites identified of which</p> <ul style="list-style-type: none"> <li>● 38 debris sites has removal completed; and</li> <li>● 5 has been assessed and concluded not to be removed</li> </ul> <p>This leaves 25 sites remaining as work paused due to freshet and/or waiting on regulatory approval.</p>	<p>ARC Heritage Investigation Permit 2021-0453 Issued under Section 12.2 of the Heritage Conservation Act.</p> <p>FOR approval under Section 11 of the Water Sustainability Act; Permit issued Mar 29, 2022.</p> <p>DFO Authorization under Paragraphs 34.4(2) (b) and 35(2)(b) of the Fisheries Act (Emergency Situations); Authorization issued (Approval 22-HPAC-00204) Mar 3, 2022.</p> <p>*Permits extended until September 30, 2022.</p>

# Fraser River



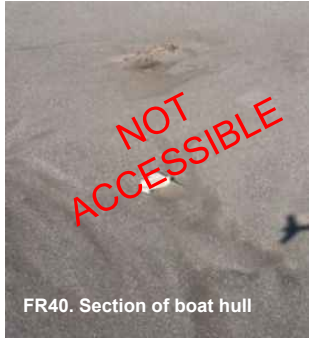


# Fraser River





# Fraser River



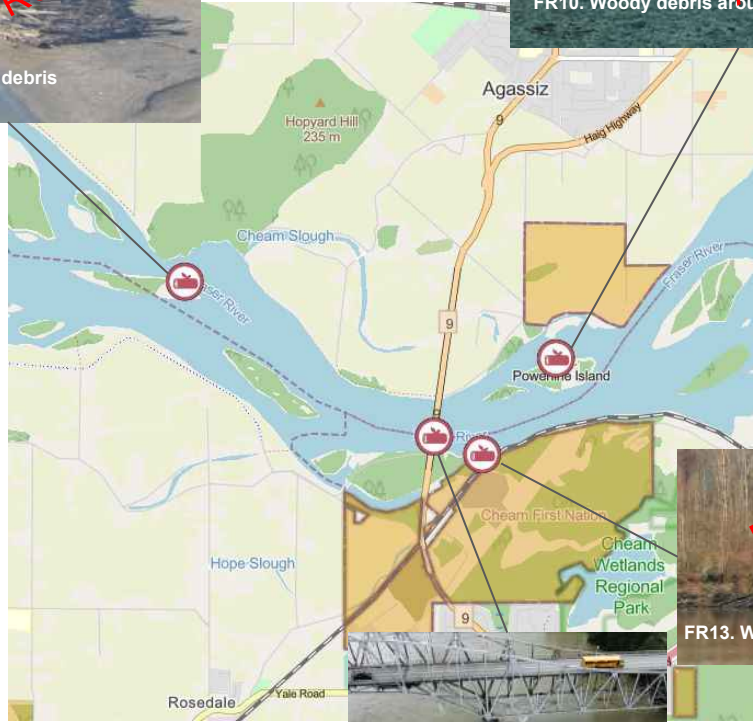
FR40. Section of boat hull



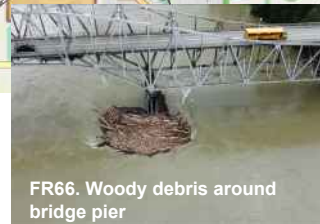
FR8. Woody debris



FR10. Woody debris around river

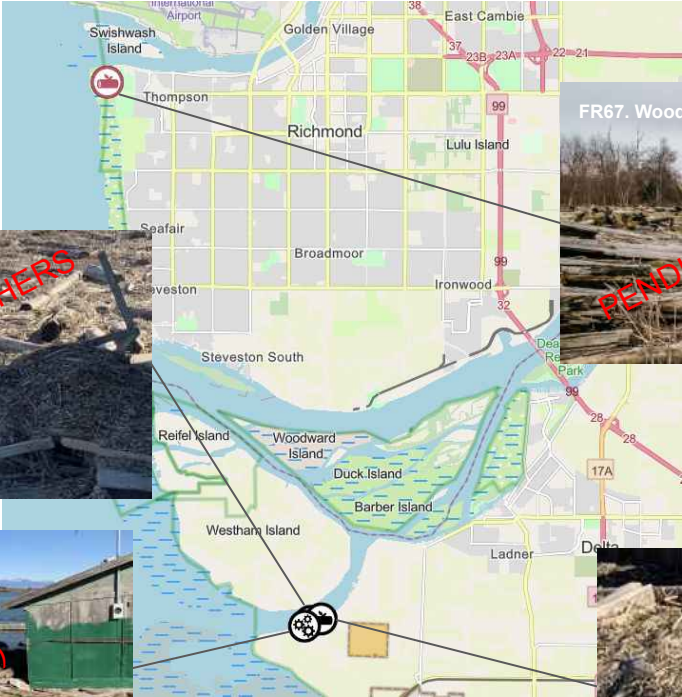


FR13. Woody debris



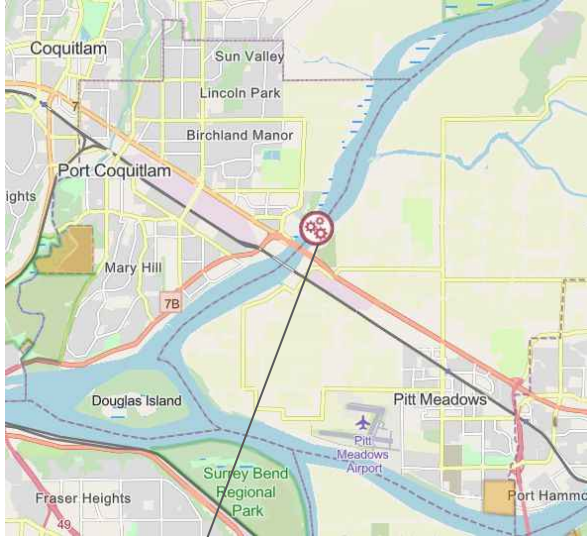
FR66. Woody debris around bridge pier

# Fraser River





# Fraser River



# Fraser River Response Action Plan

Action plan	Estimated timeline for removal
<ul style="list-style-type: none"> <li>Once all permits, approvals and plans are in place, crews will be deployed to the river. Crews will be prioritising human made debris that poses a high risk first, but otherwise will remove all human made debris. Heavy equipment involved will include excavators, rock truck and flatbed trucks</li> <li>Entrance routes and staging areas for equipment and debris is being reviewed and will be communicated asap</li> <li>Once debris has been removed from the waterway, contractors will follow waste management plans</li> <li>Crew will stop work if human remains are found or unanticipated archaeological sites are discovered</li> <li>Natural debris will be reviewed by QP, DFO and FOR to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<p>All work currently paused due to continuing high water levels.</p> <ul style="list-style-type: none"> <li>FR6, FR38, FR40, FR-55, FR-58-65: subject to removal scheduling after freshet.</li> <li>FR2, FR6-10, FR13, FR28-FR33, FR-35, FR39 : pending regulatory approval</li> <li>Additional debris may be found, identified and reported in future reports as crews are navigating the river course and assessing any new debris identified from freshet.</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Stqó:ya Construction            Qualified Environmental: Stantec            Archeological Professional: Stolo Nation            Field Work Management: RAM Consulting            FN Monitors: IAMC</p>	<ul style="list-style-type: none"> <li>Waste will be staged and sorted</li> <li>Legal owners will be notified</li> <li>Metals will be salvaged or recycled</li> <li>Unsalvageable waste will be sent to landfills under proper disposal protocols</li> <li>See Appendix A Waste Management Strategic Plan</li> </ul>



# Fraser River Response Action Plan

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>• Small debris removal by boat is complete on Fraser.</li><li>• Continued the assessment of woody natural debris and discuss strategy with appropriate parties</li><li>• Ongoing communication with the FN bands</li></ul>	<p><b>Work to be completed next week</b></p> <ul style="list-style-type: none"><li>• Completion of work plans.</li><li>• Expecting to mobilize wk 1 of August.</li><li>• 20 sites pending regulatory approval.</li></ul> <p><b>Upcoming Work</b></p> <ul style="list-style-type: none"><li>• Continue with removal of woody debris along the river subject to water level.</li><li>• Continue with planning and assessments due to impacts from freshet.</li><li>• Phase 2 work planning continues.</li></ul>
<b>Relevant contacts</b>	
Contact for Contractors questions: <a href="mailto:yogan.r.reddy@pwc.com">yogan.r.reddy@pwc.com</a> Contact for Ministry of Environment: <a href="mailto:doc.ops.eep@gov.bc.ca">doc.ops.eep@gov.bc.ca</a>	

# Fraser River

Map ID	Description	Type	Status	Removal date
FR-2	Natural debris with human made debris	Human-made	Identified (pending regulatory approval)	TBD
FR-6	Woody debris in Trout Creek	Natural	Identified (pending regulatory approval)	TBD
FR-7	Woody debris on banks	Natural	Identified (pending regulatory approval)	TBD
FR-8	Woody debris	Natural	Identified (pending regulatory approval)	TBD
FR-9	Fallen over trees	Natural	Identified (pending regulatory approval)	TBD
FR-10	Woody debris	Natural	Identified (pending regulatory approval)	TBD
FR-13	Woody debris	Natural	Identified (pending regulatory approval)	TBD
FR-14	Tire and other human made debris	Human-made	Removed by Others	2022-06-30
FR-15	Woody debris on river banks	Natural	Removed by Others	2022-06-30
FR-16	Canoe Pass dock damage	Human-made	Removed by Others (repaired)	2022-06-30
FR-19	Concrete culvert	Human-made	Identified (debris not found)	TBD
FR-22	Boat debris, furniture	Human-made	Identified (debris not accessible)	TBD
FR-23	Red container/pipe, metal debris	Human-made	Identified (debris not accessible)	TBD
FR-28	Woody debris	Natural	Identified (pending regulatory approval)	TBD
FR-29	Logs on river bed	Natural	Identified (debris not accessible)	TBD
FR-30	Woody debris	Natural	Identified (pending regulatory approval)	TBD
FR-31	Woody debris (Squamish)	Natural	Identified (pending regulatory approval)	TBD
FR-32	Woody debris (Squamish)	Natural	Identified (pending regulatory approval)	TBD
FR-33	Woody debris (Squamish)	Natural	Identified (pending regulatory approval)	TBD
FR-35	Woody debris	Natural	Identified (pending regulatory approval)	TBD
FR-39	Woody debris	Natural	Identified (pending regulatory approval)	TBD
FR-40	Section of boat hull on Fraser River	Human-made	Identified (not accessible)	TBD
FR-59	Woody debris	Natural	Identified	TBD

# Fraser River

Map ID	Description	Type	Status	Removal date
FR-60	Woody debris	Natural	Identified (pending regulatory approval)	TBD
FR-66	Woody debris around pier cap	Natural	Identified	TBD
FR-67	Woody debris	Natural	Identified (pending assessment)	TBD
FR-68	Woody debris	Natural	Identified (pending assessment)	TBD
FR-69	Misc. debris	Human-made	Identified	TBD



08

Chilliwack  
River &  
Vedder  
River/Canal



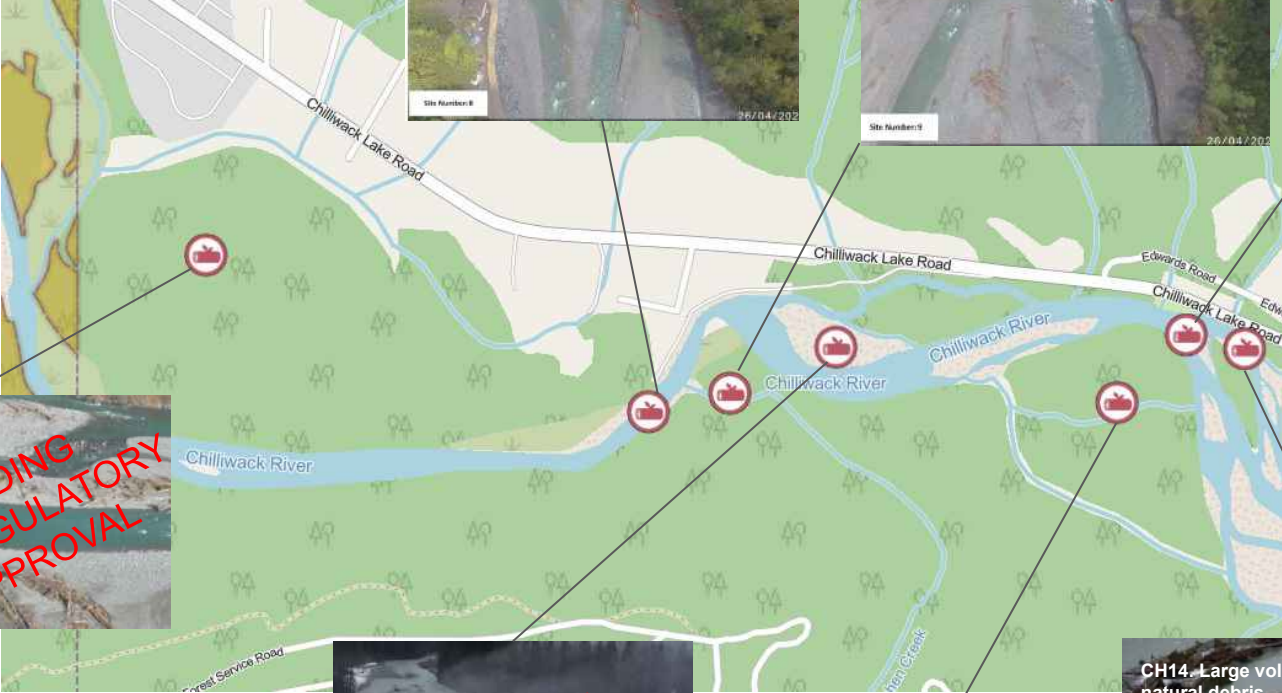
# Chilliwack River & Vedder River/Canal

OVERVIEW			
Work objectives	Community discussions status	Known debris	Permits status
<ol style="list-style-type: none"> <li>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure</li> <li>2. Preserve cultural and historically significant areas.</li> </ol>	<p>Continuing to schedule calls and visits with the remaining communities based on their availability.</p> <p>Recurring biweekly project update call with all local authorities and First Nations groups in the area scheduled every Thursday at 11am.</p>	<p>57 debris sites identified</p> <ul style="list-style-type: none"> <li>• 16 debris site have removal completed; and</li> <li>• 1 have been assessed and concluded not to be removed</li> </ul> <p>This leaves 40 sites remaining as work identified but paused due to water level and/ or awaiting regulatory approval.</p> <p>Additional debris being logged as information is being obtained from the aerial video, drone footage site visits and local communities.</p>	<p>ARC Heritage Investigation Permit 2021-0453 Issued under Section 12.2 of the Heritage Conservation Act</p> <p>FOR approval under Section 11 of the Water Sustainability Act; Permit issued on March 29, 2022</p> <p>DFO Authorization under Paragraphs 34.4(2) (b) and 35(2)(b) of the Fisheries Act (Emergency Situations); Authorization issued (Approval 22-HPAC-00204) Mar 3, 2022</p> <p>*Permits extended until September 30, 2022.</p>

# Chilliwack River & Vedder River/Canal

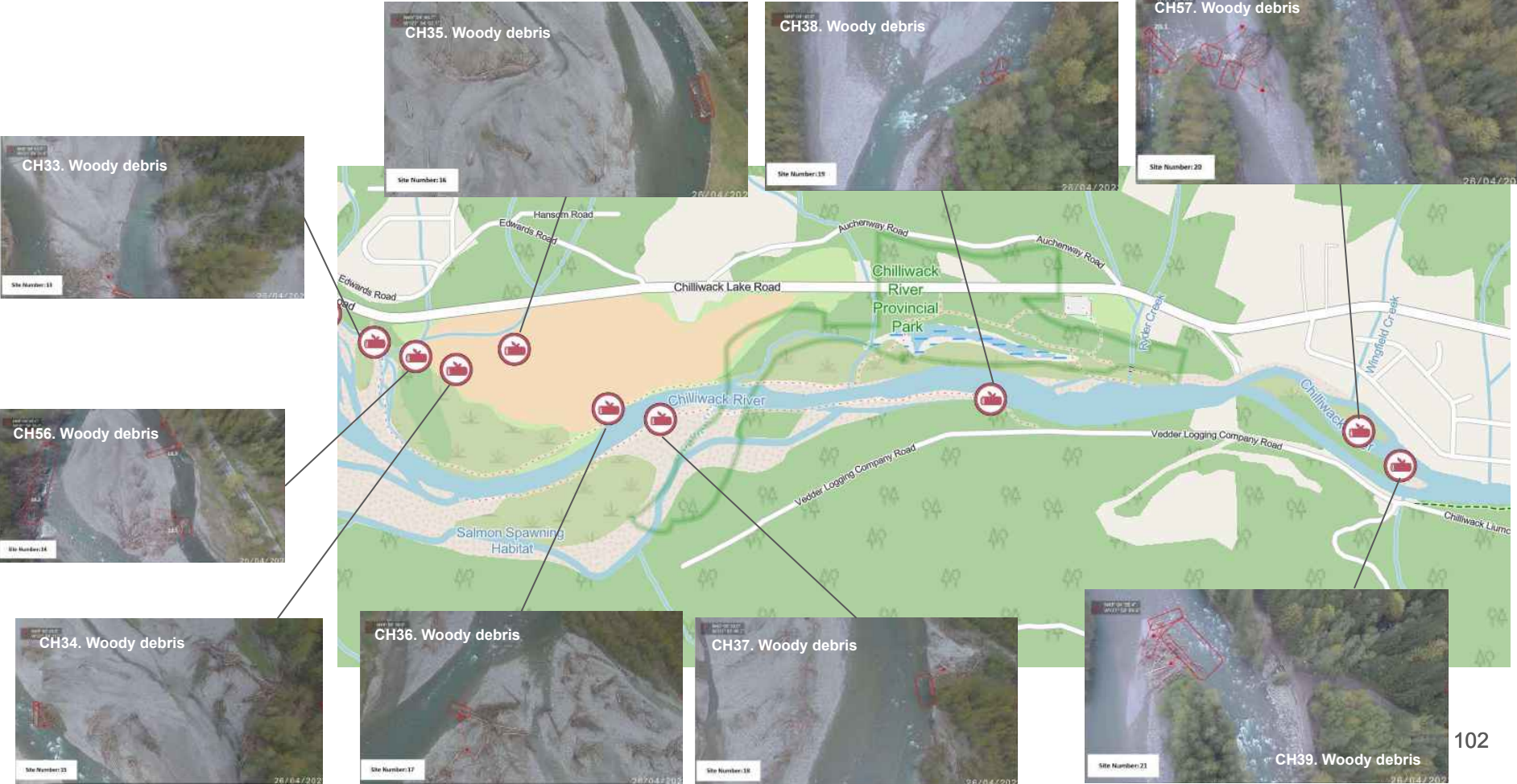


# Chilliwack River & Vedder River/Canal



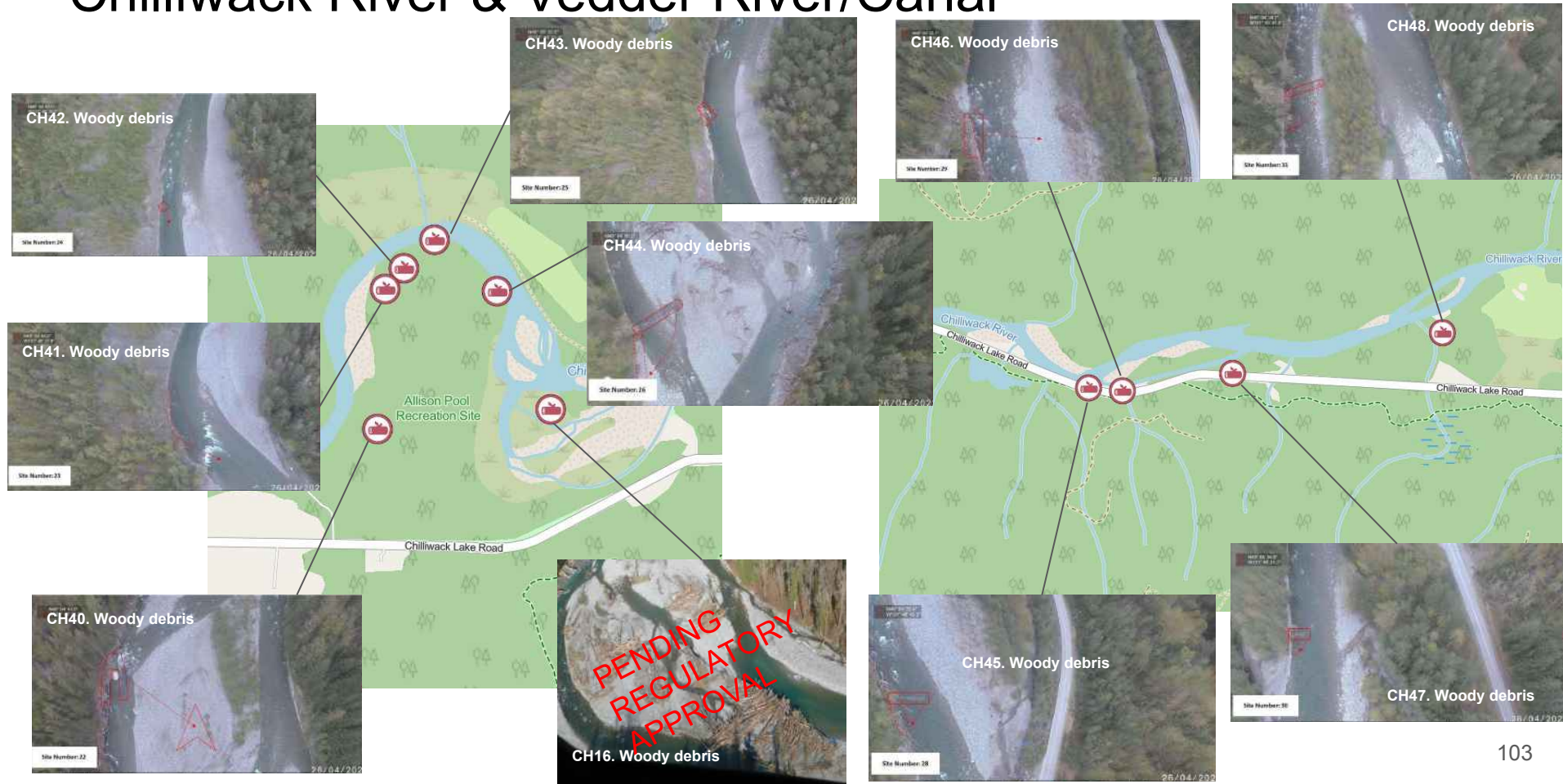


# Chilliwack River & Vedder River/Canal





# Chilliwack River & Vedder River/Canal



# Chilliwack River & Vedder River/Canal



# Chilliwack River & Vedder River/Canal Action Plan

Action plan	Estimated timeline for removal
<ul style="list-style-type: none"> <li>• Once all permits, approvals and plans are in place, crews will be deployed to the river. Crews will be prioritising human made debris that poses a high risk first, but otherwise will remove all human made debris. Heavy equipment involved will include excavators, rock truck and flatbed trucks</li> <li>• Entrance routes and staging areas for equipment and debris is being reviewed and will be communicated asap</li> <li>• Once debris has been removed from the waterway, contractors will follow waste management plans</li> <li>• Crew will stop work if human remains are found or unanticipated archaeological sites are discovered</li> <li>• Natural debris will be reviewed by QP, DFO and FOR to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<p>All work paused during freshet.</p> <ul style="list-style-type: none"> <li>• CH1, CH6-9, CH11-14, CH16 : approvals in progress.</li> <li>• Additional debris may be found, identified and reported in future reports as crews are navigating the river course and assessing any new debris identified from freshet</li> <li>• A 2 day aerial survey identified sites in the following areas: Sumas Prairie to Chilliwack River, Chilliwack River to Island 22, Island 22 to Hwy 9 Bridge (Agassiz), Hwy 9 Bridge (Agassiz) to Flood.</li> <li>• Additional aerial site survey during the week of July 18.</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Stqó:ya Construction            Qualified Environmental: Stantec            Archeological Professional: Stolo Nation            Field Work Management: RAM Consulting            FN Monitors: IAMC</p>	<ul style="list-style-type: none"> <li>• Waste will be staged and sorted</li> <li>• Legal owners will be notified</li> <li>• Metals will be salvaged or recycled</li> <li>• Unsalvageable waste will be sent to landfills under proper disposal protocols</li> <li>• See Appendix A Waste Management Strategic Plan</li> </ul>

# Chilliwack River & Vedder River/Canal Response Action Plan

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>Continued with planning for upcoming work</li><li>Ongoing communication with FN bands</li><li>Multiple debris removed</li><li>Woody and anthropogenic debris that has been approved for removal is complete.</li><li>Kingcome sight visit.</li></ul>	<p><b>Work to be completed next week</b></p> <ul style="list-style-type: none"><li>Continue with planning for upcoming work</li><li>Continue discussions with FN bands</li><li>Crews will begin to mobilize.</li></ul> <p><b>Upcoming Work</b></p> <ul style="list-style-type: none"><li>Continue with planning and assessments due to impacts from freshet.</li><li>Aerial recon of east and west Abbotsford.</li></ul>
<b>Relevant contacts</b>	
Contact for Contractors questions: <a href="mailto:mj.siahdashti@pwc.com">mj.siahdashti@pwc.com</a> Contact for Ministry of Environment: <a href="mailto:doc.ops.eep@gov.bc.ca">doc.ops.eep@gov.bc.ca</a>	



# Chilliwack River & Vedder River/Canal

Map ID	Description	Type	Status	Removal date
CH-1	Large volumes of natural debris	Natural	Identified (pending regulatory approval)C	TBD
CH-6	Woody debris	Natural	Identified (pending regulatory approval)	TBD
CH-7	Woody debris	Natural	Identified (pending regulatory approval)	TBD
CH-8	Woody debris	Natural	Identified (pending regulatory approval)	TBD
CH-9	Woody debris	Natural	Identified (pending regulatory approval)	TBD
CH-11	Woody debris	Natural	Identified (pending regulatory approval)	TBD
CH-12	Woody debris	Natural	Identified (pending regulatory approval)	TBD
CH-13	Woody debris	Natural	Identified (pending regulatory approval)	TBD
CH-14	Large volumes of natural debris	Natural	Identified (pending regulatory approval)	TBD
CH-16	Woody debris	Natural	Identified (pending regulatory approval)	TBD
CH-29	Woody debris	Natural	Identified	TBD
CH-30	Woody debris	Natural	Identified	TBD
CH-31	Woody debris	Natural	Identified	TBD
CH-32	Woody debris	Natural	Identified	TBD
CH-33	Woody debris	Natural	Identified	TBD
CH-34	Woody debris	Natural	Identified	TBD
CH-35	Woody debris	Natural	Identified	TBD
CH-36	Woody debris	Natural	Identified	TBD
CH-37	Woody debris	Natural	Identified	TBD
CH-38	Woody debris	Natural	Identified	TBD
CH-39	Woody debris	Natural	Identified	TBD
CH-40	Woody debris	Natural	Identified	TBD
CH-41	Woody debris	Natural	Identified	TBD

# Chilliwack River & Vedder River/Canal

Map ID	Description	Type	Status	Removal date
CH-42	Woody debris	Natural	Identified	TBD
CH-43	Woody debris	Natural	Identified	TBD
CH-44	Woody debris	Natural	Identified	TBD
CH-45	Woody debris	Natural	Identified	TBD
CH-46	Woody debris	Natural	Identified	TBD
CH-47	Woody debris	Natural	Identified	TBD
CH-48	Woody debris	Natural	Identified	TBD
CH-49	Woody debris	Natural	Identified	TBD
CH-50	Woody debris	Natural	Identified	TBD
CH-51	Woody debris	Natural	Identified	TBD
CH-52	Woody debris	Natural	Identified	TBD
CH-53	Woody debris	Natural	Identified	TBD
CH-54	Woody debris	Natural	Identified	TBD
CH-55	Woody debris	Natural	Identified	TBD
CH-56	Woody debris	Natural	Identified	TBD
CH-57	Woody debris	Natural	Identified	TBD
CH-58	Weir at Smith Falls Creek	Natural	Identified	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



09

# Coquihalla River

# Coquihalla River

OVERVIEW			
Work objectives	Community discussions status	Known debris	Permits status
<ol style="list-style-type: none"> <li>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure</li> <li>2. Preserve cultural and historically significant areas.</li> </ol>	<p>Continuing to schedule calls and visits with the remaining communities based on their availability.</p> <p>Recurring biweekly project update call with all local authorities and First Nations groups in the area scheduled every Thursday at 11am.</p>	<p>44 debris sites identified in total</p> <p>Phase 1 (see Appendix D)</p> <ul style="list-style-type: none"> <li>• 36 debris sites have removal completed; and</li> <li>• 6 have been assessed and concluded not to be removed</li> </ul> <p>Phase 2</p> <ul style="list-style-type: none"> <li>• 1 debris site identified; and</li> <li>• 1 debris site has removal completed;</li> </ul> <p>This leaves 1 site remaining as identified and paused due to water levels.</p>	<p>ARC Heritage Investigation Permit 2021-0453 Issued under Section 12.2 of the Heritage Conservation Act.</p> <p>FOR approval under Section 11 of the Water Sustainability Act; Permit issued on March 29, 2022</p> <p>DFO Authorization under Paragraphs 34.4(2) (b) and 35(2)(b) of the Fisheries Act (Emergency Situations); Authorization issued ((Approval 22-HPAC-00204) Mar 3</p> <p>*Permits extended until September 30, 2022.</p>



# Coquihalla River



# Coquihalla River Response Action Plan

Action plan	Estimated timeline for removal
<ul style="list-style-type: none"> <li>● Crews are being deployed to the river in phases. Crews will be prioritising human made debris that poses a high risk first, but otherwise will remove all human made debris. Heavy equipment involved will include excavators, rock truck and flatbed trucks</li> <li>● Entrance routes and staging areas for equipment and debris is being reviewed and will be communicated asap</li> <li>● Once debris has been removed from the waterway, contractors will follow waste management plans</li> <li>● Crew will stop work if human remains are found or unanticipated archaeological sites are discovered</li> <li>● Natural debris will be reviewed by QP, DFO and FOR to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>● Additional debris may be found, identified and reported in future reports as crews are navigating the river course and assessing any new debris identified from freshet</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Stqó:ya Construction            Qualified Environmental: Stantec            Archeological Professional: Stolo Nation            Field Work Management: RAM Consulting            FN Monitors: IAMC-TMX</p>	<ul style="list-style-type: none"> <li>● Waste will be staged and sorted</li> <li>● Legal owners will be notified</li> <li>● Metals will be salvaged or recycled</li> <li>● Unsalvageable waste will be sent to landfills under proper disposal protocols</li> <li>● See Appendix A Waste Management Strategic Plan</li> </ul>

# Coquihalla River Response Action Plan

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>• Linear debris hand picking removal continues.</li><li>• Othello tunnel removals complete.</li></ul>	<p><b>Work to be completed next week</b></p> <ul style="list-style-type: none"><li>• Removal of debris as identified sites are approved and become accessible.</li></ul> <p><b>During Freshet Pause</b></p> <ul style="list-style-type: none"><li>• Continue assessment and planning for any newly identified debris when instream work resumes.</li><li>• Continue engagement with FN communities in area</li><li>• Plan for linear debris removal.</li></ul>
Relevant contacts	
<p>Contact for Contractors questions: <a href="mailto:mj.siahdashti@pwc.com">mj.siahdashti@pwc.com</a> Contact for Ministry of Environment: <a href="mailto:doc.ops.eep@gov.bc.ca">doc.ops.eep@gov.bc.ca</a></p>	

# Coquihalla River

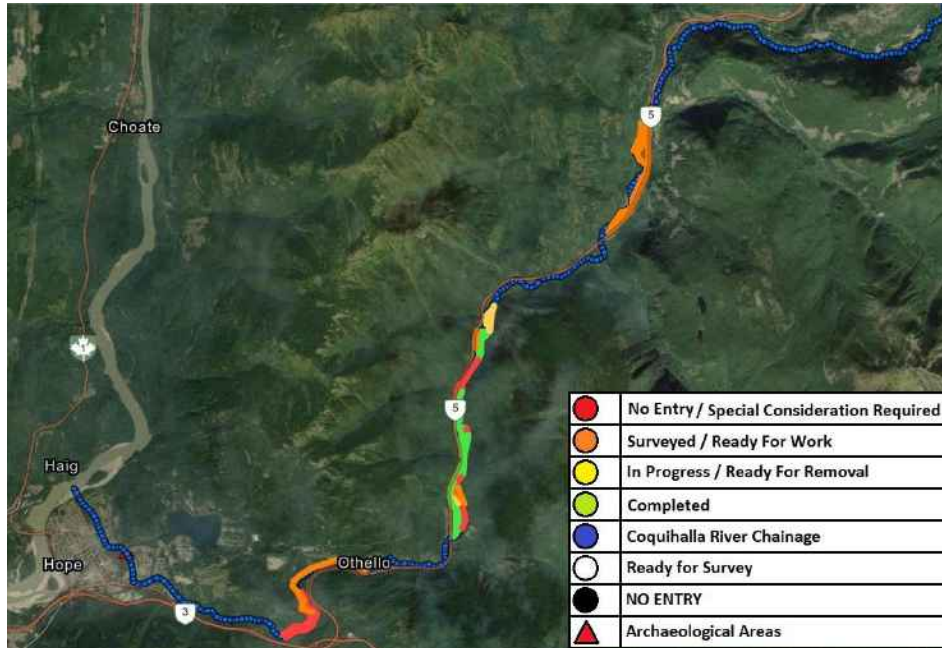
Map ID	Contract or ID*	Description	Type	Status	Removal date
CR-44	CR-11	Assorted anthropogenic debris including boat hull	Human-made	Removed	2022-06-07
CR-45		Crushed car at Othello	Human-made	Identified (debris not accessible)	TBD

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



# Linear debris progress - Coquihalla River

- Rising waters of Fraser and Coquihalla Rivers has slowed down work subject to safety.
- Work has been completed along shorelines and in boat in all 3 rivers
- 5 areas have been identified after assessment and recommendations made. The primary zone to concentrate work will be the Island 22 area upstream to Flood.

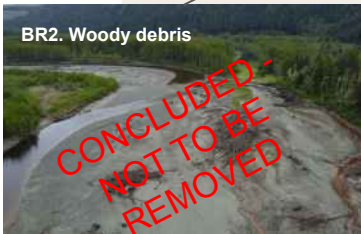
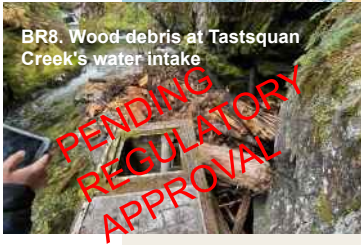




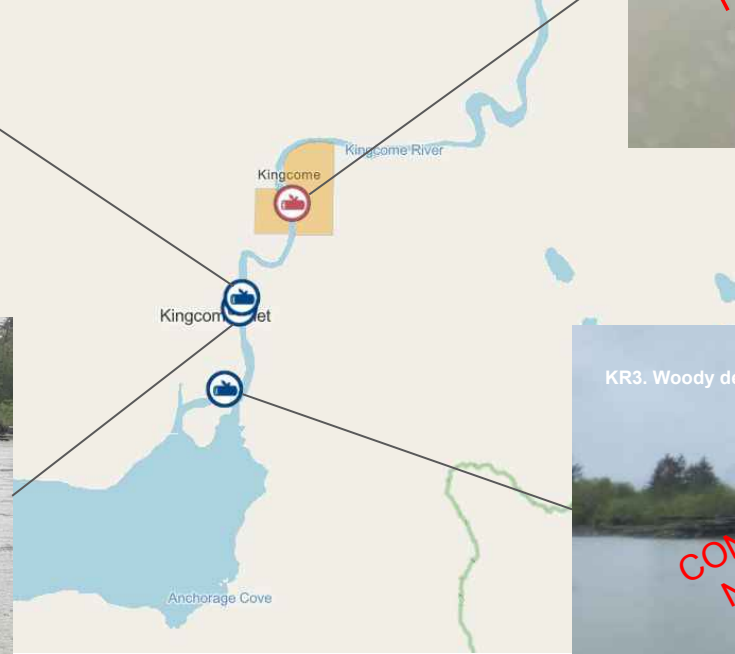
10

Other sites  
(Bella Coola  
& Kingcome)

# Bella Coola River



# Kingcome River





# Bella Coola & Kingcome River

Map ID	Description	Type	Status	Removal date
BR-1	Woody debris	Natural	Concluded - Out of Scope	N/A
BR-2	Woody debris	Natural	Concluded - Out of Scope	N/A
BR-3	Woody debris	Natural	Concluded - Out of Scope	N/A
BR-4	Woody debris	Natural	Concluded - Out of Scope	N/A
BR-5	Woody debris	Natural	Concluded - Out of Scope	N/A
BR-6	Woody debris	Natural	Concluded - Out of Scope	N/A
BR-7	Woody debris	Natural	Concluded - Out of Scope	N/A
BR-8	Wood debris at Tastsquan Creek's water intake	Natural	Identified (pending regulatory approval)	TBD
KR-1	Woody debris	Natural	Concluded - Out of Scope	N/A
KR-2	Woody debris	Natural	Identified (pending regulatory approval)	N/A
KR-3	Woody debris	Natural	Concluded - Out of Scope	N/A
KR-4	Woody debris	Natural	Concluded - Out of Scope	N/A



11

Appendices

# Appendix A - Waste Management strategic plan

For each piece of debris taken from a river system the following assessment will be conducted

1. Identify owner. Where relevant if an owner is identified they will be contacted to recover the debris from a specific location within a relevant timeframe. If not collected within the agreed timeframe, a decision will be made on a specific item basis on next steps. This may include
  - a. Moving the item to a holding location or transporting to the owner
  - b. Having owner approval that the item can be disposed of directly
  
2. For all debris not matched to an owner this be sorted at an agreed staging area on the banks of the water system.
  - a. The staging area will be clearly marked and have layout zones on site for material types so that debris can be collected into appropriate areas. The types are:
    - i. Green Waste/Vegetative Debris
    - ii. Wood
    - iii. Construction/Demolition Debris
    - iv. Bulky Solid Waste
    - v. White Goods
    - vi. Metals includes vehicles
    - vii. Household Hazardous Waste (HHW)
    - viii. Non-Putrescent Municipal Solid Waste
    - ix. E-waste includes computers, tablets, phones, etc.
  - b. If waste has any risk of leakage, the area will be appropriately tarped and covered before debris is moved to the staging area.

# Appendix A - Waste Management strategic plan

3. There are four primary methods for addressing debris. 1. Reuse 2. Recycle 3. Energy recovery; and 4. Dispose. At the staging area the debris will be sorted into the following categories:

- a. Green Waste/Vegetative Debris includes organic materials such as small tree branches (<30cm diameter) and animal feed – destined for composting
- b. Wood Stockpile includes untreated wood such as tree trunks, lumber, pallets etc. - destined for chipping and composting or incineration for energy. (if local landowners cannot use for personal purposes)
- c. Construction/Demolition Debris includes treated wood, drywall, insulations, etc. (do not include asbestos containing material) - destined for landfill
- d. Bulky Solid Waste includes objects that do not fit the other categories, such as mattresses, etc. – destined for reuse, recycling or refuse depending on object.
- e. White Goods include appliances such as fridges and freezers - destined for reuse if still in good working order or recycling after ozone depleting substances have been removed
- f. Metals includes vehicles, miscellaneous metals - destined for recycling
- g. Household Hazardous Waste (HHW) is hazardous waste that originates from residences and will require special disposal. Examples of HHW include flammable liquids, pool chemicals, paint, propane cylinders, and other material banned from disposal in municipal landfills. This waste will be destined for a HW management company, local Return Collection Facility, and/or temporary HHW transfer station.
- h. Non-Putrescent Municipal Solid Waste – is all other small non-organic waste that does not fall into these other categories. e.g. old toys, spoiled clothing, etc. – destined for reuse, recycling or refuse depending on object.
- i. E-waste includes computers, tablets, phones, etc. – destined for recycling.



# Appendix B - Contaminant Sampling Plan at debris removal sites

## **Sites with large debris items - what sites are being tested?**

- Qualified Environmental Professionals have assessed and confirmed that surface water is not expected to have detectable levels of contamination at the known debris sites. Basic water quality parameter sampling at sites in stream will include turbidity as needed.
- Soil/sediment sampling may occur in the vicinity around a debris item and will be determined on a site by site basis. Requirement to sample is highly dependant on the type of debris and potential for contamination
- It is expected that contamination, if present, will be primarily within soil/sediment due to leaks, spills or within debris remnants.
- Detectable observations of hydrocarbons within soil/sediment via visual or odor will automatically be tested and soil will be removed and delineated from other material that is removed from a site.
- General mixed construction and demo waste and building materials will be evaluated for potential sources of hazardous wastes by onsite staff and Contractor.
- If a vehicle or debris item is removed with soil/sediment in it, the soil/sediment will be collected and stored at a staging area and tested for potential contaminants prior to disposal.

## **Sites with large debris items - what contaminants are being tested?**

Testing will primarily focus on potential hydrocarbon contamination and identification of hazardous construction waste with a focus on the following potential contaminants of concern:

- Benzene, Toluene, Ethylbenzene and Xylene / Volatile Petroleum Hydrocarbons (BTEX/VPH),
- Light Extractable Petroleum Hydrocarbons / Heavy Extractable Petroleum Hydrocarbons / Polycyclic Aromatic Hydrocarbons (LEPH/HEPH/ PAHs),
- Metals, which will include lead paints, mercury etc. from construction and demo debris fluorescent lighting,
- Volatile Organic Compounds (VOCs),
- Glycols and Polychlorinated Biphenyls (PCBs).

# Appendix B - Contaminant Sampling Plan at debris removal sites

## **Sites with small debris items**

- The hand picking small debris teams are testing for health and safety requirements
- This is focused on testing soil samples in areas of their work for E.coli and Fecal Coliform prior to working in the area
- The team has a Qualified Biologist on site at all times.

## **Sampling safety across all sites**

- All samples will be taken with the appropriate Personal Protective Equipment (PPE) being worn at all times, by trained and qualified professionals and in accordance with standard sampling procedures.
- Where there is a potential risk to health and safety, alternate forms of clean up and disposal may have to be considered (i.e. hazmat assessment).
- Sources may include (but not be limited to): Building materials containing asbestos (potentially a health and safety concern – alternate arrangements and sampling required by others), lead paint, paints and thinners, fluorescent lamps/lights and ballasts, thermostats, electrical equipment, batteries, glues and solvents, and cooling systems.

## **Sampling results**

- Depending on location and team, samples will be submitted to an accredited Canadian laboratory for analysis and results will be shared.

# Appendix B - Environmental Sampling Program

## **The objectives of the sampling program performed by the Contractor on behalf of the Province are as follows:**

1. Assist the Province in development of a sampling strategy and plan for assessing the safety of waterways (scope to be defined, including the parameters of concern).
2. Complete a comprehensive sampling program that is consistent with the sampling plan developed and approved to address potential contamination concerns related to residual flood effects along the waterways. This sampling program will consist of a single sampling campaign in all waterways subject to this assessment.
3. Perform confirmatory sampling following removal of debris material that has been determined by others to be contaminated or that potential residual contamination risks have been identified by the debris removal teams.
4. Present all sampling results in factual memorandum to document findings and recommendations (if needed).
5. Compile and manage analytical results obtained by the Province's various contractors and integration into a common web map application and database to be made available to the public.

## **The waterways of concern identified for this assessment:**

1. **Area 1** in the Merritt Study Area (Nicola River – from Spences Bridge to Merritt and Coldwater River from Merritt to Juliet Drive Junction)
2. **Area 2** in the Princeton Study Area (Tulameen River – from Tulameen to Princeton and Similkameen River – from Princeton to Eastgate)
3. **Area 3** in the Sumas Prairie Study Area (Lower Fraser Valley Waterways from Hope to Abbotsford)

## **Media of concern:**

1. The media of concern are surface water, submerged river sediments and soil (including seasonally exposed river sediments).

## **Technical working group:**

1. A team of key individuals from ENV will be assigned to assist / review / validate the sampling work being performed on behalf of the Province. This team has not been assigned at this point.

## **Community engagement:**

1. The Province (with support from the Contractor) should engage with the communities that use these waterways, to obtain their knowledge and input on how the waterways are used. Once this is established, the Contractor will work with the Province to establish the sampling framework.
2. In the event that specific environmental issues are identified to the Province by the local communities, the Contractor may assist the Province to address these issues. However, these interventions are out of scope at this point.

## Appendix C - Glossary

Acronym	Description
ARC	British Columbia Archaeology Branch
BR	Bella Coola River
CH	Chilliwack River
CR	Coquihalla River
CRS	Coastal Restoration Society
CW	Coldwater River
DFO	Department of Fisheries and Oceans Canada
FLNRO	The Ministry of Forests, Lands, Natural Resource Operations and Rural Development
FN	First Nation
FR	Fraser River
KR	Kingcome River

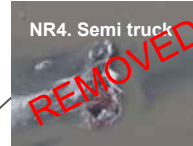
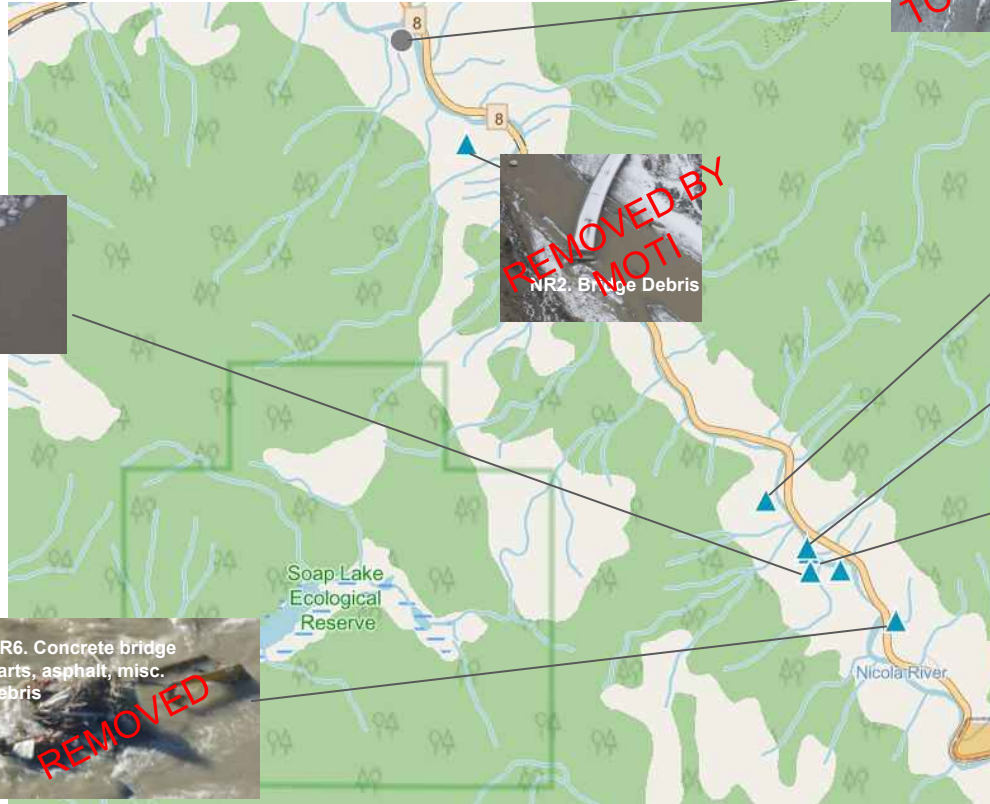
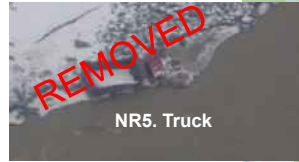
Acronym	Description
LNIB	Lower Nicola IB
LSIB	Lower Similkameen IB
NOI	Notice of Intent
NR	Nicola River
OLF	Ocean Legacy Foundation
QP	Qualified Professional
SR	Similkameen River
THR	Thompson River
TR	Tulameen River
TNRD	Thompson-Nicola Regional District
USIB	Upper Similkameen IB



# Appendix D - Phase 1 Debris Removal

	Watercourses	Page
1	Nicola River (Highway 8; Spences Bridge to Merritt)	127 - 138
2	Coldwater River (Highway 5)	139 - 147
3	Thompson River	148 - 150
4	Tulameen River	151 - 160
5	Similkameen River	161 - 165
6	Fraser River	166 - 174
7	Chilliwack River	175 - 180
8	Coquihalla River	181 - 190

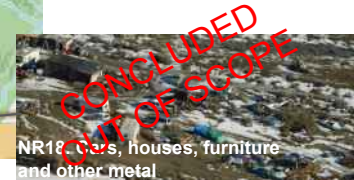
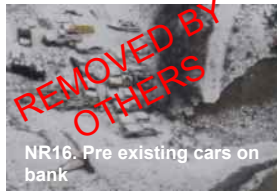
# 01. Nicola River - Known Debris



# 01. Nicola River - Known Debris

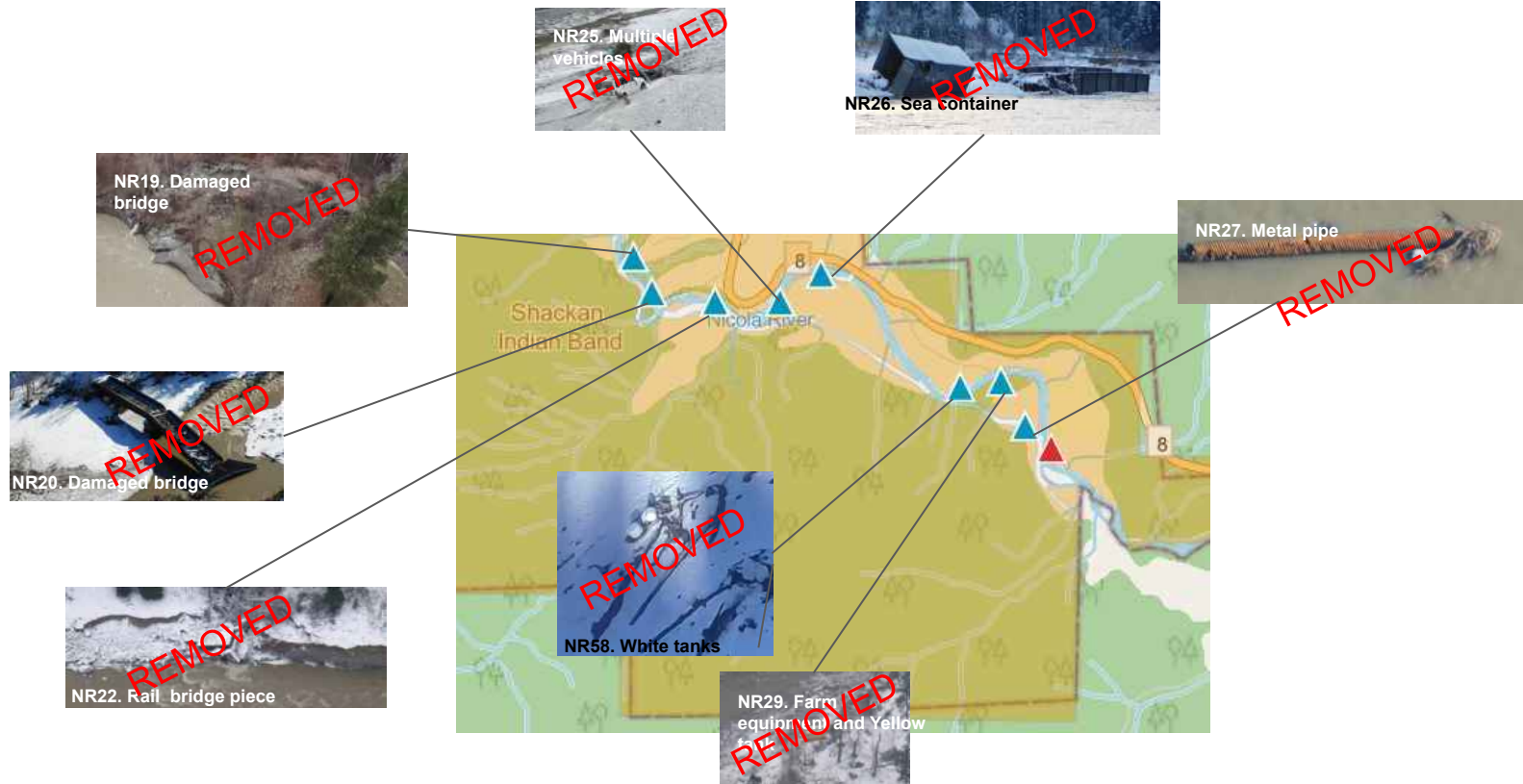


# 01. Nicola River - Known Debris





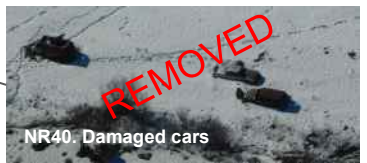
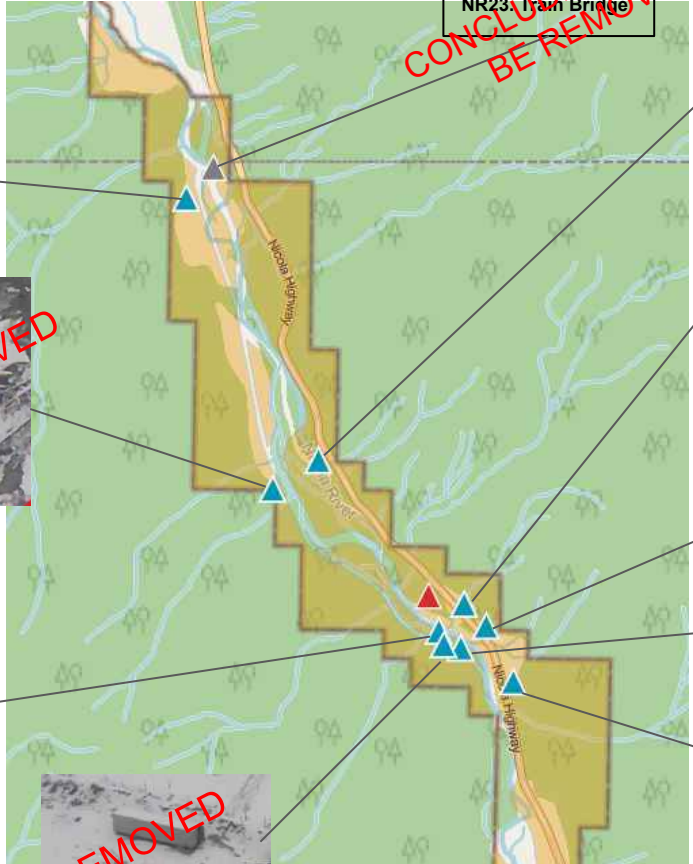
# 01. Nicola River - Known Debris



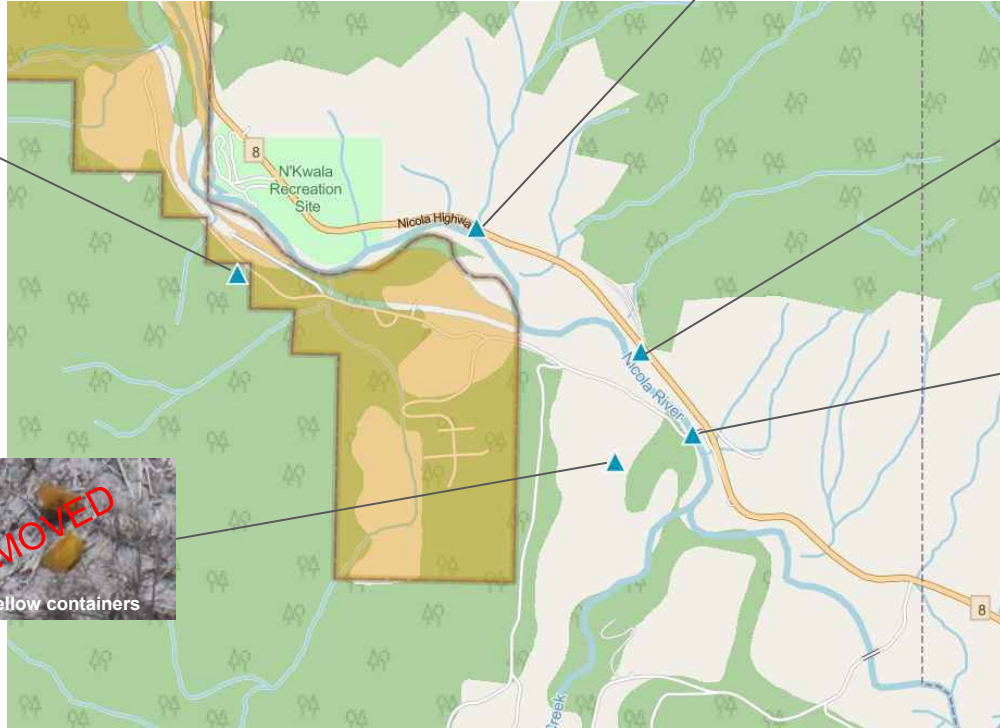


# 01. Nicola River - Known Debris

**CONCLUDED - NOT TO BE REMOVED**



# 01. Nicola River - Known Debris



REMOVED

NR42. Submerged roads and infrastructure (no picture available)



REMOVED

NR45. Damaged bridge (to be addressed by FLNRO) and Housing material

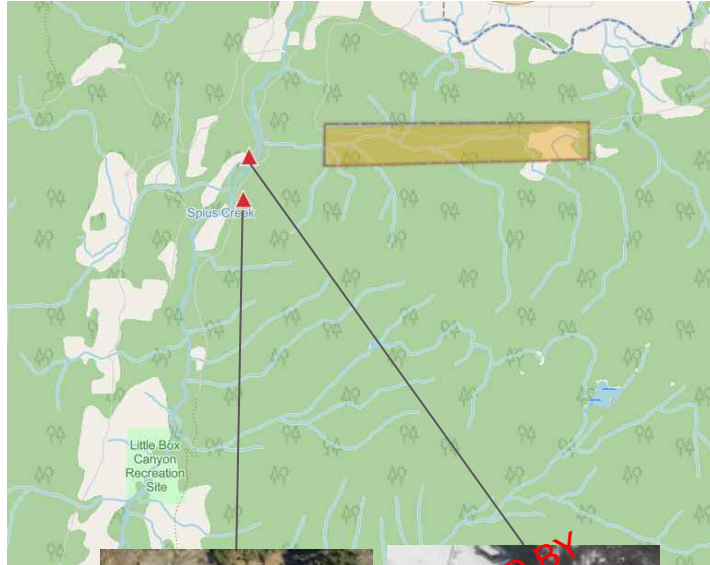


# 01. Nicola River - Known Debris





# 01. Nicola River - Known Debris



NR46. Damaged house and housing material (to be addressed by others)



NR62. Undermined Farm Building (to be addressed by others)



NR67. Woody debris



NR68. Woody debris



NR63. Washed out bridge deck (to be addressed by FLNRO)



NR64. Potentially damaged bridge (to be addressed by FLNRO)



NR66. Bridge washed out over Spius Creek (to be addressed by FLNRO)



NR65. Small bridge partially washed out (to be addressed by FLNRO)

# 01. Nicola River

Map ID	Contractor ID*	Description	Type	Status	Removal date
NR-3	N/A	Placeholder	Placeholder	Placeholder	
NR-4	NI_07.3	Semi truck in river	Human-made	Removed	2022-04-13
NR-5	NI_07.9	Truck	Human-made	Removed	2022-04-13
NR-6	NI_12.2	Concrete bridge parts, asphalt, misc. debris	Human-made	Removed	2022-04-20
NR-7	NI_12.6	Concrete and pipes	Human-made	Removed	2022-04-20
NR-9	N/A	Concrete	Human-made	Removed	2022-04-06
NR-10	N/A	Wooden furniture	Human-made	Removed	2022-04-27
NR-11	NI_16.1	Tractor, ATV, trailer and tin roof	Human-made	Removed	2022-04-20
NR-12	NI_16.1	Damaged metal barrel	Human-made	Removed	2022-04-20
NR-13	NI_16.8	Irrigation pivot line	Human-made	Removed	2022-04-20
NR-14	N/A	Metal debris	Human-made	Removed	2022-05-04
NR-15	NI_39.9	Green roofing	Human-made	Removed	2022-04-27
NR-19	NI_24.8b	Damaged bridge	Human-made	Removed	2022-04-06
NR-20	NI_25.6	Damaged bridge	Human-made	Removed	2022-04-20
NR-21	N/A	Placeholder	Placeholder	Placeholder	
NR-22	NI_12.6b_	Rail bridge piece	Human-made	Removed	2022-04-06
NR-25	NI_25.7	Multiple vehicles	Human-made	Removed	2022-03-30
NR-26	NI_26.2	Sea container	Human-made	Removed	2022-03-30
NR-27	N/A	Metal pipe	Human-made	Removed	2022-04-06
NR-29	NI_28.0	Farm equipment and yellow tank	Human-made	Removed	2022-03-30
NR-32	N/A	Placeholder	Placeholder	Placeholder	
NR-33	NI_37.8	Damaged motorhome, woody debris	Human-made	Removed	2022-04-27
NR-34	NI_39.9	Metal	Human-made	Removed	2022-04-27

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



# 01. Nicola River

Map ID	Contractor ID*	Description	Type	Status	Removal date
NR-35	NI_39.9	Wooden roofing	Human-made	Removed	2022-04-27
NR-36	NI_41.5	Metal in river	Human-made	Removed	2022-04-06
NR-37	NI_41.9	Metal pipe in river	Human-made	Removed	2022-04-06
NR-38	NI_46.0	Sea container	Human-made	Removed	2022-02-22
NR-39	NI_41.9	Cars, industrial metal	Human-made	Removed	2022-04-27
NR-40	N/A	Damaged cars	Human-made	Removed	2022-04-27
NR-41	N/A	Tan sea container	Human-made	Removed	2022-04-27
NR-42	N/A	Submerged infrastructure	Human-made	Removed	2022-04-27
NR-43	NI_50.0	Unknown debris	Human-made	Removed	2022-04-27
NR-44	N/A	Yellow container	Human-made	Removed	2022-03-23
NR-47	NI_56.5	Industrial material	Human-made	Removed	2022-04-27
NR-49	NI_58.0	Tires, farm equipment and pickup truck	Human-made	Removed	2022-03-23
NR-52	NI_07.9	Motor home	Human-made	Removed	2022-04-13
NR-53	NI_07.9	Pickup truck	Human-made	Removed	2022-04-13
NR-57	N/A	Metal trailer	Human-made	Removed	2022-04-20
NR-58	N/A	White tanks	Human-made	Removed	2022-04-13
NR-60	N/A	House on banks and other house debris	Human-made	Removed	TBC
NR-61	NI 69.2	Two vehicles	Human-made	Removed	2022-04-20
NR-67	N/A	Woody debris	Natural	Removed	TBC
NR-68	N/A	Woody debris	Natural	Removed	TBC

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# 01. Nicola River

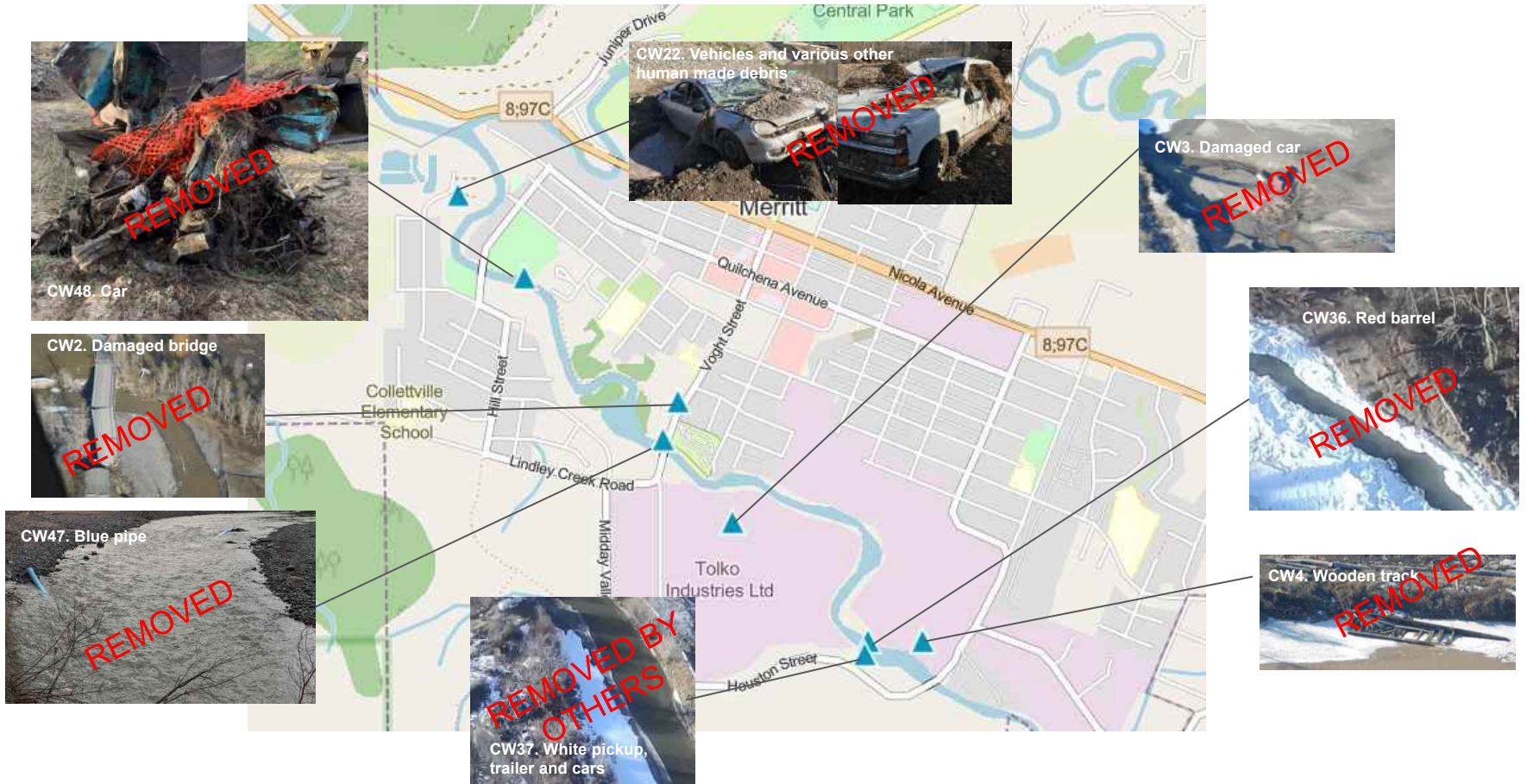
Map ID	Contractor ID*	Description	Type	Status	Removal date
NR-2	MOTI	Damaged bridge	Human-made	Removed by MOTI	2022-04-13
NR-16	NI_19.0	Pre-existing cars on bank	Human-made	Removed by Local Community	2022-04-20
NR-31	FLNRO	Bridge piece (FLNRO)	Human-made	Removed by FLNRO	2022-04-20
NR-45	FLNRO	Damaged bridge (FLNRO) and housing material	Human-made	Removed by FLNRO	2022-04-06
NR-46	SP 3	Damaged house and housing material by river	Human-made	To be Removed by Others	TBC
NR-51	FLNRO	Bridge (FLNRO)	Human-made	Removed by FLNRO	2022-04-20
NR-62	N/A	Undermined farm building	Human-made	To be Removed by Others	TBC
NR-63	FLNRO	Washed out bridge deck	Human-made	To be Removed by FLNRO	TBC
NR-64	FLNRO	Undermined bridge	Human-made	To be Removed by FLNRO	TBC
NR-65	FLNRO	Small bridge partially washed out	Human-made	To be Removed by FLNRO	TBC
NR-66	FLNRO	Bridge washed out over Spius Creek	Human-made	To be Removed by FLNRO	TBC
NR-1	N/A	Woody deris	Natural	Concluded - Out of Scope	N/A
NR-8	N/A	Sediment and concrete	Human-made	Concluded - Out of Scope	N/A
NR-17	N/A	Cars on bank	Human-made	Concluded - Out of Scope	N/A
NR-18	N/A	Cars, houses, furniture and other metal	Human-made	Concluded - Out of Scope	N/A
NR-23	N/A	Train bridge	Human-made	Concluded - Out of Scope	N/A
NR-56	N/A	Woody debris	Natural	Concluded - Out of Scope	N/A

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

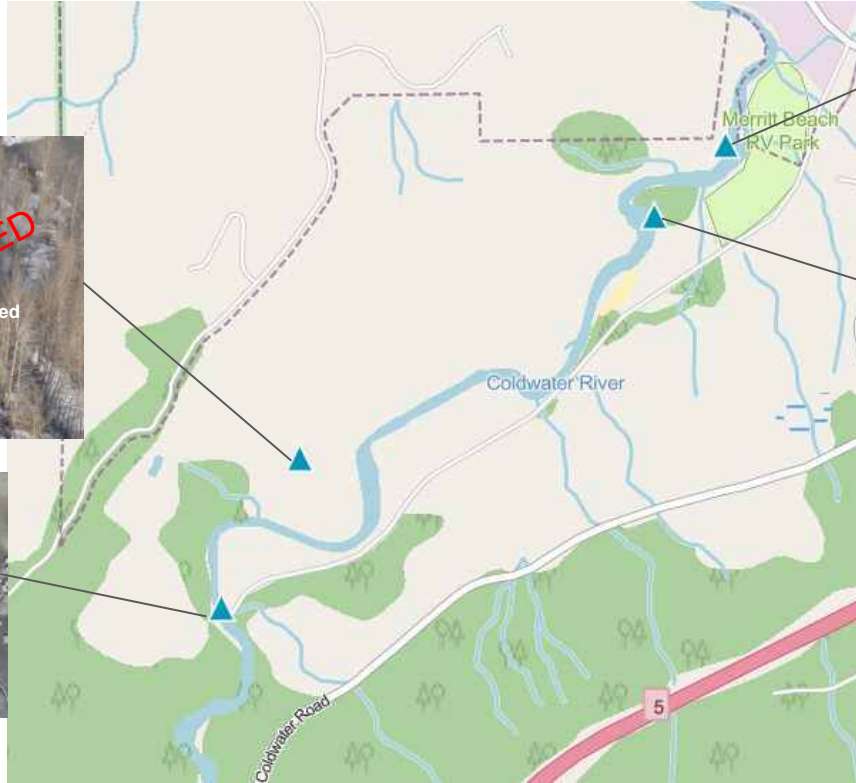
# 01. Nicola River - vehicles removed

Location	Make	Model	Removal date
NI101.1	Unknown	Quad 2008	2022-04-23
NI101.1	Unknown	Quad Loncin	2022-04-23
NI101.1	Unknown	Snow mobile	2022-04-23
NR-16	Ford	Focus	Landowner
NR-16	Ford	Focus	Landowner
NR-16	Dodge	Caravan	Landowner
NR-16	Chevy	Truck	Landowner
NI23.3	Chevy	Truck	2022-04-23
NR-25	Chevy	Cavalier	2022-03-31
NR-25	Suzuki	Grand Vitara	2022-04-05
NR-29	Toyota	Truck	2022-04-20
NR-26	Chevy	TBC	2022-04-25
NR-26	Ranger	Truck 1977	2022-04-25
NR-26	Swather	TBC	2022-04-26
NI4.2	Ford	E-450 2004	2022-04-08
NR-36	Ford	Cab	2022-04-08
NR-36	Ford	F150 Truck	2022-03-22
NR-36	Ford	F150	2022-04-08
NR-47	Ford	F150 1997	2022-03-22
NR-61	Ford	F350 2000	2022-04-23
NR-61	Ford	Econoline E350	2022-04-23
NR-61	Unknown	Trailer 2021	2022-04-23
NR-61	Suzuki	Quad	2022-04-23
NR-61	Unknown	Car 200	2022-04-23
NR-4	Truck	Unknown Vehicle	2022-04-23
NR-52	Semi Truck	Unknown Vehicle	2022-04-13
NR-53	Semi Truck	Unknown Vehicle	2022-04-13

# 02. Coldwater River - Known Debris

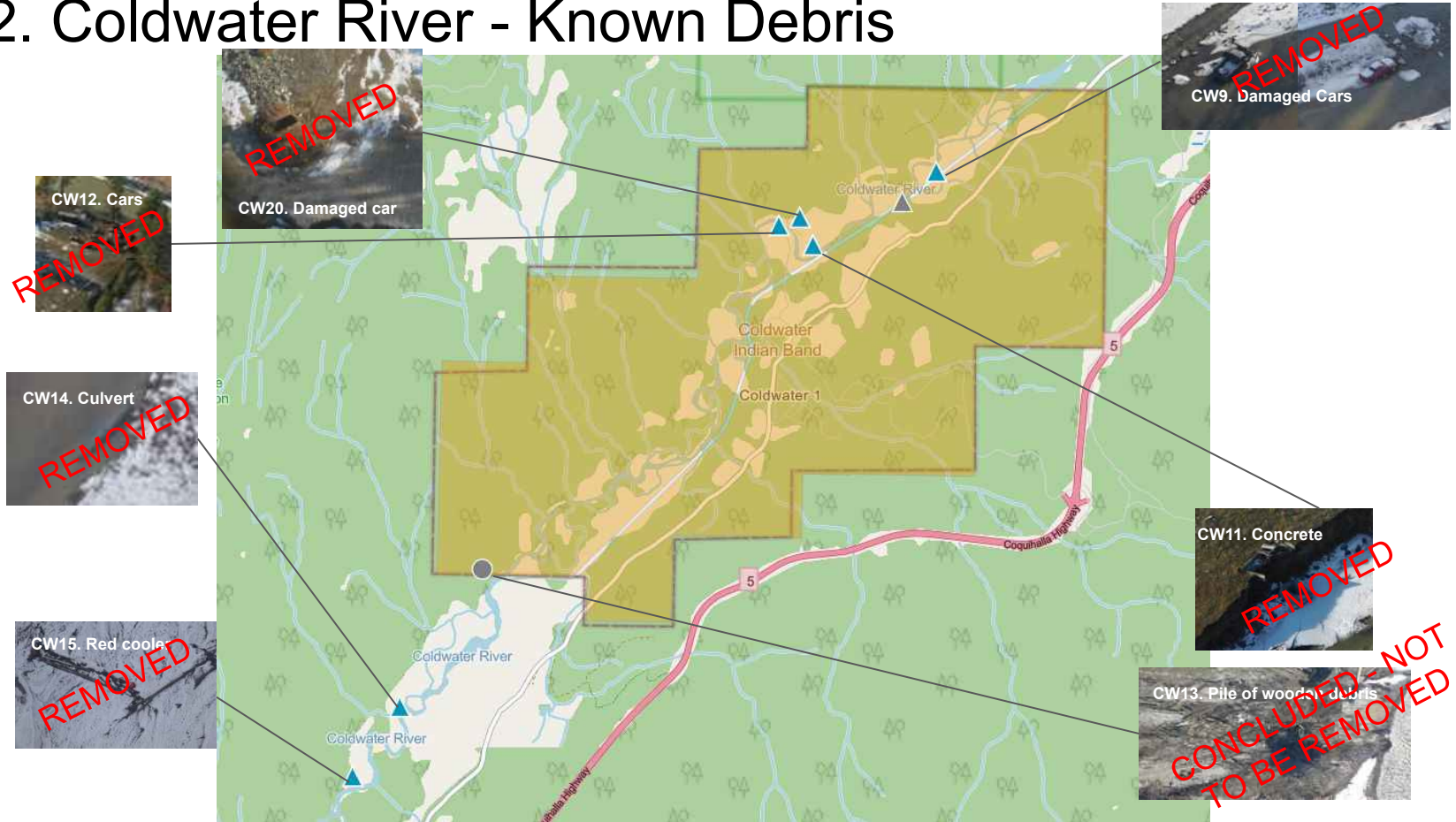


## 02. Coldwater River - Known Debris

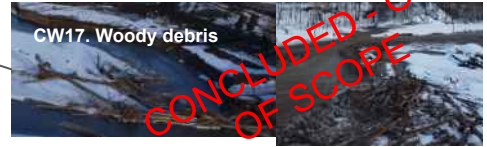
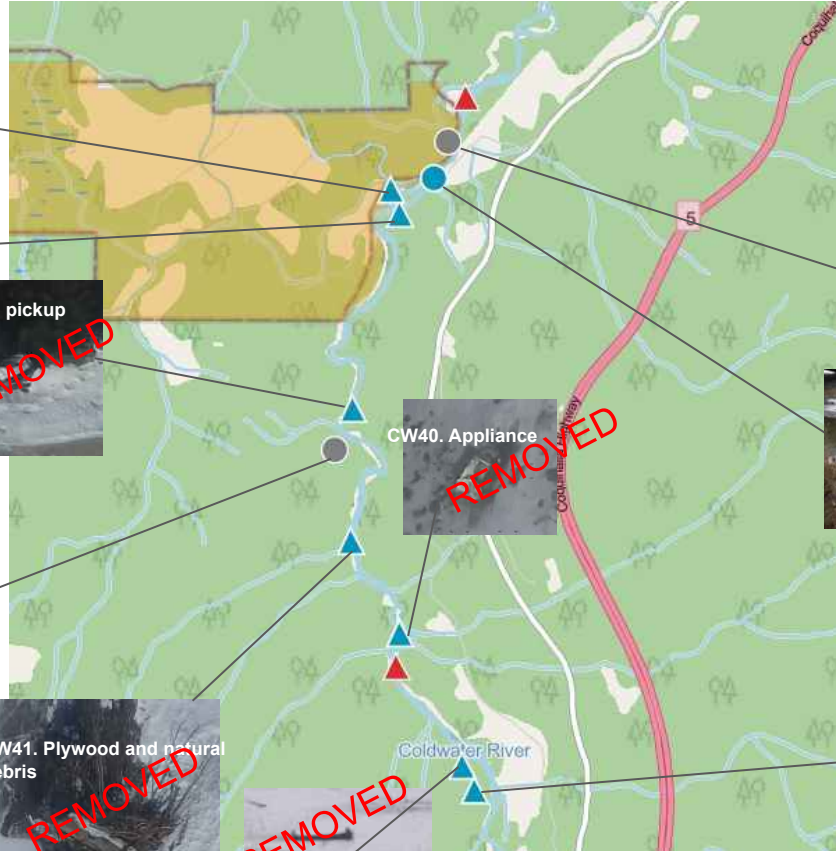
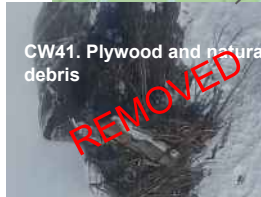




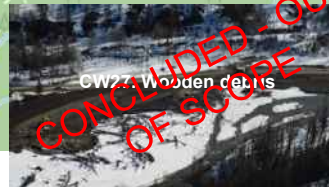
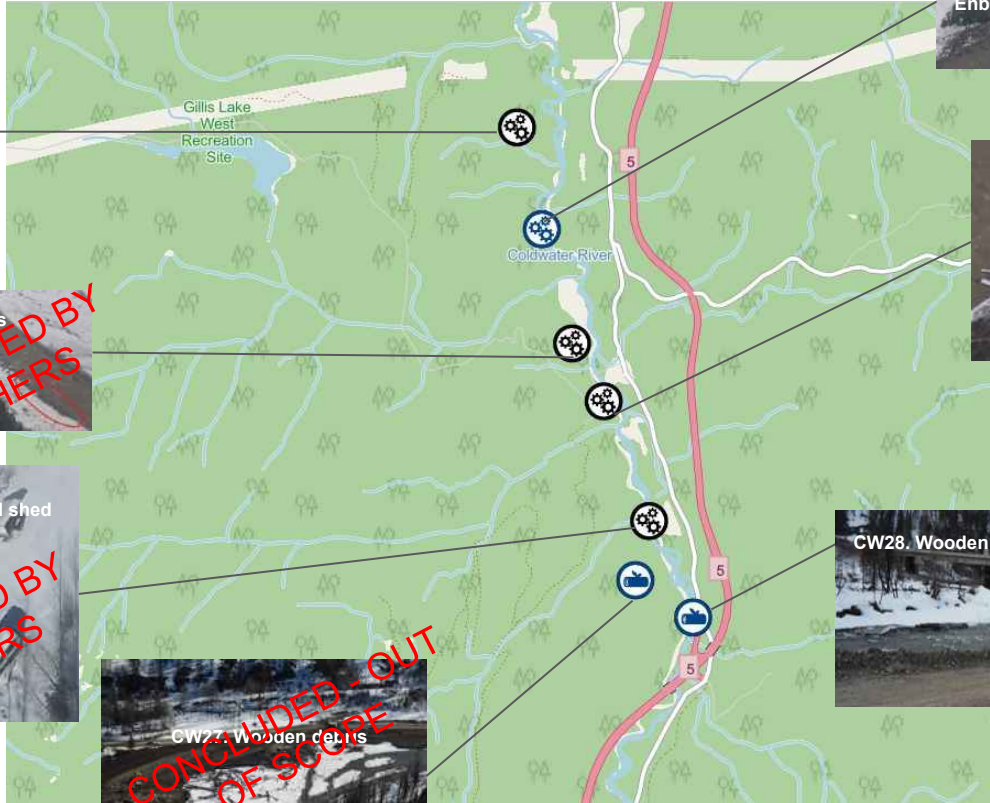
## 02. Coldwater River - Known Debris



# 02. Coldwater River - Known Debris

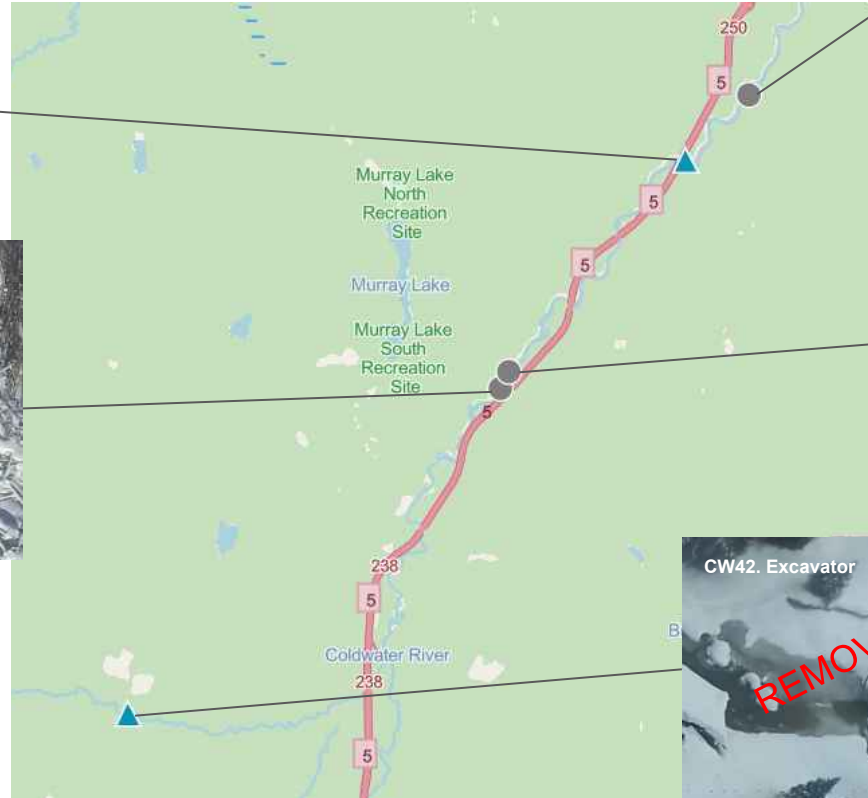


## 02. Coldwater River - Known Debris





## 02. Coldwater River - Known Debris



# 02. Coldwater River

Map ID	Contract or ID*	Description	Type	Status	Removal date
CW-1		Pile of sediment	Natural	Identified in assessment with other sediment sites	
CW-2	CW_01.9	Damaged Middlesborough bridge	Human-made	Removed - pending direction from City of Merritt on standing section	2022-03-10
CW-3	CW_02.0	Red damaged car	Human-made	Removed	2022-03-09
CW-4	CW_15.5	Wooden track	Human-made	Removed	2022-03-30
CW-6	CW_05.0	Damaged house/shed	Human-made	Removed	2022-04-12
CW-7	N/A	Various debris within river bed	Human-made	Removed	2022-04-27
CW-8		Sediment collapse from erosion	Natural	Identified in assessment with other sediment sites	
CW-9	N/A	Damaged cars	Human-made	Removed	2022-04-06
CW-11	CW_15.0	Concrete structure	Human-made	Removed	2022-04-06
CW-12	CW_15.5	Cars	Human-made	Removed	2022-04-27
CW-14	CW_23.0	Culvert	Human-made	Removed	2022-04-27
CW-15	CW_25.0	Red cooler	Human-made	Removed	2022-04-06
CW-16	N/A	Metal debris	Human-made	Removed	2022-04-27
CW-18	N/A	Farming equipment	Human-made	Removed	2022-04-06
CW-20	N/A	Damaged car	Human-made	Removed	2022-04-06
CW-21	CW_32.4	Steel culvert	Human-made	Removed	2022-04-27
CW-22	N/A	Vehicles and various other debris	Human-made	Removed	2022-05-04
CW-26	CW_38.2	White trailer, woody debris	Human-made	Removed	2022-04-12
CW-30	N/A	Metal pipe	Human-made	Removed	2022-04-27
CW-32	N/A	Truck	Human-made	Removed	2022-04-13
CW-35	N/A	Plywood along river bank	Human-made	Removed	2022-04-27
CW-36	N/A	Red barrel	Human-made	Removed	2022-04-13
CW-40	N/A	Appliance	Human-made	Removed	2022-04-27

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



# 02. Coldwater River

Map ID	Contractor ID*	Description	Type	Status	Removal date
CW-41	N/A	Plywood entangled in woody debris	Human-made	Removed	2022-04-27
CW-42	JC_4.8	Excavator	Human-made	Removed	2022-03-23
CW-43	CW_28.9	White pickup truck	Human-made	Removed	2022-05-04
CW-45	N/A	Number of barrels/drums	Human-made	Removed	2022-04-06
CW-46	N/A	Plastic waste with natural debris	Human-made	Removed	2022-05-04
CW-47	N/A	Blue pipe	Human-made	Removed	2022-04-27
CW-48	N/A	Car	Human-made	Removed	2022-03-09
CW-23	CW_35.0	Red shed/house	Human-made	Removed	2022-05-11
CW-19	CW_27.0	Mobile home trailer	Human-made	Removed by Local Community	2022-04-06
CW-24	CW_36.5	Exposed pipeline	Human-made	Backfilled/Work completed by Enbridge	N/A
CW-25	CW_37.6	Pipes	Human-made	Removed by Others	2022-04-20
CW-37	N/A	White pickup, trailer and cars	Human-made	Removed by Local Community	2022-04-06
CW-38	N/A	Trailer, shed and other items along river	Human-made	Removed by Local Community	2022-04-13
CW-13	N/A	Pile of wooden debris	Natural	Concluded - Not to be Removed	N/A
CW-17	N/A	Woody debris	Natural	Concluded - Not to be removed	N/A
CW-27	N/A	Wooden debris	Natural	Concluded - Not to be Removed	N/A
CW-28	N/A	Wooden debris	Natural	Concluded - Not to be Removed	N/A
CW-29	N/A	Woody debris	Natural	Concluded - Not to be Removed	N/A
CW-31	N/A	Wooden debris	Natural	Concluded - Not to be Removed	N/A
CW-33	N/A	Woody debris	Natural	Concluded - Not to be Removed	N/A
CW-34	N/A	Woody debris	Natural	Concluded - Not to be Removed	N/A

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

## 02. Coldwater River - vehicles removed

<b>Location</b>	<b>Make</b>	<b>Model</b>	<b>Removal date</b>
CW-3	Chevy	Nova	2022-03-01
CW-10	Ford	Exploerer Sport 2001	2022-04-02
CW-10	Chrysler	Intrepid	2022-04-04
CW12	Ford	Explorer	2022-04-04
CW-10	Unknown	Snow mobile 550 EFI	2022-04-04
CW-43	Ford	F250	2022-04-01
CW-37	Unknown	TBC	2022-04-06
CW-26	Unknown	Camper Trailer	2022-04-12
CW52.5	Dodge	RAM 3500	2022-04-25
CW52.5	GMC	Pontiac Montana 2022	2022-04-27
CW52.5	Ford	Windstar Van 1999	2022-04-27

# 03. Thompson River - known debris



### 03. Thompson River - known debris



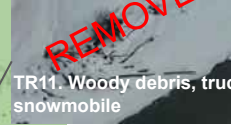
## 03. Thompson River

<b>Map ID</b>	<b>Description</b>	<b>Type</b>	<b>Status</b>	<b>Removal date</b>
THR-1	Red object	Human-made	Removed	2022-04-20
THR-2	Wood pieces and plastic mixed with natural debris	Human-made	Removed	2022-04-27
THR-3	ATV in water, wood pieces and scraps mixed with natural debris	Human-made	Removed	2022-04-27
THR-4	Plastic container, wood mixed with natural debris	Human-made	Removed	TBC
THR-7	Telephone pole and transformer on shoreline	Human-made	Removed	2022-04-20
THR-8	Trailer and wood pieces along the river banks	Human-made	Removed	2022-04-20





# 04. Tulameen River - Known Debris

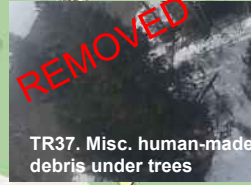
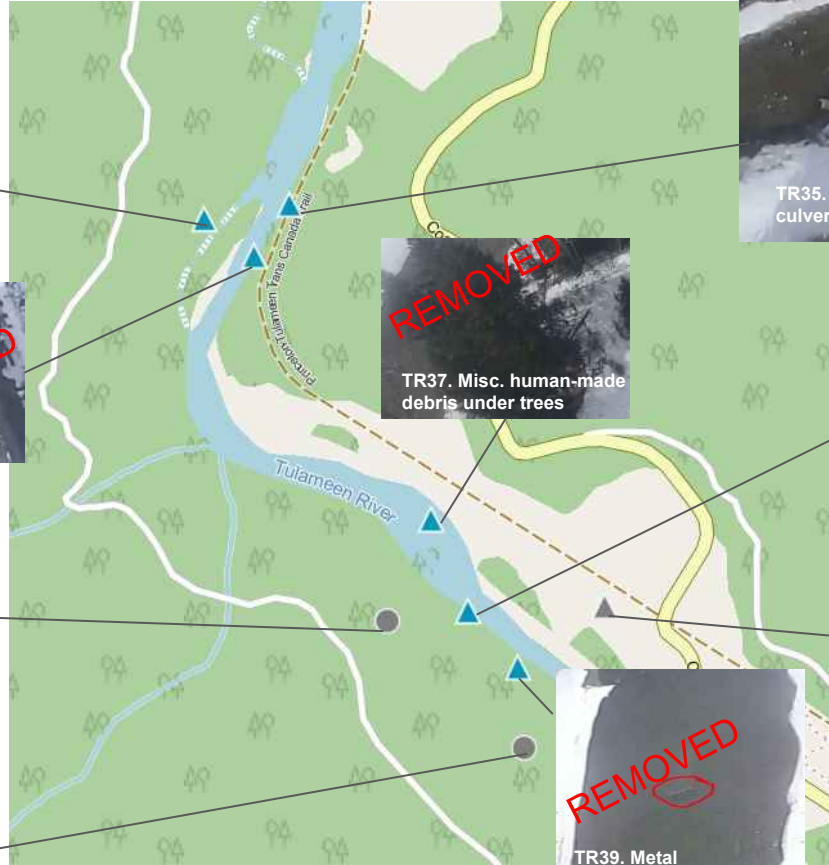


# 04. Tulameen River - Known Debris

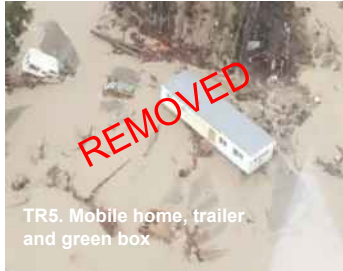




# 04. Tulameen River - Known Debris

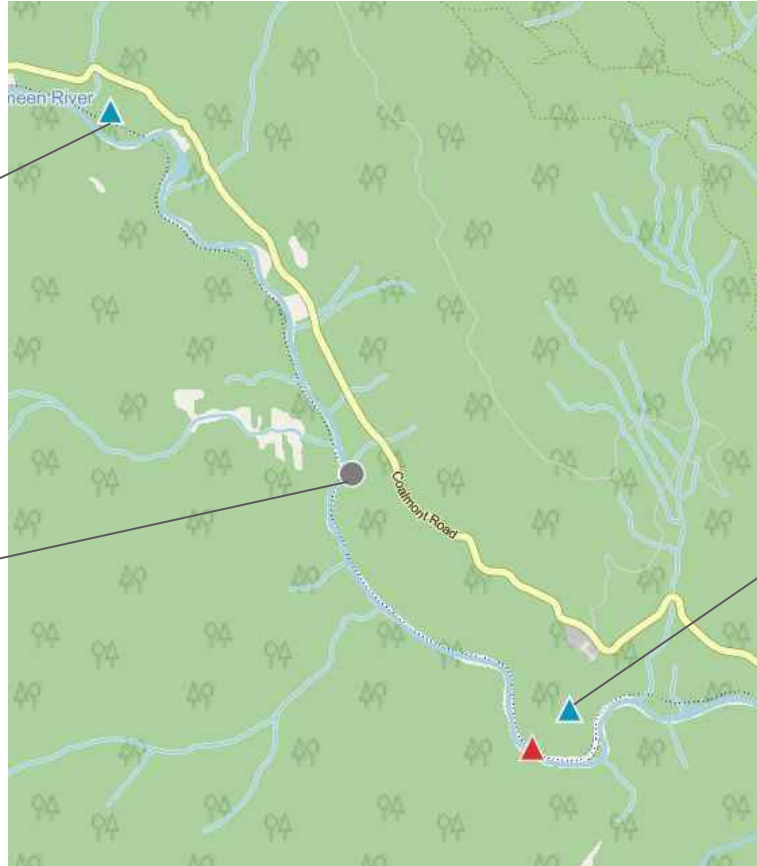


# 04. Tulameen River - Known Debris





# 04. Tulameen River - Known Debris



# 04. Tulameen River - Known Debris



# 04. Tulameen River

Map ID	Description	Type	Status	Removal date
TR-1	Woody debris	Natural	Removed	2022-04-27
TR-2	Woody debris	Natural	Removed	2022-04-27
TR-3	Woody debris	Natural	Removed	2022-04-27
TR-4	Woody debris	Natural	Removed	2022-04-27
TR-5	Mobile home, trailer	Human-made	Removed	2022-04-27
TR-6	Mobile home and other camping material	Human-made	Removed	2022-04-27
TR-7	Woody debris	Natural	Removed	2022-04-27
TR-8	Quad and cube van	Human-made	Removed	2022-04-06
TR-9	Mobile home	Human-made	Removed	2022-04-27
TR-10	Truck, cattle feed bunk, tires, grating, roof truss	Human-made	Removed	2022-04-13
TR-11	Woody debris mixed with truck and snowmobile	Human-made	Removed	2022-04-13
TR-12	Woody debris and human-made debris	Human-made	Removed	2022-04-13
TR-13	Woody debris and human-made debris	Human-made	Removed	2022-04-13
TR-14	Multiple natural debris including soil	Natural	Removed	2022-04-13
TR-21	Unknown object	Human-made	Removed	2022-04-13
TR-26	Motorhome	Human-made	Removed	2022-04-20
TR-27	Travel trailer	Human-made	Removed	2022-04-27
TR-29	Yellow bus	Human-made	Removed	2022-04-06
TR-30	Culvert	Human-made	Removed	2022-04-20
TR-33	Woody debris	Natural	Removed	2022-04-27
TR-35	Concrete culverts by river	Human-made	Removed	2022-04-20

# 04. Tulameen River

Map ID	Description	Type	Status	Removal date
TR-36	Concrete culvert piece	Human-made	Removed	2022-04-20
TR-37	Misc. human-made debris under trees	Human-made	Removed	2022-04-27
TR-38	Small trailer	Human-made	Removed	2022-04-27
TR-39	Metal in river	Human-made	Removed	2022-04-20
TR-47	Kayak and other debris	Human-made	Removed	2022-04-20
TR-49	White SUV	Human-made	Removed	TBC
TR-50	Buried backhoe	Human-made	Removed	2022-04-13
TR-51	Truck	Human-made	Removed	2022-04-13
TR-52	Two quads and cube van deck	Human-made	Removed	2022-04-06
TR-25	Red sea can	Human-made	Removed by Local Community	N/A
TR-31	Destroyed train bridge (FLNRO)	Human-made	Removed by FLNRO, debris beside the bridge removed by PwC	N/A
TR-40	Piece of rail from rail bridge	Human-made	Removed by Local Community	N/A
TR-42	Unknown debris - possibly ATC	Human-made	Removed by Local Community	N/A
TR-15	Elevated level of river beds due to washed out soils	Natural	Concluded - Not to be Removed	N/A
TR-16	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-17	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-18	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-19	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-20	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-22	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-23	Travel trailer and structure	Human-made	Concluded - Not to be Removed	N/A
TR-24	Woody debris	Natural	Concluded - Not to be Removed	N/A

# 04. Tulameen River

Map ID	Description	Type	Status	Removal date
TR-28	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-32	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-34	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-41	Woody debris	Natural	Concluded - Not to be Removed	N/A
TR-43	Pile of tires	Human-made	Concluded - Not to be Removed	N/A
TR-45	Small shed and pile of tires	Human-made	Concluded - Not to be Removed	N/A
TR-46	Row of tires	Human-made	Concluded - Not to be Removed	N/A
TR-48	Woody debris around bridge	Natural	Concluded - Not to be Removed	N/A

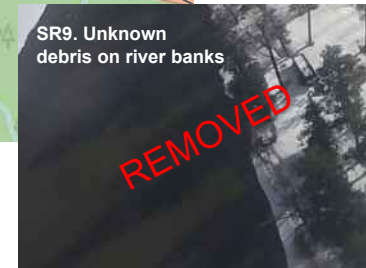
# 04. Tulameen River - vehicles removed

Location	Make	Model	Removal date
TR-8	Hino	Cube Truck	2022-04-05
TR-8	John Deere	310SE Backhoe Loader	2022-04-06
TR-10	Chevrolet	1964 Truck	2022-04-01
TR-16	Chevrolet	Tracker	2022-04-01
TR-26	Keystone	Cougar	2022-04

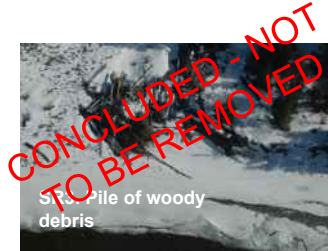


# 05. Similkameen River

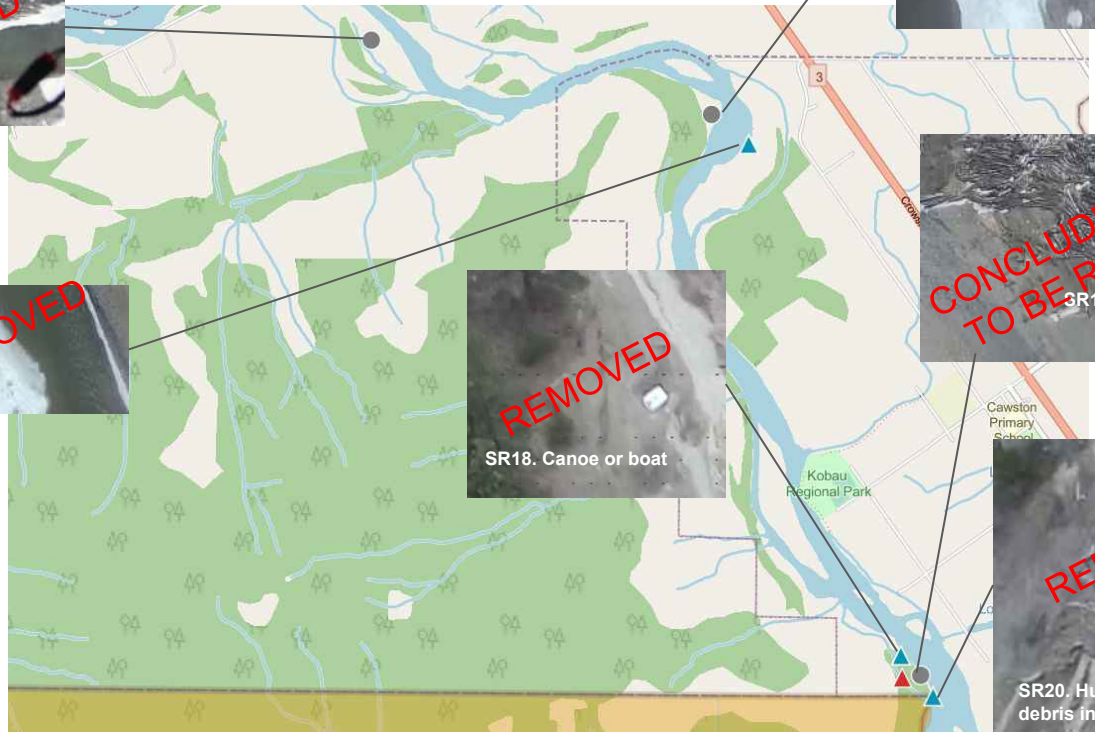
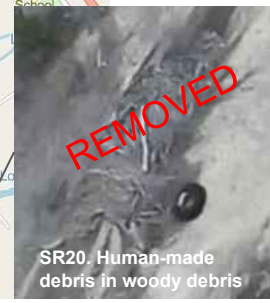
SR1. There is a red modular container (sea can) that has been pulled out of the river and is currently located a few metres off the side of Crossnest Hwy (unable to take photo because there was nowhere to pull off the road)



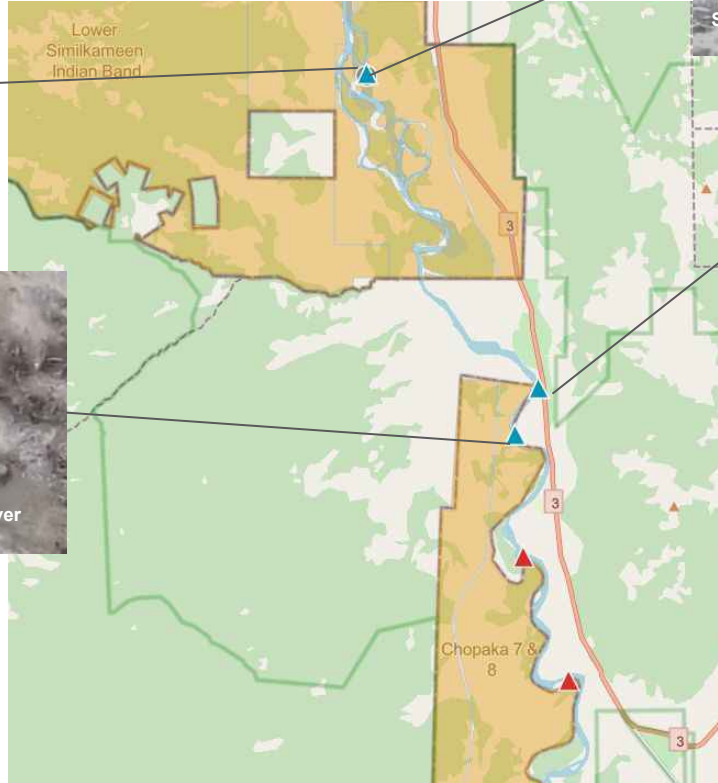
# 05. Similkameen River



# 05. Similkameen River



# 05. Similkameen River





# 05. Similkameen River

Map ID	Description	Type	Status	Removal date
SR-7	Industrial parts	Human-made	Removed	2022-04-20
SR-9	Various human-made debris on river banks	Human-made	Removed	2022-04-20
SR-11	Tire on banks	Natural	Removed	2022-04-27
SR-13	Unknown object	Human-made	Removed	2022-05-04
SR-17	Larger silver vehicle, trailer, yellow car and woody debris	Human-made	Removed	06-avr-22
SR-18	Canoe or boat beside the river	Human-made	Removed	2022-05-04
SR-20	Human-made debris in woody debris	Human-made	Removed	2022-04-27
SR-21	Tire entangled among wooden debris	Human-made	Removed	2022-04-27
SR-22	Canopy beside the river	Human-made	Removed	2022-05-04
SR-5	Metal containers, pallets and other human made debris	Human-made	Removed by Local Community	2022-04-16
SR-8	Pickup truck	Human-made	Removed by Local Community	2022-03-23
SR-16	Silver car	Human-made	Removed by Local Community	2022-03-23
SR-1	Red modular sea can	Human-made	Concluded - Not to be Removed	N/A
SR-2	Damaged structure	Human-made	Concluded - Not to be Removed	N/A
SR-3	Woody debris	Natural	Concluded - Not to be Removed	N/A
SR-4	Wooden structure	Human-made	Concluded - Not to be Removed	N/A
SR-6	Log piles	Natural	Concluded - Not to be Removed	N/A
SR-10	Woody debris	Natural	Concluded - Not to be Removed	N/A
SR-12	Woody debris	Natural	Concluded - Not to be Removed	N/A
SR-14	Woody debris	Natural	Concluded - Not to be Removed	N/A
SR-15	Woody debris	Natural	Concluded - Not to be Removed	N/A

## 05. Similkameen River - vehicles removed

Location	Make	Model	Removal date
SR-17	Ford	Unknown	2022-04-12



# 06. Fraser River

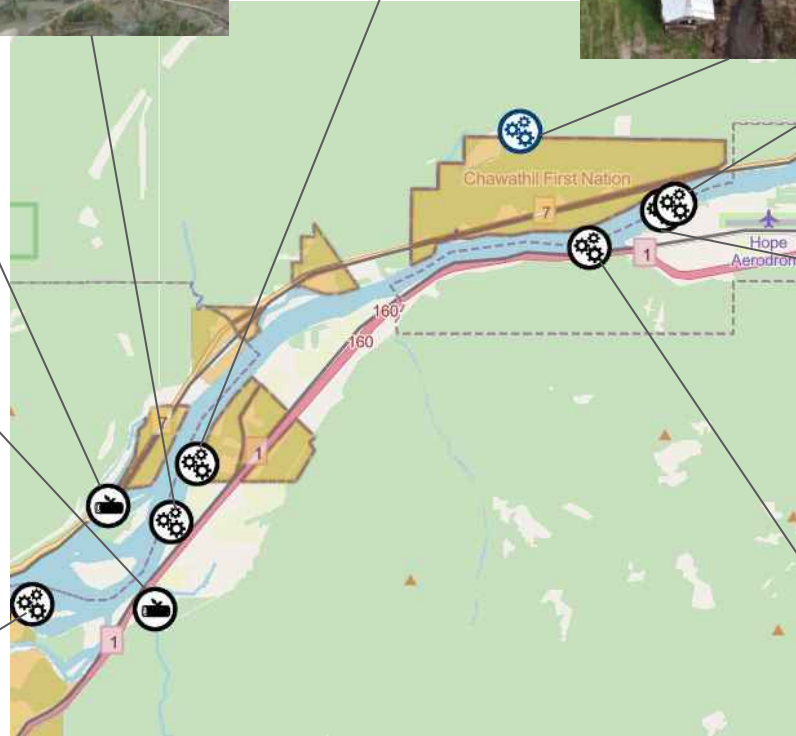


FR4. Woody Debris



FR26. Accumulation of tires

# 06. Fraser River



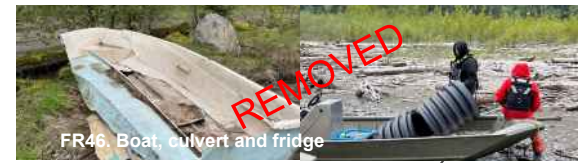


# 06. Fraser River

**FR43. Appliance on the right bank of the Fraser River**

**FR25. White metal sheet multiple tires**

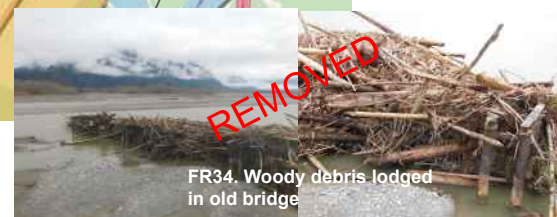
**FR24. Box object, white metal sheet, green metal sheet.**



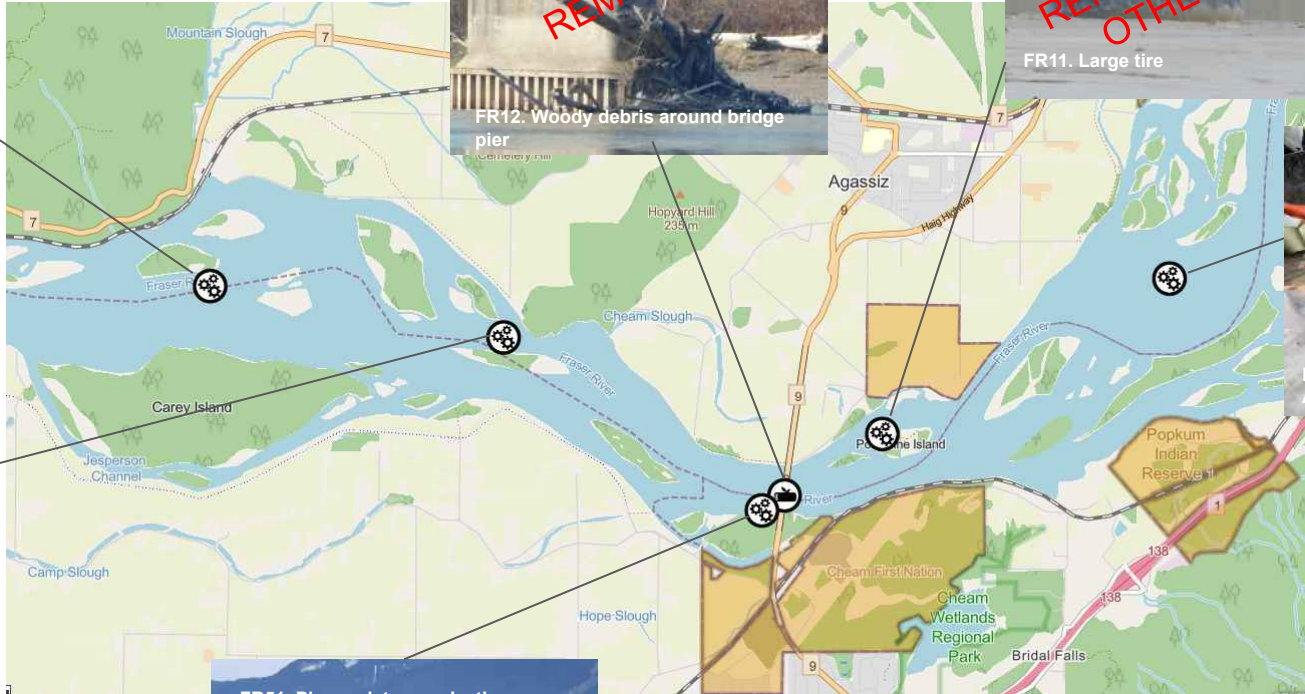
**REMOVED BY OTHERS**

**FR36. Freezer**

Stó:lō Tribal Council

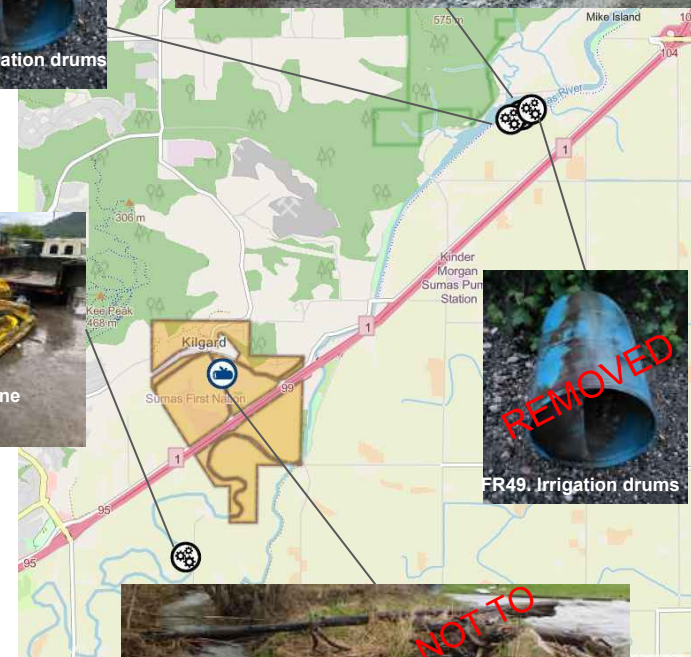


# 06. Fraser River



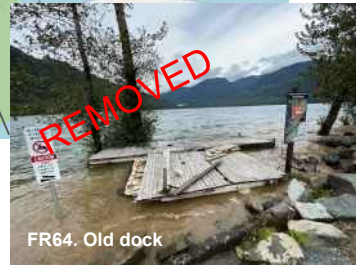


# 06. Fraser River

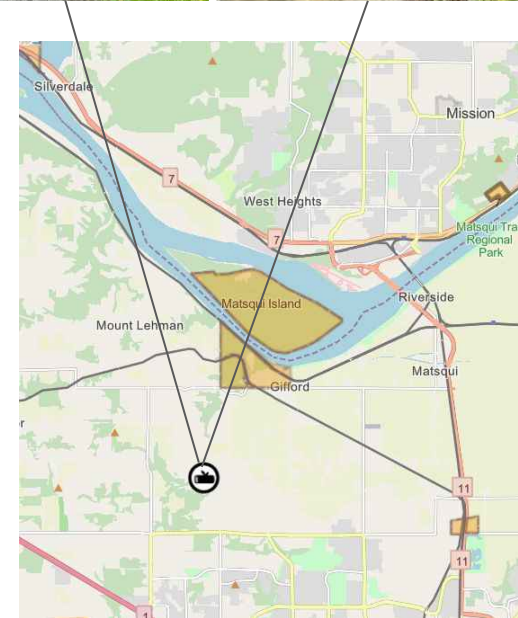
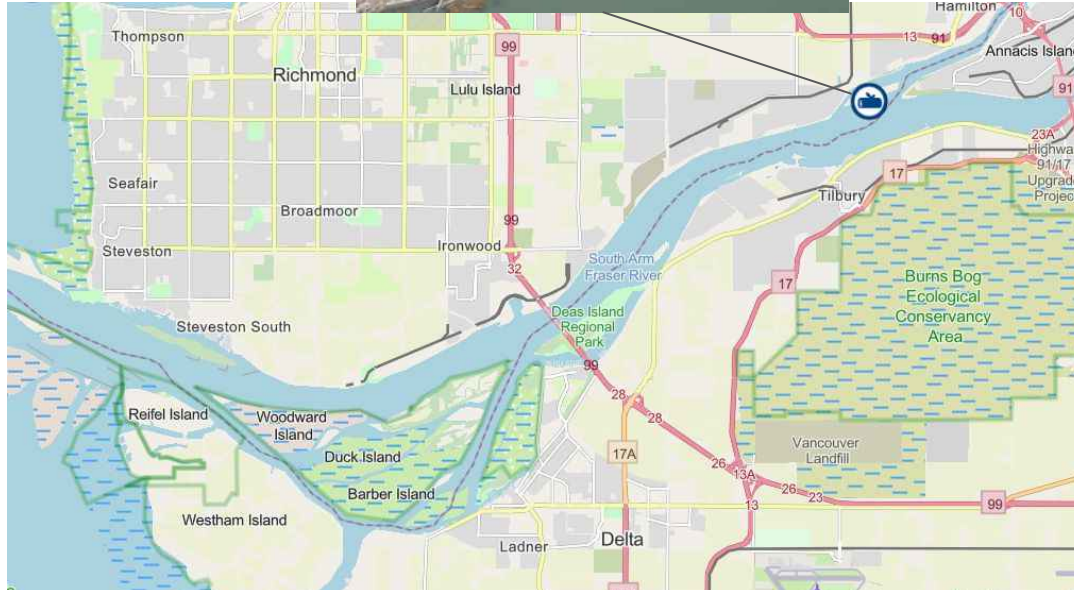
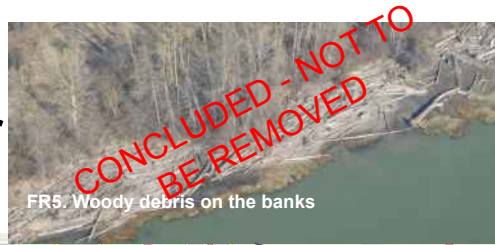




# 06. Fraser River



# 06. Fraser River



# 06. Fraser River

Map ID	Description	Type	Status	Removal date
FR-3	Natural debris and sand/rocks at base of culvert	Human-made	Removed	2022-05-11
FR-18	Fridge and other human made debris	Human-made	Removed	2022-05-20
FR-20	Human-made box like object	Human-made	Removed	2022-05-11
FR-21	Boat debris, other smaller human-made debris in vicinity	Human-made	Removed	2022-05-20
FR-24	Box object, white metal sheet, green metal sheet	Human-made	Removed	2022-05-12
FR-12	Woody debris around pier cap	Natural	Removed	2022-05-18
FR-25	White metal sheet, multiple tires	Human-made	Removed	2022-04-20
FR-26	Accumulation of tires beside the river, red metal sheet	Human-made	Removed	2022-05-11
FR-34	Woody debris lodged in old bridge	Natural	Removed	2022-05-20
FR-37	Hot water tank	Human-made	Removed	2022-05-11
FR-41	Appliances	Human-made	Removed	2022-05-20
FR-42	Tire located on left bank	Human-made	Removed	2022-05-20
FR-43	Appliance on right bank	Human-made	Removed	2022-05-20
FR-44	Wood Accumulation on Bridge Pier	Human-made	Removed	2022-05-26
FR-45	Two cars on the side of the river	Human-made	Removed	2022-05-24
FR-46	Boat, culvert and fridge	Human-made	Removed	2022-05-20
FR-47	Misc. human-made debris	Human-made	Removed	2022-05-18
FR-48	Irrigation drums	Human-made	Removed	2022-06-06
FR-49	Irrigation drums	Human-made	Removed	2022-06-06
FR-50	Irrigation drums	Human-made	Removed	2022-06-06
FR-51	Plywood, tarps, plastic bags	Human-made	Removed	2022-05-26
FR-52	Garbage can and misc. debris	Human-made	Removed	2022-05-26

# 06. Fraser River

Map ID	Description	Type	Status	Removal date
FR-53	Plywood and misc. debris	Human-made	Removed	2022-05-26
FR-54	Oil tank	Human-made	Removed	2022-06-04
FR-55	Freezer, steering wheel, and misc. debris	Human-made	Removed	2022-06-09
FR-56	Tire	Human-made	Removed	2022-05-30
FR-57	Woody debris	Natural	Removed	2022-06-10
FR-58	Oil boom, propane tank, and misc. debris	Human-made	Removed	2022-06-03
FR-62	Old dock	Human-made	Removed	2022-06-09
FR-63	Old dock	Human-made	Removed	2022-06-09
FR-64	Old dock	Human-made	Removed	2022-06-09
FR-65	Fridge	Human-made	Removed	2022-06-09
FR-1	Large volume of natural debris	Natural	Removed by Others	2022-06-24
FR-11	Large tire	Human-made	Removed by Others	2022-06-22
FR-36	Freezer	Human-made	Removed by Others	2022-05-24
FR-61	Woody debris	Natural	Removed by Others	2022-06-17
FR-4	Woody debris	Natural	Concluded - Out of Scope	N/A
FR-5	Woody debris on the banks	Natural	Concluded - Out of Scope	N/A
FR-17	Woody debris by culvert	Natural	Concluded - Out of Scope	N/A
FR-27	Shanty houses beside a creek	Human-made	Concluded - Out of Scope	N/A
FR-38	Woody debris	Natural	Concluded - Out of Scope	N/A



# 07. Chilliwack River & Vedder River/Canal



# 07. Chilliwack River & Vedder River/Canal



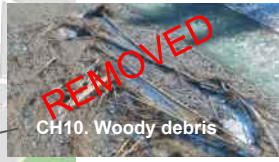
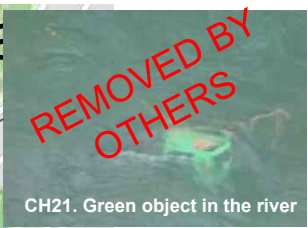
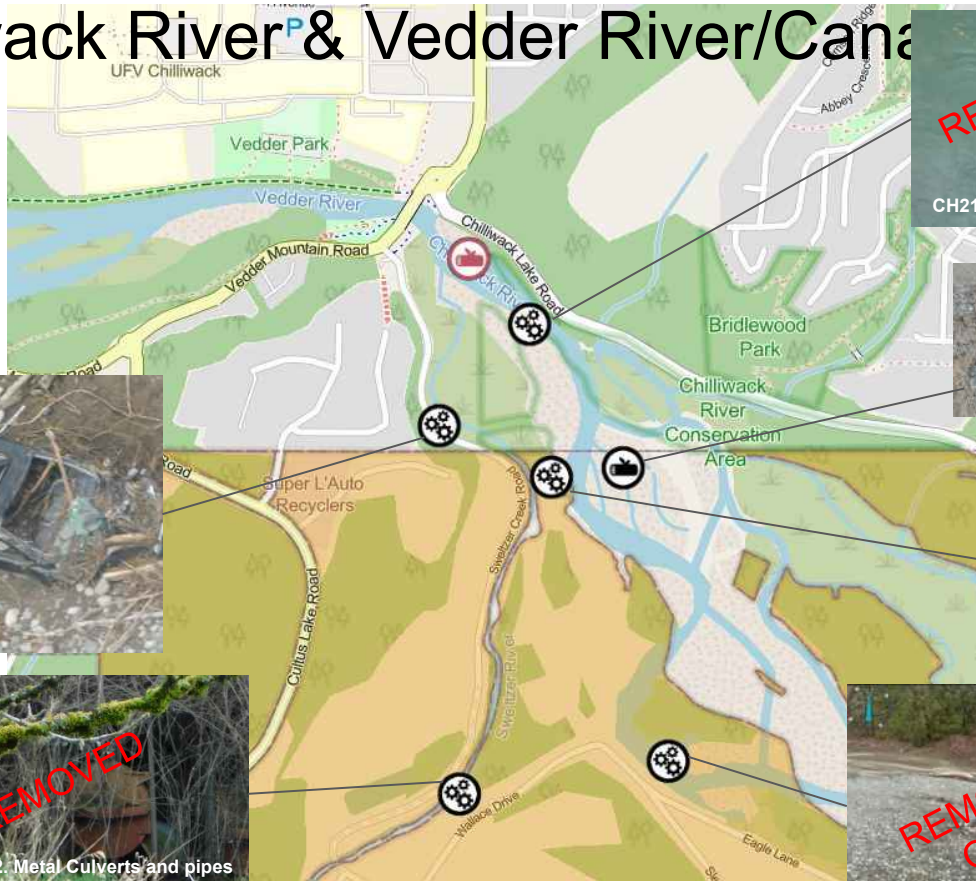
CH19. Abandoned van, ladders, pipes freight containers, trailer



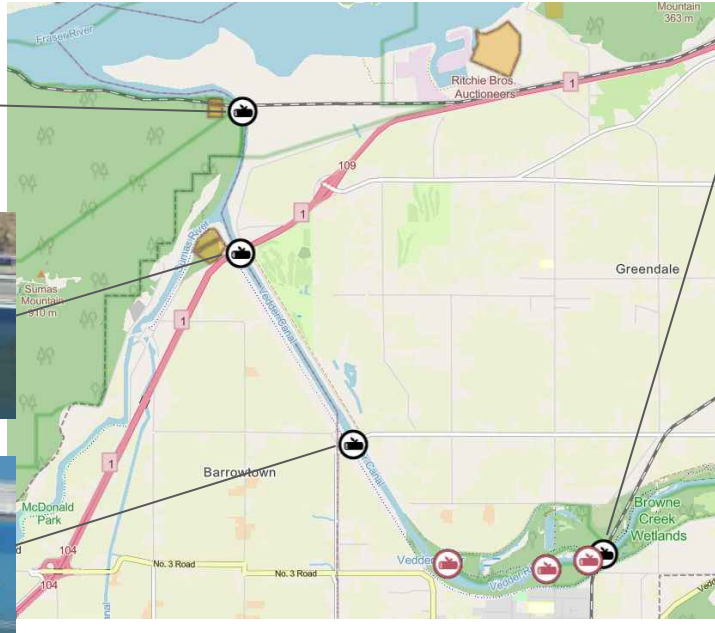
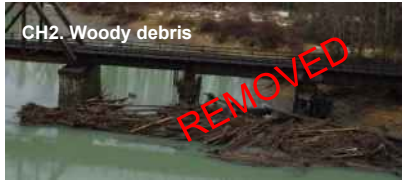
CH26. Two boom lifts



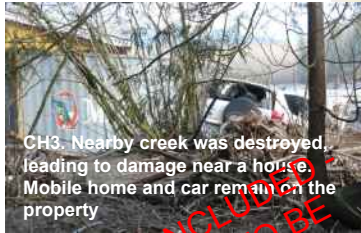
# 07. Chilliwack River & Vedder River/Canal



# 07. Chilliwack River & Vedder River/Canal



## 07. Chilliwack River & Vedder River/Canal





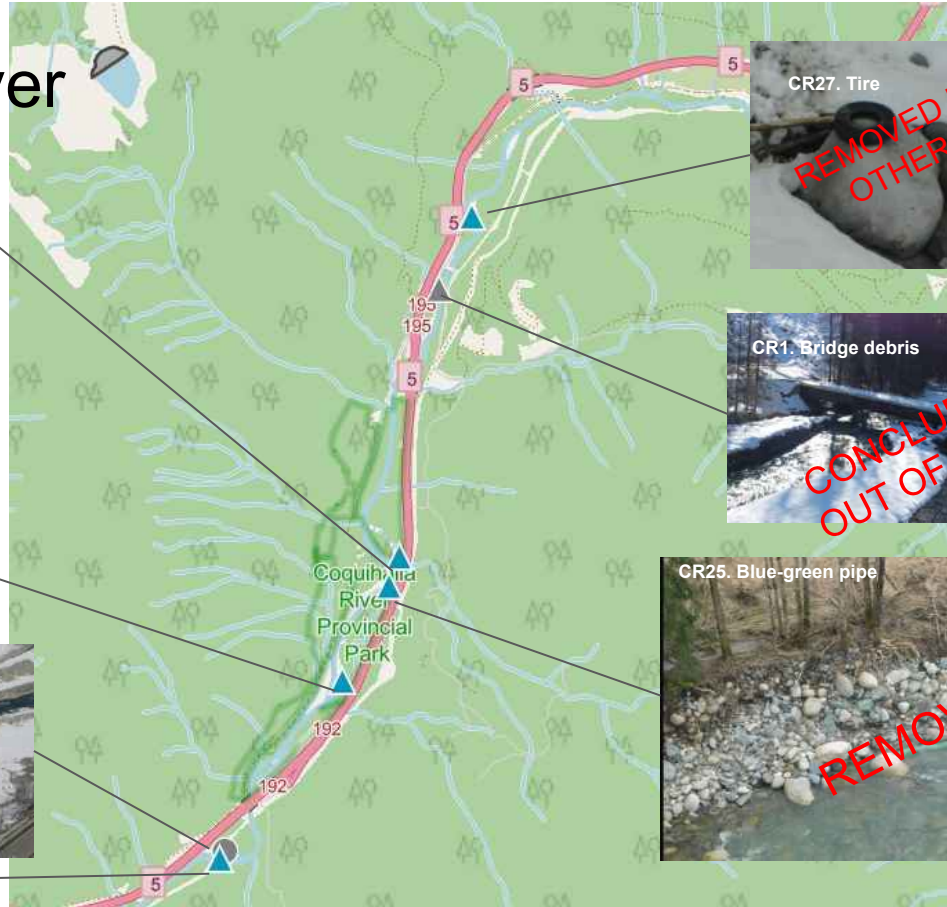
# 07. Chilliwack River & Vedder River/Canal

Map ID	Contract or ID*	Description	Type	Status	Removal date
CH-2		Two bridges with natural debris dams	Natural	Removed	2022-05-20
CH-4		Woody debris	Natural	Removed	2022-05-18
CH-5		Woody debris at piers	Natural	Removed	2022-05-24
CH-10		Woody debris	Natural	Removed	TBD
CH-17		Green wooden planks, picnic table intertwined with wooden debris	Human-made	Removed	2022-05-28
CH-18		Green fragments of a pipe, metal culvert	Human-made	Removed	2022-05-28
CH-19		Abandoned cars, ladders, pipes, freight containers, trailer	Human-made	Removed	2022-05-28
CH-22		Metal pipes/culverts	Human-made	Removed	2022-05-26
CH-24		Porta john located in the woody debris	Human-made	Removed	2022-05-28
CH-25		Culvert among the woody debris	Human-made	Removed	2022-05-28
CH-26		Two boom lifts	Human-made	Removed	2022-05-18
CH-27	CH-9	Southern rail woody debris	Natural	Removed	2022-05-30
CH-28		Green fragment in wooden pile	Human-made	Removed	2022-05-26
CH-20		Black Truck	Human-made	Removed by Others	2022-05-19
CH-21		Green object in the river	Human-made	Removed by Others	TBD
CH-23		Damaged vehicle buried in sediment east of Sweltzer Creek campground	Human-made	Removed by Others	2022-05-19
CH-3		Damage near house due to creek being destroyed, mobile home and car	Human-made	Concluded - Out of Scope	N/A
CH-15		Excess sediment	Natural	Identified in assessment with other sediment sites	

# 08. Coquihalla River

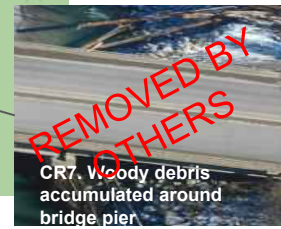
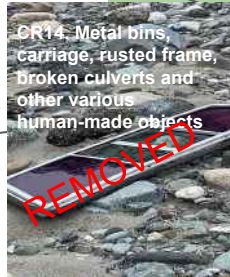


# 08. Coquihalla River





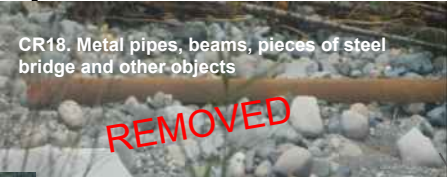
# 08. Coquihalla River





# 08. Coquihalla River

CR18. Metal pipes, beams, pieces of steel bridge and other objects



CR5. Damaged silver car



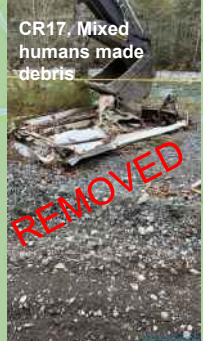
CR22. Metal frame, metal culvert



CR17. Mixed humans made debris



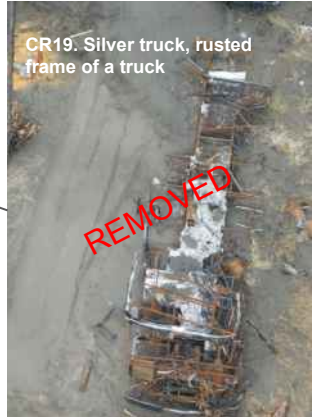
CR17. Mixed humans made debris



CR21. Plastic looking debris



CR19. Silver truck, rusted frame of a truck



CR17. Mixed humans made debris



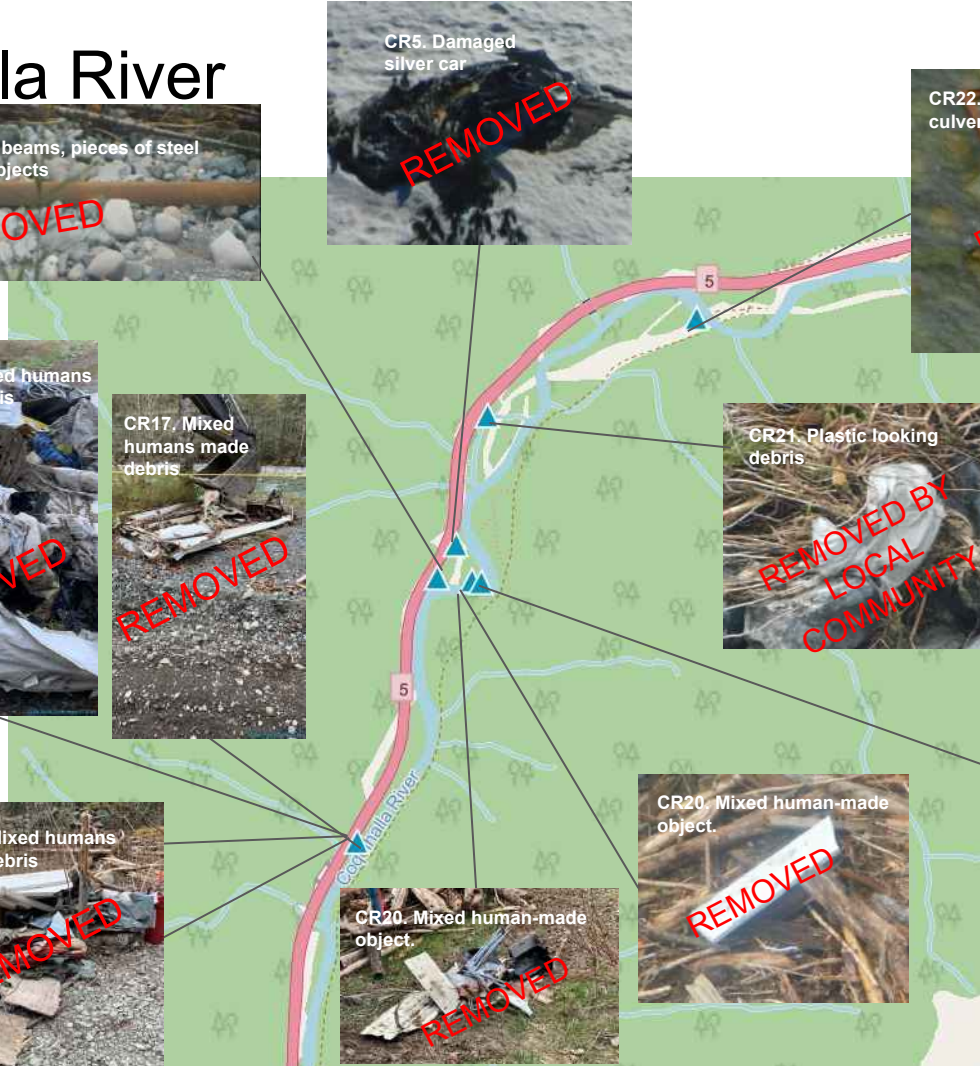
CR17. Mixed humans made debris



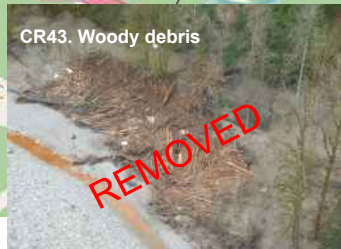
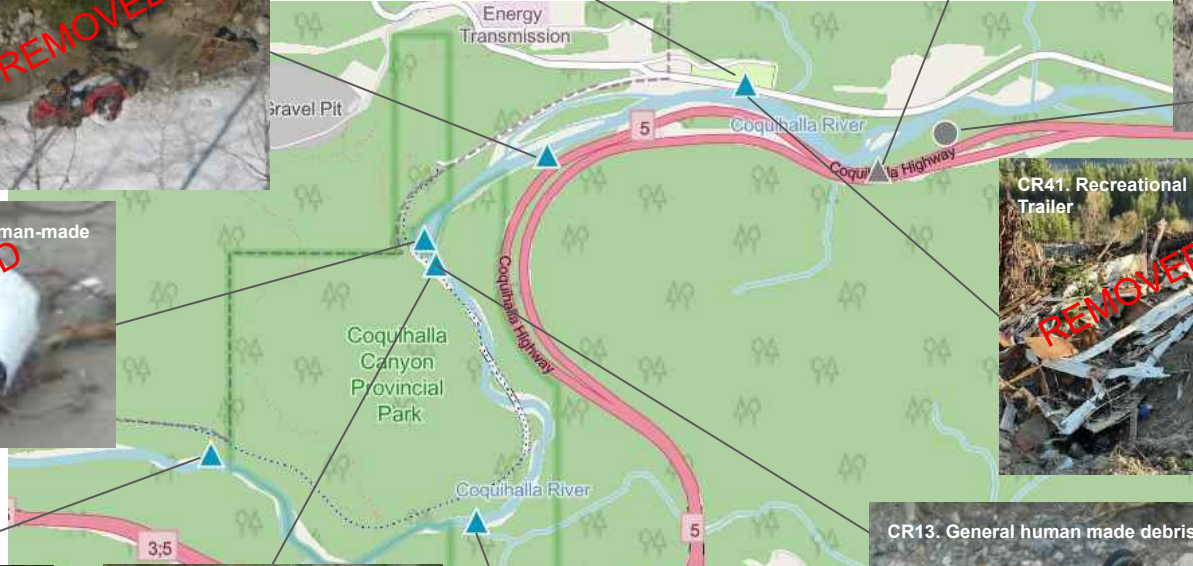
CR20. Mixed human-made object.



CR20. Mixed human-made object.



# 08. Coquihalla River





# 08. Coquihalla River



Debris Site CR13 additional human made debris was found mixed with woody debris. This highlights some of the items found in the area.

# 08. Coquihalla River





# 08. Coquihalla River

Map ID	Contractor ID*	Description	Type	Status	Removal date
CR-2	CR2	General debris	Human-made	Removed	2022-04-13
CR-5	CR5	Damaged silver car	Human-made	Removed	2022-05-04
CR-6	CR6	Silver car	Human-made	Removed	2022-04-13
CR-10	CR2	Red car	Human-made	Removed	2022-04-06
CR-12	CR12	Various different human-made objects	Human-made	Removed	2022-04-13
CR-13	CR13	General human made debris	Human-made	Removed	2022-04-13
CR-14	CR14	Metal bins, carriage, rusted frame, broken culverts and other various human-made objects	Human-made	Removed	2022-04-27
CR-17	CR17	Mixed human made debris	Human-made	Removed	2022-04-20
CR-18	CR18	Metal pipes, beams, pieces of steel bridge and other objects	Human-made	Removed	2022-05-04
CR-19	CR19	Silver truck, rusted frame of a truck	Human-made	Removed	2022-04-27
CR-20	CR20	Mixed human-made object	Human-made	Removed	2022-04-27
CR-22	CR22	Metal frame, metal culvert	Human-made	Removed	2022-04-27
CR-23	CR23	Metal culvert	Human-made	Removed	2022-04-27
CR-24	CR24	Blue object, metal culverts,	Human-made	Removed	2022-05-04
CR-25	CR25	Blue-green pipe	Human-made	Removed	2022-04-27
CR-26	CR26	Metal culvert	Human-made	Removed	2022-04-27
CR-29	CR29	Anthropogenic debris on top of log jam	Human-made	Removed - Accessible debris has been removed, due to safety some debris remains	2022-05-04
CR-30	CR2	House	Human-made	Removed	2022-04-13
CR-31	CR6	Red pickup	Human-made	Removed	2022-04-13
CR-32	CR13	Motorcycle	Human-made	Removed	2022-04-13
CR-33	CR13	Motor home	Human-made	Removed	2022-04-13

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

# 08. Coquihalla River

Map ID	Contractor ID*	Description	Type	Status	Removal date
CR-34	CR13	Pick up truck	Human-made	Removed	2022-04-13
CR-35	CR13	Vehicle/trailer	Human-made	Removed	2022-04-13
CR-36	CR13	Recreational trailer	Human-made	Removed	2022-04-13
CR-37	CR13	Tent Trailer	Human-made	Removed	2022-04-13
CR-38	CR13	Car (blue)	Human-made	Removed	2022-04-13
CR-39	CR13	General debris	Human-made	Removed	2022-04-13
CR-40	CR13	Culverts (scattered in the vicinity)	Human-made	Removed	2022-04-13
CR-41	CR2	Recreational Trailer	Human-made	Removed	2022-04-27
CR-42		Large tires	Human-made	Removed	2022-04-27
CR-43	CR13	Large mix of woody debris	Natural	Removed	2022-05-11
CR-7	CR7	Debris around bridge pier	Natural	Removed by Others	2022-04-27
CR-11	CR11	Box object in between wooden debris	Human-made	Removed by Local Community	2022-04-27
CR-16	CR16	Metal debris, tires	Human-made	Removed by Others	2022-04-27
CR-21	CR21	Plastic looking debris	Human-made	Removed by Local Community	2022-04-27
CR-1	CR1	Bridge debris	Human-made	Concluded - Not to be Removed	N/A
CR-3	CR3	Large log under bridge	Natural	Concluded - Not to be Removed	N/A
CR-4	CR4	Woody debris on the river banks.	Natural	Concluded - Not to be Removed	N/A
CR-8	CR8	Woody debris	Natural	Concluded - Not to be Removed	N/A
CR-9	CR9	Silver car	Human-made	Concluded - Not to be Removed	N/A
CR-15	CR15	Bulldozer	Human-made	Concluded - Not to be Removed	N/A
CR-28	CR9	Abandoned car in overbank zone	Human-made	Duplicate item for CR-9	

\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.

## 08. Coquihalla River - vehicles removed

<b>Location</b>	<b>Make</b>	<b>Model</b>	<b>Removal date</b>
CR2	Chevrolet	Silverado	2022-04-05
CR2	Geo	Metro	2022-04-05
CR2	Chevrolet	Cavalier	2022-04-05
CR2	Unknown	Unknown	2022-04-12
CR5	Chevrolet	Cavalier	2022-05-04
CR6	Toyota	Tercel	2022-04-04
CR6	Chevrolet	S10	2022-04-04
CR13	Pontiac	Firebird	2022-04-08
CR13	Yamaha	Motorcycle	2022-04-08
CR13	Unknown	Travelair	2022-04-08
CR19	Dodge	RAM1500	2022-04-20