



BRITISH  
COLUMBIA

Ministry of  
Environment and  
Climate Change Strategy



# Ministry of Environment Debris Action Plan

August 24, 2022



# Executive Summary

The total number of known debris sites across the province is 527. 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	98 debris sites identified of which: <ul style="list-style-type: none"> <li>● 57 debris sites have removal completed; and</li> <li>● 14 have been assessed and concluded not to be removed or be removed by a third-party</li> </ul> This leaves 27 additional sites as work in progress	Phase 2 large debris removal involving heavy equipment usage is in progress. Linear debris crews have mobilized for hand picking small debris at sites along the Nicola River.
Coldwater	None	74 debris sites identified of which <ul style="list-style-type: none"> <li>● 54 debris sites have removal completed; and</li> <li>● 14 have been assessed and concluded not to be removed or be removed by a third-party</li> </ul> This leaves 6 additional sites as work in progress	Phase 2 large debris removal involving heavy equipment usage is in progress. Linear debris crews have mobilized for hand picking small debris at sites along the Coldwater River.
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	No field work is in progress as water levels are still receding, assessments of debris are ongoing.
Tulameen	None	93 debris sites identified of which: <ul style="list-style-type: none"> <li>● 31 debris sites have removal completed; and</li> <li>● 21 have been assessed and concluded not to be removed or be removed by a third-party</li> </ul> This leaves 41 sites remaining as work in progress	Phase 2 heavy equipment work to remove large debris is in progress.

# Executive Summary - continued

Watercourse	Outstanding Permits	Number of Known Debris Items (all identified, photographed and geotagged)	Removal Timeline
Similkameen	None	53 debris sites identified of which: <ul style="list-style-type: none"> <li>● 11 debris sites have removal completed; and</li> <li>● 13 have been assessed and concluded not to be removed or be removed by a third-party</li> </ul> This leaves 29 sites remaining as identified or work in progress.	Phase 2 heavy equipment work to remove large debris is in progress.
Fraser River	Some sites require updated DFO permit	79 debris sites identified of which <ul style="list-style-type: none"> <li>● 47 debris sites has removal completed; and</li> <li>● 12 have been assessed and concluded not to be removed or be removed by a third-party</li> </ul> This leaves 20 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.
Chilliwack River & Vedder River/Canal	Some sites require updated DFO permit	57 debris sites identified <ul style="list-style-type: none"> <li>● 21 debris sites has removal completed;</li> <li>● 5 have been assessed and concluded not to be removed or be removed by a third-party</li> </ul> This leaves 31 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.
Coquihalla River	None	49 debris sites identified of which: <ul style="list-style-type: none"> <li>● 38 debris sites have removal completed; and</li> <li>● 11 have been assessed and concluded not to be removed or to be removed by a third-party</li> </ul> This leaves no sites remaining as identified.	Identified debris have been removed. Additional debris sites may be assessed as new debris are identified from freshet.
Other sites (Bella Coola & Kingcome)	ARC, DFO and MOF	12 debris sites identified. <ul style="list-style-type: none"> <li>● 7 Bella Coola sites concluded not to be removed; and</li> <li>● 3 Kingcome sites concluded not to be removed</li> </ul> This leaves 2 sites remaining as identified.	Removal expected in September 2022.

# 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, 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, 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, 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: 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: Clearview Demolition, Tri Valley Construction</li> <li>● Qualified Environmental &amp; Archeological Professional: Tetra Tech</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>

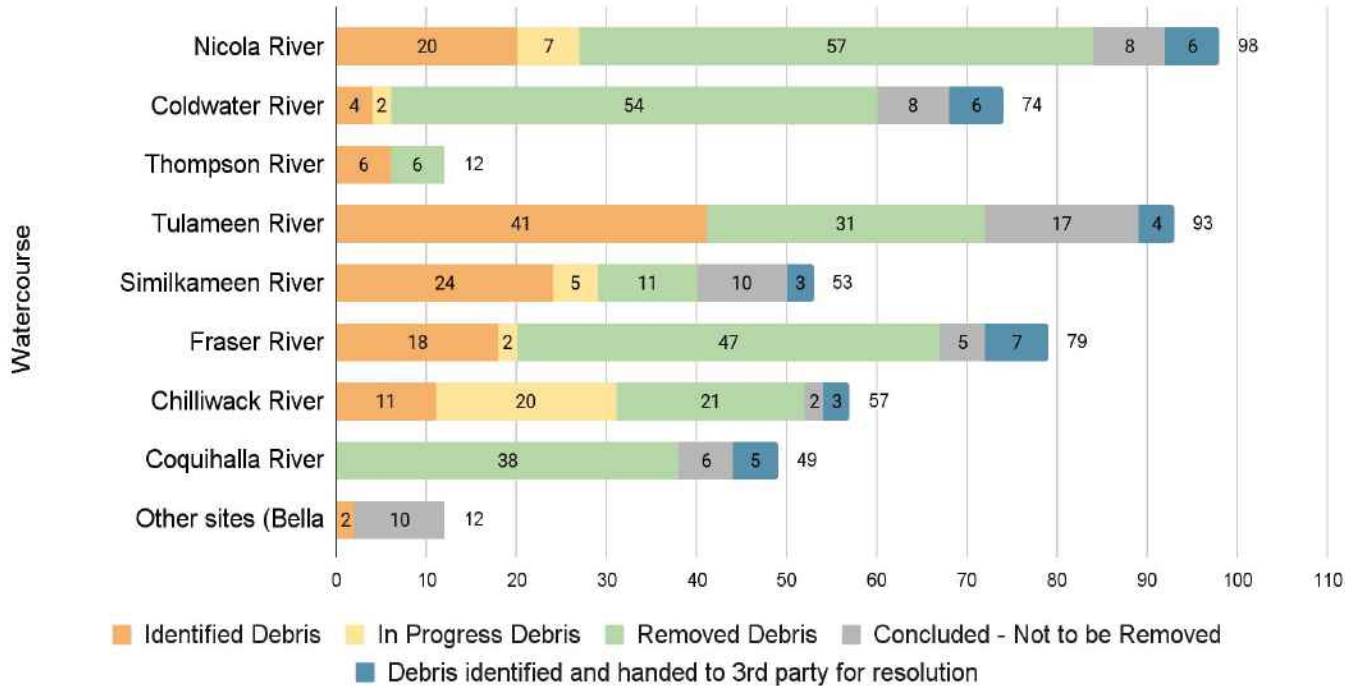


# Executive Summary - continued

Watercourse	Contractors	First Nations Contacted To Date
Similkameen	<ul style="list-style-type: none"> <li>● Debris Removal: Clearview Demolition, Tri Valley Construction</li> <li>● Qualified Environmental &amp; Archeological Professional: Tetra Tech</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

## Debris by Watercourse



**Total Debris Sites**  
**527**

**Total Debris Sites Remaining**  
**126**

**In Progress**  
**36**

**Total Debris Sites Removed**  
**265**

**Total Concluded Not to be Removed**  
**66**

**Debris identified and handed to 3rd party for resolution**  
**34**

# 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 work is in progress.

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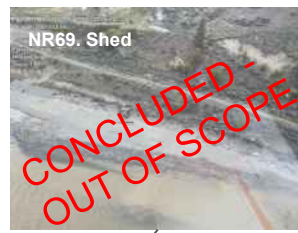
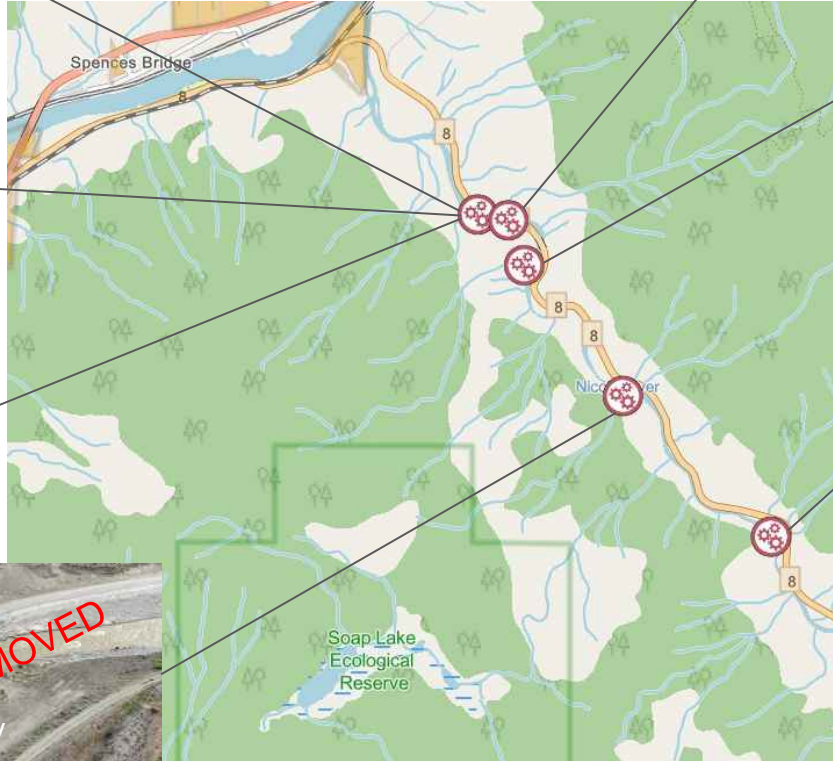
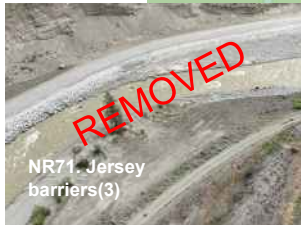
Nicola River  
Highway 8:  
Spences  
Bridge to  
Merritt



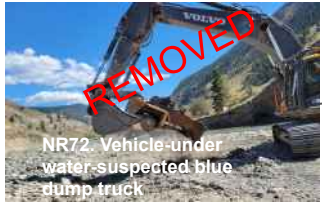
# Nicola River - Highway 8 - Spences Bridge to Merritt

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; and</li> <li>• Thompson Nicola Regional District.</li> </ul>	<p>98 debris sites identified in total</p> <p>Phase 1 (see Appendix D)</p> <ul style="list-style-type: none"> <li>• 50 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>• 7 sites have removal completed;</li> <li>• 7 sites are work in progress;</li> <li>• 2 site concluded not to be removed; and</li> <li>• 20 sites identified with work remaining with 8 sites currently paused.</li> </ul>	<p>Permit applications for Phase 2 work submitted to MOF 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>• MOF 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 Jul 18,2022.,Approval 22-HPAC-00816;</li> <li>• MOF Approval A3006975 appended Jul 18 ,2022; and</li> <li>• Instream work to be completed by Aug 30, 2022.</li> </ul>

# Nicola River - Known Debris

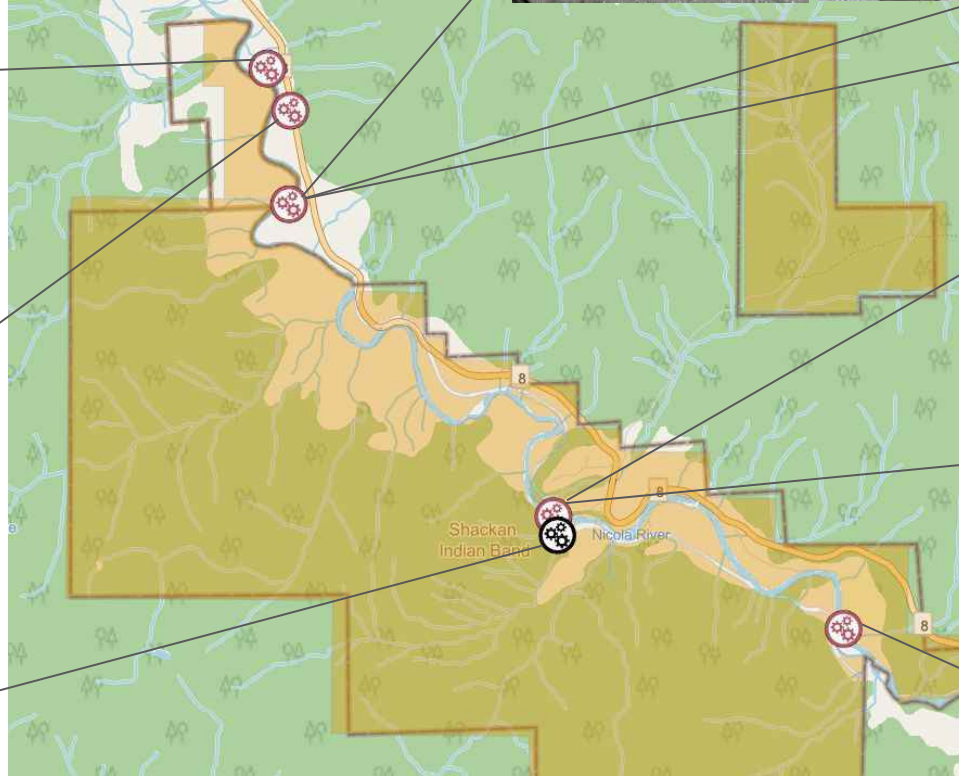


# Nicola River - Known Debris





# Nicola River - Known Debris



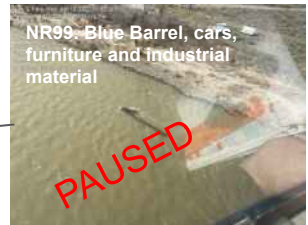
NR98. Metal frame, metal debris and cable spool



NR98. Metal frame, metal debris and cable spool



NR98. Metal frame, metal debris and cable spool



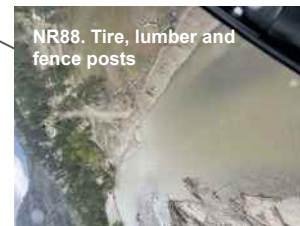
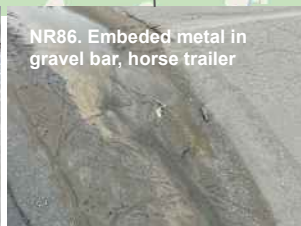
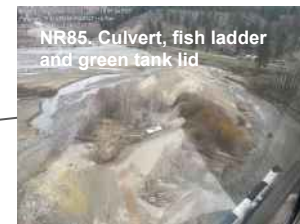
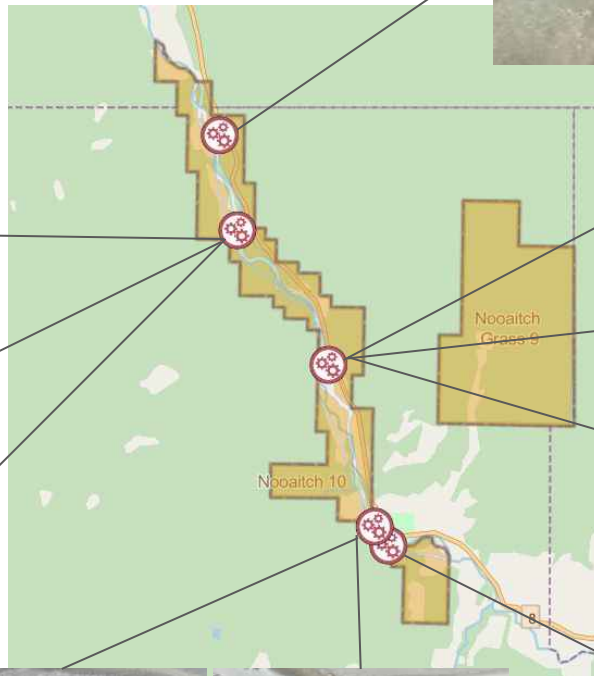


# Nicola River - Known Debris

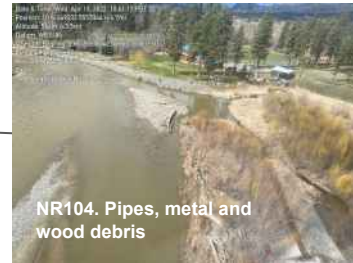
NR81. Culvert



# Nicola River - Known Debris

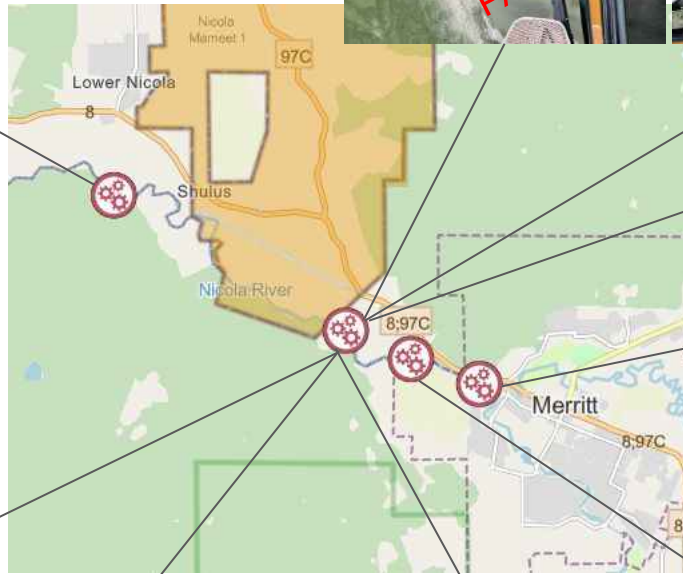
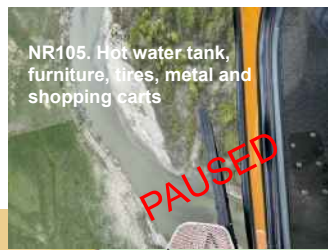


# Nicola River - Known Debris



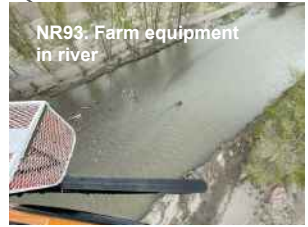


# Nicola River - Known Debris



NR94. Submerged Car (photo upcoming)

**REMOVED**





# 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 MOF to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Below are initial dates for removal to commence in the Nicola River and are subject to change as assessments are completed:               <ul style="list-style-type: none"> <li>○ NR-73, 74, 75 and 96: in progress</li> <li>○ NR-77, 78, 79: week of Aug 24</li> <li>○ NR-69: out of scope, access not granted</li> <li>○ NR-82: concluded, out of scope</li> <li>○ NR-105: week of August 24</li> <li>○ NR-99, 100: paused and assessing safety in area</li> <li>○ NR-84, 85, 86, 88, 101: paused</li> <li>○ NR-86: paused</li> </ul> </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: Arnett &amp; Burgess</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>• Complete bird sweeps;</li> <li>• Continued with debris removal at NR-73, NR-74, NR-75;</li> <li>• Continued removal of vehicles at NR-96;</li> <li>• Continued with linear debris survey along Nicola River; and</li> <li>• Continued with misc. debris removal.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue with debris removal at:               <ul style="list-style-type: none"> <li>◦ NR-73: bridge</li> <li>◦ NR-74: power poles</li> <li>◦ NR-75: asphalt road sections</li> <li>◦ NR-96: vehicles removed in Phase 1</li> </ul> </li> <li>• Commence debris removal at:               <ul style="list-style-type: none"> <li>◦ NR-77: culverts</li> <li>◦ NR-78: culverts</li> <li>◦ NR-79: culvert</li> </ul> </li> <li>• Recommence debris removal at NR-105</li> <li>• To complete accessible and approved instream work by Aug 30.</li> </ul>
Relevant contacts	Debris removal close-out timeline:
<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>	<p>Close-out timeline is subject to change due to delays caused by heat, wildfires, and/or other external factors:</p> <ul style="list-style-type: none"> <li>• Final assessments of rivers currently being completed and documented;</li> <li>• Instream debris removal to be completed by August 30, 2022 as per DFO and MOF permits;</li> <li>• Linear debris removal scheduled to finalize by early October 2022;</li> <li>• Large anthropogenic debris scheduled to finalize by mid-October 2022 and contractors demobilized by October 31, 2022; and</li> <li>• Close-out reports for Phase 2 to be submitted by mid-November 2022.</li> </ul>

# Nicola River

Map ID	Contractor ID*	Description	Type	Status	Removal date
NR-28	NI_28.7	Cars, furniture and industrial parts	Human-made	Concluded - Out of Scope	N/A
NR-55	N/A	Black pipe in river	Human-made	Identified	TBD
NR-69	NI_2.7	Shed	Human-made	Concluded - Out of Scope	N/A
NR-70	NI_3.33	Sheet Metal	Human-made	In Progress	TBD
NR-71	NI_4.97	Jersey barriers(3)	Human-made	Removed	2022-08-22
NR-72	NI_7.9	Vehicle-under water-suspected blue dump truck	Human-made	Removed	2022-07-26
NR-73	NI_8.7	Bridge-rail visible in gravel bar	Human-made	In Progress	TBD
NR-74	NI_9	Power pole on bank-wire across hwy 8	Human-made	In Progress	TBD
NR-75	NI_9.3_9.4	Asphalt road section in river	Human-made	In Progress	TBD
NR-76		Deleted and combined with NR-75			
NR-77	NI_10.9_3	3 culverts + road debris	Human-made	Identified	TBD
NR-78	NI_17.2_2	Culvert x 2	Human-made	Identified	TBD
NR-79	NI_17.6	Culvert in water	Human-made	Identified	TBD
NR-80	NI_25	LG Rail Bridge abutments in river(Shackan)	Human-made	Removed	2022-07-28
NR-81	NI_31	Culvert	Human-made	Identified	TBD
NR-82	NI_32.13	KVR bridge abutments(Fx ranch)	Human-made	Identified	TBD
NR-83	NI_33.9	Misc. wood and metal	Human-made	In Progress	TBD
NR-84	NI_38.2	Culvert	Human-made	Identified	TBD
NR-85	NI_43.1_43.4	Culvert, fish ladder and green tank lid	Human-made	Identified	TBD
NR-86	NI_46.85_47	Embedded metal in gravel bar, horse trailer	Human-made	Paused	TBD
NR-87		Deleted and combined with NR-86			

\* 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-88	NI_47.5	Tire, lumber and fence posts	Human-made	Identified	TBD
NR-89	NI_51.4	Red object in water	Human-made	Removed	2022-08-03
NR-90	NI_52.0	Truck + other red car part	Human-made	Removed	2022-07-27
NR-91	NI_53.9	Metal Frame	Human-made	Removed	2022-08-22
NR-92	NI_64.24	Red object in water	Human-made	Identified	TBD
NR-93	NI_71.25	Farm equipment in river	Human-made	Identified	TBD
NR-94	N/A	Submerged car	Human-made	Removed	2022-07-25
NR-95	NI_2.4	Metal, wood Box and red fence	Human-made	In Progress	TBD
NR-96	NI_6.95	Stranded vehicles	Human-made	In Progress	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	Paused (work will resume once safe to resume)	TBD
NR-100	NI_31.1	Metal road sign pole and metal roof pieces	Human-made	Paused (work will resume once safe to resume)	TBD
NR-101	NI_40	Farm equipment, black fridge and sheet metal	Human-made	Identified	TBD
NR-102		Deleted and combined with NR-85			
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	Paused (work will restart once monitors are in place)	TBD

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



# Nicola River Field Progress



*NR-73 bridge removal, initially thought to be bridge railing but was bridge with deck*



*NR-73 bridge removal, initially thought to be bridge railing but was bridge with deck*



*NR-73 debris removal of metal*



02

Coldwater  
River:  
Highway 5

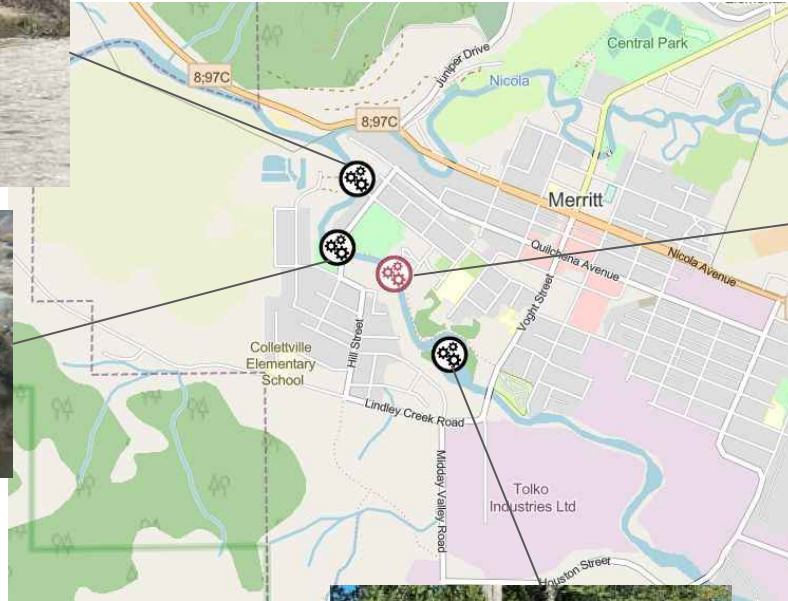
# Coldwater River - Highway 5

## OVERVIEW

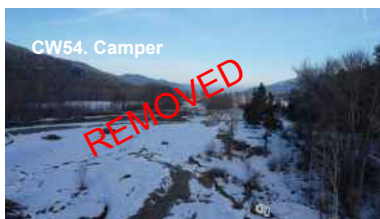
Work objectives	Community discussions status	Known debris	Permits status
<ol style="list-style-type: none"> <li>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure.</li> <li>2. Preserve cultural and historically significant areas.</li> </ol>	<p>Ongoing 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>74 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; and</li> <li>• 6 are to be completed by another ministry.</li> </ul> <p>Phase 2</p> <ul style="list-style-type: none"> <li>• 20 sites have removal completed;</li> <li>• 2 sites as work in progress</li> <li>• 4 sites identified with work remaining.</li> </ul>	<p>Permit applications for Phase 2 work submitted to MOF 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>• MOF Approval A3006975 issued for Feb 14; and</li> <li>• DFO Authorization issued Feb 14 under Approval 22-HPAC-00156; and</li> <li>• Juliet Creek MOF 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 Jul 18,2022.,Approval 22-HPAC-00816;</li> <li>• MOF Approval A3006975 appended Jul 18 ,2022; and</li> <li>• Instream work to be completed by Aug 30, 2022.</li> </ul>



# Coldwater River

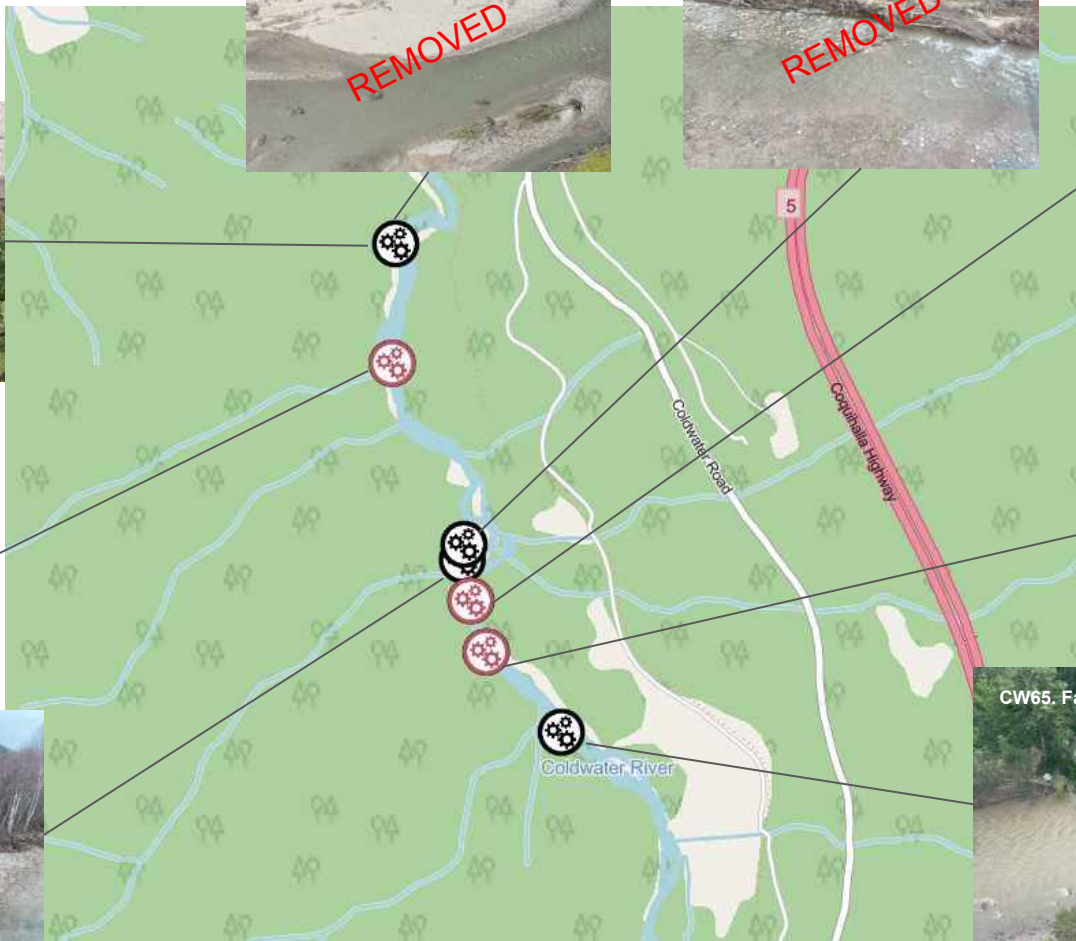


# Coldwater River





# Coldwater River



# Coldwater River



# 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 MOF 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-5: in progress</li> <li>○ CW-66: in progress</li> <li>○ CW-67, 68: week of Aug 24</li> <li>○ CW-62: assessment ongoing</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: Arnett &amp; Burgess</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>• Complete bird sweeps;</li> <li>• Continued with removal at:               <ul style="list-style-type: none"> <li>○ CW-5: pipe, metal debris, misc. debris</li> <li>○ CW-66: concrete abutment</li> </ul> </li> <li>• Continued with misc. debris removal.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue with bird sweeps;</li> <li>• Continue with debris removal; and</li> <li>• Complete linear debris removal.</li> </ul>
Relevant contacts	Debris removal close-out timeline:
<p>Contact for Contractors questions: kirandeep.dhillon@pwc.com            Contact for Ministry of Environment: doc.ops.eep@gov.bc.ca</p>	<p>Close-out timeline is subject to change due to delays caused by heat, wildfires, and/or other external factors:</p> <ul style="list-style-type: none"> <li>• Final assessments of rivers currently being completed and documented;</li> <li>• Instream debris removal to be completed by August 30, 2022 as per DFO and MOF permits;</li> <li>• Linear debris removal scheduled to finalize by early October 2022;</li> <li>• Large anthropogenic debris scheduled to finalize by mid-October 2022 and contractors demobilized by October 31, 2022; and</li> <li>• Close-out reports for Phase 2 to be submitted by mid-November 2022.</li> </ul>

# Coldwater River

Map ID	Contractor ID*	Description	Type	Status	Removal date
CW-5	CW_5.3	Pipe, metal sheets	Human-made	In Progress	TBD
CW-39	CW_31.3_31.4	Metal objects	Human-made	Removed	TBD
CW-44	CW_25.9	Culvert and other concrete pieces	Human-made	Removed	TBD
CW-49	CW_0.7	Door midchannel	Human-made	Removed	2022-08-03
CW-50	CW_1.0	Small debris jam mid-channel	Human-made	Removed	TBD
CW-51	CW_1.5	Concrete structure in channel	Human-made	Removed	2022-08-06
CW-52	CW_14.9	Boat or sled piece	Human-made	Removed	TBD
CW-53	CW_15.3	White metal in water	Human-made	Removed	TBD
CW-54	CW_27.0	Camper	Human-made	Removed	2022-07-19
CW-55	CW_31.1	Steel Trailer frame	Human-made	Removed	2022-08-03
CW-56	CW_31.2	Culvert on farm bank	Human-made	Removed	2022-08-03
CW-57	N/A	Deleted, was a duplicate of CW-39			
CW-58	N/A	Deleted, was a duplicate of CW-39			
CW-59	CW_31.6	Green roof piece	Human-made	Removed	TBD
CW-60	CW_37.6	Shed and exposed line in Water- Land Owner - to be reassessed after flood	Human-made	Identified	TBD
CW-61	CW_39.2	Green roof piece + other metal piece	Human-made	Removed	TBD
CW-62	CW_64_64.9	Log jam	Natural	Identified	TBD
CW-63	N/A	Deleted and combined with CW-62			
CW-64	N/A	Deleted, was a duplicate of CW-69			
CW-65	CW_32	Farm equipment in stream	Human-made	Removed	2022-08-03
CW-66	CW_51.3	Concrete abutment	Human-made	In Progress	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		Deleted, was a duplicate of CW-5			
CW-71	CW_9.0	Culvert	Human-made	Identified	TBD
CW-72	CW_23.0	Culvert and blue barrels	Human-made	Removed	TBD
CW-73	CW_29.8	Blue barrels, green metal and scrap tin metal	Human-made	Removed	2022-08-03
CW-74	CW_33.35	Blue barrel and metal box	Human-made	Removed	TBD
CW-75	CW_60	Yellow and blue barrels	Human-made	Removed	TBD
CW-76	N/A	Concrete	Human-made	Removed	TBD

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

# Coldwater River Field Progress



*CW-66 concrete abutment removal and clean up*



*CW-66 concrete abutment removal and clean up*



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>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>If permits are required, permit applications will be submitted once water levels decrease and updated debris locations 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>● MOF Approval A3007030 issued for Apr 15; and</li> <li>● DFO Authorization issued Apr 11 under Approval 22-HPAC-00305.</li> </ul>

# Thompson River





# 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 MOF to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Begin post-freshet survey for linear debris along Thompson River; and</li> <li>• Updated timelines will 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, Coastal Restoration Society (CRS)            Qualified Environmental &amp; Archeological Professional: Golder            Field Work Management: Arnett &amp; Burgess</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 planning.</li></ul>	<ul style="list-style-type: none"><li>Commence debris removal and linear debris removal.</li></ul>
Relevant contacts	Debris removal close-out timeline:
<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>	<ul style="list-style-type: none"><li>Close-out timeline will be provided in future reports for Thompson River.</li></ul>

# 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.

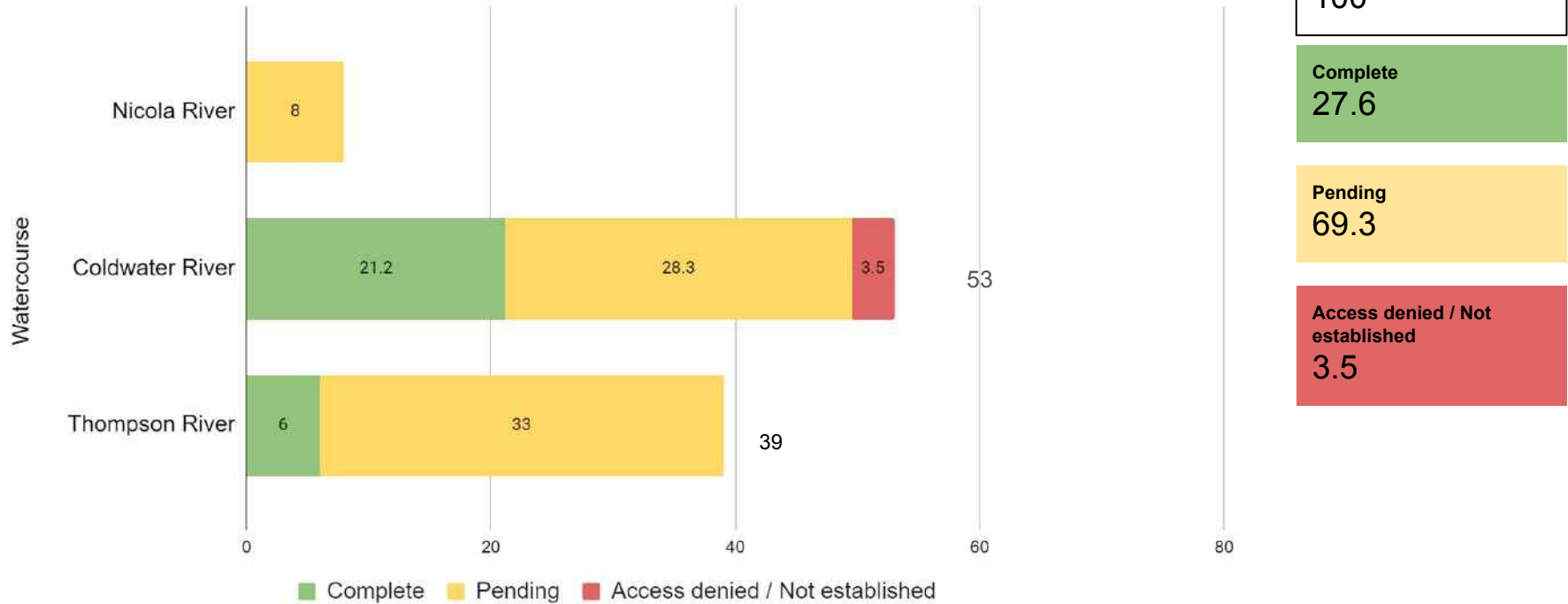


04

# Merritt Region Linear Debris Removal

# Linear Debris Progress in KMs - Merritt Region Phase 2

Phase 2 Linear Debris by Watercourse



\* Total KMs will change as surveys are completed.



# Linear Debris Progress - Merritt Region

Work completed prior week	Upcoming work to be completed
<ul style="list-style-type: none"><li>• Complete linear debris removal along Coldwater River;</li><li>• Continued with survey along Nicola River;</li><li>• Established staging area along Nicola River;</li><li>• Continued with planning for Nicola and Thompson River linear debris removal; and</li><li>• Total linear debris removed 14.415 T.</li></ul>	<ul style="list-style-type: none"><li>• Continue with survey along Nicola River;</li><li>• Start survey of Thompson River; and</li><li>• Complete linear debris removal along Coldwater River.</li></ul>
Relevant contacts	Debris removal close-out timeline:
<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>	<ul style="list-style-type: none"><li>• To be added in future reports.</li></ul>

# Linear Debris Survey Progress - Nicola River



## Survey Team Progress

- River Intervals (5 km)
- Survey Team Start Points
- Survey Team End Points

# Linear Debris Field Progress - Coldwater River



- 5km River Intervals
- ▲ Tech Team Start Points
- ▲ Tech Team End Points
- Complete
- Pending
- No Access





05

# Tulameen River

# Tulameen River

## Overview

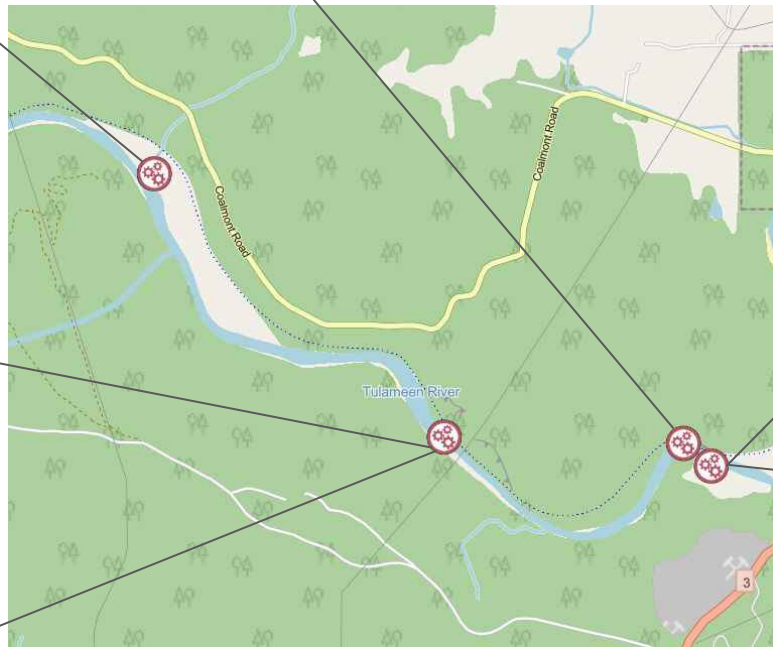
Work objectives	Community discussions status	Known debris	Permits status
<ol style="list-style-type: none"> <li>1. Remove human made debris and any natural debris causing threat to either public safety or infrastructure.</li> <li>2. Preserve cultural and historically significant areas.</li> </ol>	<p>Ongoing 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>93 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>• 1 site has removal completed; and</li> <li>• 41 sites identified for removal.</li> </ul>	<p>Tetra Tech has submitted the DFO permit for Phase 2 anthropogenic debris. MOF 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>• MOF 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



TR61. Cardboard and metal stuck in woody debris



TR59. Trailer debris in woody debris pile, white debris in river bank in trees



TR60. Plywood in woody debris



TR58. Jersey barrier, piece of RV trailer and small scattered debris



TR57. Culvert right side



TR56. Small white plastic on bank left side

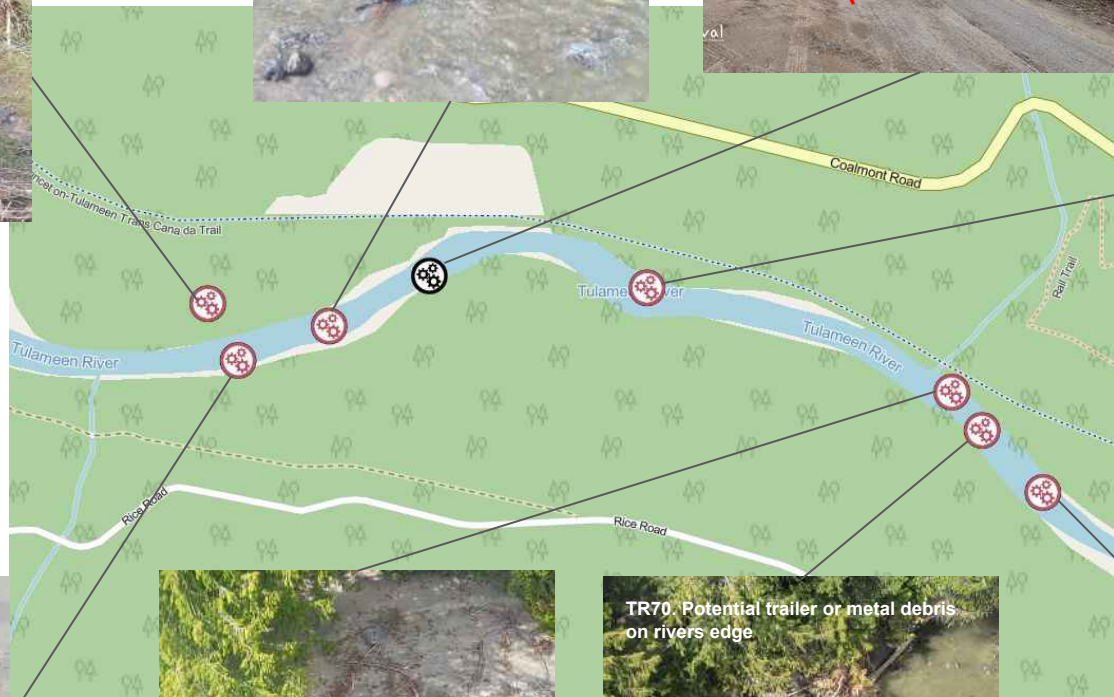
TR96. Unknown debris (photo upcoming)

# Tulameen River



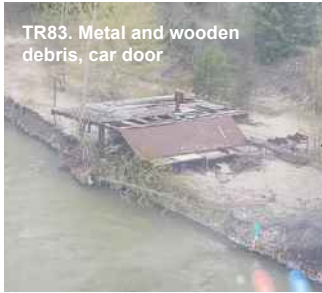


# Tulameen River





# Tulameen River



# Tulameen River

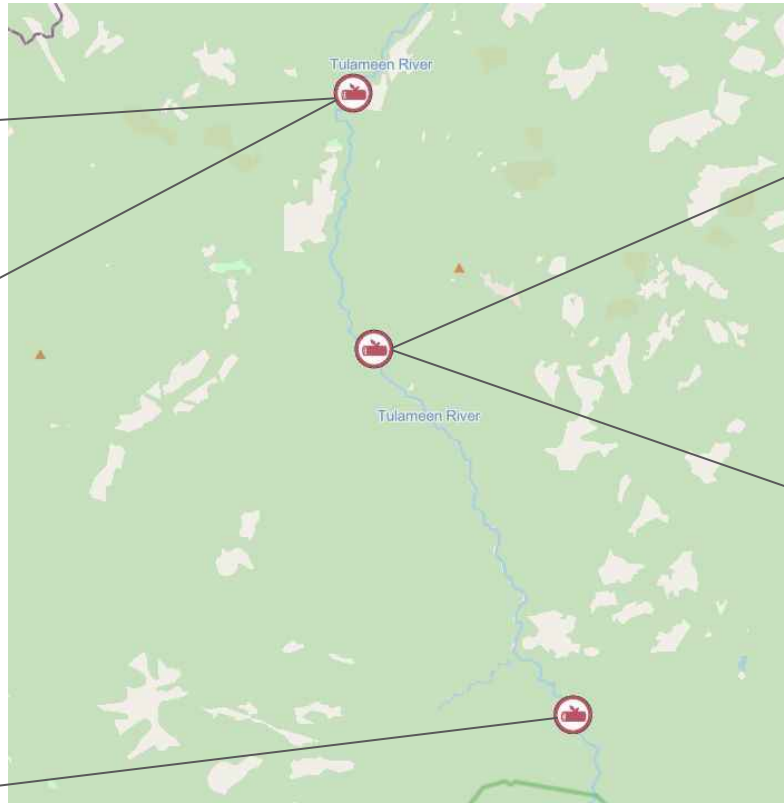


# Tulameen River





# 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 has commenced in the Tulameen River on Aug 4; below are initial dates and are subject to change as assessment are completed:               <ul style="list-style-type: none"> <li>○ TR-87, 88, 89: week of Aug 29</li> <li>○ TR-91, 92: week of Aug 29</li> <li>○ TR-91: week of Aug 29</li> <li>○ TR-86: week of Sep 6</li> </ul> </li> <li>● Additional dates to be provided in future reports.</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Clearview Demolition, Tri Valley Construction            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>Continued with safety and execution planning; and</li><li>Completed refocus on safety and orientation for project team on Aug 24 in Princeton.</li></ul>	<ul style="list-style-type: none"><li>Recommence field work at various sites;</li><li>Continue with assessments; and</li><li>Continue identifying new debris.</li></ul>
Relevant contacts	Debris removal close-out timeline:
<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>	<ul style="list-style-type: none"><li>Close-out timeline will be provided in future reports for Tulameen River.</li></ul>

# Tulameen River

Map ID	Contractor ID*	Description	Type	Status	Removal date
TR-44	N/A	Pole like objects beside river	Human-made	Identified	TBD
TR-53		Deleted, was a duplicate of TR-57			
TR-54	TU_2.7_2.8	Metal/Plastic Debris in woody debris	Human-made	Identified	TBD
TR-55		Deleted and combined with TR-54			
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 TU_17.1	Debris in silt on rivers edge, metal bar	Human-made	Identified	TBD
TR-63		Deleted and combined with TR-62			
TR-64	TU_17.375	Metal debris in trees in riparian area	Human-made	Identified	TBD
TR-65	TU_17.5 TU_17.7	Tarp, metal and other debris	Human-made	Identified	TBD
TR-66		Deleted and combined with TR-65			
TR-67	TU_17.875 TU_17.95 TU_18.75	White debris on rocks, blue tarp, metal	Human-made	Identified	TBD
TR-68		Deleted and combined with TR-67			
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

\* 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-71	TU_18.6	Plastic debris on rivers edge or white metal	Human-made	Identified	TBD
TR-72		Deleted and combined with TR-67			
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	Removed	2022-08-04
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 TU_3.10 TU_3.30 TU_4.00	Green box, small debris, culvert, yellow plastic	Human-made	Identified	TBD
TR-80	TU_4.10 TU_4.30 TU_4.40 TU_4.50 TU_4.60 TU_4.70	Tarps, tire, blankets and other small debris	Human-made	Identified	TBD
TR-81	TU_5.30 TU_5.60 TU_5.70 TU_6.30	Tires, metal debris, culvert	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-82	TU_7.00 TU_7.20 TU_7.25 TU_7.40 TU_7.50 TU_7.55 TU_7.60 TU_7.80 TU_10.1	Small culvert, plastic, metal and woody debris, propane tank	Human-made	Identified	TBD
TR-83	TU_21.60 TU_22.90 TU_23.15	Metal and wooden debris, car door	Human-made	Identified	TBD
TR-84	TU_23.20 TU_23.25 TU_23.50 TU_23.60 TU_24.00	Log stacks and woody debris	Human-made	Identified	TBD
TR-85	TU_24.10 TU_24.20 TU_25.50 TU_26.00 TU_26.10 TU_26.20	Woody Debris, white object, white plastic	Human-made	Identified	TBD
TR-86	TU_27.00 TU_27.20 TU_27.25 TU_27.30 TU_27.60 TU_27.85	Metal debris, cardboard box, metal item, plastic tank, white 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-87	TU_28.65 TU_28.67 TU_29.20	Several pieces of debris in woody debris, log stack	Human-made	Identified	TBD
TR-88	TU_29.75	Metal and woody debris	Human-made	Identified	TBD
TR-89	TU_30.20 TU_30.35 TU_30.40 TU_30.55 TU_30.60 TU_30.75	Log stack, white pipe, metal pipe, green pipe	Human-made	Identified	TBD
TR-90	TU_31.00 TU_31.25 TU_31.30 TU_31.40 TU_31.70 TU_31.80 TU_31.90	Woody debris , log piles	Human-made	Identified	TBD
TR-91	TU_33.20 TU_33.25 TU_33.30	Concrete Lock Blocks	Human-made	Identified	TBD
TR-92	TU_35.30	Barrel in flood plain	Human-made	Identified	TBD
TR-93	TU_52.07 TU_52.40	Log jam in River	Human-made	Identified	TBD
TR-94	TU_58.10 TU_58.20	Log jam in River	Human-made	Identified	TBD
TR-95	TU_67.00	Log jam in River	Human-made	Identified	TBD
TR-96	TU_13.31	Unknown 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-97	TU_20.00	Tarp buried in silt	Human-made	Identified	TBD
TR-98	TU_21.10	Propane tank and other debris in flood plain in woods	Human-made	Identified	TBD
TR-99	TU_21.40	Tire on river bank	Human-made	Identified	TBD

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



06

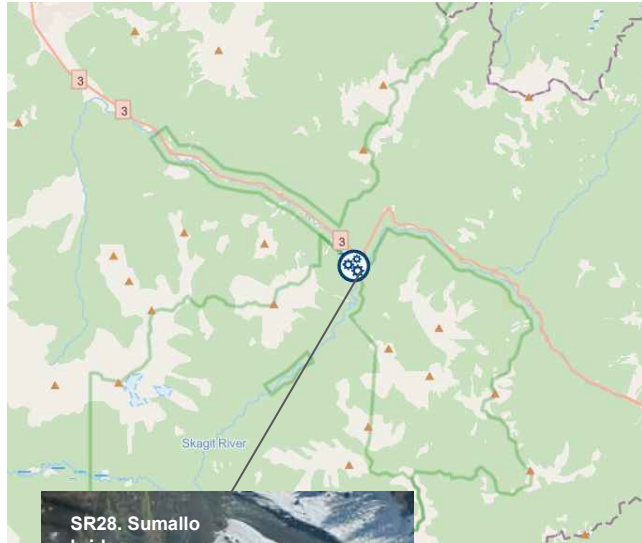
# Similkameen River

# 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>53 debris sites identified in total</p> <p>Phase 1 (see Appendix D)</p> <ul style="list-style-type: none"> <li>• 13 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>• 1 site has removal completed;</li> <li>• 1 site has been assessed and concluded not to be removed;</li> <li>• 5 sites are work in progress; and</li> <li>• 24 sites are identified.</li> </ul>	<p>Tetra Tech has submitted the DFO permit for Phase 2 anthropogenic debris, permit received week of Jul 18. MOF 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>• MOF 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





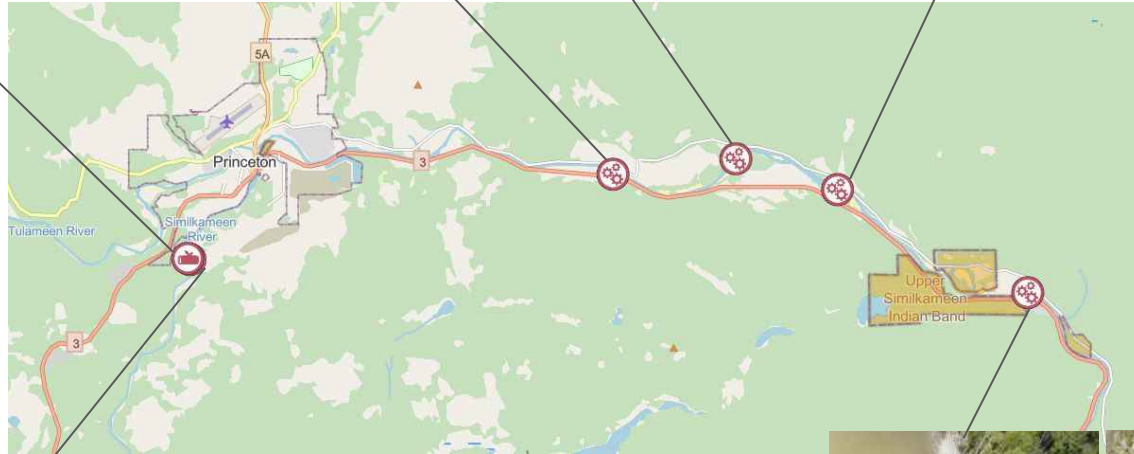
# Similkameen River



SR33. Woody debris



SR34. Sheet metal, propane tank



SR53. Fridge (photo upcoming)

SR52. Tires, metal debris, hot water tank, tin, white bag (photo upcoming)



SR51. Tires, blue barrel, debris in log pile



IN PROGRESS



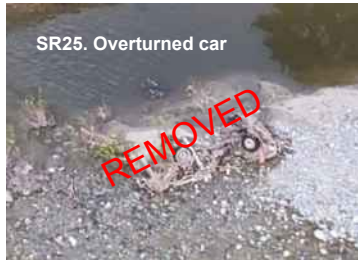
SR50. Tire, rubber mat, tarp, misc. Debris



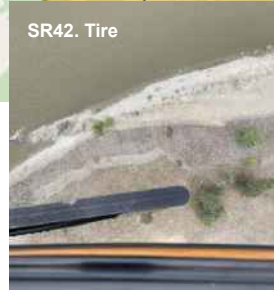
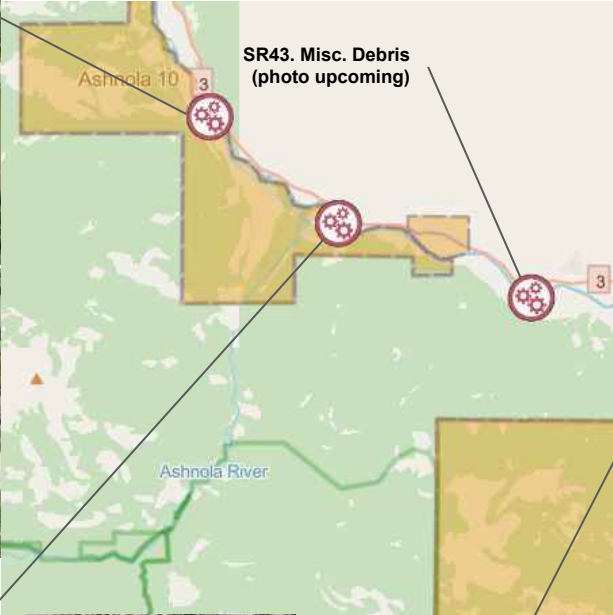
IN PROGRESS



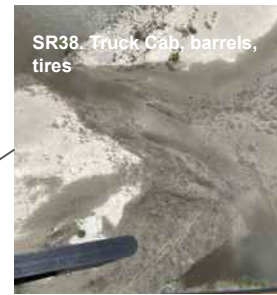
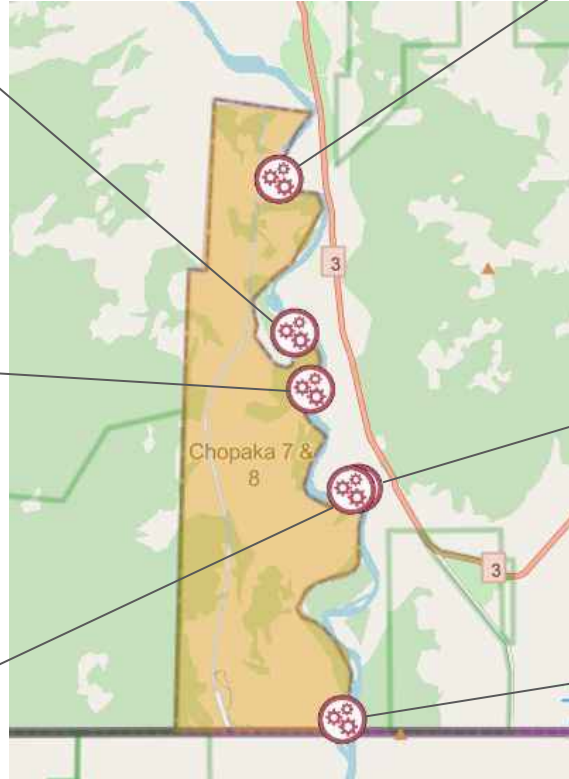
# Similkameen River



# Similkameen River



# Similkameen River





# 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-46: in progress</li> <li>○ SR-50, 51, 52 : week of Aug 29</li> </ul> </li> <li>● Additional dates to be provided in future reports.</li> </ul>
Contractors involved	Waste management process
<p>Debris removal: Clearview Demolition, Tri Valley Construction            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>Continued with safety and execution planning; and</li><li>Completed refocus on safety and orientation for project team on Aug 24 in Princeton.</li></ul>	<ul style="list-style-type: none"><li>Recommence field work at various sites;</li><li>Continue with assessments; and</li><li>Continue identifying new debris.</li></ul>
Relevant contacts	Debris removal close-out timeline:
<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>	<ul style="list-style-type: none"><li>Close-out timeline will be provided in future reports for Similkameen River.</li></ul>



# 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	2022-07-27
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	Concluded - Out of Scope	N/A
SR-29	N/A	Chuwanten bridge	Human-made	Removed	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 SR_1.50 SR_1.79 SR_1.81 SR_2.11	Fruit, boxes, lumber, debris in log pile, tires	Human-made	Identified	TBD
SR-36	SR_4.50 SR_4.72 SR_5.25 SR_5.70	Blue barrels, lumber in log pile, fruit box, tin	Human-made	Identified	TBD
SR-37	SR_6.90 SR_7.90 SR_9.10 SR_10.60	Apple Crates, tarps, parachute, tire, green cap	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-38	SR_10.95 SR_13.20 SR_15.80 SR_18.60 SR_18.68	Truck Cab, barrels, tires	Human-made	Identified	TBD
SR-39	SR_20.30 SR_20.35 SR_23.40 SR_25.65 SR_25.75	Tires	Human-made	Identified	TBD
SR-40	SR_28.08 SR_28.10 SR_28.40 SR_30.37 SR_30.68	Paddleboat, tires and misc. debris	Human-made	Identified	TBD
SR-41	SR_30.74 SR_31.00 SR_31.13 SR_32.05 SR_32.10	Debris in log pile, black pipe and tires	Human-made	Identified	TBD
SR-42	SR_32.73 SR_33.30 SR_33.80 SR_34.62	Tires, barrel and white debris	Human-made	Identified	TBD
SR-43	SR_37.58 SR_39.00	Misc. Debris, pallet	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-44	SR_44.20 SR_45.20 SR_47.30 SR_47.68 SR_48.18	Tires, lumber, plywood, sign	Human-made	Identified	TBD
SR-45	SR_49.88 SR_51.30 SR_52.00 SR_54.80 SR_55.40	Misc. Debris, blue barrel, tires, tarp	Human-made	Identified	TBD
SR-46	SR_58.45 SR_59.95 SR_60.25 SR_60.35 SR_61.15	Debris against tree, tires, car	Human-made	In Progress	TBD
SR-47	SR_61.40 SR_61.45 SR_61.93 SR_62.50 SR_63.40	Lumber on gravel bar, culvert, tires, car body	Human-made	Removed	2022-08-02
SR-48	SR_66.30 SR_66.50	Debris near bank, tires	Human-made	Identified	TBD
SR-49	SR_72.96 SR_73.50 SR_74.63	Tarp, small debris on bank, tin	Human-made	In Progress	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-50	SR_85.70 SR_86.65 SR_86.75 SR_86.95 SR_87.30 SR_87.50 SR_87.70 SR_87.85 SR_88.00 SR_88.10 SR_88.20	Tire, rubber mat, tarp, misc. Debris	Human-made	In Progress	TBD
SR-51	SR_91.00 SR_91.02 SR_91.30 SR_92.20 SR_92.40 SR_93.10	Tires, blue barrel, debris in log pile	Human-made	In Progress	TBD
SR-52	SR_93.45 SR_93.60 SR_93.65 SR_93.70 SR_93.85 SR_94.20 SR_94.48 SR_95.10	Tires, metal debris, hot water tank, tin, white bag	Human-made	In Progress	TBD
SR-53	SR_96.40 SR_96.60 SR_98.80	Fridge, tire tube, blue shed	Human-made	Identified	TBD

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



07

Fraser River

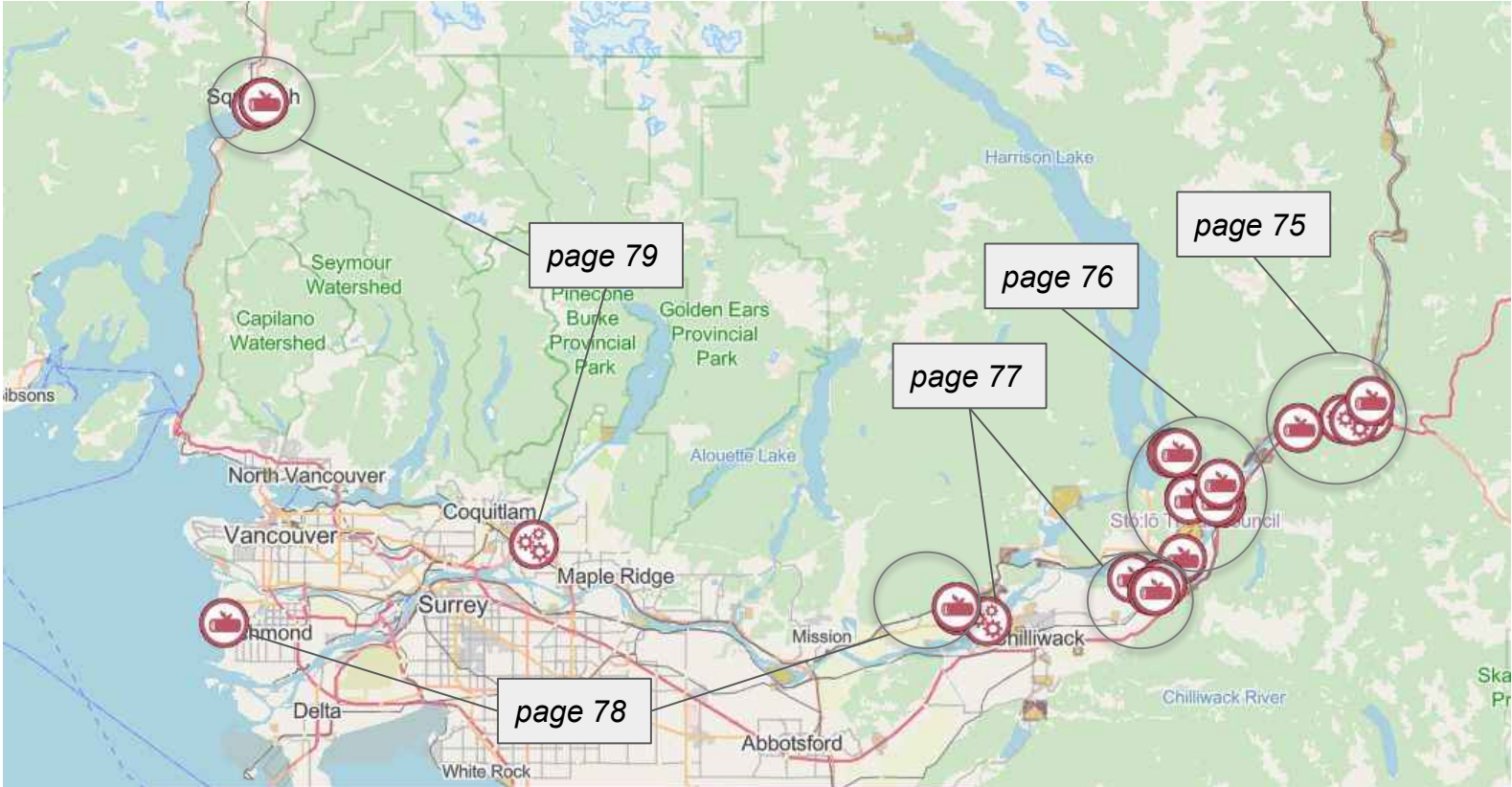


# Fraser River

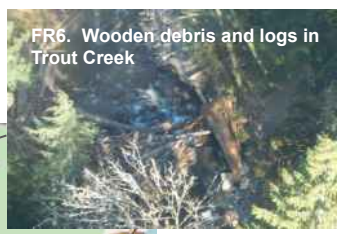
## OVERVIEW

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>Phase 1</p> <p>79 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>Phase 2</p> <ul style="list-style-type: none"> <li>● 9 sites removed</li> <li>● 2 sites in progress</li> <li>● 7 sites handed to third-parties for resolution</li> <li>● 18 sites remaining , some still waiting on regulatory approval.</li> </ul>	<p>ARC Heritage Investigation Permit 2021-0453 Issued under Section 12.2 of the Heritage Conservation Act.</p> <p>MOF 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>

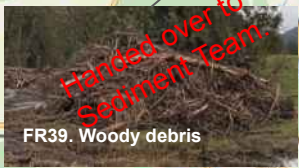
# Fraser River - overall view



# Fraser River



Denotes a new item on this week's report.

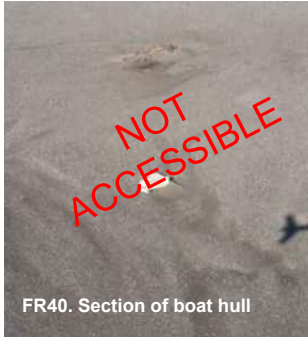




# Fraser River



# Fraser River



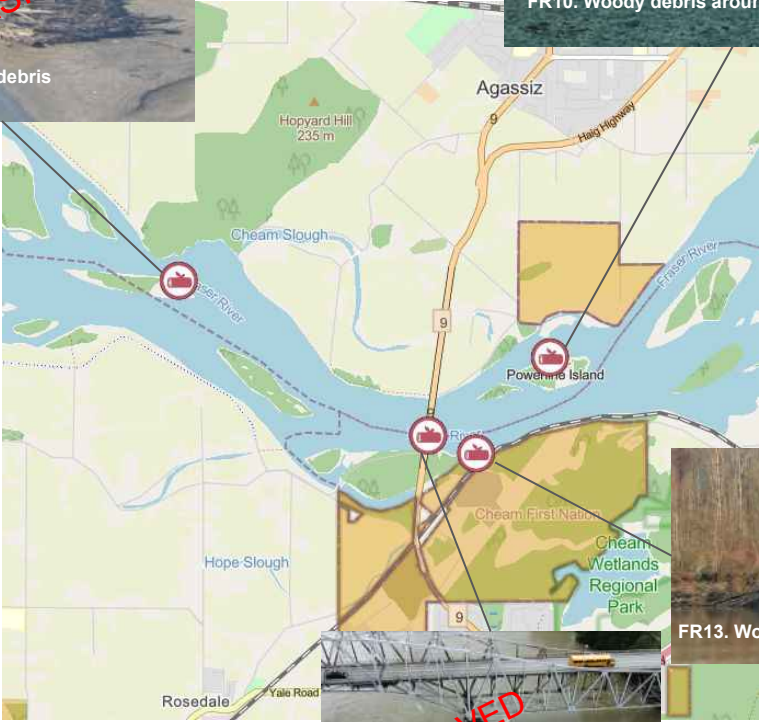
FR40. Section of boat hull



FR8. Woody debris



FR10. Woody debris around river



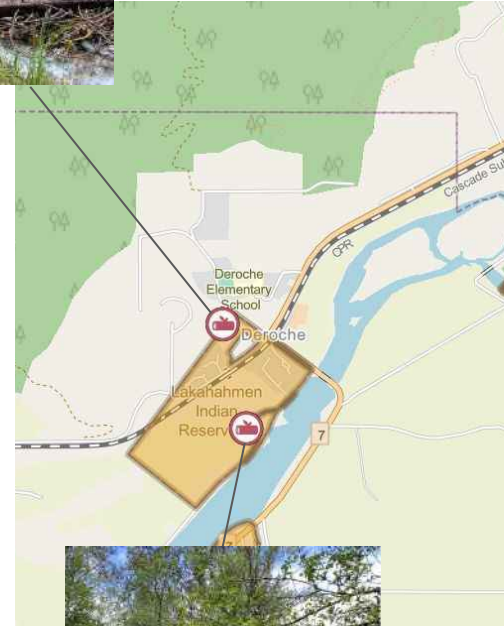
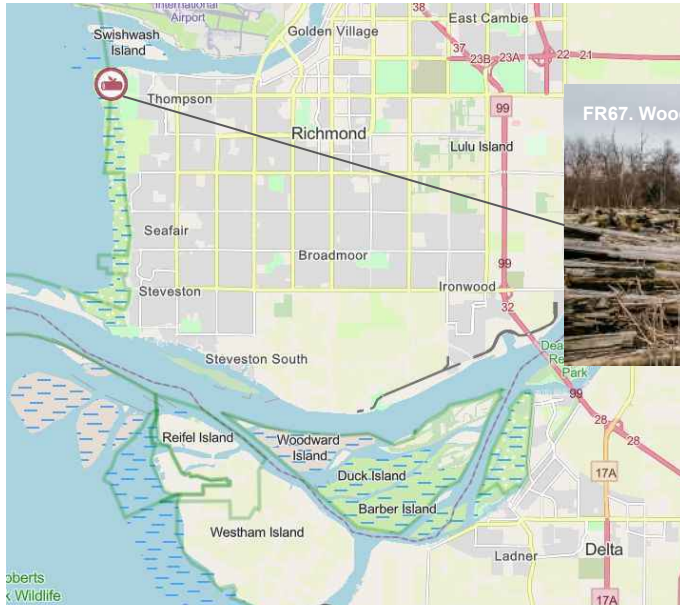
FR13. Woody debris



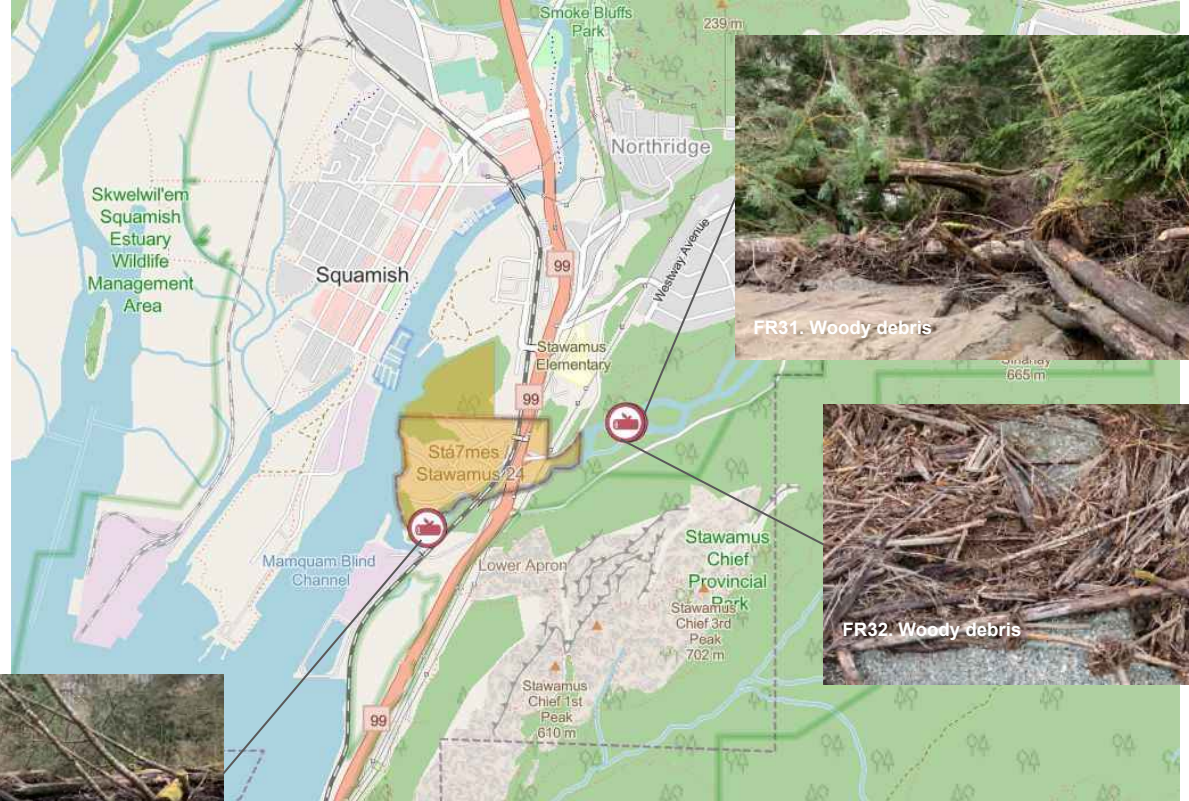
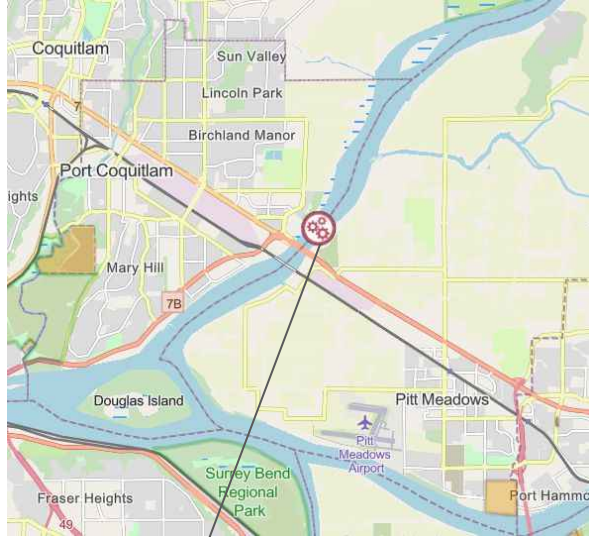
FR66. Woody debris around bridge pier



# Fraser River



# Fraser River



FR31. Woody debris



FR32. Woody debris



FR69. Misc. debris



FR33. Woody debris



# Fraser River progress



*Woody debris removal FR 10*



*Woody debris removal FR 10*

# 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 MOF to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<p>Work has begun post freshet:</p> <ul style="list-style-type: none"> <li>All pending regulatory approval sites have received approval, planning for these sites is underway.</li> <li>FR 39 has been handed over to Sediment Team for removal due to combination of sediment and debris.</li> <li>3 sites no longer require action as woody debris has been washed away by 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>Continued the assessment of woody natural debris, discuss strategy with appropriate parties, regulatory approval pending.</li><li>Ongoing communication with the FN bands</li></ul>	<p><b>Upcoming Work</b></p> <ul style="list-style-type: none"><li>Begin 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>Reassessment on certain Fraser sites post freshet as requested by MOF.</li><li>Mobilization of Linear debris crews anticipated for end of August.</li><li>Phase 2 work planning\scheduling continues.</li></ul>
Relevant contacts	Debris removal close-out timeline:
<p>Contact for Contractors questions: <a href="mailto:mj.siahdashti@pwc.com">mj.siahdashti@pwc.com</a> and <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></p>	<ul style="list-style-type: none"><li>Close out timeline to be assessed once work has progressed further.</li></ul>

# Fraser River

Map ID	Description	Type	Status	Removal date
FR-2	Natural debris with human made debris	Human-made	In Progress	TBD
FR-6	Woody debris in Trout Creek	Natural	Identified	TBD
FR-7	Woody debris on banks	Natural	Identified	TBD
FR-8	Woody debris	Natural	Washed away by freshet	TBD
FR-9	Fallen over trees	Natural	Identified	TBD
FR-10	Woody debris	Natural	In Progress	TBD
FR-13	Woody debris	Natural	Identified	TBD
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	Removed	06/11/22
FR-28	Man made debris	Human-made	Identified	TBD
FR-29	Logs on river bed	Natural	Washed away by freshet	TBD
FR-30	Woody debris	Natural	washed away during freshet	TBD
FR-31	Woody debris (Squamish)	Natural	Identified	TBD
FR-32	Woody debris (Squamish)	Natural	Identified	TBD
FR-33	Woody debris (Squamish)	Natural	Identified	TBD
FR-35	Woody debris	Natural	Identified	TBD
FR-39	Woody debris	Natural	Site handed over to Sediment Team)	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	TBD
FR-66	Woody debris around pier cap	Natural	Removed	08\15\22
FR-67	Woody debris	Natural	Identified	TBD
FR-68	Woody debris	Natural	Identified	TBD
FR-69	Misc. debris	Human-made	Identified	TBD
FR-70	Silver car and woody debris	Human-made	Removed	08\13\22
FR-71	Woody Accumulation on Bridge Pier - Landing drive - Skwah FN	Natural	Identified	TBD



08

Chilliwack  
River &  
Vedder  
River/Canal

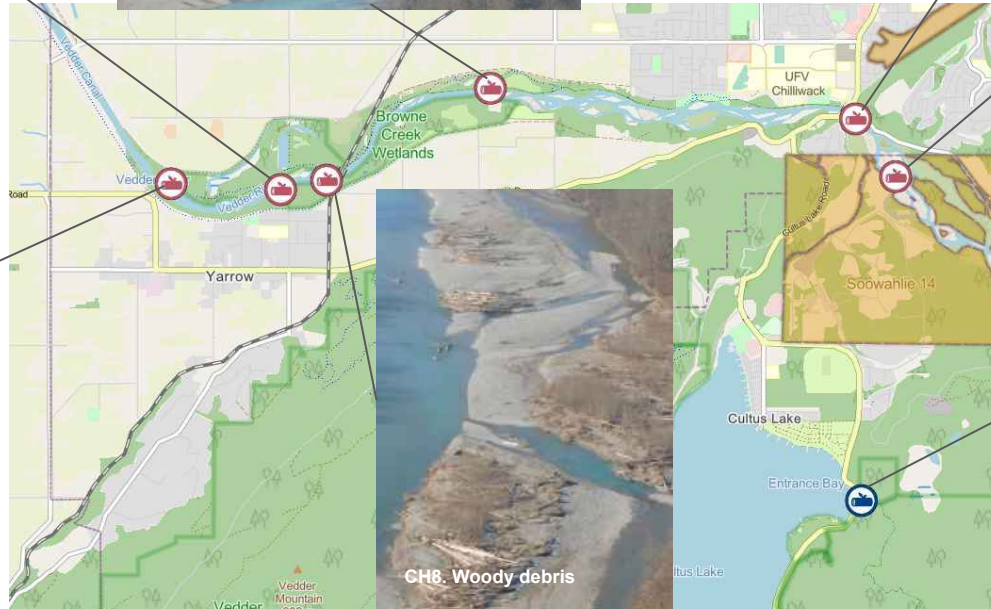


# Chilliwack River & Vedder River/Canal

## 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>Phase 1 57 debris sites identified of which</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>Phase 2</p> <ul style="list-style-type: none"> <li>● 5 sites removed</li> <li>● 1 site has been assessed and concluded not to be removed</li> <li>● 3 sites have been handed to third-parties for resolution</li> <li>● 20 sites in progress</li> <li>● 11 sites remaining as work identified .</li> </ul> <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>MOF 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

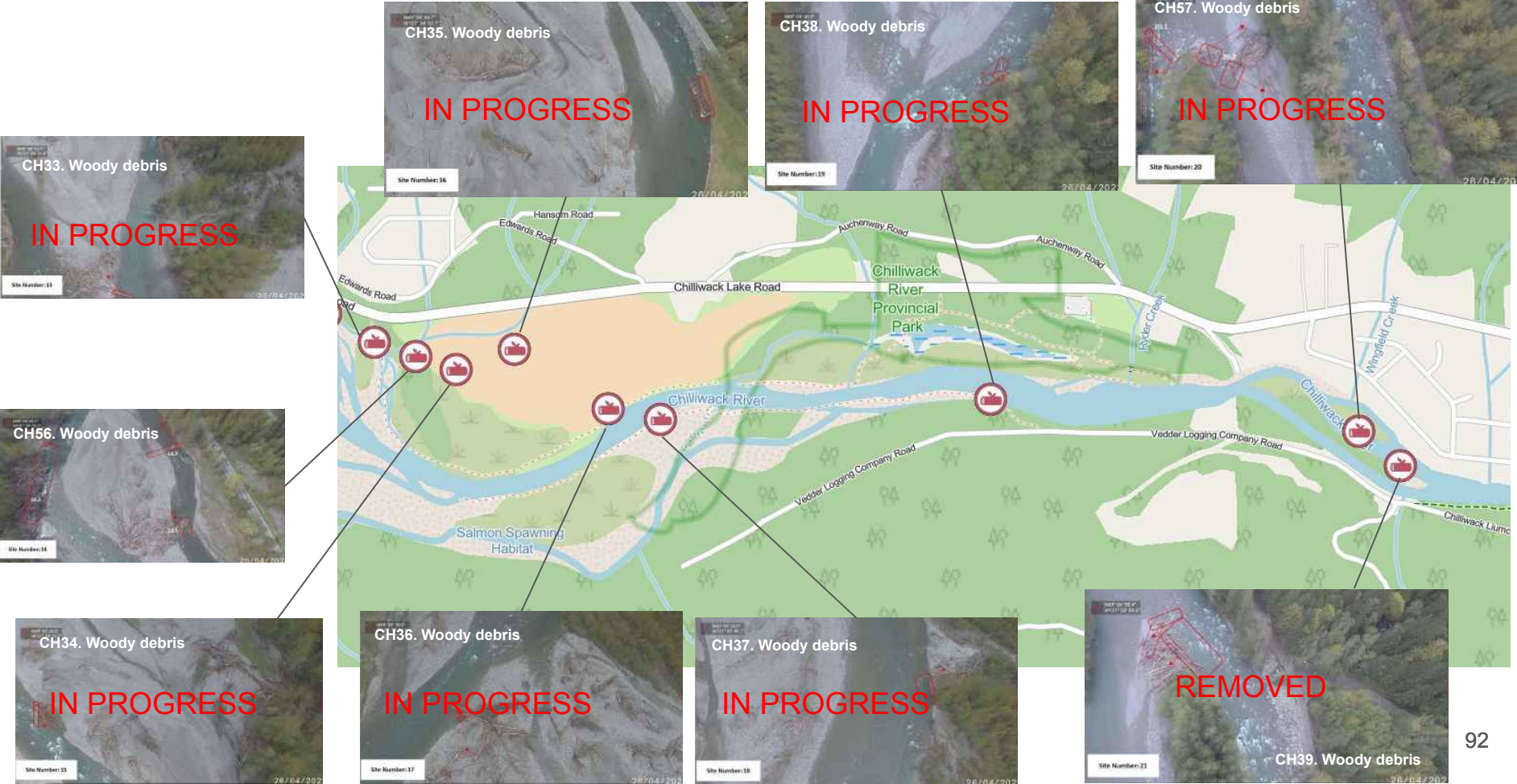


# Chilliwack River & Vedder River/Canal



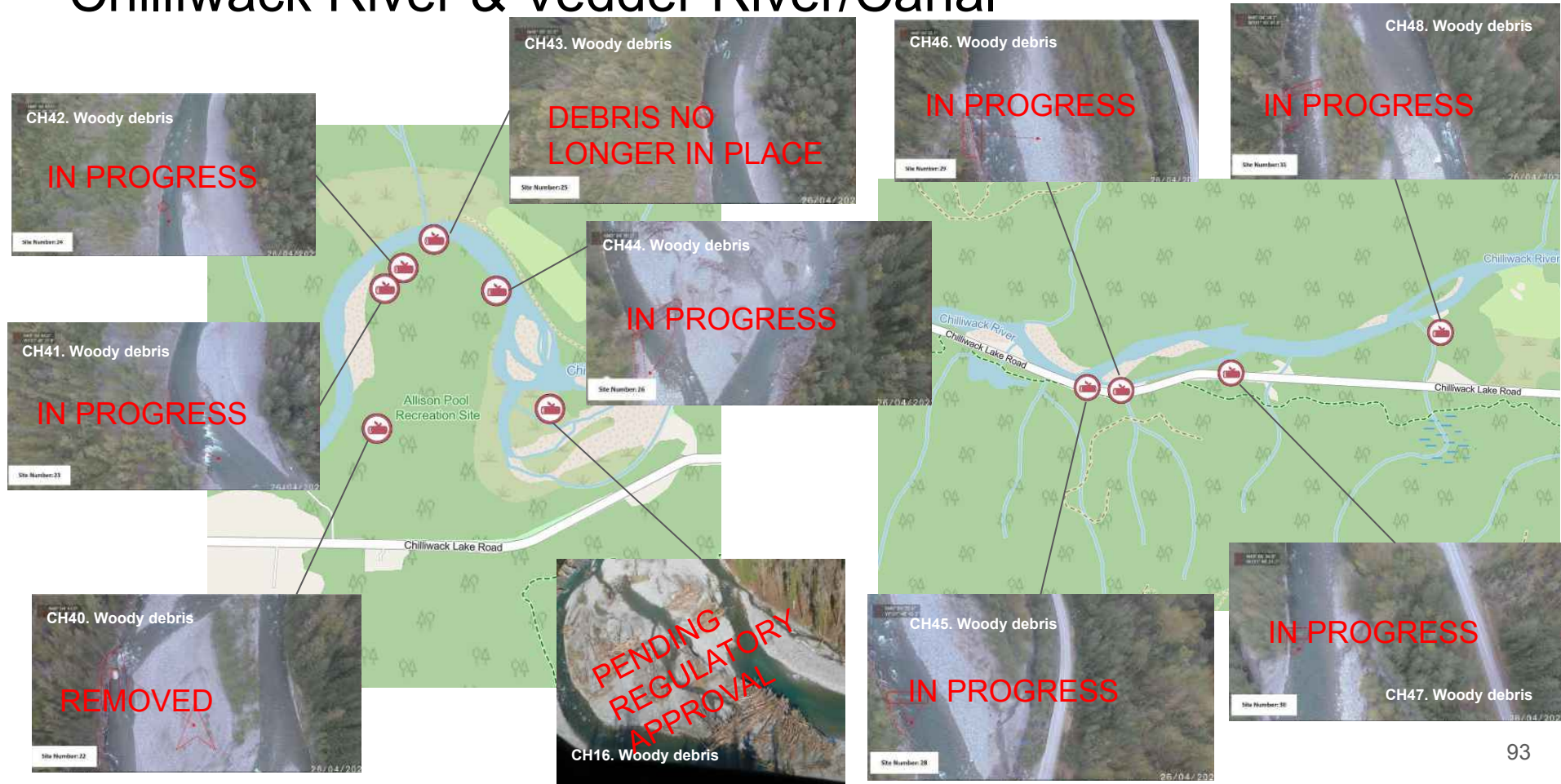


# Chilliwack River & Vedder River/Canal





# Chilliwack River & Vedder River/Canal



# Chilliwack River & Vedder River/Canal

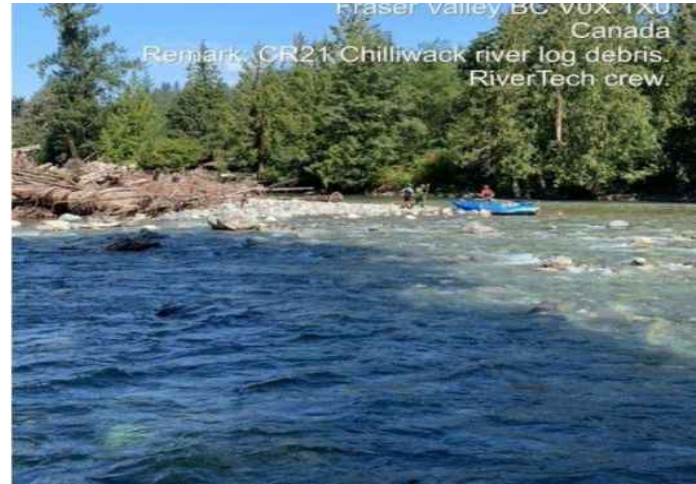




# Chilliwack River progress



*Woody debris CH39*



*Woody debris CH39*

# 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 MOF to determine if it poses a threat to public safety and/or infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• 5 sites 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>



# 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>• Ongoing removal of woody debris</li> <li>• CH 39 140 removed</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>• CH 29-37, Ch 44-48, CH 52-57 work in progress.</li> </ul> <p><b>Upcoming Work</b></p> <ul style="list-style-type: none"> <li>• Begin removal/relocation of woody debris along the river</li> <li>• Continue with planning and assessments due to impacts from freshet.</li> <li>• Reassessment on certain Chilliwack sites post freshet</li> <li>• Mobilization of Linear debris crews anticipated for end of August.</li> </ul>
Relevant contacts	Debris removal close-out timeline:
<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>	<ul style="list-style-type: none"> <li>• Close out timeline to be assessed once work has progressed further.</li> </ul>

# Chilliwack River & Vedder River/Canal

Map ID	Description	Type	Status	Removal date
CH-1	Large volumes of natural debris	Natural	Identified	TBD
CH-6	Woody debris	Natural	Identified	TBD
CH-7	Woody debris	Natural	Identified	TBD
CH-8	Woody debris	Natural	Identified	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	TBD
CH-16	Woody debris	Natural	Identified (pending regulatory approval)	TBD
CH-29	Woody debris	Natural	In progress	TBD
CH-30	Woody debris	Natural	In progress	TBD
CH-31	Woody debris	Natural	In progress	TBD
CH-32	Woody debris	Natural	In progress	TBD
CH-33	Woody debris	Natural	In progress	TBD
CH-34	Woody debris	Natural	In progress	TBD
CH-35	Woody debris	Natural	In progress	TBD
CH-36	Woody debris	Natural	In progress	TBD
CH-37	Woody debris	Natural	In progress	TBD
CH-38	Woody debris	Natural	In progress	TBD
CH-39	Woody debris	Natural	Removed	08/23/22
CH-40	Woody debris	Natural	Removed	08/23/22
CH-41	Woody debris	Natural	In progress	TBD

# Chilliwack River & Vedder River/Canal

Map ID	Description	Type	Status	Removal date
CH-42	Woody debris	Natural	In progress	TBD
CH-43	Woody debris	Natural	Debris no longer on site	TBD
CH-44	Woody debris	Natural	In progress	TBD
CH-45	Woody debris	Natural	In progress	TBD
CH-46	Woody debris	Natural	In progress	TBD
CH-47	Woody debris	Natural	In progress	TBD
CH-48	Woody debris	Natural	In progress	TBD
CH-49	Woody debris	Natural	Removed	08/17/22
CH-50	Woody debris	Natural	Removed	08/17/22
CH-51	Woody debris	Natural	Removed	08/17/22
CH-52	Woody debris	Natural	In progress	TBD
CH-53	Woody debris	Natural	In progress	TBD
CH-54	Woody debris	Natural	In progress	TBD
CH-55	Woody debris	Natural	In progress	TBD
CH-56	Woody debris	Natural	In progress	TBD
CH-57	Woody debris	Natural	In progress	TBD
CH-58	Weir at Smith Falls Creek	Natural	Concluded - Out of Scope	TBD
CH-59	Rusty vehicle buried in dirt	Human-made	Identified	TBD

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



09

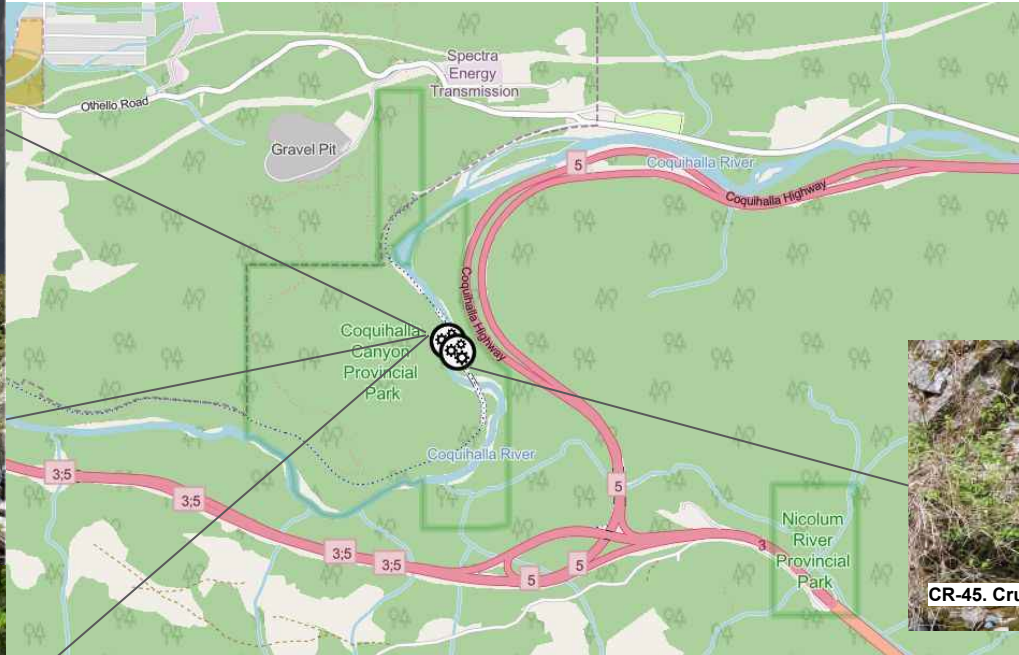
# Coquihalla River



# 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>49 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> <li>• 5 handed over for third party resolution.</li> </ul> <p>Phase 2</p> <ul style="list-style-type: none"> <li>• 2 debris site have removal completed;</li> </ul>	<p>ARC Heritage Investigation Permit 2021-0453 Issued under Section 12.2 of the Heritage Conservation Act.</p> <p>MOF 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 MOF 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> <li>• Aerial reconnaissance continuing</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>No progress since last week - all identified sites have been removed</li></ul>	<p><b>Work to be completed next week</b></p> <ul style="list-style-type: none"><li>Removal of any new debris sites identified and approved for removal.</li><li>Contractor to start planning for the linear debris removal on Coquihalla River</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></ul>
Relevant contacts	Debris removal close-out timeline:
<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>	<ul style="list-style-type: none"><li>Close out timeline to be assessed once work has progressed further.</li></ul>



# 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	Removed	2022-08-08

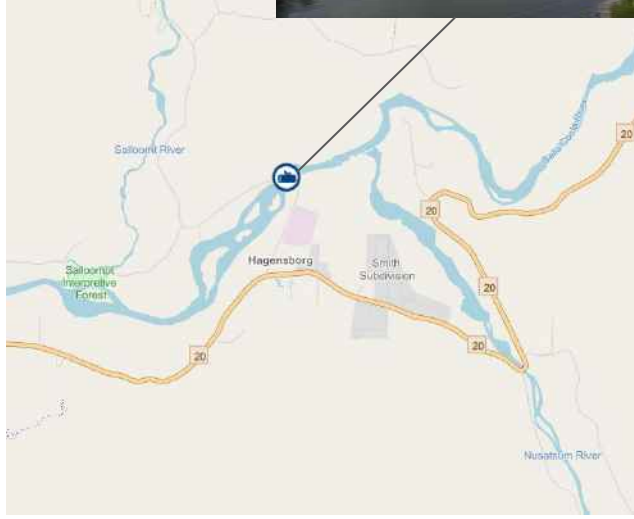
\* Where applicable, Contractor IDs are added, alignment is ongoing and will be updated as needed.



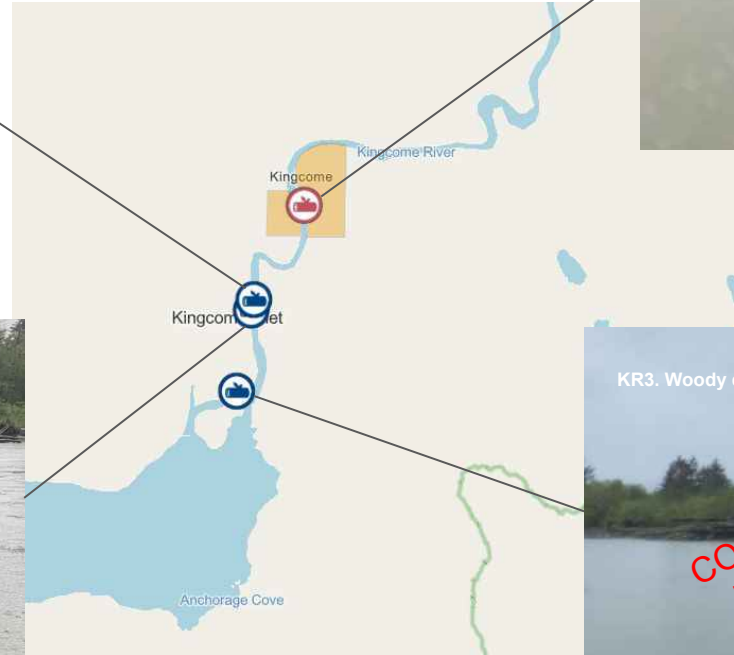
10

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	N/A
KR-3	Woody debris	Natural	Concluded - Out of Scope	N/A
KR-4	Woody debris	Natural	Concluded - Out of Scope	N/A



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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

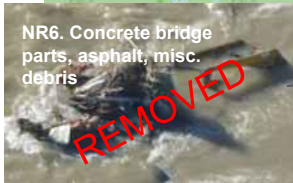
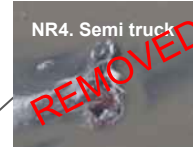
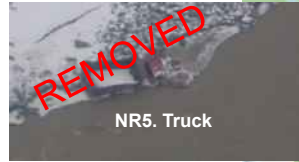
Acronym	Description
ARC	British Columbia Archaeology Branch
BR	Bella Coola River
CH	Chilliwack River
CR	Coquihalla River
CRS	Coastal Restoration Society
CW	Coldwater River
DFO	Department of Fisheries and Oceans Canada
FLNRO / MOF	The Ministry of Forests, Lands, Natural Resource Operations and Rural Development
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)	116 - 128
2	Coldwater River (Highway 5)	129 - 137
3	Thompson River	138 - 140
4	Tulameen River	141 - 150
5	Similkameen River	151 - 155
6	Fraser River	156 - 165
7	Chilliwack River	166 - 171
8	Coquihalla River	172 - 181

# 01. Nicola River - Known Debris

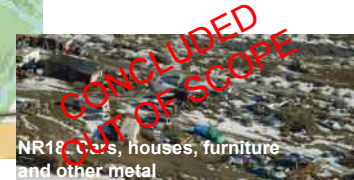
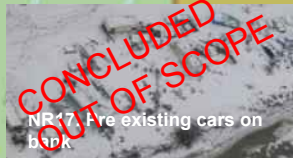
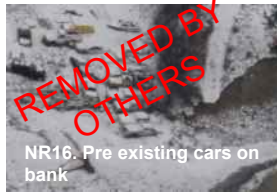




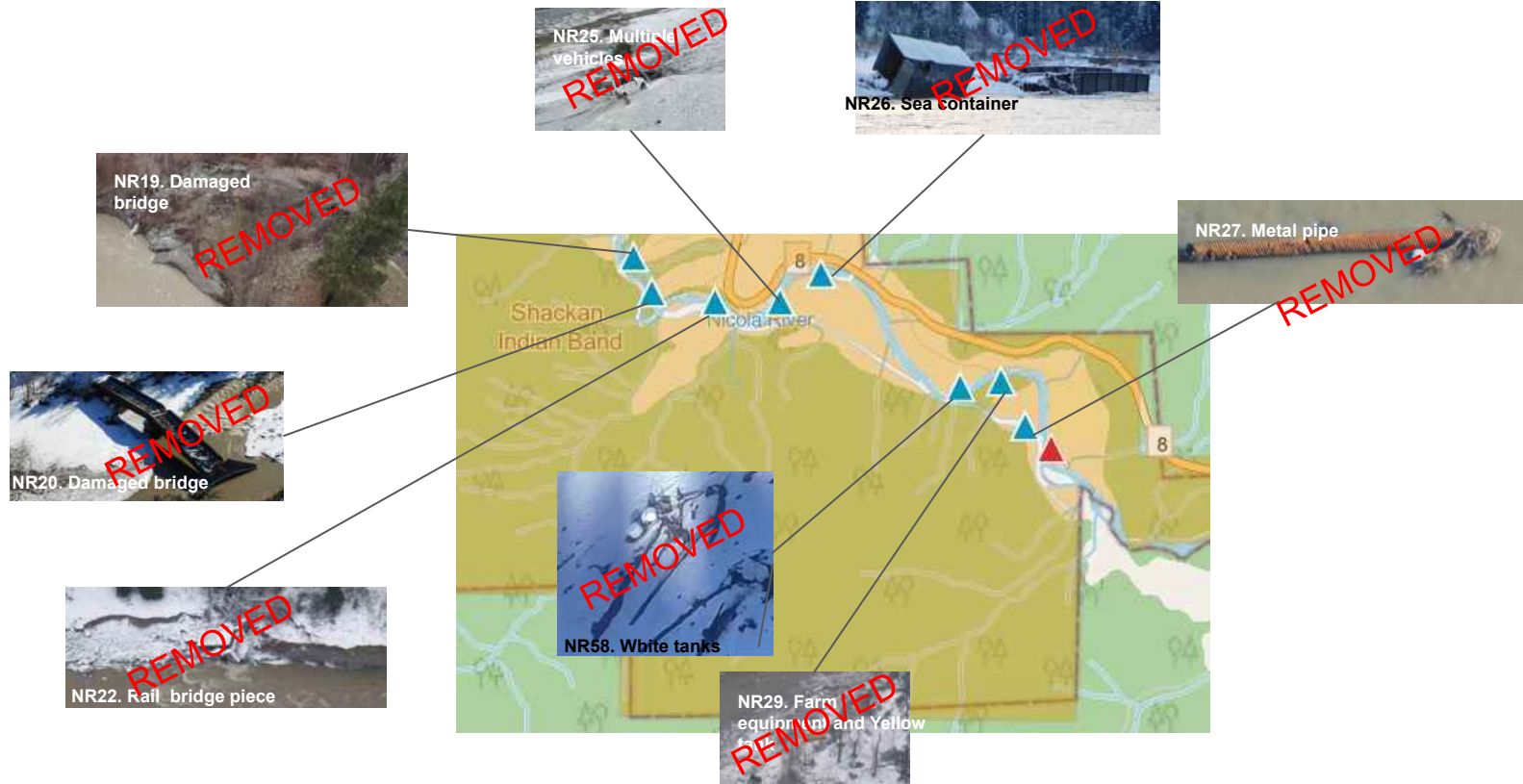
# 01. Nicola River - Known Debris



# 01. Nicola River - Known Debris



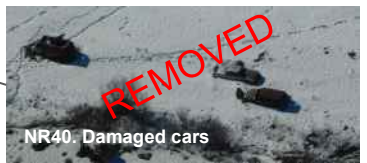
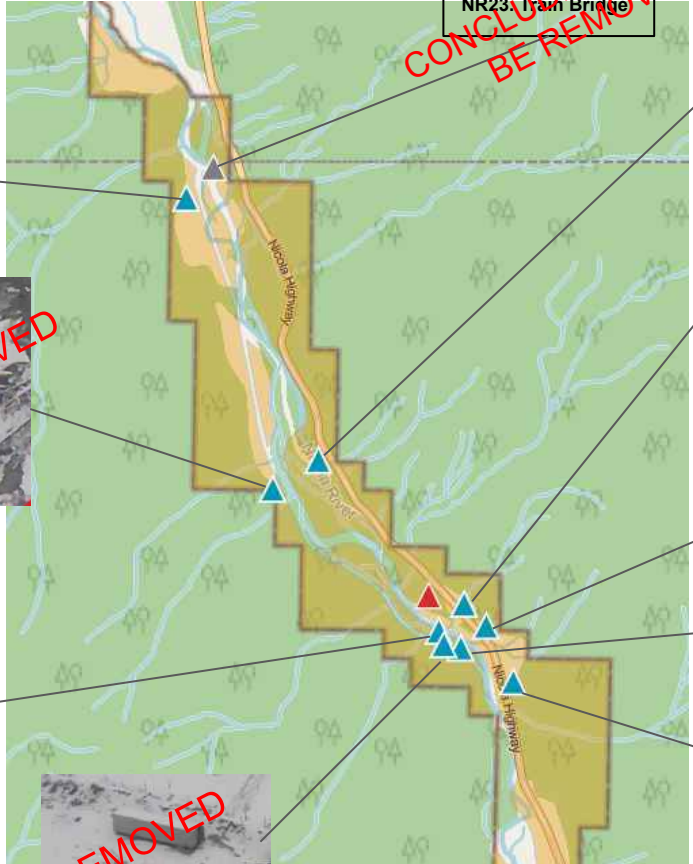
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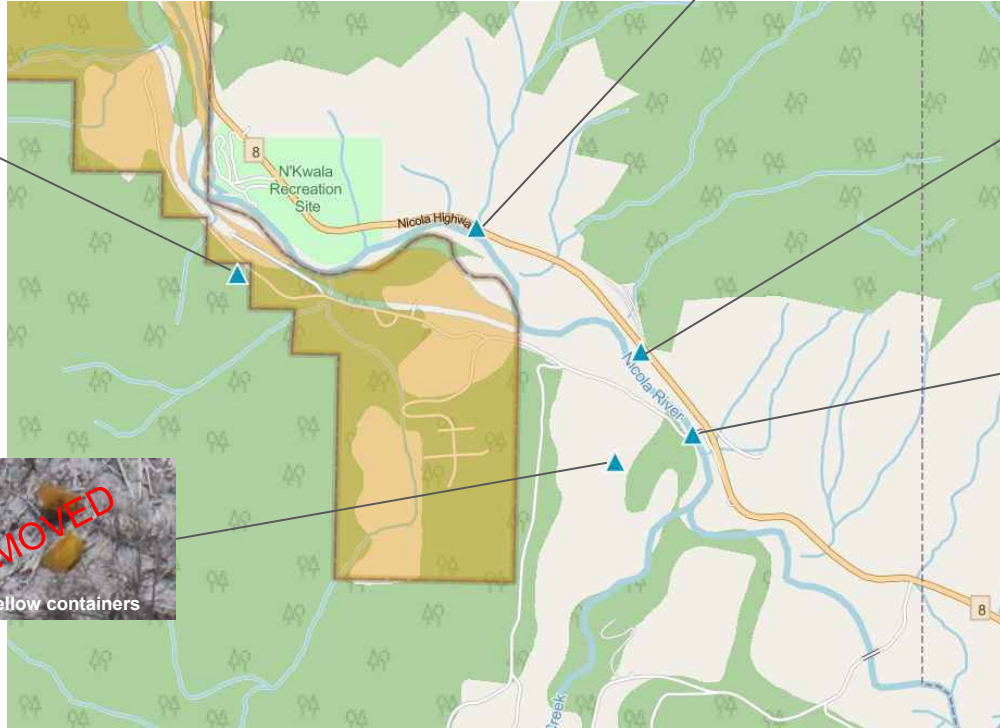


# 01. Nicola River - Known Debris

**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

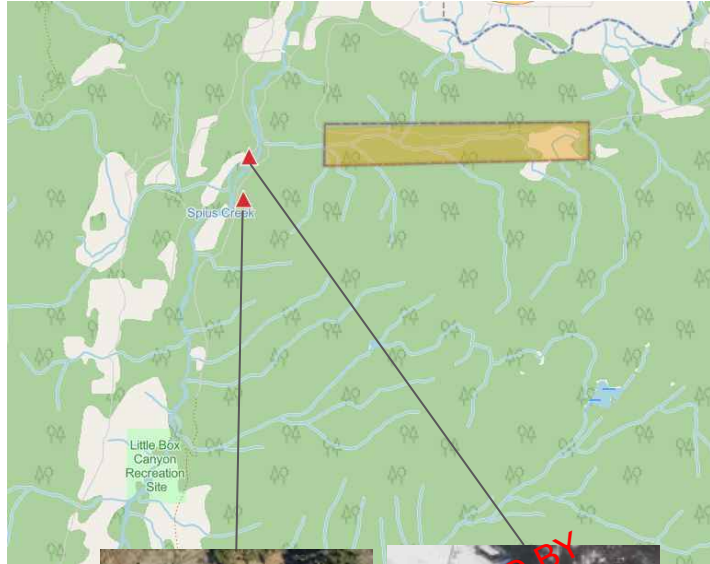




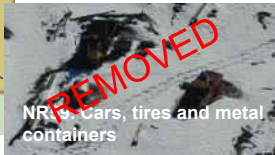
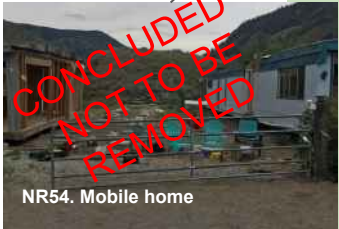
# 01. Nicola River - Known Debris



# 01. Nicola River - Known Debris



# 01. Nicola River - Known Debris



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

# 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
NR-24	NI_31.1	Metal pile mixed with natural debris	Human-made	Removed	2022-05-18
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

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



# 01. Nicola River

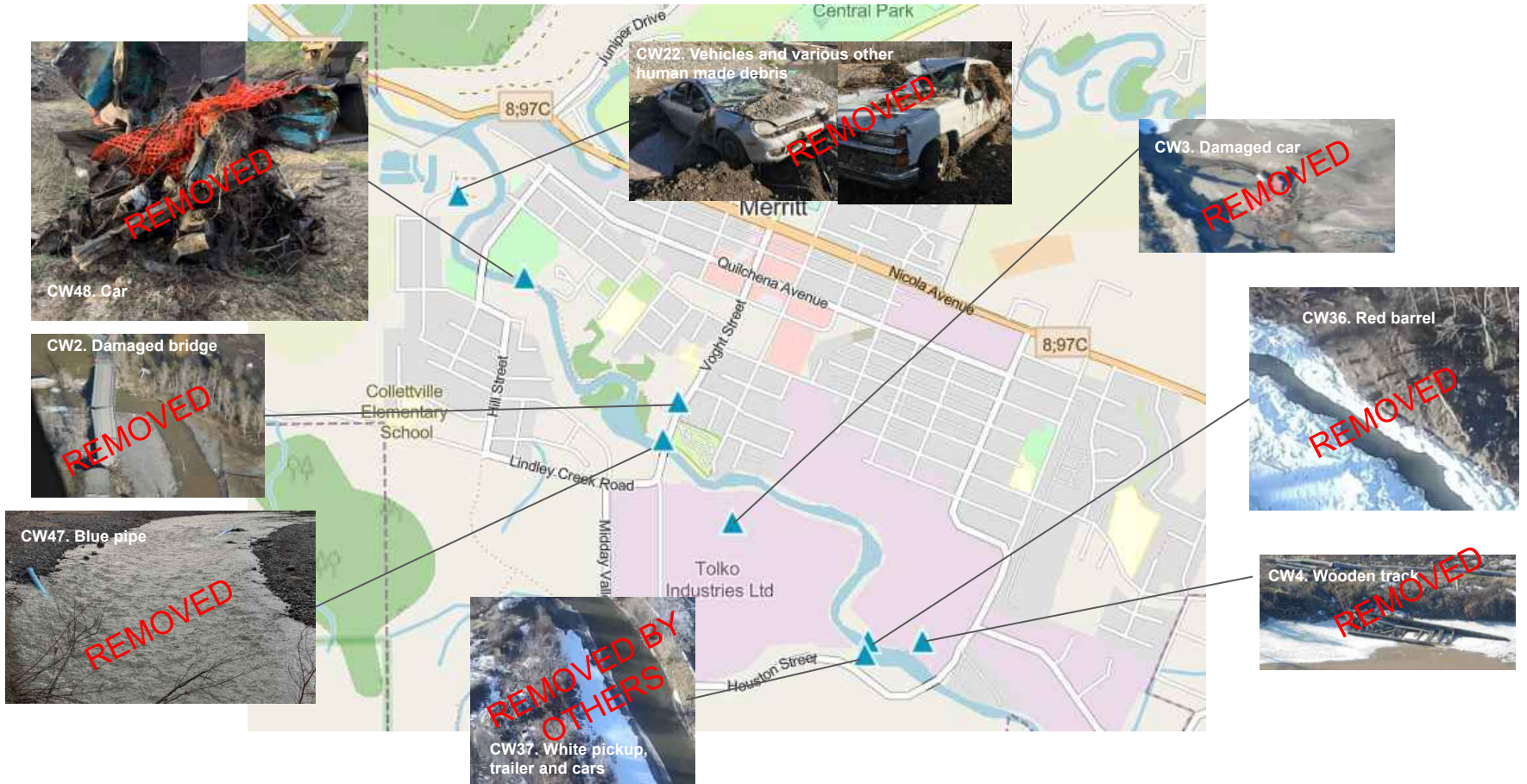
Map ID	Contractor ID*	Description	Type	Status	Removal date
NR-50	NI_61.0	Metal pipes	Human-made	Removed	2022-05-24
NR-59	NI_41.5	Cars, tires and metal containers	Human-made	Removed	TBD
NR-2	MOTI	Damaged bridge	Human-made	Removed by MOTI	2022-04-13
NR-16	NI_19.0	Pre-existing cars on bank	Human-made	Removed 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-54	NI_07.9	Mobile home	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.

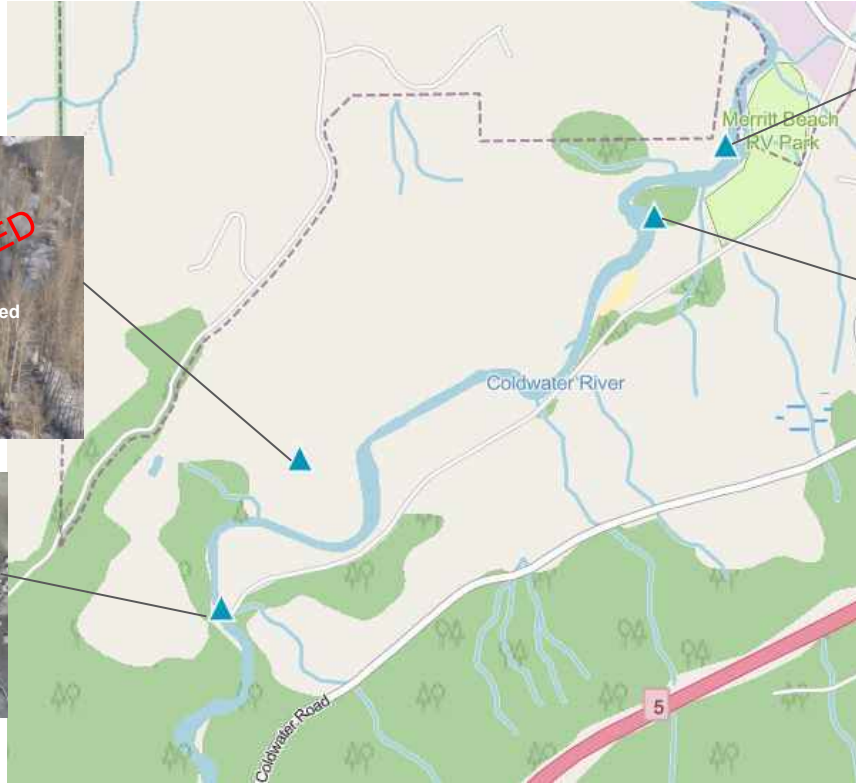
# 01. Nicola River - vehicles removed

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

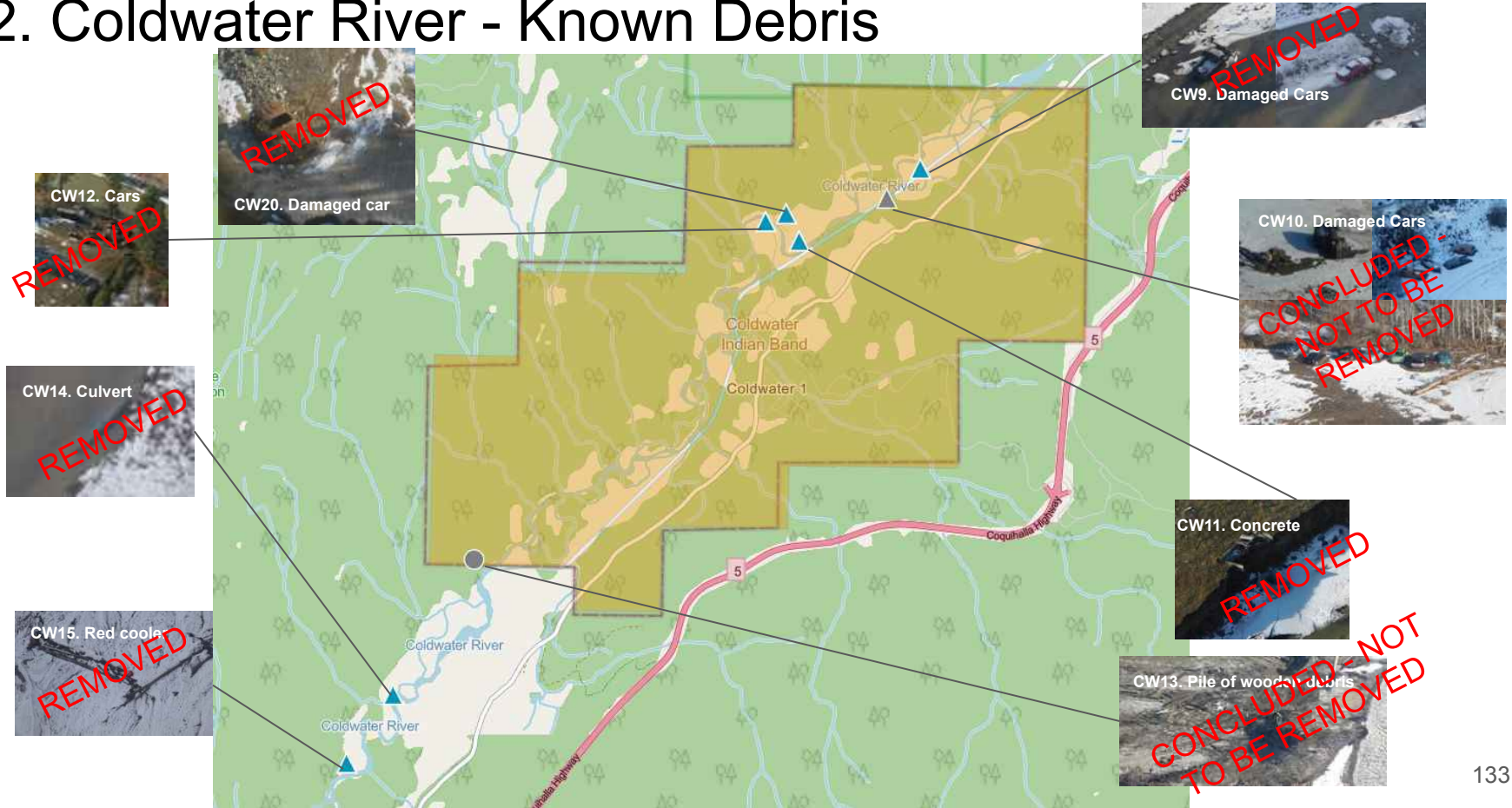


## 02. Coldwater River - Known Debris



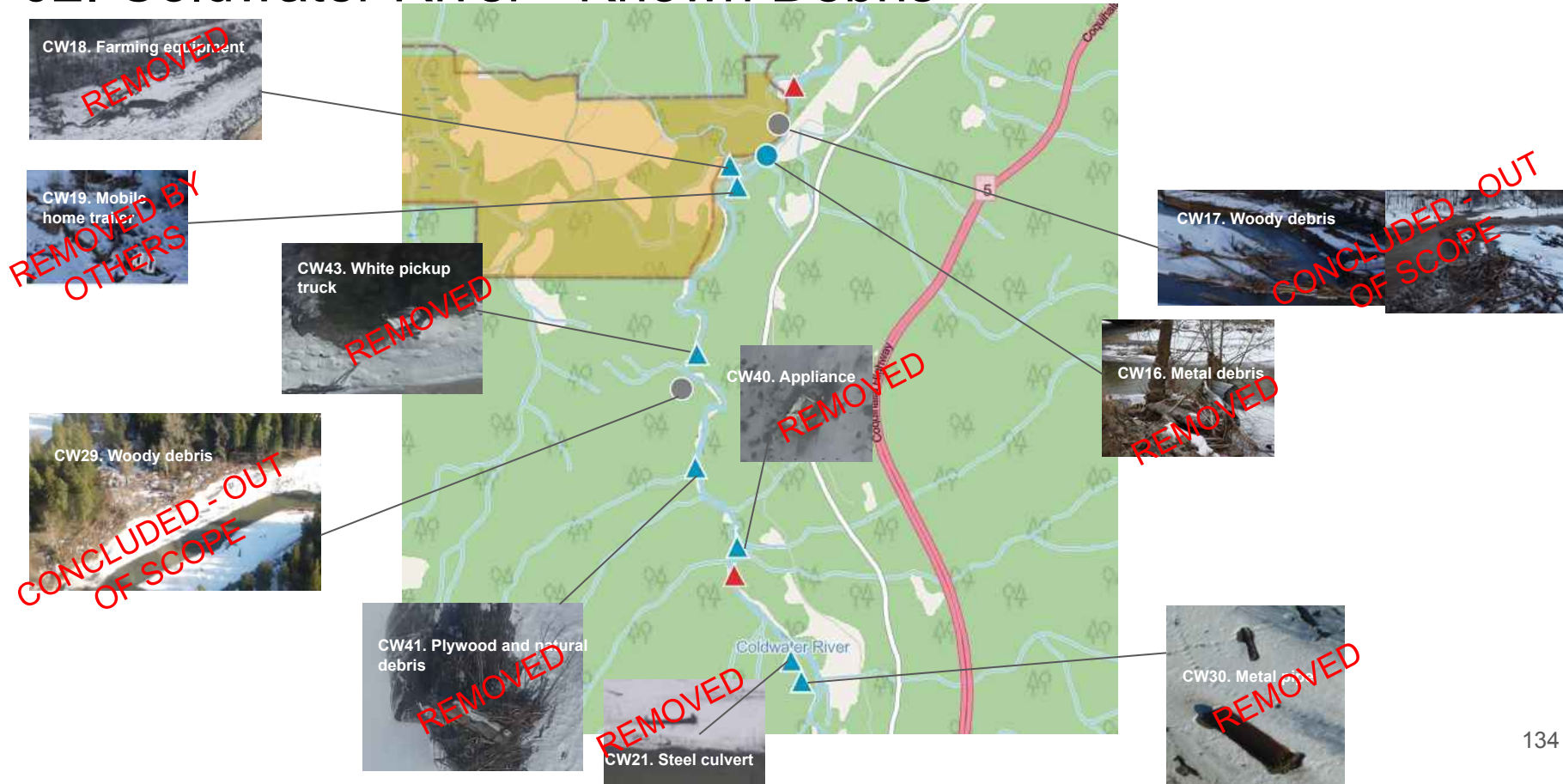


## 02. Coldwater River - Known Debris

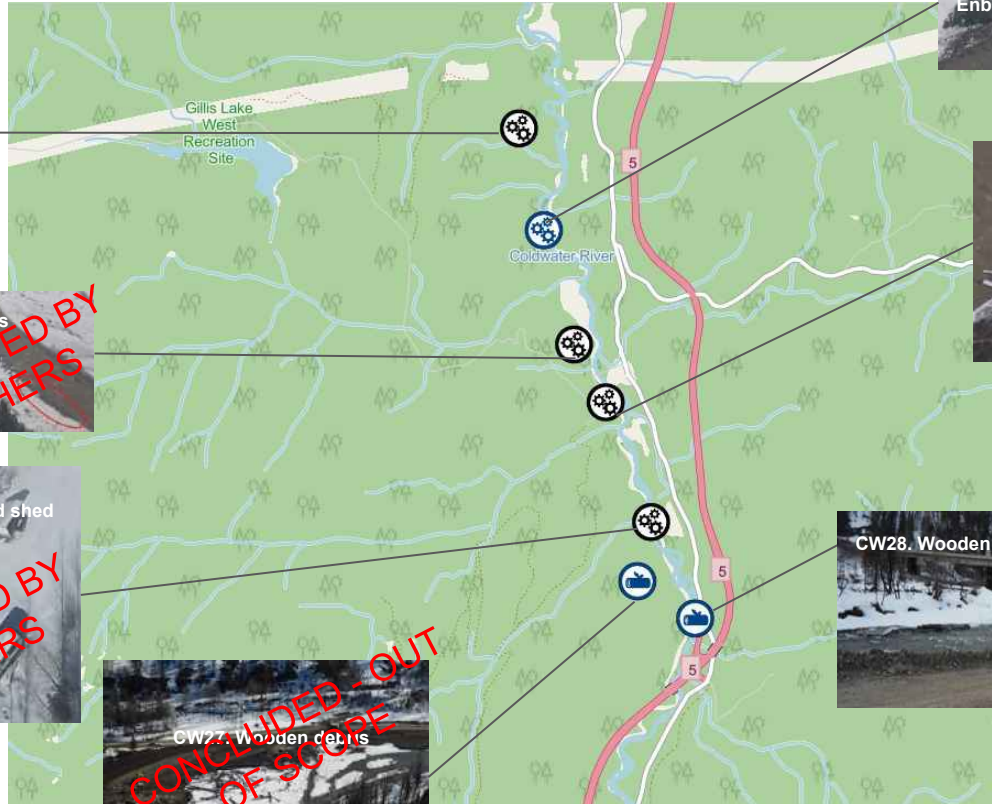




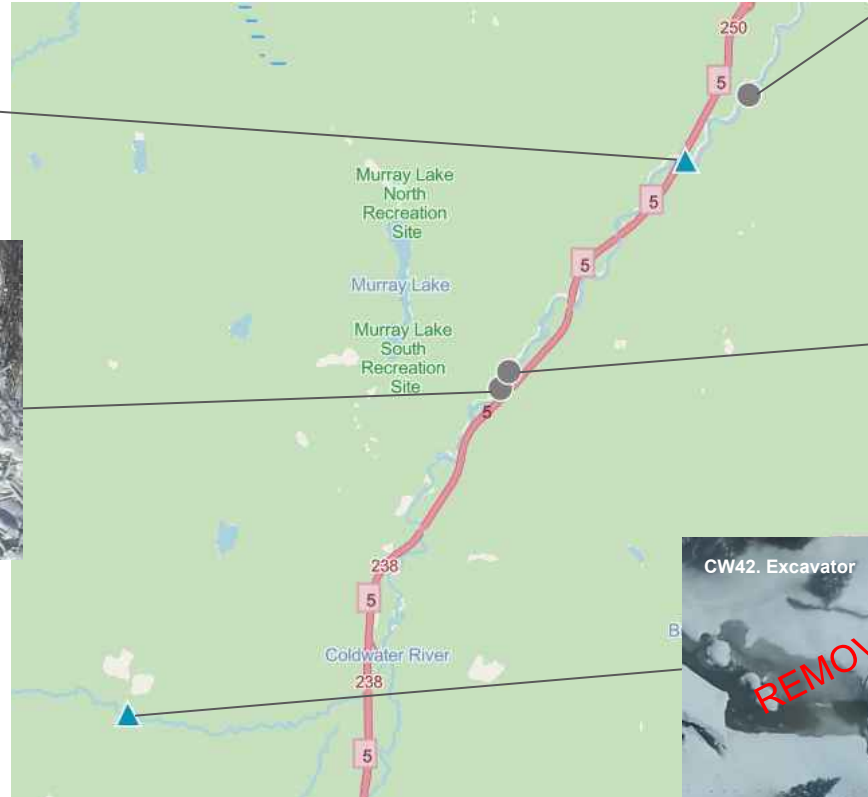
# 02. Coldwater River - Known Debris



# 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-10	CW_13.0	Damaged cars	Human-made	Concluded - Out of Scope	N/A
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



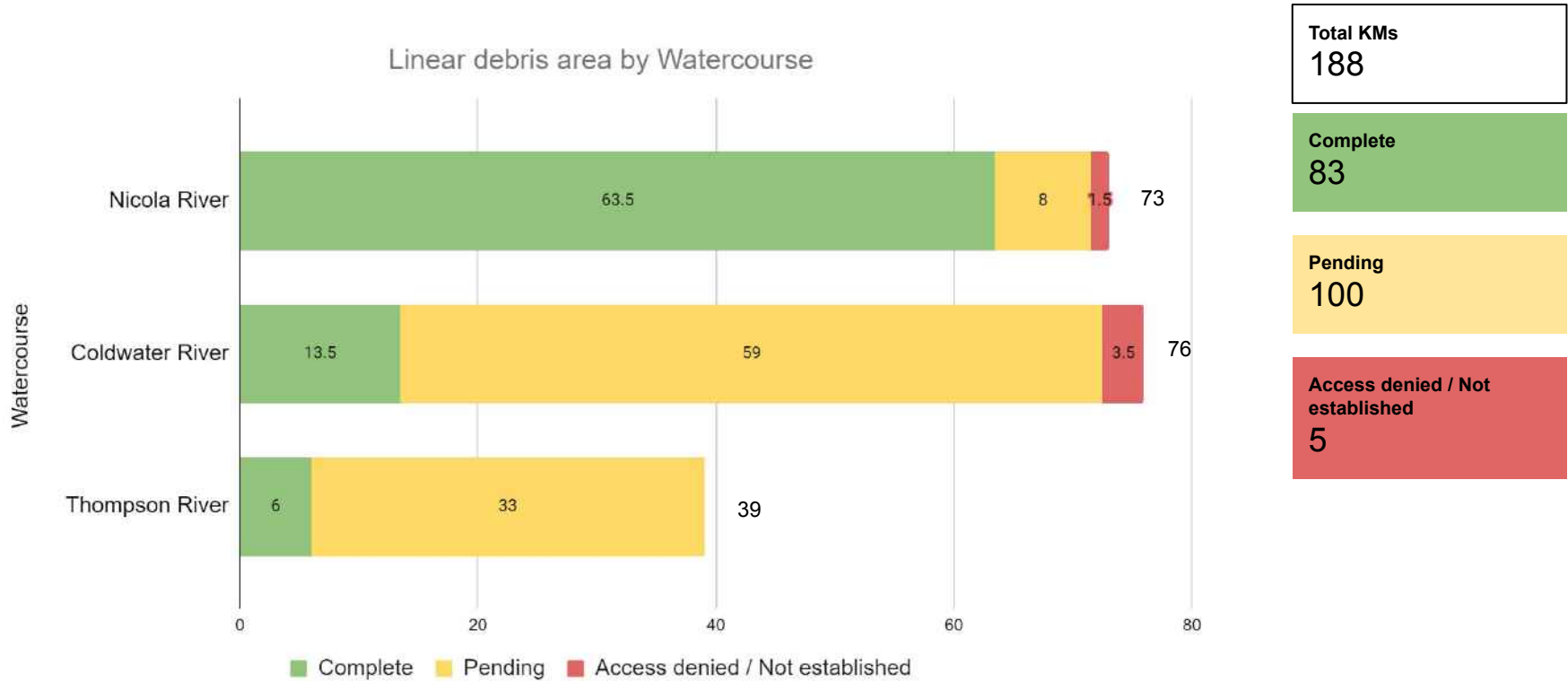
### 03. Thompson River - known debris



## 03. Thompson River

Map ID	Description	Type	Status	Removal date
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

# Linear Debris Progress in KMs - Merritt Region Phase 1





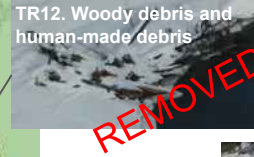
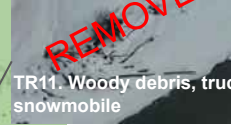
# 04. Tulameen River - Known Debris



CONCLUDED - NOT TO BE REMOVED



# 04. Tulameen River - Known Debris

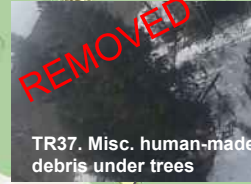
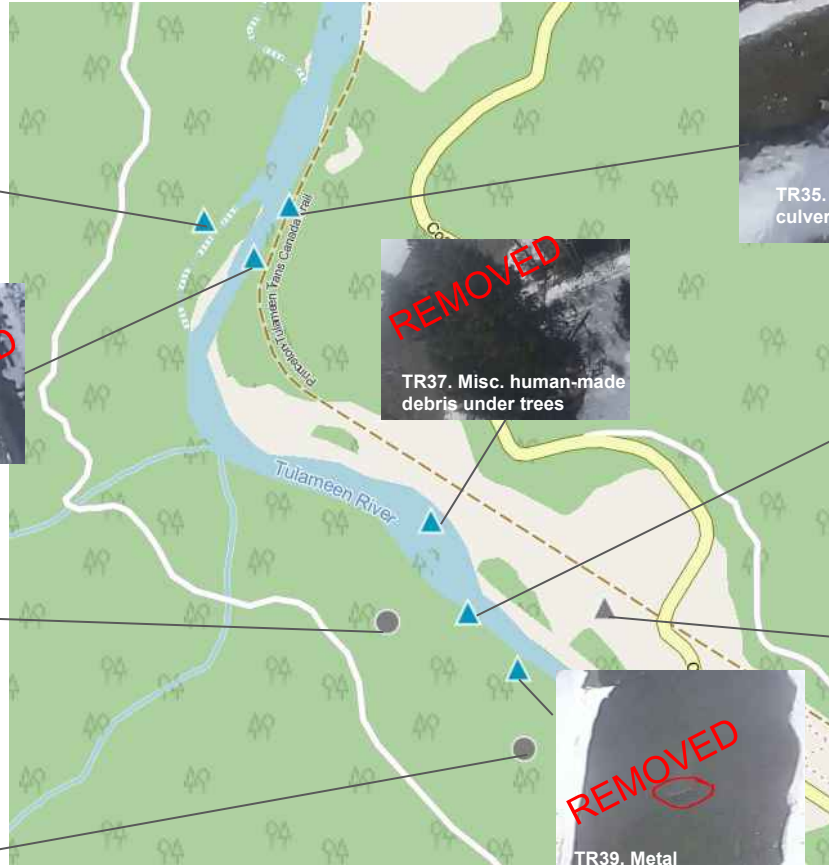


# 04. Tulameen River - Known Debris

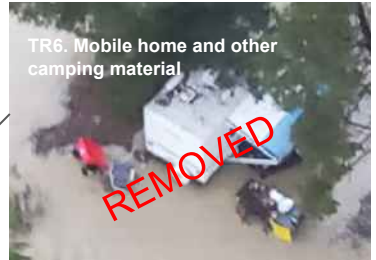
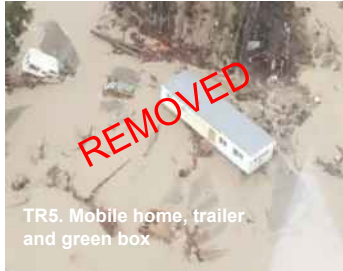




# 04. Tulameen River - Known Debris

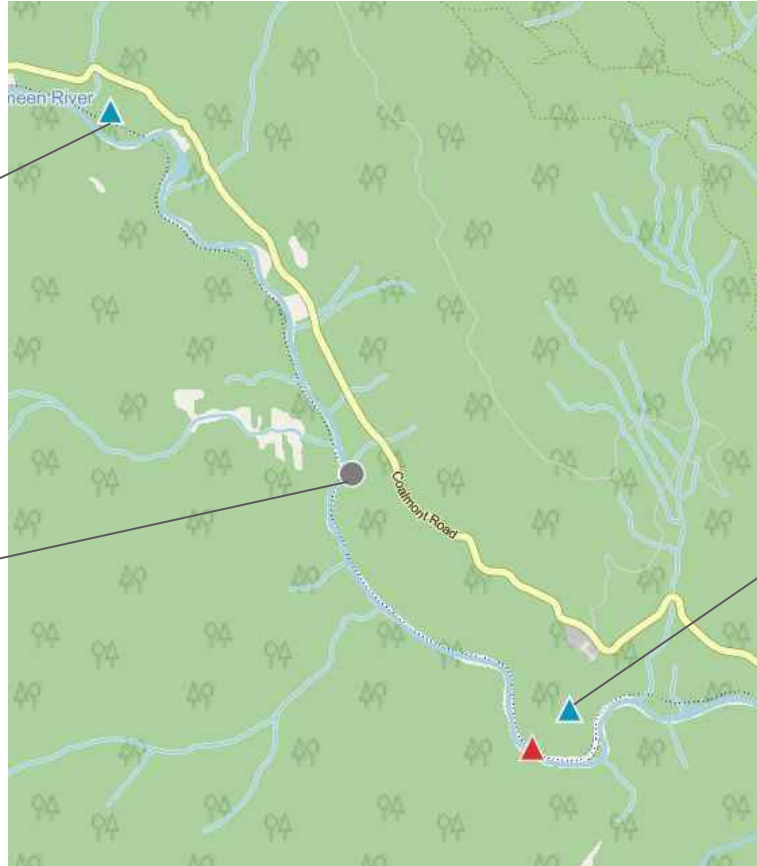


# 04. Tulameen River - Known Debris

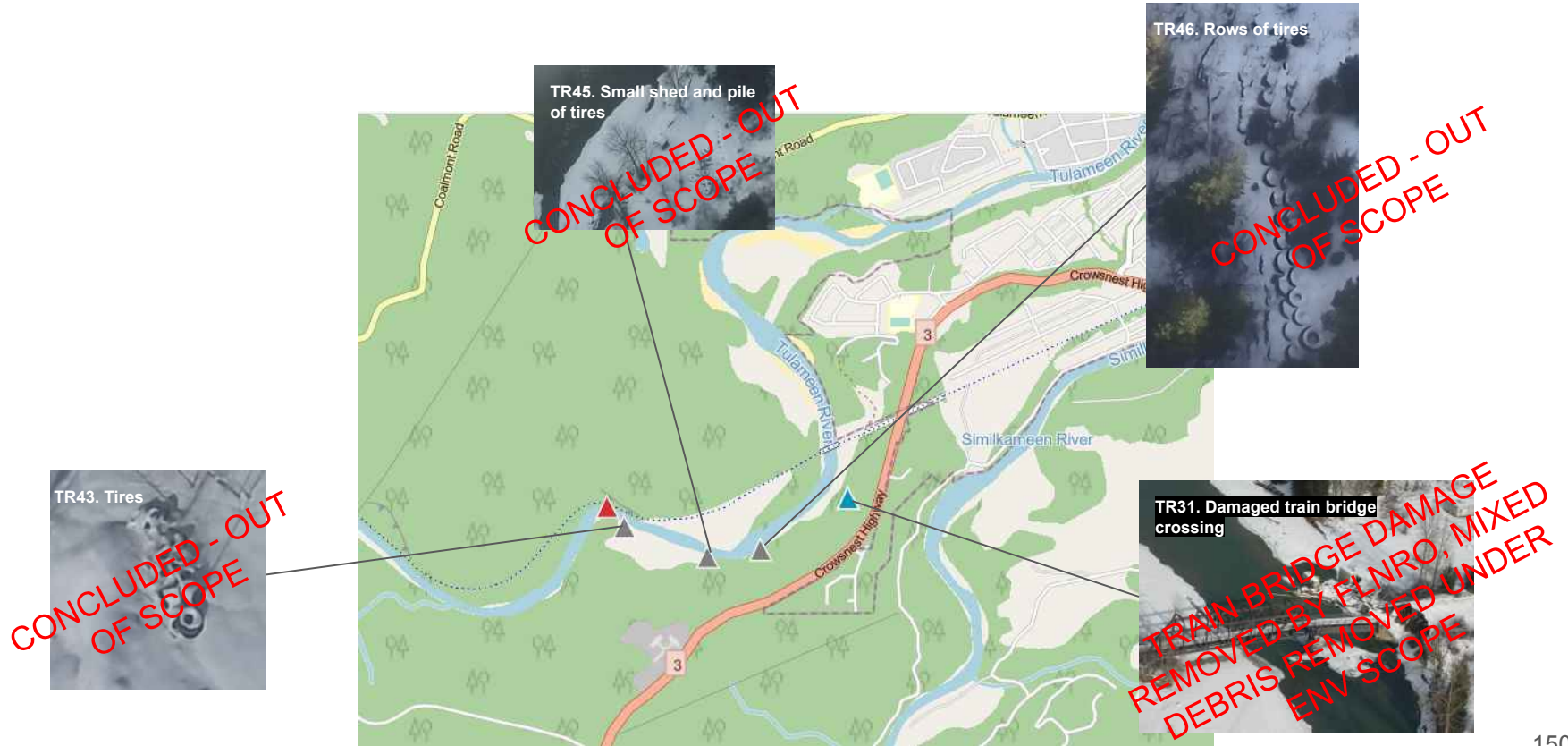




# 04. Tulameen River - Known Debris



# 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

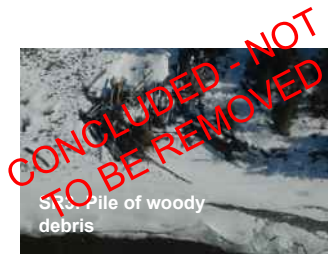


# 05. Similkameen River

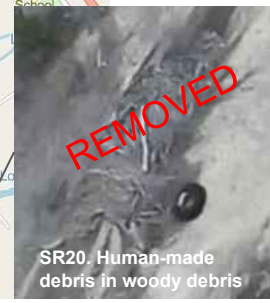
SR1. There is a red modular container (sea can) that has been pulled out of the river and is currently located a few metres off the side of Crossnest Hwy (unable to take photo because there was nowhere to pull off the road)



# 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

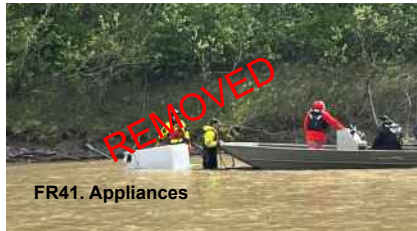
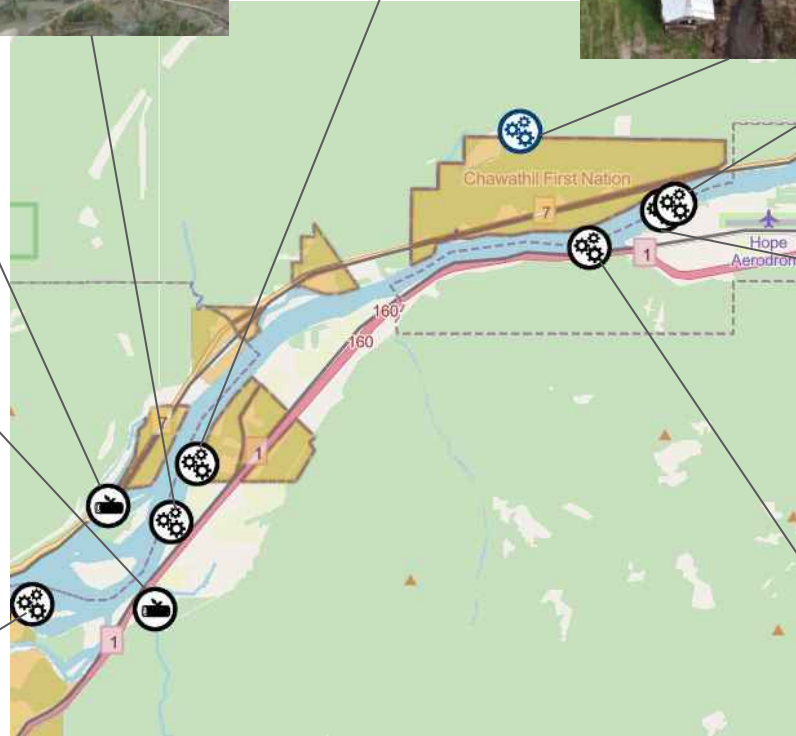


FR4. Woody Debris



FR26. Accumulation of tires

# 06. Fraser River



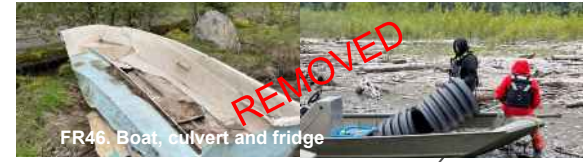
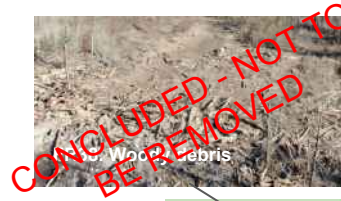


# 06. Fraser River

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

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

**FR25. White metal sheet multiple tires**



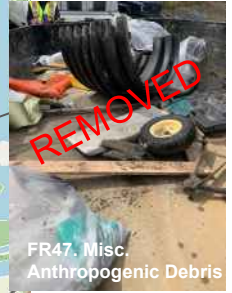
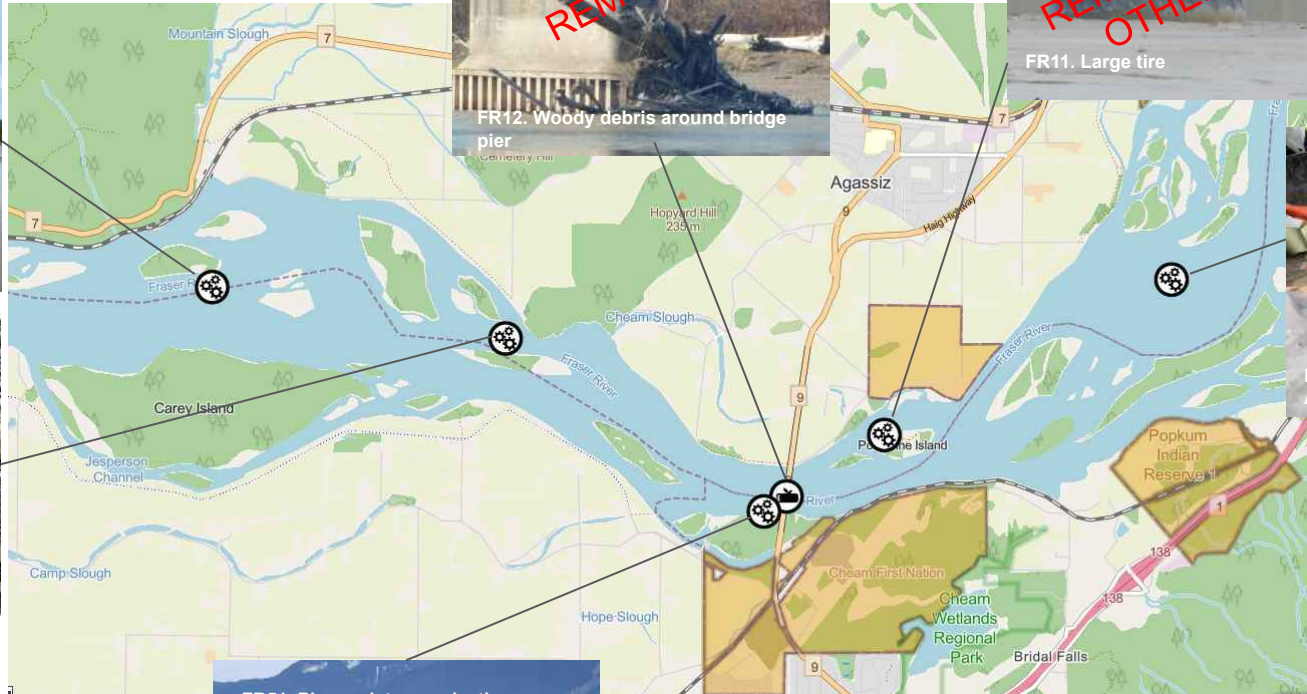
**REMOVED BY OTHERS**

**FR36. Freezer**

**FR37. Hot water tank**



# 06. Fraser River





# 06. Fraser River



FR44. Wood Accumulation on Bridge Pier



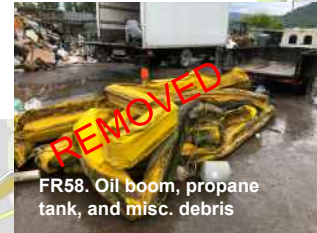
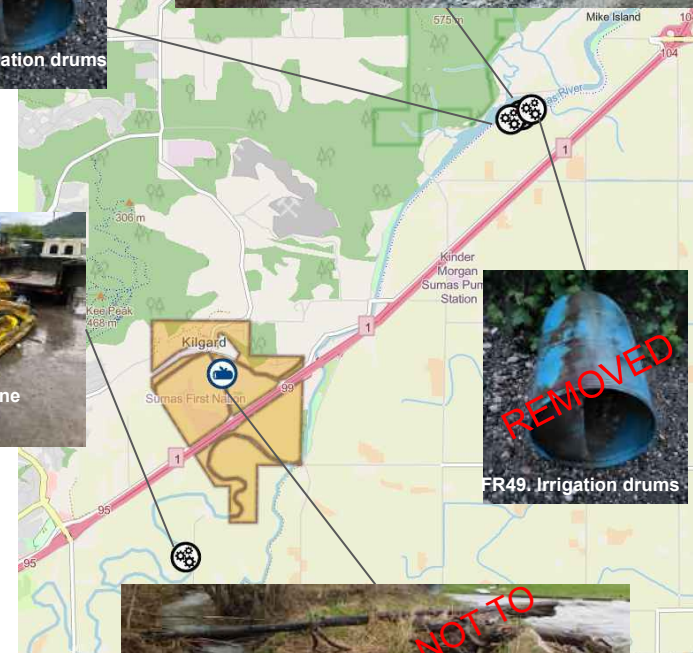
FR50. Irrigation drums



FR48. Irrigation drums



FR56. Tire



FR58. Oil boom, propane tank, and misc. debris



FR49. Irrigation drums



FR54. Oil tank



FR55. Freezer, steering wheel, and misc. debris



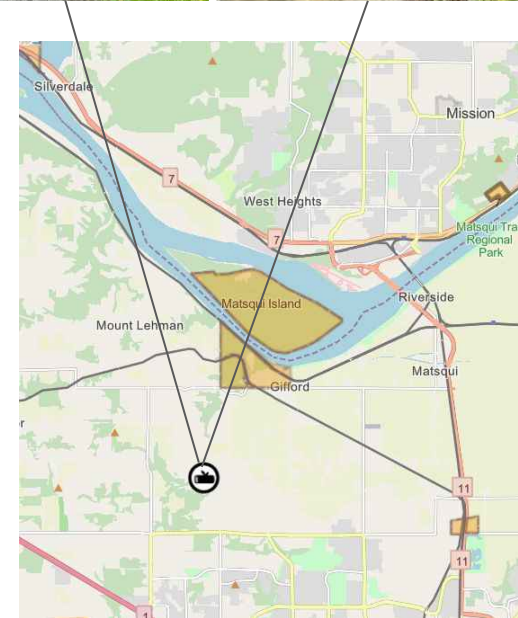
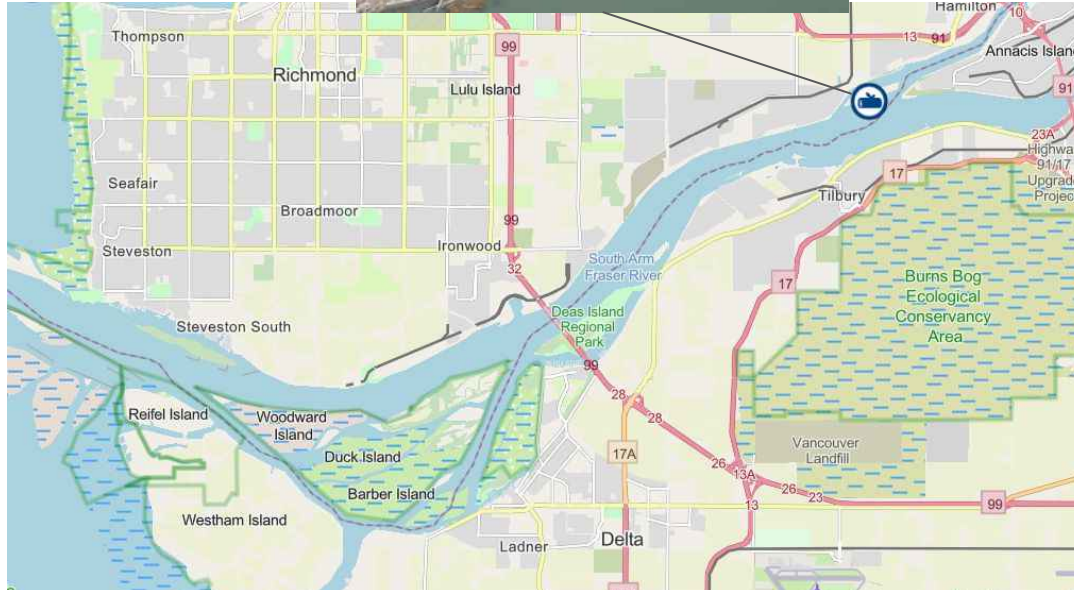
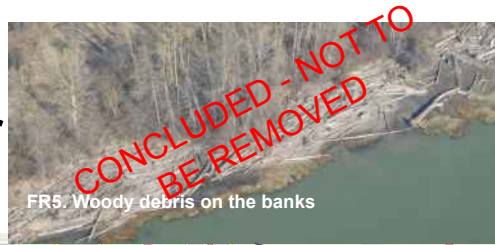
FR17. Woody debris around culvert.



# 06. Fraser River



# 06. Fraser River



# 06. Fraser River



The map shows the Fraser River delta region, including communities such as Thompson, Richmond, Lulu Island, Spafair, Broadmoor, Steveston, Ironwood, South Arm Fraser River, Steveston South, Reifel Island, Woodward Island, Duck Island, Barber Island, Westham Island, Ladner, and Delta. Major roads like 99, 32, 28, and 17A are also indicated.

**FR15. Woody Debris**  
REMOVED BY OTHERS

**FR16. The Canoe Pass dock has damage to the dock and the foundation for the dock is potentially damaged (pictures pending)**  
REMOVED BY OTHERS (REPAIRED)

**FR14. Tires and various other human made debris**  
REMOVED BY OTHERS

# 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-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-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



# 06. Fraser River

Map ID	Description	Type	Status	Removal date
FR-52	Garbage can and misc. debris	Human-made	Removed	2022-05-26
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



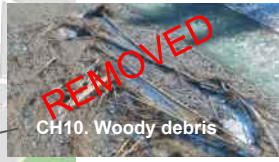
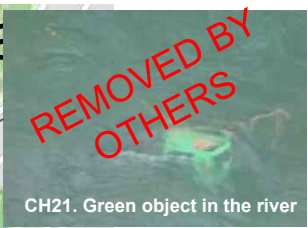
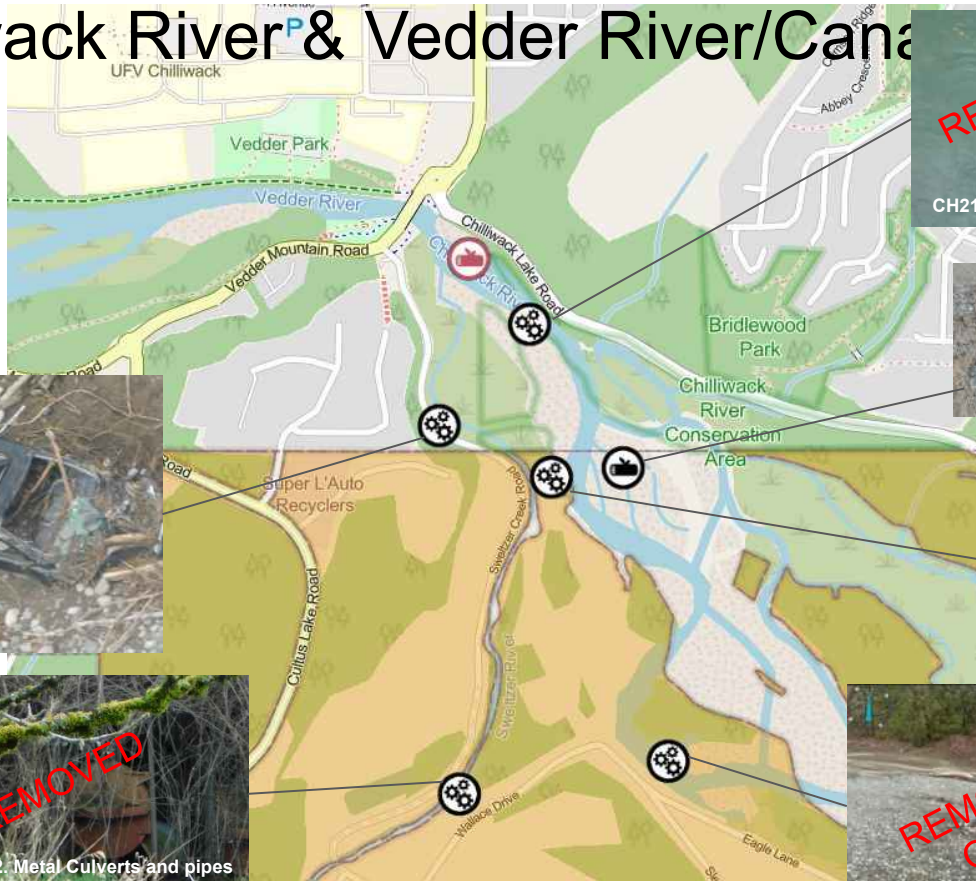
CH19. Abandoned van, ladders, pipes freight containers, trailer



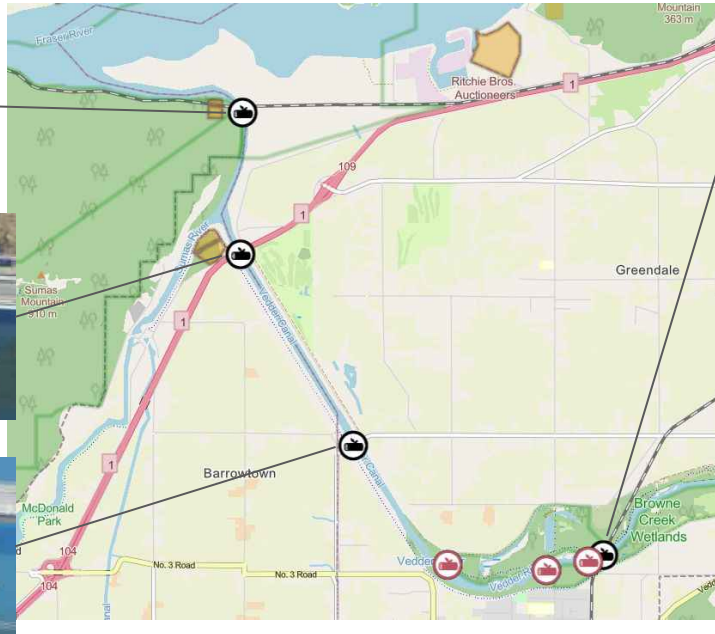
CH26. Two boom lifts



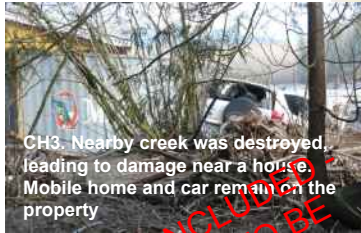
# 07. Chilliwack River & Vedder River/Canal



# 07. Chilliwack River & Vedder River/Canal



## 07. Chilliwack River & Vedder River/Canal





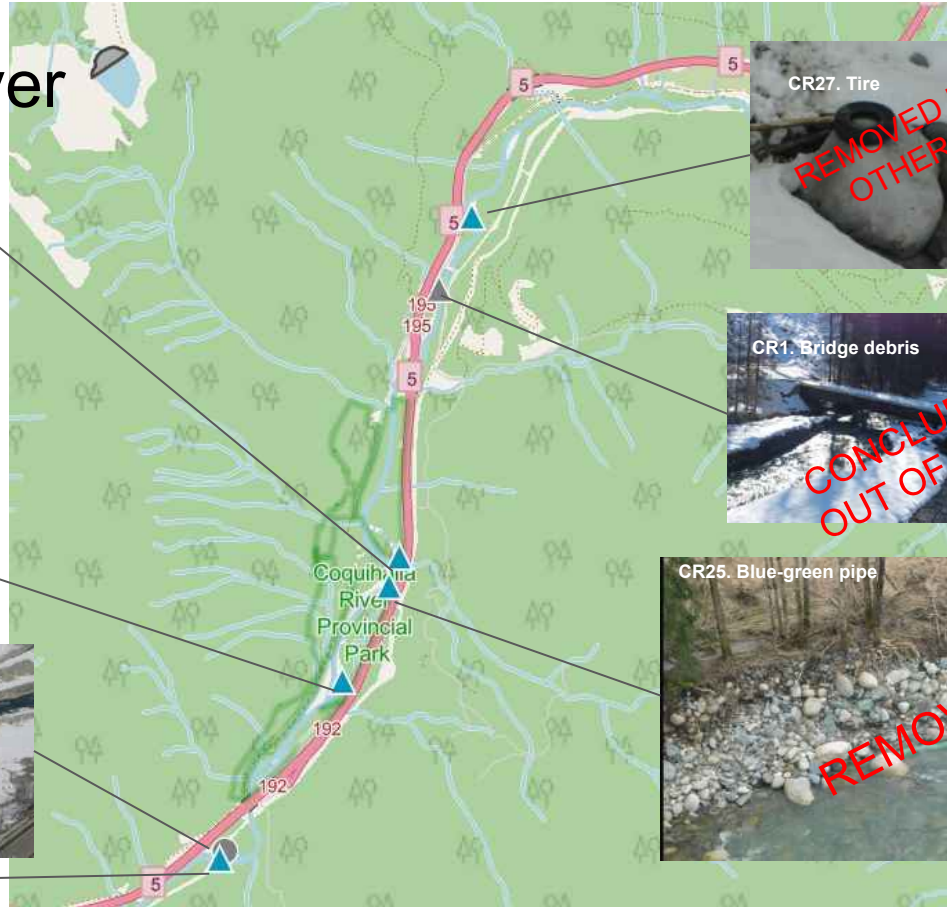
# 07. Chilliwack River & Vedder River/Canal

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

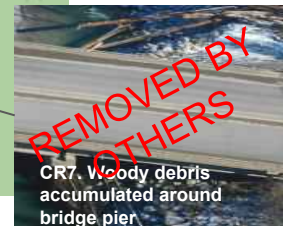
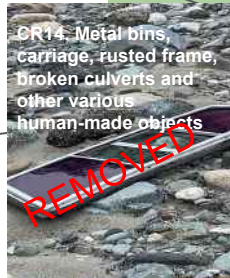


# 08. Coquihalla River



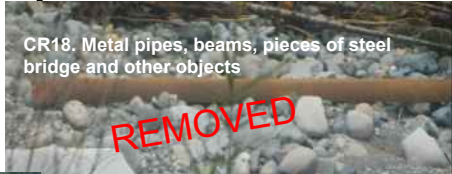


# 08. Coquihalla River



# 08. Coquihalla River

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



CR5. Damaged silver car



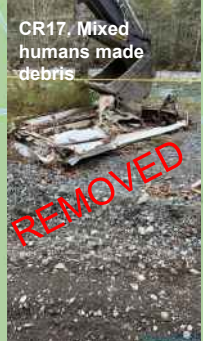
CR22. Metal frame, metal culvert



CR17. Mixed humans made debris



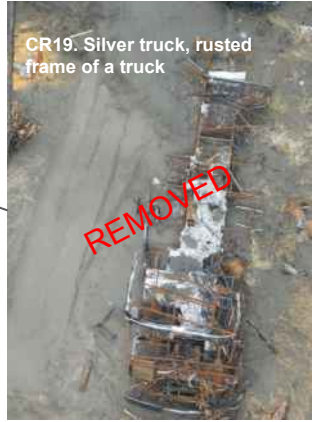
CR17. Mixed humans made debris



CR21. Plastic looking debris



CR19. Silver truck, rusted frame of a truck



CR17. Mixed humans made debris



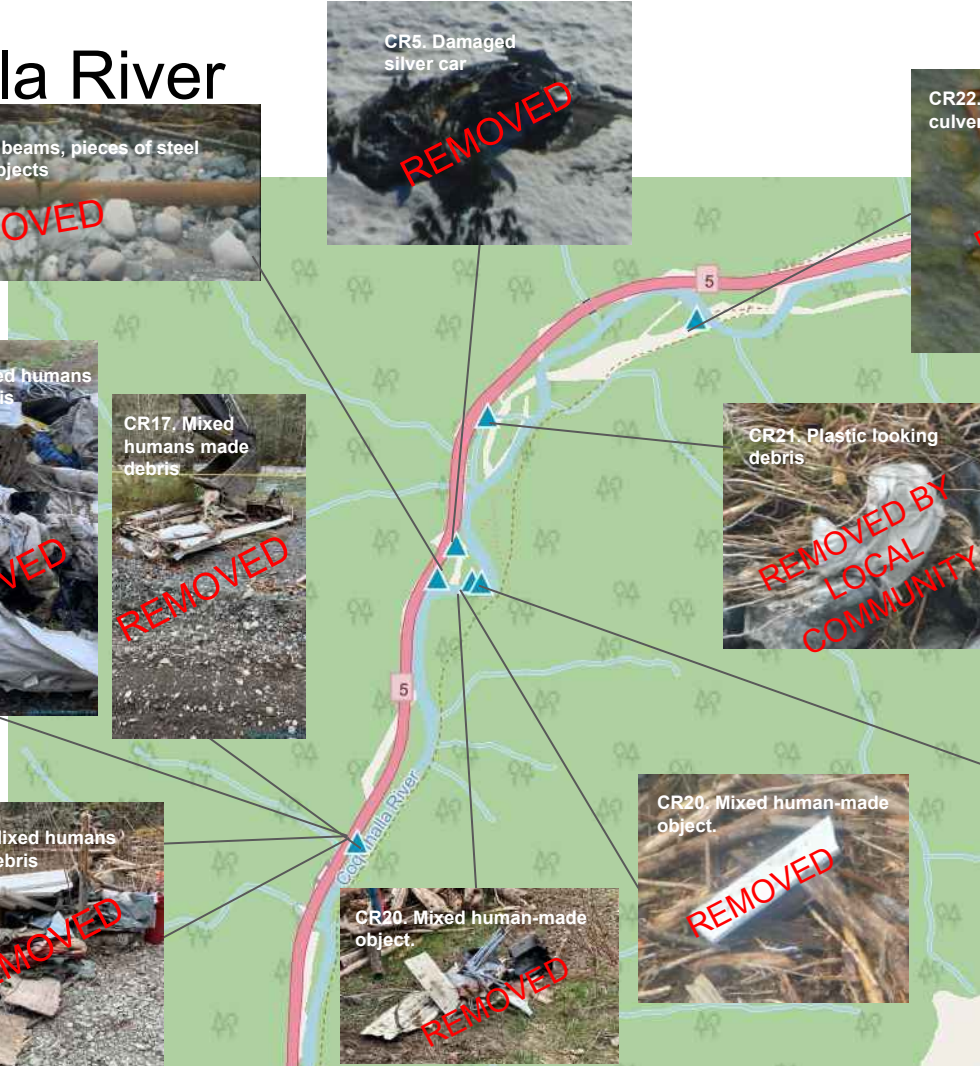
CR17. Mixed humans made debris



CR20. Mixed human-made object.

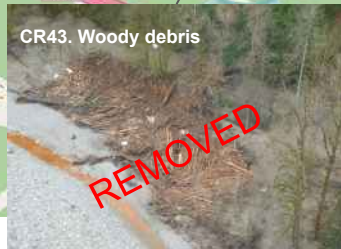
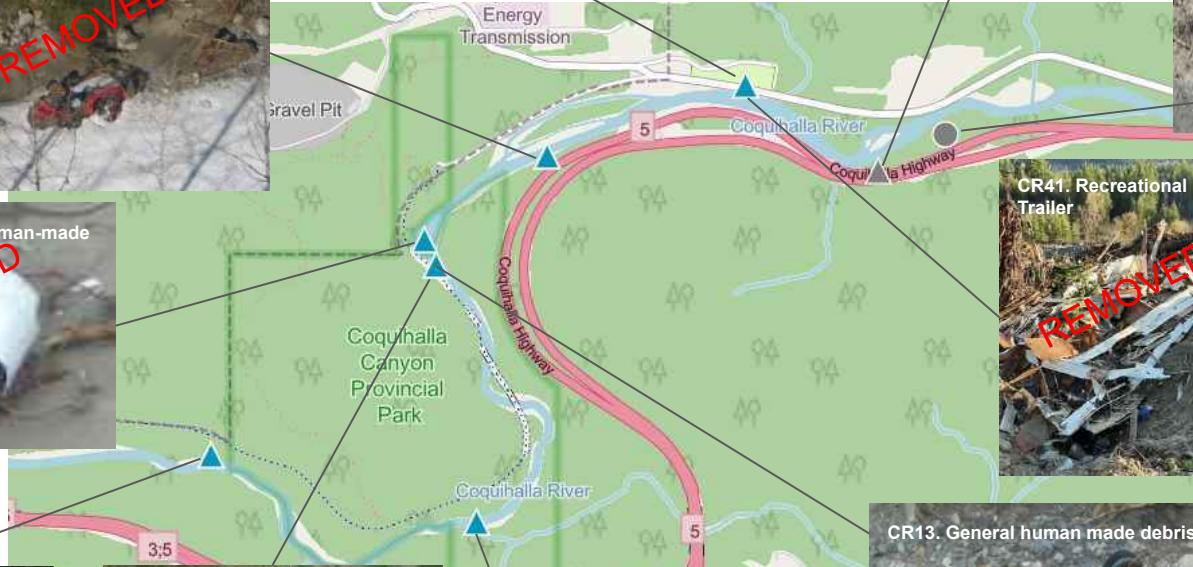


CR20. Mixed human-made object.

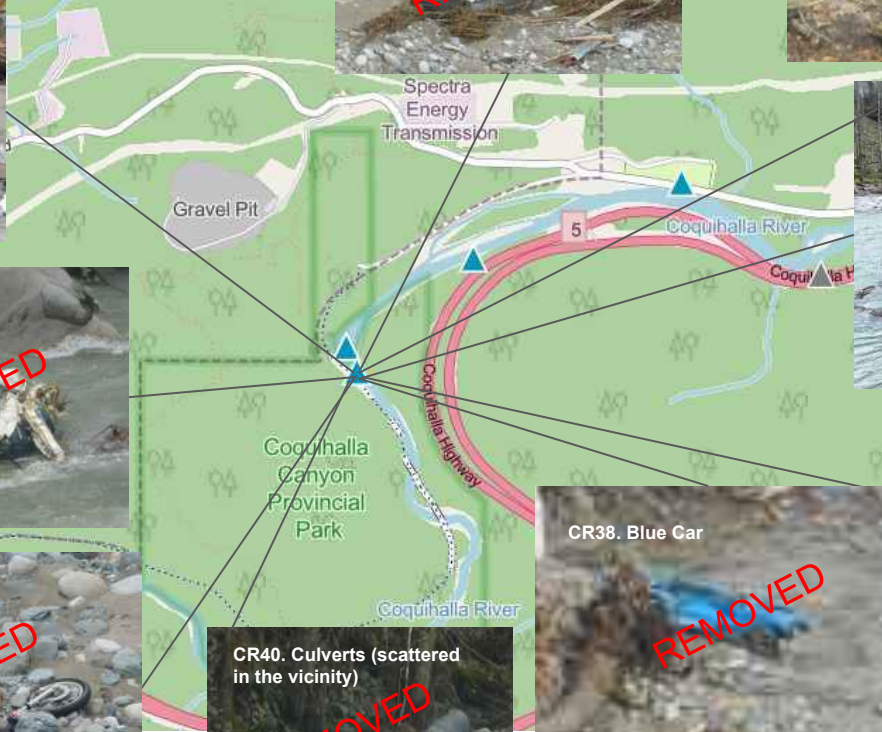




# 08. Coquihalla River



# 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