



Foothills Stream Crossing Partnership

Habitat Mitigation and Restoration

Foothills Stream Crossing Partnership – September 2018

Membership

- Canfor
- Cardinal Energy
- Chevron
- Cenovus
- Devon
- Hammerhead Resources
- Husky Energy
- Millar Western
- Modern Resources
- Outlier Resources
- Paramount
- Repsol
- Seven Generations Energy
- Shell Canada
- Strath Resources
- Taqa North
- Tidewater Midstream
- Torc Oil
- West Fraser
- Weyerhaeuser



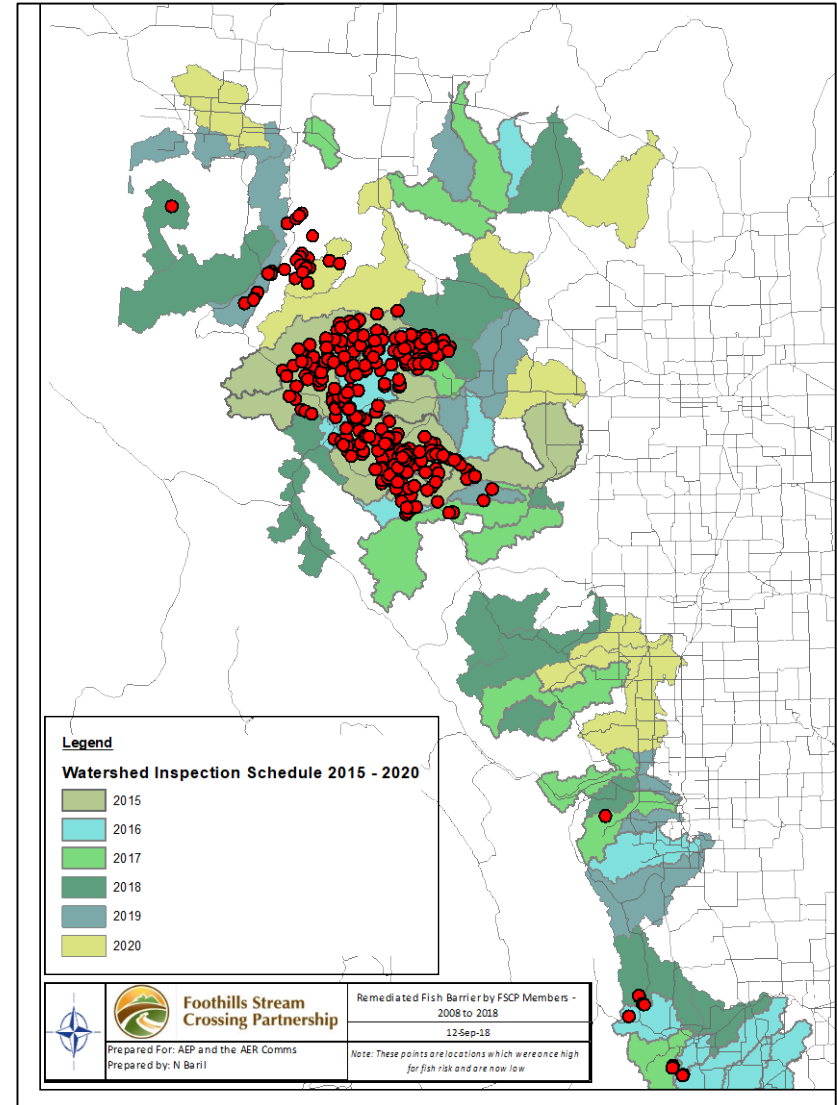
**Foothills Stream
Crossing Partnership**

FSCP History

- Formed in 2005 as a partnership of energy and forestry companies
- Organized under the umbrella of the Foothills Model Forest, now fRI Research
- Goal of the program: “.....to help companies and crossing owners manage stream crossings in the long term.....”
- Developed:
 - Comprehensive and proven inspection protocols
 - A strategy for a watershed approach to remediation
 - An innovative and detailed data management system
 - Procedures for developing and submitting watershed remediation plans with multiple owners.
- **6000 watercourse crossings inspected**

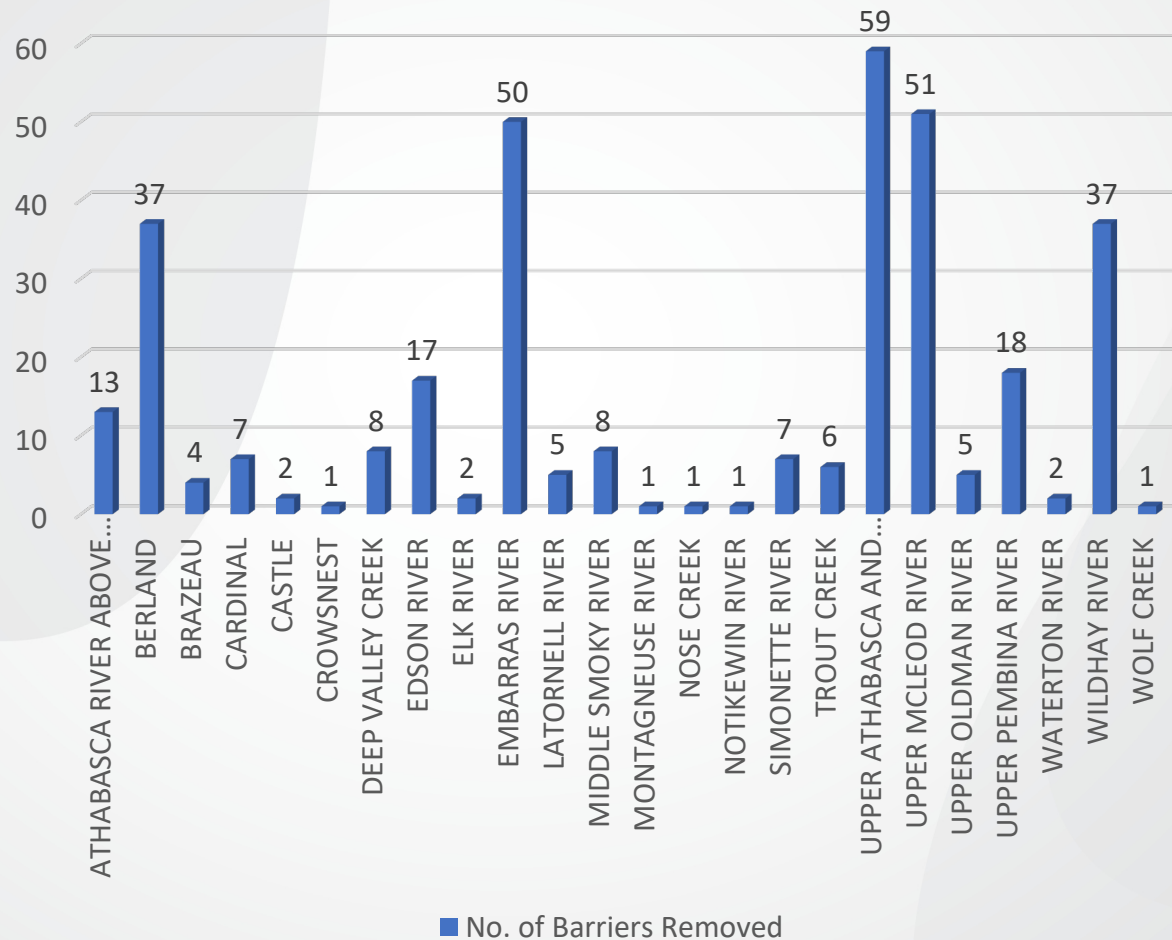
Fish Passage Mitigation – Through Time

Year	Barriers Removed
2008	1
2010	1
2011	17
2012	27
2013	24
2014	13
2015	24
2016	88
2017	130
2018	18
All Years	343



Fish Habitat Connections in Priority Watersheds

No. of Barriers Removed



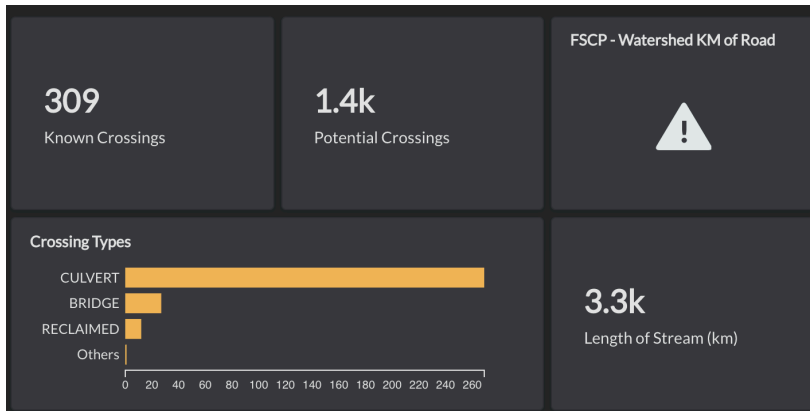


343 Barriers removed!

500 kilometers of fish
habitat re-connected!



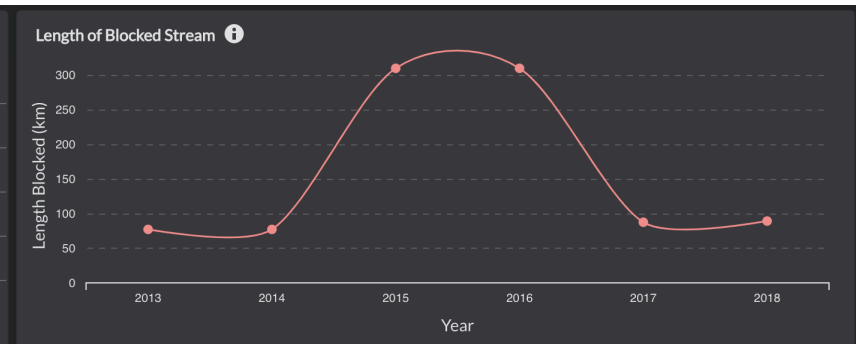
**Foothills Stream
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Highest Priority Crossings

Identifier	Fish Risk	Is Member	Last Inspection	Upstream (km)
01/0316047195	HIGH	false	2011	112
01/1327047125	HIGH	true	2015	14
01/1628047125	HIGH	true	2016	14
01/1117047205	HIGH	false	2013	13

Rows 1-4 of 47



Upper Pembina – A Watershed Approach



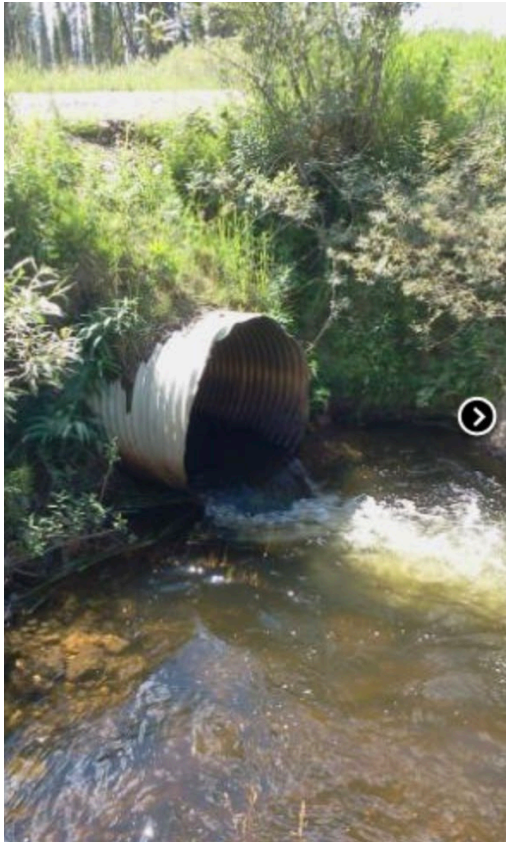
*Notes on Watershed Metrics

- As crossing inventory is collected the state of the watershed can appear to be worsening even as remediation activities are occurring. In fact, more problems are being found and improvements are happening simultaneously to data collection.
- The state of watershed health is fluid. Major events or quick fixes can have a major effect
- Fish habitat is defined as streams with a Strahler order of 2 or greater



Examples of Habitat Reconnection Projects

- Raven Creek
- Quigley Creek
- Erith River Bridge



Upper Pembina Watershed – Raven Creek

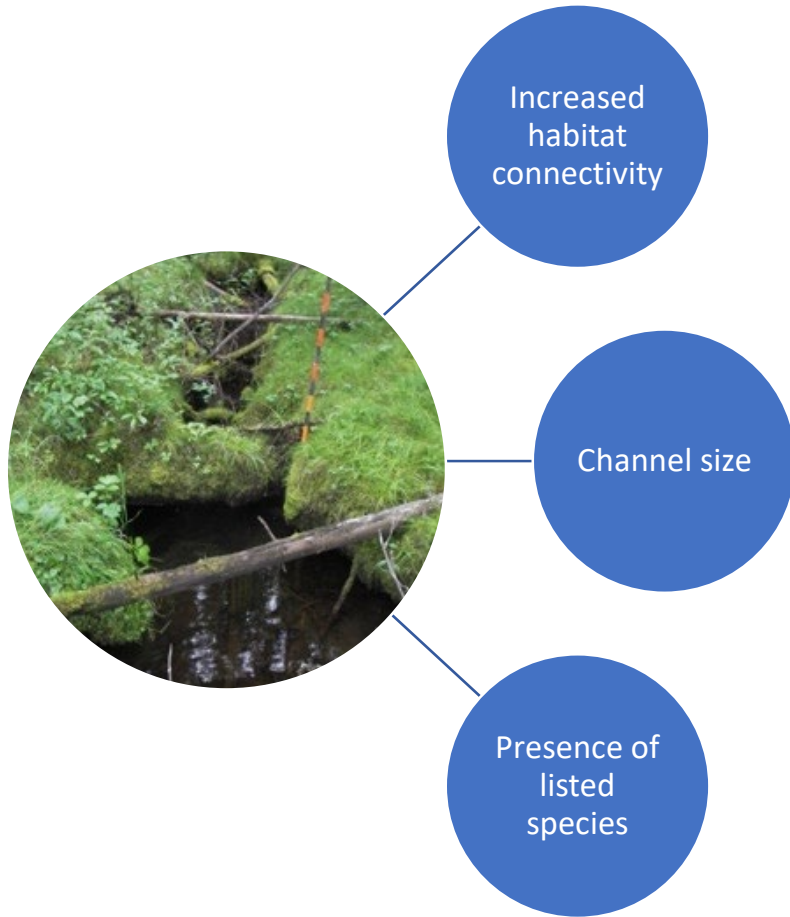
Quigley Creek Learning Centre –Upper McLeod – Athabasca Rainbow trout habitat





300m upstream of the McLeod River

Prioritization Methodology - Simplicity



Fish and habitat



Operational and safety



Concluding thoughts

- For the last decade, The Foothills Stream Crossing Partnership has been improving Alberta's watersheds one inspection at a time.
- It's a lot of hard work that would not be possible without the commitment of a diverse group of government and industry partners and our new approaches to data management and planning.
- The results are worth the effort. At over 300 Alberta stream crossings and counting, fish can once again get upstream to critical habitat and the damaging process of sedimentation is being reversed.
- We are continuing to develop new tools so that our partnership will have an even greater positive impact on the environment in the years to come.