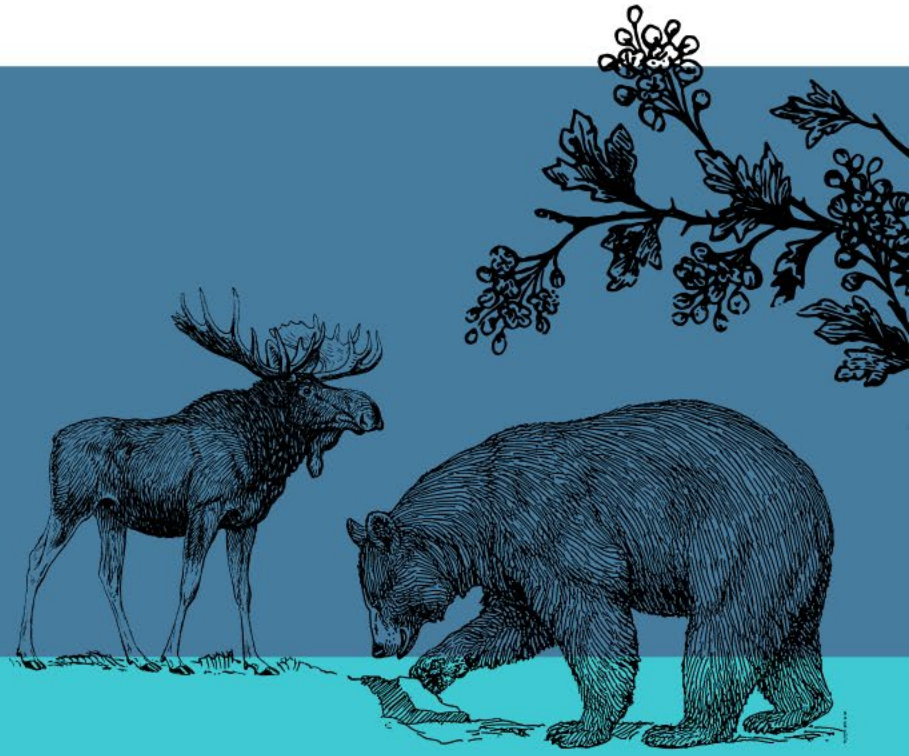
Witset First Nation's Routine Watershed Assessment



A Collaborative Approach by Dallas Nikal (Nico Ridge Consulting)

February 28, 2023

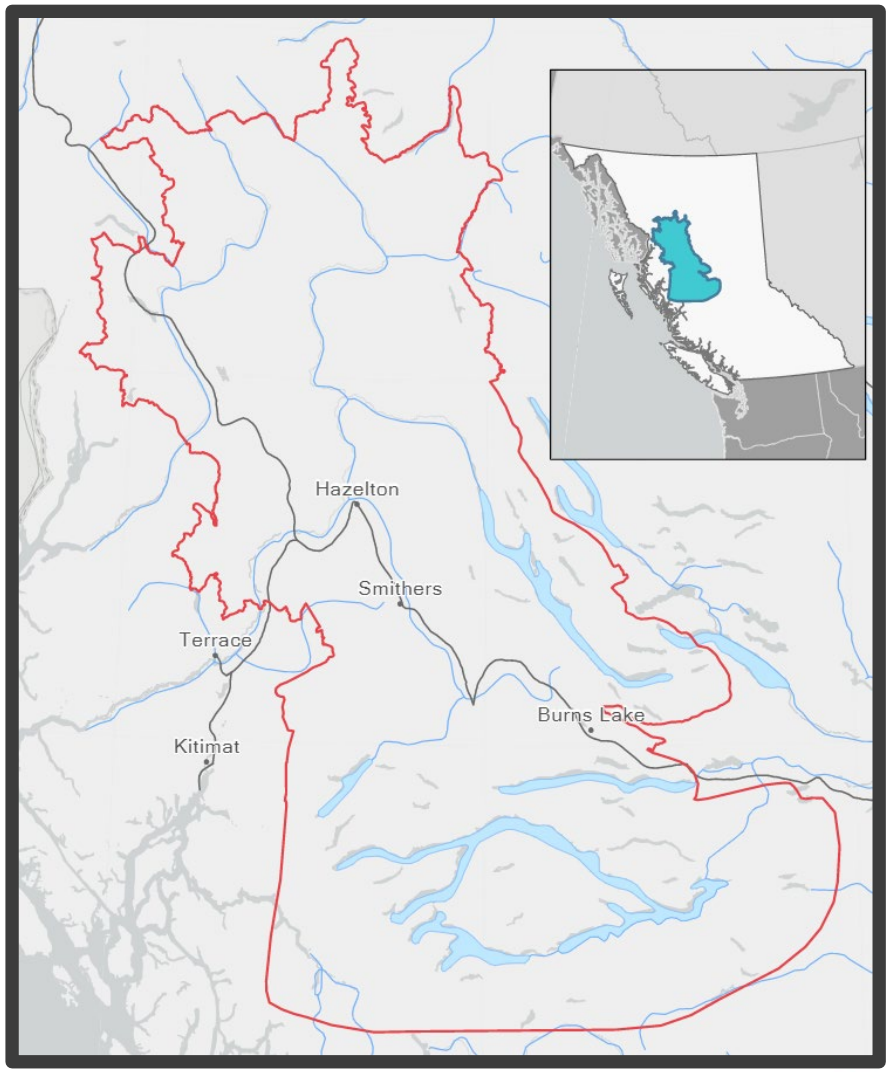
Outline

- **Past**
  - CISF Background
  - SSAF Participants and Background
  - Path to trusted data
  - Landscape level CE Assessment
  - Assessment validation
- **Present**
  - Witset’s Indigenous Guardian Program
  - Rationale for sites
  - Tier 1 Fish & Fish Habitat
  - Gramophone & Kwun Watersheds
  - Results
- **Future**
  - Next Steps
  - Why SSAF RWA is different
  - RWA Future
  - Acknowledgements/Questions

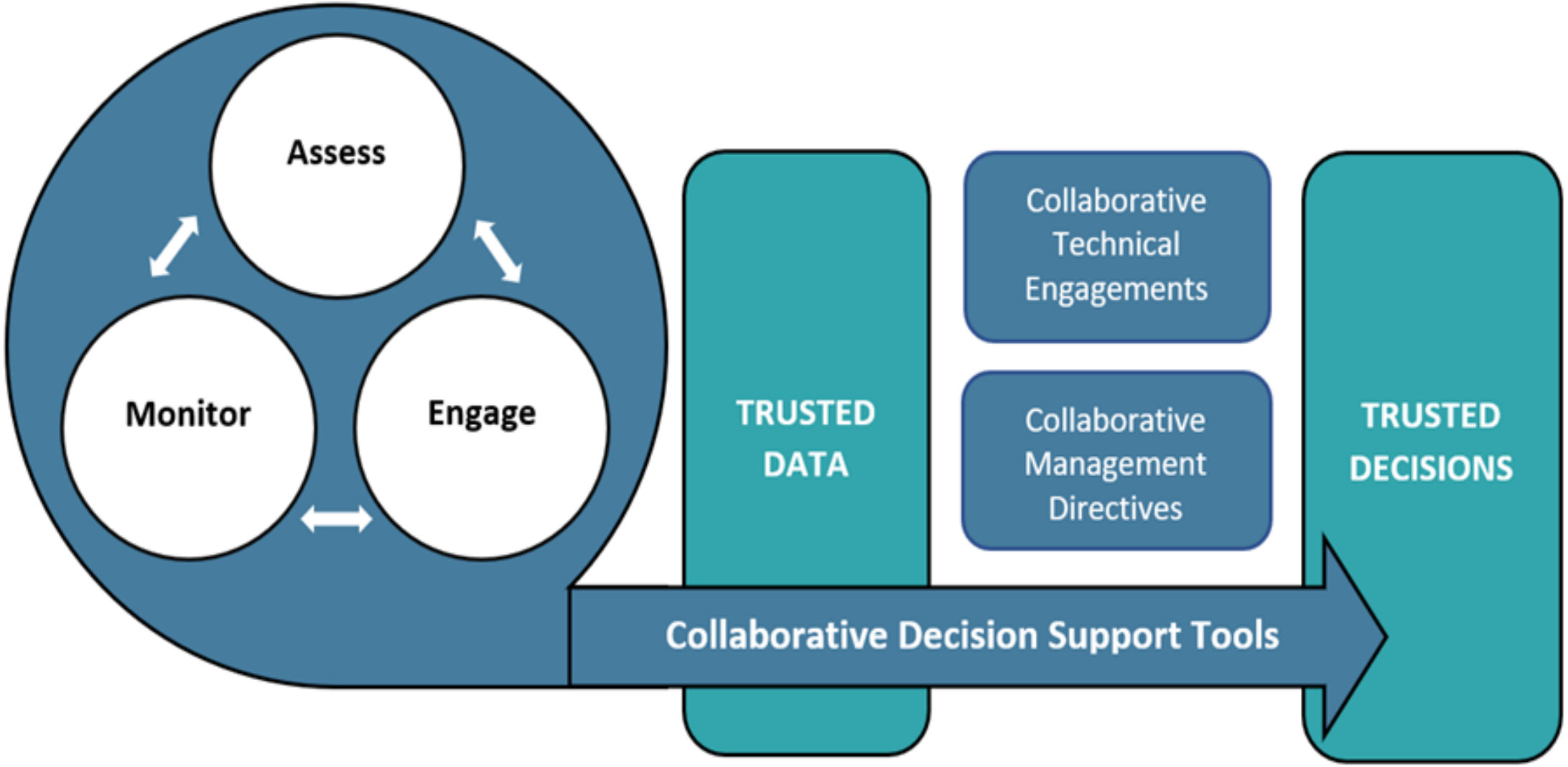
Collaborative Indigenous Stewardship Forum(CISF) Background

- 4 CISF Regions: Omenica, Northcoast, Northeast, and the **Skeena Region**
- **Skeena Sustainability Assessment Forum (SSAF) -** 4 objectives:
  - Design/implement projects that align with SSAF selected values and CISF objectives
  - Generate trusted data
  - Use results to inform future management direction
  - Build capacity for Skeena First Nations
- 5 SSAF values: Moose, Wetlands, Cultural Ecosystems, Grizzly Bears, and **Fish and Fish Habitat**

PARTICIPANTS AND STUDY AREA



SSAF ESI – PATH TO TRUSTED DATA



Landscape Level CE Assessment

- **Pressures**
  - Anthropogenic & Natural Disturbances that affect the function of a river system
- **Watershed Sensitivity**
  - Natural features that influence waterflow
- **Watershed Importance**
  - Characteristics important for Salmonid species

Assessment Validation

We needed an assessment that could evaluate our CE indicators at a watershed-scale.

Explored:

- Canadian Aquatic Biomonitoring Network (CABIN) and eDNA
- Meso-habitat mapping
- FREP

We landed on conducting a Pilot Routine Watershed Assessment

Witset First Nation's Indigenous Guardian Program: Routine Watershed Assessment in Kwun and Gramophone Creek Watersheds

DRAFT

Prepared for:

Witset First Nation

&

The Skeena Sustainability Assessment Forum

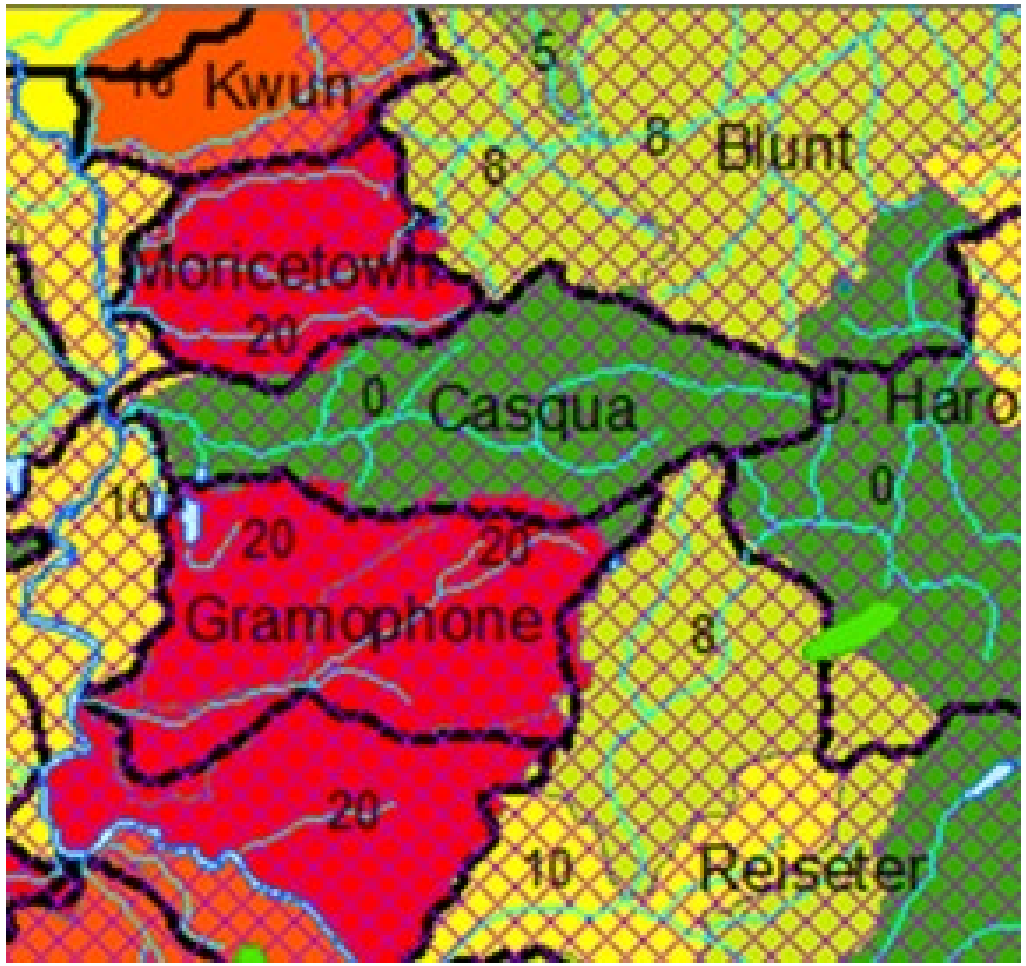
Prepared by:

Dallas Nikal, BSc

Nico Ridge Consulting Inc.

Rationale for Selected Watersheds

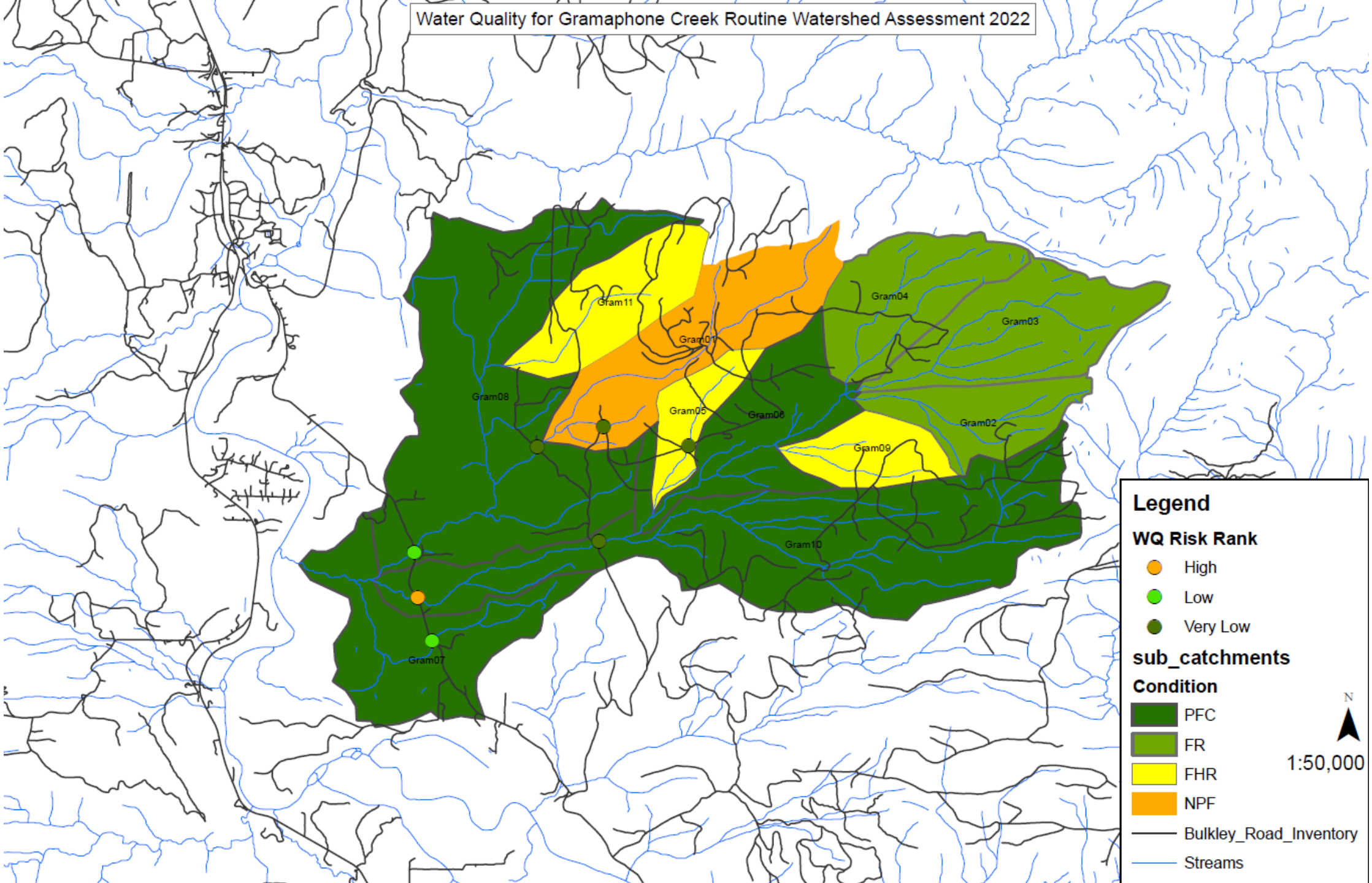
- Both ranked ‘High-Risk’ across 5 pressure indicators
- Salmon Habitat
- Identified as culturally important
- Proximity to Witset

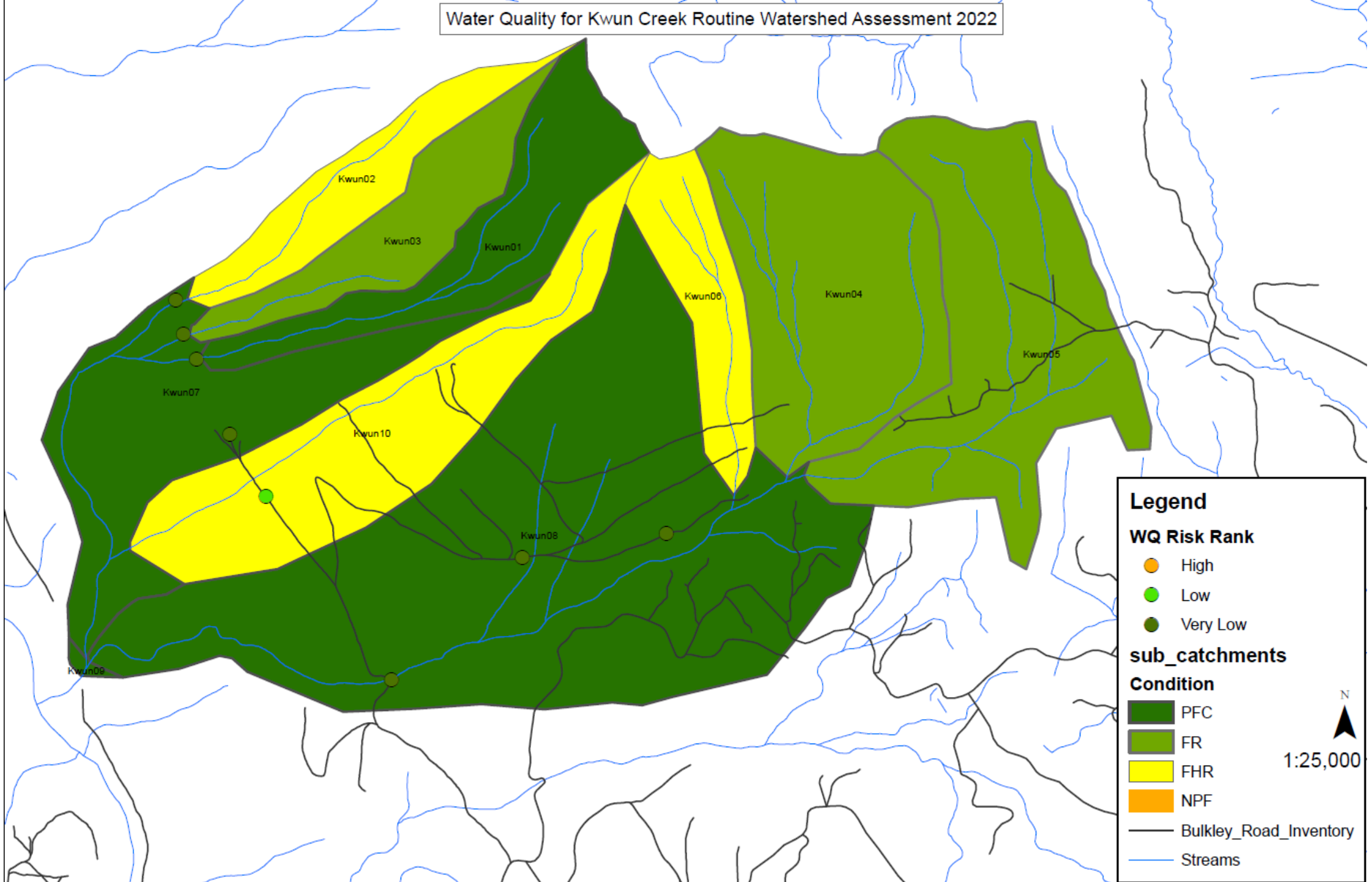


Study Site Tier 1 Fish & Fish Habitat Data

Indicator & Benchmarks	Gramophone Creek	Kwun Creek
Road Density >1.2 km/km2 flagged as high risk	1.8km /km2	1.4km /km2
Road Stream Xing Density >0.8 # Stm Xing/km2 flagged as high risk	1.2 X/km2	0.91 X/km2
Road Density near streams within 100m >0.16 km/km2 flagged as high risk	0.39 km/km2	0.27 km/km2
Equivalent Clearcut Area >20% flagged as high risk	26.3%	23.5%
Riparian Disturbance >15% flagged as high risk	34.5%	21.2%

Water Quality for Gramaphone Creek Routine Watershed Assessment 2022




Water Quality for Kwun Creek Routine Watershed Assessment 2022
Kwun02
Kwun03
Kwun01
Kwun06
Kwun04
Kwun05
Kwun07
Kwun10
Kwun08
Kwun09
Legend
WQ Risk Rank
High
Low
Very Low
sub_catchments
Condition
PFC
FR
FHR
NPF
Bulkley_Road_Inventory
Streams
N
1:25,000

Results

- The RWA validates our indicators from our Tier 1 Landscape level assessment

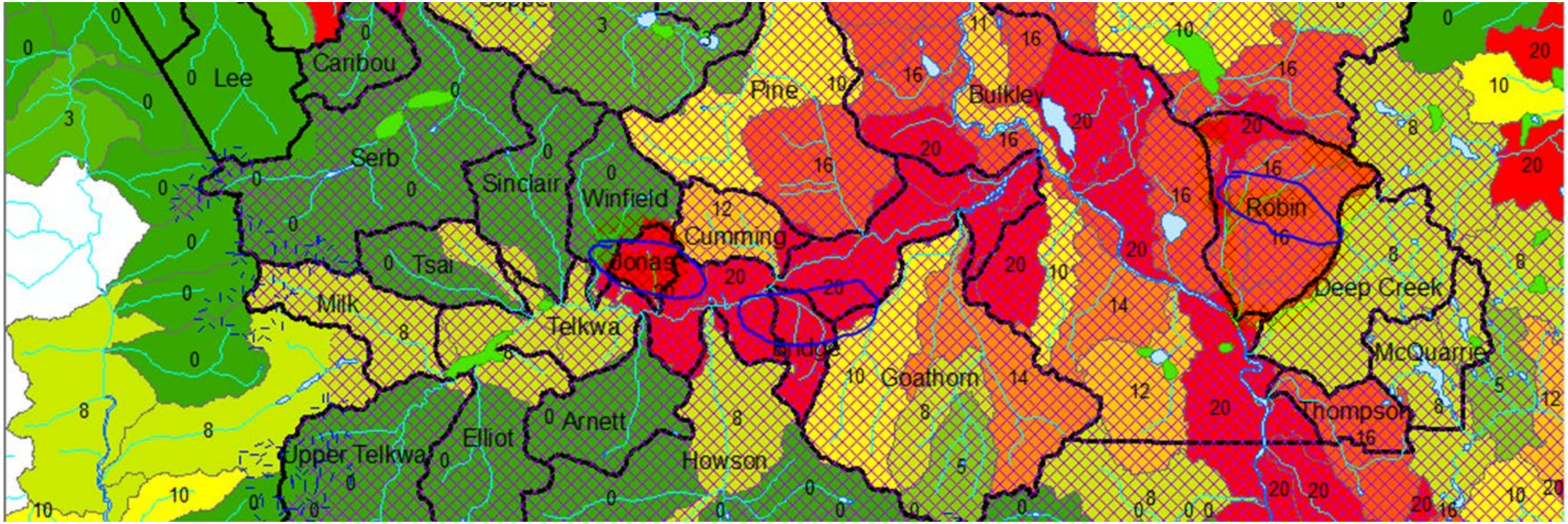
Possibly Next Steps

- Validation of Tier 1 – Provides guidance on restoration
- Work with Partners (i.e., Licensee's) to gather more data
- Conduct more RWAs in the SSAF region
- Make Management Recommendations

Why is our RWA Different?

- First Nations Input
- Collaborative Approach (Nations & Province)
- FREP protocol modification

FUTURE RWA


Lee
Caribou
Pine
Bulkley
Serb
Sinclair
Winfield
Cumming
Robin
Tsai
Jonas
Deep Creek
Milk
Telkwa
McQuarrie
Goathorn
Thompson
Arnett
Elliot
Upper Telkwa
Howson

Acknowledgements

- Thank the SSAF (FN, Prov and its ministries, FREP, Witset)
- Thanks the ppl who wrote SOV
- Thank the people who helped with Witset RWA

SIMMS

Nico Ridge Consulting Inc.

QUESTIONS?

dnikal@nicoridge.com

Links to Trusted Data

- FFH - https://catalogue.data.gov.bc.ca/dataset/ssaf-skeena-east-esi-fish-and-fish-habitat-state-of-the-value-report-2020
- Wetlands - https://catalogue.data.gov.bc.ca/dataset/ssaf-skeena-east-esi-wetland-state-of-the-value-report-2020
- GB - https://catalogue.data.gov.bc.ca/dataset/ssaf-skeena-east-esi-grizzly-bear-state-of-the-value-report-2020