



Elk River  
Watershed  
Qukin  
ʔamakʔis Collaborative  
Monitoring  
Program

# Interim Monitoring Working Group

## First Meeting - March 7, 2022 - Meeting Notes

### Attendance

1. Stella Swanson, Director, *Elk River Alliance*
2. Kaileigh McCallum, Junior Ecologist, *Elk River Alliance*
3. Anne-Caroline Kroeger, Program Manager, *Elk River Alliance*
4. Kelly Munkittrick, Research Chair in Ecosystem Health Assessment, *University of Calgary*
5. Dwayne Minton, Impact Assessment Biologist, *BC Ministry of Environment and Climate Change Strategy*
6. Scott Hopkins, Business Owner, *Kootenay Fly Shop & Guiding Co*
7. Jon Bisset, Senior Biologist, *Jon Bisset & Associates*
8. Paige Thurston, Community Engagement Coordinator, *Living Lakes Canada*
9. Jesse Huisman, Director of Engineering and Public Works, *District of Elkford*
10. Nick Lapointe, Senior Conservation Biologist in Freshwater Ecology, *Canadian Wildlife Federation*
11. Ryan MacDonald, Hydrologist, *MacHydro*

### Discussion items

<b>Nick Lapointe</b>	Asks if Stella's slides (i.e Stella's adaptive monitoring framework) shows that <i>long-term</i> monitoring needs to happen to assess <i>ecosystem conditions</i> .
<b>Dwayne Minton</b>	Agrees with Stella that <i>monitoring questions</i> need to be tied to <i>values</i> . A good example is selenium concentrations. Which values does this tie in, asks Dwayne.
<b>Ryan MacDonald</b>	We need to ensure that indicators are <i>relevant and speak</i> to First Nations. That the indicators are relevant to them.
<b>Paige Thurston</b>	Agrees with Stella's framework. Stella's framework resembles Living

	Lakes' step-by-step framework where there are multiple check-ins with communities. Stella responds that her proposed framework makes sure we do not go in our own corner with our technical hats diving into our own thing. <i>At each step of Stella's framework we go out to the community.</i>
<b>Stella Swanson</b>	Explains that Step 3 of her framework, entitled 'Monitoring Design' is where we decide if we should monitor at the short-term or long-term temporal scale. This is also where we decide which of our valued components would be selected as indicators. Stella explains that we can define separate monitoring and management benchmarks.
<b>Nick Lapointe</b>	9 times out of 10 he hears adaptive management raised, it is applied by industry or governments. One example of adaptive management is Teck's selenium treatment options. Knowing that the Selenium issue is active, Teck can not just do research, they need to start applying solutions. So they apply a new technology, which is the saturated rock fill (SRF) and they apply their traditional technology, which is the active treatment plant. Both technologies are applied at the same time, and Tecks goes in to monitor to see which one works best and then they transition to apply only the most effective intervention. Nick explains adaptive management as hypothesis-testing on actual interventions in the watershed.
<b>Kelly Munkittrick</b>	Responds to Nick's concern that <i>adaptive monitoring</i> means that we can actually increase the intensity and frequency of monitoring based on your concern increasing or decreasing over time
<b>Dwayne Minton</b>	Says you don't actually need to <i>exceed</i> a given threshold or a given benchmark to make adjustments to your monitoring program.
<b>Jon Bisset</b>	Thanks Kelly Munkittrick and Nick (Nicolas) Lapointe for their points. He is also worried about scales that depend on monitoring targets. What statistical tools do you want to use? The population estimate of westslope cutthroat trout of 25 000 in the Elk River would require to target 10 000 fish for sampling to be able to distinguish between an actual change in actual fish population or just natural variability in fish population. This would cost 500 000\$/year and 20 - 30 million \$ if done over a number of years! Sturgeons are also fish species that are at risk like westslope cutthroat trout. Jon asks if there are surrogates to these at risk fish species so that we do not cause harm to the population. Remember, says Jon, fish are living things not specimens! Jon agrees - let us not forget why we are actually monitoring.
<b>Nick Lapointe</b>	Responds to Jon Bisset that we may not understand the status of fish populations and the status of economic opportunities but we could monitor the number of <i>fishing licenses</i> and number of <i>days of fishing</i> .

<b>Jon Bisset</b>	Need to distinguish clearly between <i>Western Science</i> , <i>First Nations worldviews</i> and <i>political influences</i> .
<b>Nick Lapointe</b>	Proposes <i>land use changes</i> as an indicator. Says that western scientists very much understand and share First Nations worldview that water is a living thing and very much connected to land.
<b>Stella Swanson</b>	Asks out of the monitoring questions brought forward by the community forum and inaugural forum, which ones will have the power to demonstrate to decision-makers the utility and value of the monitoring program?
<b>DEBRIEF AFTER SESSION ENDS</b>	
Stella Swanson	Concludes the Working Session saying that we will need to call the framework adaptive monitoring.
Stella Swanson	We will need to say that we are 95% confident of having exceeded the benchmark by at least 20% and the consequence of doing nothing is worse than the consequence of being wrong. We may only be able to get 30% confidence but there are other ways of being more confident in fish population assessments without harassing every fish! Redd counts and total number of spawning areas and number of eggs in spawning areas for examples that might serve as indicators of fish populations.
Anne-Caroline	Wonders if Scott Hopkins and Jesse Huisman will pull through? Will they feel reflected in the monitoring program? The experts Kelly Munkittrick, Jon Bisset and Nick (Nicolas) Lapointe were more vocal than they were.