Guardians of Nicola Lake & Watershed Society – Meeting Minutes

Date: December 2, 2025
Format: Online meeting

Present: John Arnold, Dan Emerson, Lisa Schlagintweit, Brent Pascall, Dawne Tomlinson

Regrets: Peter Schmit

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1. Guest Speaker: Brian Holmes (Upper Nicola Band)

1.1 Background & Context

- Brian has served on Upper Nicola Band Council since 2011 and has increasingly focused on water issues in the upper watershed.
- Severe flooding in 2017 (and subsequent years) significantly impacted IR#1, partly due to mismanagement of the Nicola Dam and overland flooding.
- Flooding events have caused failure of septic systems, long-term evacuations, and high repair costs; UNB now continually monitors groundwater/septic risks.
- He worked for Douglas Lake Ranch for approximately 20 years, retiring in 2018. Since 2018, he has been heavily involved in a wide range of testing, monitoring, and watershed issues across the Nicola Lake–Douglas Lake watershed system.
  Brian noted he has accumulated extensive datasets over many years and is well-connected across community organizations and multiple levels of government.
- He emphasized that algae has existed in the watershed for generations, but the severity and frequency of blooms have increased. Both **"good" and "bad"** algae are present in the watershed.
  He encouraged the board to view his **YouTube channel ("Holmes on the Water")**, which documents many of these issues.
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1.2 Invasive Yellow Perch

- **2017–2019:** Rotenone treatment at Windy Lake revealed presence of invasive yellow perch; later confirmed in Douglas Lake (2018) and Nicola Lake (2019–20).
- Perch appear to have been present for years before detection; numbers estimated at **90,000–100,000**.

- Brian personally traps perch: **40,000–50,000 removed**, up to 200 per trap within 48 hours; 3–6" fish dominate, indicating overpopulation and food stress.
- Carcasses used as fertilizer; some supplied to animal rescue organizations.
- Perch may contribute nutrients during spawning ("the deck turns white"), possibly influencing lake fertility and algae growth — an area requiring further research.

1.3 Water Quality, Algae Blooms & Fires

- First major Douglas Lake algae issues noticed around 2022, with 2022 being "the worst year on record" for toxicity.
- 2021 wildfires (White Rock Lake fire; Rossmore fire in the Nicola watershed) likely contributed elevated nutrients via ash, sediment, and runoff.
- Nicola Lake algae persists below the surface long after visible scums disappear.
- Brian reaffirmed that **2022 was the worst recorded year for algae and toxicity** across the watershed, aligning with his long-term observations.
- He also noted that several different types of algae are now present in the NLWS, each indicating different environmental stressors or nutrient pathways.
  Many toxicity levels recorded have exceeded Canadian guidelines.
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1.4 Data Collection & Partnerships

- UNB has partnered with:
  - **Okanagan Nation Alliance (ONA)** – metals, chemistry, zooplankton testing.
  - **Larratt Aquatic Consulting (Heather Larratt)** – cyanobacteria and toxin identification.
  - **Living Lakes Canada** – foreshore mapping, eDNA sampling, CABIN (benthic invertebrates), thermocline loggers.
- Thermocline loggers (see appendix for more information on thermocline loggers) in Nicola Lake and Glimpse Lake were stolen.
- External loading confirmed as the primary nutrient source into Douglas Lake (sediment samples show nutrients arriving from rivers, not internal cycling).
- UNB's existing partnerships with ONA, Larratt Aquatic Consulting, and Living Lakes Canada continue to produce extensive datasets. Brian noted he has **"a lot of data over the years"**, contributing to understanding trends and nutrient movement.
- Different types of algae have been identified – what does this mean? Different things happening to cause them?

1.5 Potential Nutrient Sources Identified

Brian emphasized **multiple contributors**, not a single "villain":

- Brian reiterated that **external loading is the dominant nutrient source**, particularly into Douglas Lake. He highlighted the significant impacts of cattle accessing water sources across multiple areas of the watershed, including **direct defecation into streams and lakes**, contributing to elevated nutrient levels.
  Runoff from feedlots contributes additional nutrient loading.
  Douglas Lake Ranch has implemented some improvements in response to his findings, but **more work remains**.

He stated that **bank erosion**—both natural and human-influenced—continues to worsen nutrient transfer into the lake.

1. **Cattle impacts** – direct access to creeks, manure loading during freshet, cattle camping in streams.
2. **Feedlots** – still under active assessment; new turbidity sensors installed above and below Douglas Lake Ranch to identify nutrient spikes.
3. **Post-logging nitrate release** – literature review shows nitrates remain elevated in cut blocks for **up to 20 years**, amplified by the pine beetle era.
4. **Bank erosion** – worsened by high freshet, drought, windstorms, and unstable soils.
5. **Naturally occurring minerals** – certain trace elements high due to local geology.
6. **Wildfire impacts** – ash, hydrophobic soils, increased runoff.
7. **Septic systems** – UNB monitoring shows no exceedances above recreational limits.
8. **Climate change** – warmer rivers, reduced snowpack, altered flow timing, lower summer flushing.
9. **Dam operations** – Nicola Dam was never fully completed (approx. 50%); current operations cannot support flushing or temperature-based management.

1.6 Dam Operations & Governance

- Dam is co-owned by **DFO and the Province**, operated by staff including the current operator (Carson).
- UNB participates in regular dam management meetings since the 2017 flood.
- Key challenges:
  - Lack of local knowledge among operators.
  - Conflicts between flood prevention, low-flow drought, fish needs, and Merritt development built in floodplains.
  - Dam cannot execute large controlled flushing due to low inflow and downstream risk.

1.7 Potential Solutions & Long-Term Strategies (Based on Questions from Board)

- **Aeration systems:** technically possible but challenging due to lake depth (120 ft+), scale, and uncertain efficacy.
- **Water storage in upper watershed:** UNB and Nicola Watershed Partnership identify ~30 possible sites for future storage.
- **Electronic cattle fencing:** promising but costly.
- **Foreshore vegetation restoration:** needed but difficult because fluctuating lake levels prevent establishment.
- **Improved rancher collaboration:** Douglas Lake Ranch willing to act *if provided with clear data* proving cattle impacts.

1.8 Regulatory Enforcement

- Enforcement depends on whether creeks are salmon-bearing:
    - **If salmon present:** DFO has jurisdiction.
    - **If not:** Province (Water, Land & Resource Stewardship) responsible.
- Fee simple lands complicate enforcement; significant gaps exist in provincial oversight (notably TNRD).
- Riparian regulations exist but are weakly applied around Nicola Lake.

1.9 Requests From Brian / Ways We Can Support

- Continue working with Larratt to gather strong defensible data.
- Help communicate the multi-cause nature of algae issues (avoid political blame cycles).
- Support improved signage, tourism communication, and public safety messaging.
- Assist with political advocacy where appropriate (MLA, Ministers).
- Maintain close coordination so UNB, GONLW, and government are not working in silos.
- Messaging to ranchers

Brian offered to return — ideally with Heather — once datasets and reports are compiled.

2. Internal Society Discussion (Post-Speaker)

2.1 Key Reflections

- Many members expressed the scale of the challenge feels overwhelming but solvable through coordinated effort.

- Identified need to avoid inadvertently overstepping cultural protocols when supporting UNB.
- Agreement to consult Dawne's daughter Mikayla (Indigenous Studies Teacher) regarding appropriate forms of gratitude or gifting. Possibly a gift card to Mr. Mikes or Boston Pizza in Merritt?

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3. Financial Report

- No significant changes except receipt of **$5,000 grant (Grant #1)**.
- Motion passed to approve financial statements.
- Moved by Dan Emerson/ Seconded by John Arnold. All in favour.

5:14 PM
12/02/25
Accrual Basis

Guardians of Nicola Lake and Watershed Society
Profit & Loss
January through December 2025

	Jan - Dec 25
Ordinary Income/Expense	
Income	
Direct Public Support	
Membership Dues	4,375.00
Contributions Individ, Business	4,326.00
Total Direct Public Support	8,701.00
Government Grants	
Local Government Grants	5,000.00
Total Government Grants	5,000.00
Total Income	13,701.00
Gross Profit	13,701.00
Expense	
Business Expenses	
Banking Fees	6.00
Total Business Expenses	6.00
Operations	
News Letter	135.64
Teams	228.69
Website	181.44
Total Operations	545.77
Other Types of Expenses	
Advertising Expenses	60.00
Total Other Types of Expenses	60.00
Total Expense	611.77
Net Ordinary Income	13,089.23
Net Income	**13,089.23**

4.

Insurance Report

- Two quotes received from Northbridge via HUB:
  - **Directors & Officers (D&O)**

    - **General Liability (GL)**
- Confusion remains regarding legal defense coverage; further clarification required.
- Possibility of exploring alternative brokers
- Target implementation: **January 1**, pending answers.

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5. Membership Updates

- Membership renewals slowing (seasonal).
- Some members not receiving emails due to junk folder filtering; technical settings updated.
- Further follow-up via text may be used.
- Need discussion on **annual membership cycle**:
    - Maybe Seasonal? Like July 1st? or in June?
    - How to structure renewals near AGM.

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6. Communications With Members

- Recent update (grant received + program updates) well received.
- Next major update planned for **early January**, once next grant result is known.
- Add a note in the update about minutes on the website.
- Add something about additional donations and YRB in-kind work on signage project
- Ongoing messaging: **no single cause**, multiple pressures, everyone has a role (residents included).

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7. Dam Operations

- Recent letter to Dr. Carson Xia seeking clear explanation of his department's mandate, geographic scope, responsibilities.
- Requested response by **December 15** and meeting dates for mid-January.
- If no cooperation: escalate via MLA or Minister.
- John will also attempt an in-person introduction with Carson in Penticton while he is in town.

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8. Interior Health Authority

- IHA handling many lakes province-wide; developing new internal policy for handling processes and protocols.
- Will reconnect in January to clarify:
  - How GONLW results will be received?
  - How IHA will interpret or publish those results?
  - Potential for partnership to speed public advisories?

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9. Grant #1 – Signage Project

- Working with **YRB and Shrine Industries (Merritt)**.
- 12 signs planned (8 private locations + Highway 5 sites with MOTI support).
- Estimated cost: **$1,000–$1,500 total**.
- YRB installing posts at no charge.
- Shrine will produce design mockups in January.
- QR code ready; messaging pending Interior Health coordination.

10. Grant #2 – Water Testing (Pending Approval)

- Detailed budget submitted; results expected within one week.
- Funding strictly for laboratory testing; GONLW covers advisory/guidance costs separately.
- Would expand sampling beyond Level III provincial program. Focus on cynobacteria but also could do direct testing in tributaries etc to determine nutrient levels coming into lake.

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11. Level III Testing

- Dawne will follow up with province in Januar
- Training expected in March/April.
- Results submitted to the Province, but Larratt has pathways to ensure GONLW also receives the underlying data.

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12. Governance Items

- AGM timing and membership renewal structure tied together — further meeting required to discuss membership timing and AGM organization.

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13. Closing Items and Actions

- Dawne to consult Mikayla on culturally appropriate ways to thank Brian.
- Next full meeting expected **mid-January** unless urgent issues arise. Dawne will create a poll for dates.
- Arrange for TNRD to attend January meeting – talk about ranchers – need support
- Lisa to investigate next TNRD election and possibly whether David or Herb are retiring

Appendix:

What are thermocline loggers?

Thermocline loggers are **underwater temperature recorders** placed at different depths on a line in a lake. They measure water temperature at regular intervals (e.g., every few minutes or hours).

What they're used for

They show:

- When the lake **stratifies** into warm surface water and cold deep water.
- How **deep** the warm layer goes.
- When (or if) the lake **mixes** during storms or turnover.
- How conditions change after events like wildfire ash, heavy runoff, or drought.

Why it matters for algae

Stratification and poor mixing can trap nutrients and reduce oxygen in deeper water, creating conditions that **fuel algae and cyanobacteria growth** when the lake finally mixes.