



## Case Study

Nk'eʔxép Management Committee:

# *Successes in Joint Decisions for Drought Prevention and Response in the Nicola Watershed*

Nicola Watershed Governance Partnership & POLIS Water Sustainability Project  
with support from BC Water Legacy

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POLIS Project on Ecological Governance  
**watersustainabilityproject**

**Nicola  
Watershed**  
GOVERNANCE PARTNERSHIP

**BC** water  
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# About This Case Study

Drought is an increasingly regular and severe event in watersheds across what is now called British Columbia. Headlines about fish in distress, groundwater wells running dry, and low flows in rivers and creeks (even late into fall) all point to the complex challenges and tough decisions communities must navigate in a climate-changed world.

This case study showcases and celebrates the innovative approach and impact of the Nk'eʔxép Management Committee in the Nicola Watershed—a key initiative of the Nicola Watershed Governance Partnership. The committee is making bold shifts away from the status-quo provincial drought response by embracing new approaches based in co-governance, local collaboration with water users, mitigation, prevention, and place-based drought management—all grounded in Indigenous and Western knowledge and science.

*This case study tells the story of one watershed's path towards managing drought differently, based on shared decision-making informed by Indigenous and Western knowledge and science.*

This case study distills key learnings from the Nk'eʔxép Management Committee's approach. It is intended to be a celebration of the work for local partners, as well as a resource for other First Nations, government staff and decision-makers, and those working on drought across the province as they too explore ways to improve drought management and response.

The Nk'eʔxép Management Committee will continue to evolve in the years ahead. This case study is a current snapshot summarizing insights from the work to date and may be revisited in the future with new lessons learned and updates to share.

# Nk'ęxép Management Committee: Evolution and Structure

*“Water management is being done by the people who live in the watershed” —committee member*

## Evolution

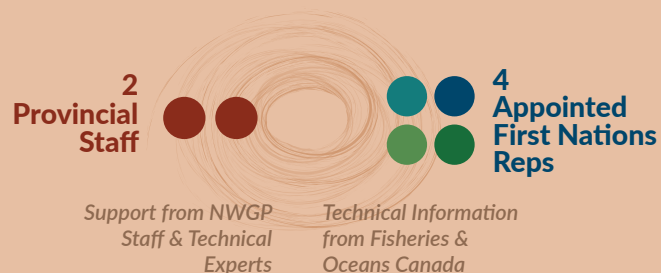
The Nk'ęxép Management Committee formed out of the Nicola Watershed Governance Partnership in 2019. Early into their government-to-government partnership, the five Nicola First Nations and the Province of B.C. recognized that developing new, shared ways of managing and responding to drought was a key priority to explore together. In its first year, the committee focussed on information sharing and co-learning between provincial government and First Nations representatives to build a shared understanding of the existing provincial drought response regime, indicators, and approach to information gathering.

Building on this foundation, in its second year the Nk'ęxép Committee:

- Continued ongoing information sharing and learning.
- Built an expanded suite of drought indicators, drawing in new indicators based in Indigenous knowledge in addition to the Province's existing set of indicators.
- Built a stream watch list inclusive of streams important to First Nations and the Province.
- Worked on joint decision briefings.
- Met jointly with large irrigators regarding water use reductions.
- Issued joint communications to water users under the banner of NWGP.
- Co-monitored streamflows.
- Began shared decision-making to set drought levels and manage drought response based on the new set of indicators, shared stream list, and common data and understanding.

## How the Committee is Structured

The Nk'ęxép Management Committee is made up of provincial government and First Nations members. Since 2019 the committee has included members from the Coldwater, Lower Nicola, Nooaitch, and Upper Nicola Bands. Two provincial staff and the four appointed First Nations representatives are the decision-makers, with support from NWGP staff and technical experts. In 2022, Fisheries and Oceans Canada was invited to participate in the committee. Fisheries and Oceans Canada provides technical information to the committee, but is not currently a decision-maker, as it is not a signatory to the Memorandum of Understanding.





# Four Food Chiefs and Grandmother Teachings

The Nk'eʔxép Management Committee is guided by protocols from the Nłeʔkepmx (Grandmother Teachings) and Syilx (Four Food Chiefs) governance processes. These protocols inform and ground all aspects of the committee's work and relationships—between people, and between people and the land, water, plants, and animals. These protocols are fundamentally reorienting drought response around a core understanding of a *shared responsibility to ensure that water can maintain all of its relationships*.



Figure 1: Nk'eʔxép Management Committee



# 1

## **Background:** *Collaboration out of Conflict*

# Nk'e?xép

*“what dries up”*  
*in the nte?kepmxcin language*

The Nte?kepmx and Syilx Peoples have lived in, stewarded, and governed the lands and waters in the Nicola watershed for millennia. Today, the region is home to approximately 8,000 people, including the territories of the Coldwater, Lower Nicola, Nooaitch, Shackan, and Upper Nicola Bands, as well as the City of Merritt. The rivers, streams, lakes, wetlands, and aquifers in the Nicola support diverse communities of fish, plants, and other animals.

**T**he Nicola is already one of the driest watersheds in the province. And, as a result of the cumulative pressures of climate change, intensifying water use, and land use changes over the past century, the watershed has experienced growing tensions around competing water uses and values. More recently, the region has been rocked by a series of extreme droughts, fires, floods, and mudslides:

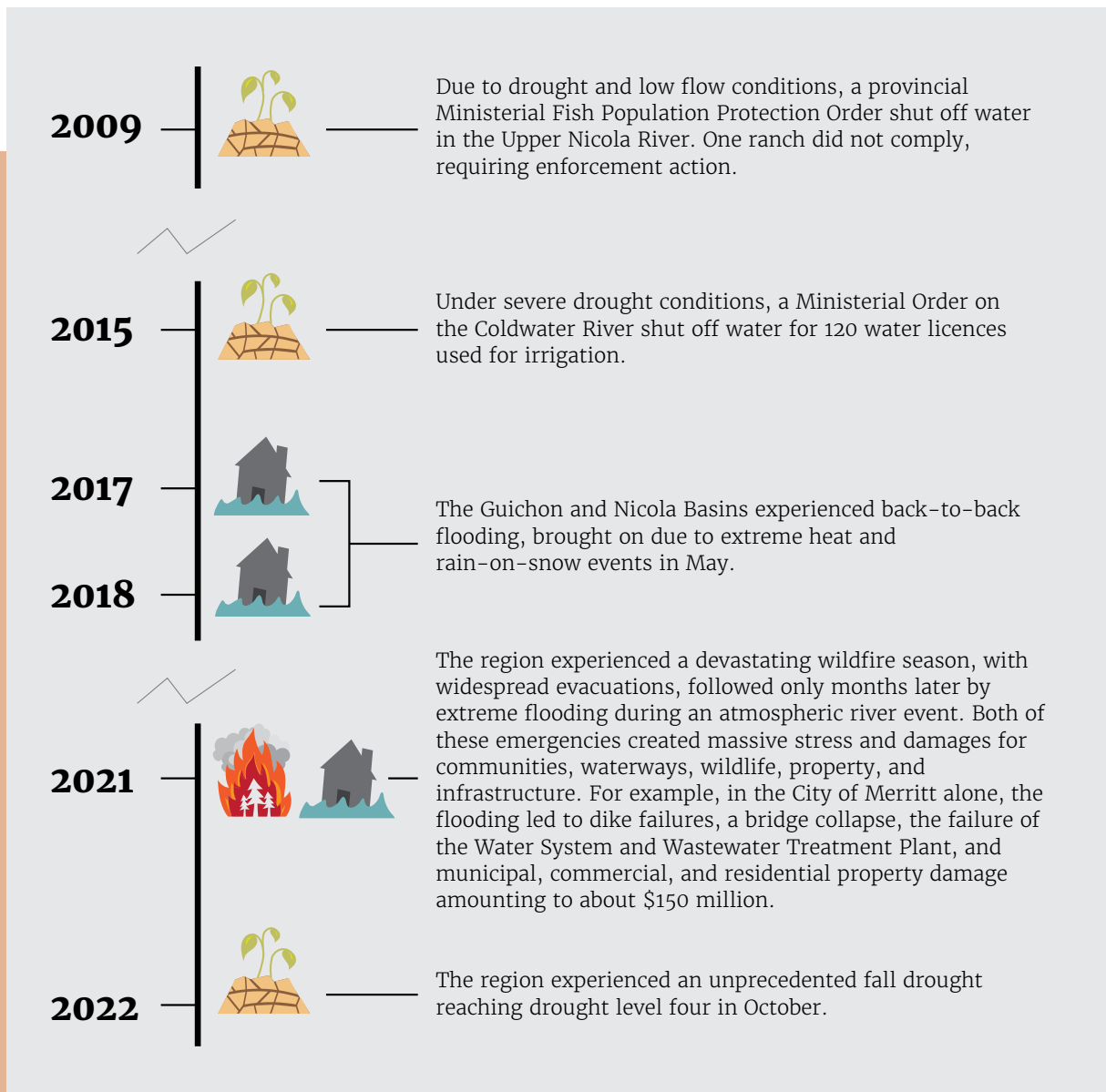


Figure 2: Extreme droughts, fires, floods, and mudslides in the Nicola region since 2009.



In 2018, recognizing that the status quo was not working and the need to work together on shared water challenges, the five Nicola First Nations and the B.C. provincial government signed a Memorandum of Understanding to chart a new path forward based on Indigenous laws, principles, and protocols alongside provincial government laws, Western science, and ways of working. Since then, the Nicola Watershed Governance Partnership (NWPG) has done significant work to build co-governance and is undertaking a range of projects to maintain and restore watershed health.

The Nk'əʔxép Management Committee is a core NWPG initiative that is driving significant innovations in drought management based on shared decision-making, Indigenous knowledge systems, co-learning, co-monitoring, and working together with water users. The committee's ongoing work, which continues to evolve by exploring mitigation and resilience and deepening shared decision-making, is unique in British Columbia, and serves as a leading example with lessons for other regions on building new collaborative approaches to drought management.

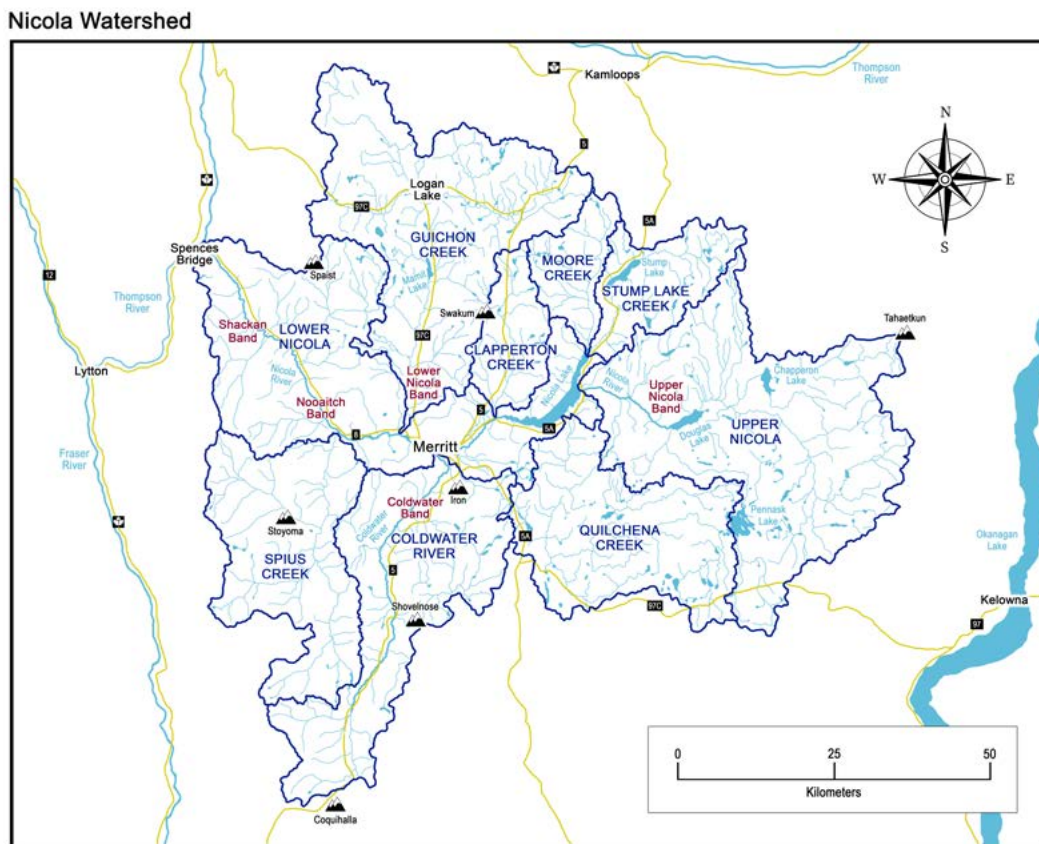


FIGURE 3: Current Nk'əʔxép Management Committee represented project area

## At A Glance: Current General Approach to Drought Management in B.C.

- The *British Columbia Drought and Water Scarcity Response Plan* is the organizing provincial government framework for drought response in B.C.
- As the name suggests, the Plan focuses on drought response, rather than drought *mitigation, preparation, or planning*.
- The provincial system categorizes drought into five response levels, each with associated reactions. These actions range from voluntary conservation and stewardship at lower levels, to possible regulatory action at higher levels. See Figure 3 below.
- The provincial government relies on short-term Ministerial Orders to deal with severe drought situations. However, despite several watersheds across B.C. reaching the highest drought levels in recent years, including into the fall months, the provincial government has taken limited regulatory action.
- In assessing drought and assigning a level, the provincial government relies on two generic indicators: (1) seven-day average streamflow and (2) precipitation deficit.
- The Province issues associated communications to water users and makes decisions about when to move through drought levels and the associated responses. The focus on response relies largely on voluntary action, often done in an ad hoc and uncoordinated way.

DROUGHT LEVEL CLASSIFICATION		
Level	Impacts	General Response Measures
0	There is sufficient water to meet socio-economic and ecosystem needs	Preparedness
1	Adverse impacts to socio-economic or ecosystem values are rare	Conservation
2	Adverse impacts to socio-economic or ecosystem values are unlikely	Conservation Local water restrictions where appropriate
3	Adverse impacts to socio-economic or ecosystem values are possible	Conservation Local water restrictions likely
4	Adverse impacts to socio-economic or ecosystem values are likely	Conservation and local water restrictions Regulatory action possible
5	Adverse impacts to socio-economic or ecosystem values are almost certain	Conservation and local water restrictions Regulatory action likely Possible emergency response

Figure 4: B.C. Drought Level Classification System



# 2

## A Watershed Working Better Together: The Nk'e?xép Committee's Impacts

*“A decision about drought does not get made in the Coldwater or Nicola without First Nations involvement in that decision. Before, the Province was just letting the Chiefs know what was being done around drought. Now, it's a shared decision.” —committee member*

### **A holistic suite of Indigenous knowledge and science indicators alongside Western science are informing drought decisions**

The Indigenous knowledge and science drought indicators that are now being used in addition to the Province's two primary indicators (seven-day average streamflow and precipitation deficit) provide a holistic, tailored, watershed-specific basis on which to assess drought conditions. These Indigenous science indicators encompass the watershed as a whole to understand watershed health, early warning signs, and drought impacts. The indicators, for example, consider the condition of habitat, plants, animals, timing of berries, water temperature, and fire information. Together, Indigenous and Western science-based indicators are now informing drought forecasting and proactive decision-making around drought levels and associated actions.

### **“People, not just gauges”: Indigenous knowledge holders are on the land assessing impacts and data collection is shared**

First Nations community members and knowledge holders are on the land collecting data and information in the watershed and monitoring indicators (Indigenous and Western science) alongside provincial government technicians. This shared data, which is accessible to communities, is the basis of shared decision-making by the government-to-government partners, creating efficiencies and building trust.

### **Decisions and communications about drought levels are done together**

First Nations and the Province now meet and communicate jointly with water users, like the City of Merritt and irrigators. And First Nations and the Province decide together about when to move through the drought levels and associated actions—a partnership approach that demonstrates shared decision-making and local accountability.

## **Local collaboration has led to voluntary water use reductions and earlier action**

The committee's approach is fundamentally based on relationships, early and regular communication, and trust-building between the Province and First Nations, and with water users. Through this local, collaborative decision-making approach, people who live in the watershed are becoming champions for action and part of the solutions. This is leading to earlier voluntary action to reduce water use, rather than relying on reactive Ministerial Orders. For example, in 2021, while the Province was issuing water use reduction orders in much of southern B.C., the Nicola did not require such an order because major water users (including the City of Merritt and the agriculture sector) voluntarily reduced water use through working together. And, that same year, the Upper Nicola Band and the main rancher in the Upper Nicola watershed collaborated directly on drought response and actions. The outcomes were significant: irrigation shutoff occurred much earlier than if it had been done through Ministerial Order, and water was released from storage.

## **Drought prevention is a focus and happens year-round**

As one committee member stated, "our work does not stop when drought stops." The committee works year-round to plan and be proactive, rather than waiting until a drought hits to react, and thus only chase crises. This year-round focus better supports collaboration, early action, and innovative solutions.

## **The partnerships are growing**

With its track record of strong work, the committee is attracting interest from a range of new partners, including Fisheries and Oceans Canada and the Nicola Water Stewardship and Fisheries Authority.

## **Fish are a focus**

The importance of fish as a core focus resulted in the creation of a dedicated fish working group to help inform the committee's work. Most committee members attended meetings of the Nicola Dam Committee to better understand dam management and have deeper discussions on fish management—looking at species that have not been adequately considered to date in management (e.g. land-locked kokanee and burbot) in addition to key salmon species. The fish working group also created a collaboration for the emergency work in response to stranded fish due to the damage from the 2021 floods.





# Challenges the Committee Has Faced

Alongside its many successes, the Nk'ełxép Management Committee has also contended with key challenges in the first few years of its work, including:



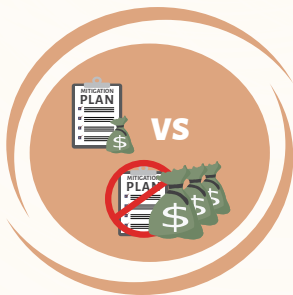
## Successive Crises in the Region

Droughts, fires, and floods have created massive disruptions and stress for communities—drawing resources, time, and energy into emergency response and recovery and away from planning and preparation for more proactive and comprehensive solutions.



## Stretched Human Resources and Limited Time

While the committee would like to scale out the work and bring more people into the projects, it is facing human resource challenges (shared by many watershed governance initiatives) and exacerbated by the COVID-19 pandemic. This situation points to the urgent need for more general support through a mechanism such as the B.C. Watershed Security Strategy and Fund and a functional Canada Water Agency.



## The Value of Preparation and Advance Planning is Not Yet Broadly Understood

The committee is contending with the short-term view that mitigative action on drought is too expensive. It will need to continue to demonstrate the value and cost savings from investing now in watershed security. If food cannot be grown in the Nicola watershed, or if no salmon return, the future costs of inaction on drought will be massive relative to the costs of mitigation.

# 3

## What's Next? *From Drought Response to Resilience and Thriving Despite Drought*

*“The end goal is not to live in a watershed with a Drought Management Committee that is reactive and has to shut peoples’ water use off every year. We want to be more mitigative and proactive in the future and do things in the watershed that make it more resilient.” —committee member*

Building on its strong foundation and guided by the Four Food Chiefs Governance Model and the Grandmother Teachings (see page 4), the Nk’e?xép Management Committee is exploring priorities for the next phase of its work. It is looking at an overarching strategic question:

How do we remove the need to have a drought *response* committee?

Fundamentally this means asking *how do we recreate a resilient future that allows the watershed and all of its beings to flourish?*

The committee recognizes that water use alone is not the only problem and solution for drought in the Nicola. Drought is a cumulative impacts problem—climate change and past land use change are also driving drought issues. The solutions, therefore, need to take into account the full picture of integrated mitigative actions—from reforming forest practices, to supporting functioning hydrology, to increasing riparian zone protection, to increasing water storage through means that mimic natural processes (such as beaver dam analogues, which store small portions of water throughout the watershed).

As part of its ongoing evolution and work, the committee is exploring its role in generating broader societal change around water and watershed values, and the strategies to educate future generations about watershed health. This includes supporting education in schools to help young people understand what healthy streams and watersheds look like, and the role we all play in stewarding healthy watershed systems into the future.



# 4

## Key Learnings and Takeaways

The Nk'ę́xép Management Committee is building a novel approach to managing and responding to drought, based fundamentally in co-governance and Indigenous laws, principles and protocols. The committee's work is a tangible expression of the NWGP's Reconciliation Wheel (see Fig.5), demonstrating steps towards Good Governance (for example, addressing and making drought decisions together), a Strong Government-to-Government Partnership (for example, continual learning and improving collaborative drought governance), and Sustainable Water Management (for example, drawing on Indigenous drought indicators and laws alongside Western science and Crown laws/policies).

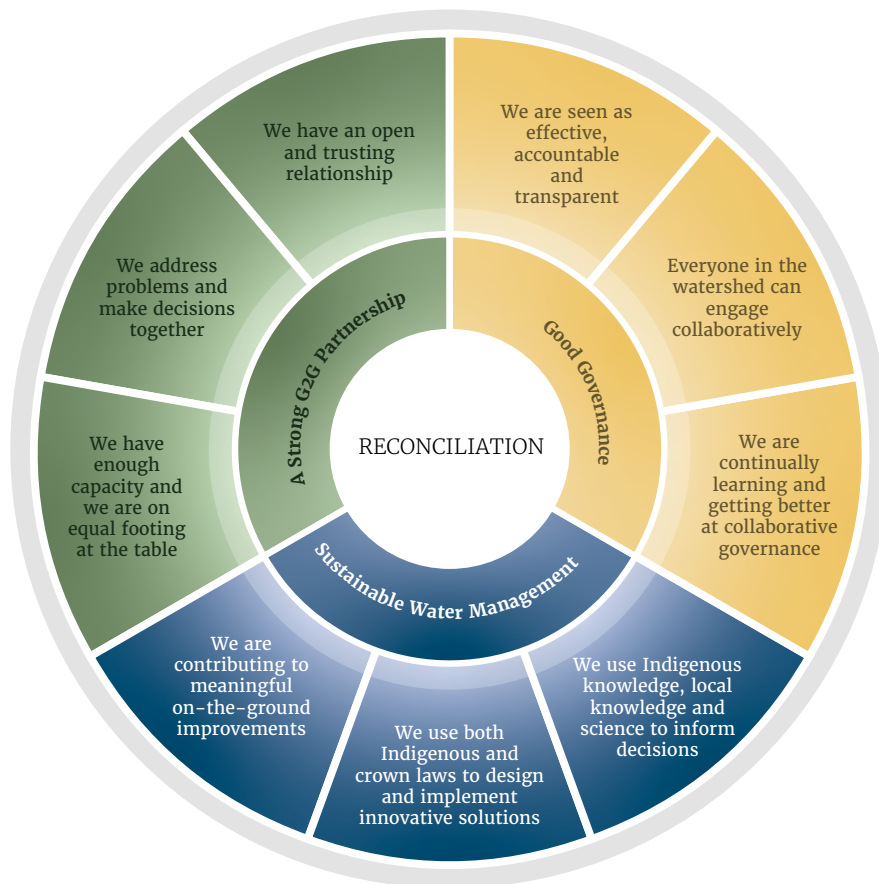
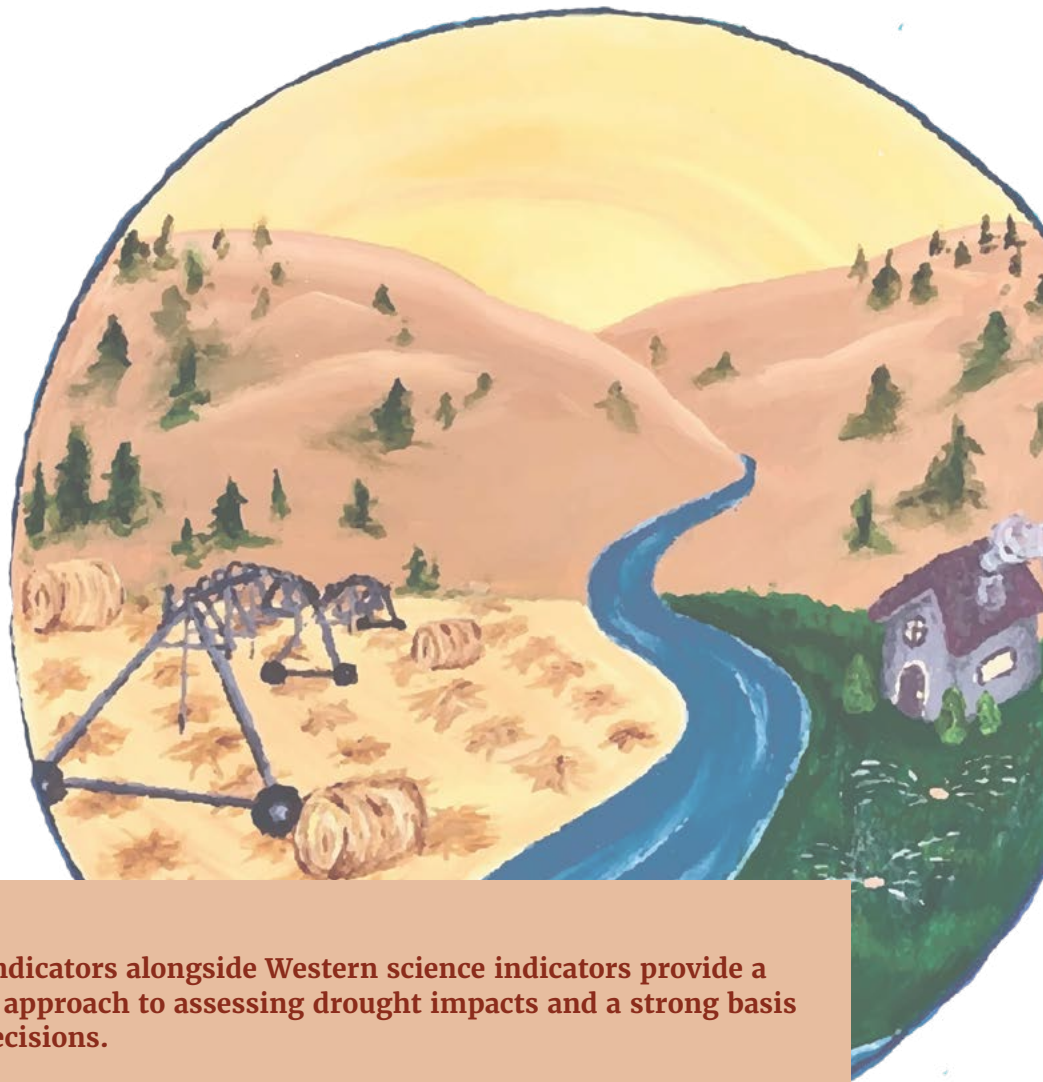


Figure 5: The NWGP's Reconciliation Wheel represents a shared vision of what it means for the NWGP to put reconciliation into action, and how to make real progress toward healthy communities and healthy waters.

In a short time, the committee has already taken significant steps towards new ways of working together to assess, monitor, communicate, make decisions, and take action on drought. Three key learnings stand out:



- 1. Indigenous science indicators alongside Western science indicators provide a holistic, place-based approach to assessing drought impacts and a strong basis for making shared decisions.**
- 2. Tough decisions about drought are best made locally, based on constant communication, strong relationships, and deep trust, all of which require ongoing, year-round attention and continuous collaboration.**
- 3. Drought response and managing water use is just one part of a larger approach to drought resilience, which must include a suite of prevention, mitigation, and restoration measures.**

As the Nk'ə?xép Management Committee carries its work forward, its members will continue to reflect on and share the outcomes, impacts, and lessons they are learning about reforming drought response and building durable shared decision-making relationships.



# Charting the Path Towards Watershed Security

The Nk'eǰxép Management Committee's work shows a viable path forward towards watershed security—an approach that can inform the broader provincial approach to drought management. In particular, the committee is driving three key changes that are building greater security and resilience for ecosystems and people alike in the face of drought challenges, all of which must inform a modernized approach to the provincial drought program:

1. Approaching drought as a land use, water use, *and* climate change issue, which means drawing on integrated, whole-of-watershed knowledge, tools, and approaches to drought response and mitigation.
2. Giving watersheds the best chance to be resilient, which means looking at a holistic suite of actions to restore and secure watersheds (including an explicit focus on wetlands, sufficient riparian areas, flow regimes that protect fish, and groundwater recharge zones) so they are buffered in the face of drought, drawing on nature-based approaches.
3. Embracing co-governance, shared authority, and the primacy of trust and relationships in all aspects of the work, which means committing to working together as partners, taking the time to communicate and learn from each other, and engaging early and often in the difficult local conversations about drought, the need for proactive measures, and how everyone impacted might have a role.

## ABOUT THE CASE STUDY PARTNERS

### Nicola Watershed Governance Partnership



The Nicola Watershed Governance Partnership involves the provincial government and five Nicola First Nations governments working together under a formal agreement to improve the health of the water and advance reconciliation. This work is being informed by engagement with local communities and stakeholders. The five Nicola First Nations governments (collectively known as the Nicola 5) are:

- Coldwater Indian Band (Nłeʔkepmx Nation)
- Lower Nicola Indian Band (Nłeʔkepmx Nation)
- Nooaitch Indian Band (Nłeʔkepmx Nation)
- Shackan Indian Band (Nłeʔkepmx Nation)
- Upper Nicola Band (Syilx Nation)

Our children and grandchildren will need healthy waterways just as we do. With so much at stake in the watershed, now is the time to find new ways to work together to solve these problems. This is what is happening through the Nicola Watershed Governance Partnership.

<https://nwgp.ca/>

### POLIS Water Sustainability Project



The POLIS Water Sustainability Project is an action-based research group at the University of Victoria's Centre for Global Studies. We develop cutting-edge research and share solutions, best practices, and opportunities for reform with those working on the ground (and in the water). This includes communities, experts, governments at all levels (local, Indigenous, provincial, federal), and non-governmental and Indigenous organizations. By combining practical research with community action, we demonstrate the powerful potential of new governance approaches and work to drive innovative law reform to generate change towards a sustainable and secure freshwater future.

[www.poliswaterproject.org](http://www.poliswaterproject.org)

### BC Water Legacy



BC Water Legacy emerged in 2016 as a strategic project of the BC Water Funders Collaborative, a group of funding organizations working together to help advance water protection in British Columbia. Drawing on local experience and expert advice, this unique initiative makes capacity investments in leadership and innovation at the watershed scale to advance water sustainability throughout the province.

BC Water Legacy's vision is: By 2030, all freshwater ecosystems in British Columbia will be in good health as a result of world-class leadership in watershed governance. BC Water Legacy advances this vision by supporting projects that bring together governments, water users, and community interests at the watershed scale to make better decisions for the benefit of water, and everything that depends on it.

[www.bcwaterlegacy.ca](http://www.bcwaterlegacy.ca)



*The cover artwork is the creation of Stacey Orr. It is a powerful representation of water uses in the Nicola Watershed, inspired by her time at the Merritt office's Water Stewardship program. Infusing her passion for art, First Nations culture, and environmental protection, she illustrates primary human uses of water, from agriculture to domestic purposes, encapsulated within the migrating journey of the Chinook Salmon, who require an ample flow of water to successfully swim upstream for spawning.*