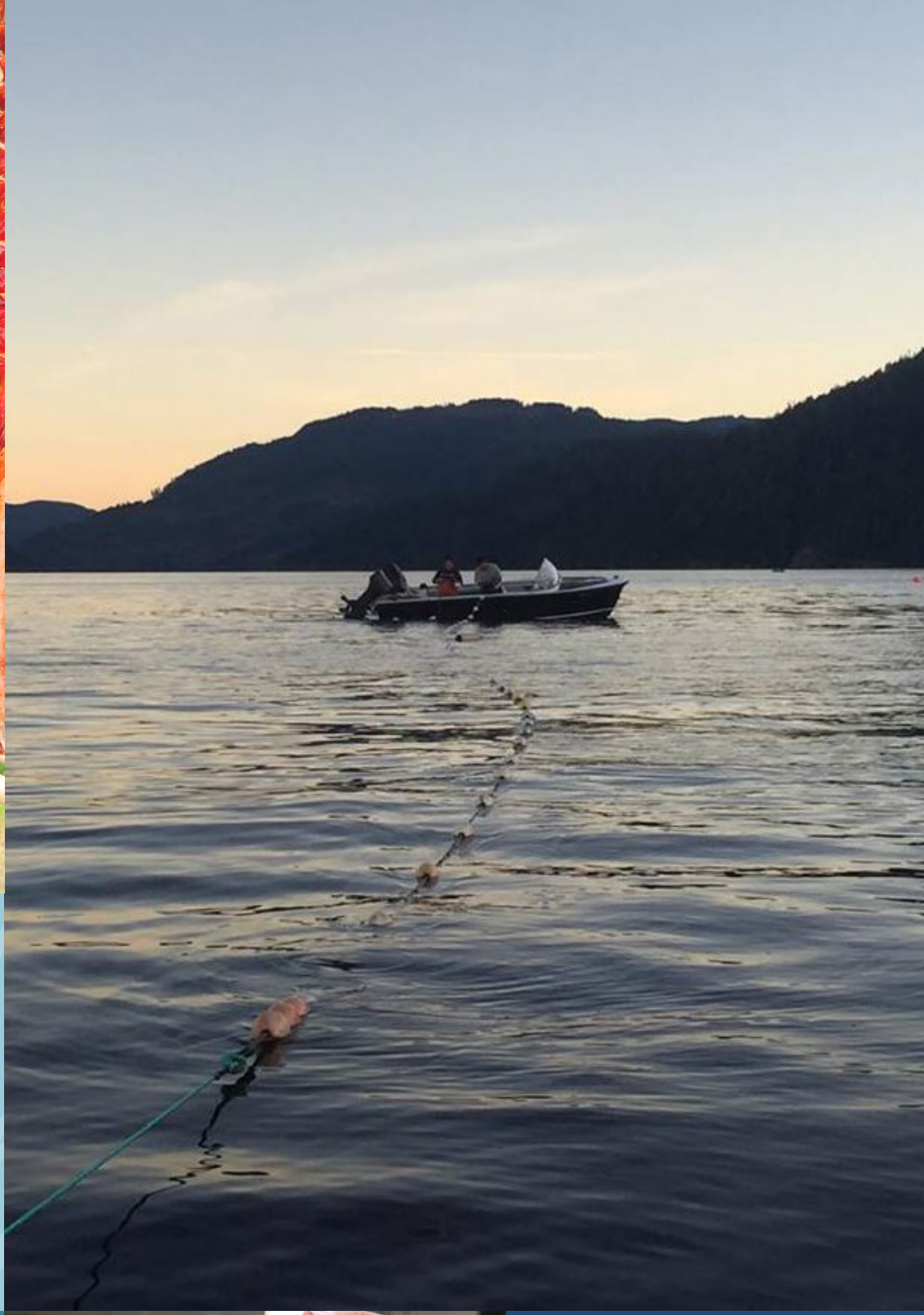
First Nations Fisheries Council of British Columbia

Making Waves

2021 Survey of First Nations-Led Freshwater Management and Governance in British Columbia



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About the First Nations Fisheries Council of BC and the *Water for Fish* Program

Through the BC First Nations Fisheries Action Plan[1], First Nations have directed the First Nations Fisheries Council of British Columbia (FNFC) to:

- advance and protect First Nations title and rights related to fisheries and aquatic resources, including priority access for food, cultural, and economic purposes;
- support First Nations to build and maintain capacity related to fishing, planning, policy, law, management, and decision making at various scales (local, regional, national, international); and,
- facilitate discussions related to the development of a British Columbia-wide, First Nations-based collaborative management framework that recognizes and respects First Nations jurisdiction, management authority, and responsibilities.

FNFC's *Water for Fish* program was launched in 2012 to advance objectives under Theme 3 of the Action Plan, "Safeguarding Habitat and Responding to Threats." Through this program, FNFC works to support First Nations to advance freshwater governance and aquatic habitat protection in their territories and at a province-wide scale.

FNFC is not a rights-holding organization and recognizes and respects the sovereignty and self-governance of all First Nations as rights holders and their right to make their own decisions. FNFC's role is to provide information and support First Nations positions where their collective interests align.

About the Centre for Indigenous Environmental Resources

The Centre for Indigenous Environmental Resources (CIER) supports Indigenous people and communities to be leaders of positive environmental change, using the best of Western and Indigenous knowledge to create a world that is in balance and supports the well-being of all living things.

First Nations Fisheries Council of British Columbia

CIER Centre for Indigenous Environmental Resources

1 FNFC (2006). *BC First Nations Fisheries Action Plan*. Available at: https://www.fnfisheriescouncil.ca/wp-content/uploads/2021/10/FNFC-Action-Play-full-version-2007.pdf

Salmon Eggs, Billie Johnson

Acknowledgements

FNFC and CIER honour all Indigenous Peoples across Canada and the world who continue to do the important work of protecting, respecting, and upholding the sacred relationships they have with water.

This survey, including any information and presentations that are derived from this research, is not considered consultation with First Nations in British Columbia.

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Contents

Earl George III Dipnetting at Mount Currie-Ilwat Nation, Deanna George

Introduction

For millennia, First Nations have stewarded the watersheds in what is now called British Columbia. From creating laws protecting streams and wetlands, to establishing fish weirs in rivers, to using Indigenous knowledge to monitor creek levels and temperature, First Nations in BC continue to use innovative, holistic, and effective tools and approaches to manage and govern fresh water in their territories for the benefit of present and future generations.

Significant commitments to reconciliation with Indigenous Peoples by the governments of BC and Canada in the past 5 years have created new opportunities for First Nations, which has supported a resurgence in First Nations-led freshwater governance. Changes to provincial policy and legislation, particularly BC's 2019 *Declaration on the Rights of Indigenous Peoples Act* and 2016 *Water Sustainability Act*, support First Nations-led and collaborative watershed governance. The provincial government's launch of the $27-million Healthy Watersheds Initiative in fall 2020, renewal of the program in the 2022 BC Budget, and BC's commitment to co-developing a Watershed Security Strategy and Fund with First Nations in BC all point to a rapidly evolving context, with increasing support and new opportunities for First Nations to work on water.

About this Report

This report provides findings of the 2021 *First Nations Freshwater Management and Governance Survey in British Columbia*, which builds on and tracks trends against a similar survey, *Indigenous Watershed Initiatives and Co-Governance Arrangements: A British Columbia Systematic Review*, conducted in 2016 by the Centre for Indigenous Environmental Resources and the First Nations Fisheries Council of BC.[2]

Findings of the 2016 survey offered a glimpse into the diverse activities that First Nations were undertaking to manage and protect fresh water in their territories, including the extent to which Indigenous laws and knowledge were supported through relationships with Crown governments and other entities, and First Nations financial resources and technical capacity.

Findings of the 2021 survey provide a snapshot of First Nations freshwater governance in BC today, including:

- How First Nations work on water has changed over the past 5 years, and
- New insight into First Nations perspectives on trends, activities, and current needs related to freshwater governance and management.

2 CIER & FNFC (2016). Indigenous Watershed Initiatives and Co-Governance Arrangements: A British Columbia Systematic Review. Available at: https://watershedsbc.ca/wp-content/uploads/2019/10/BC-Systematic-Review-Project-Report_Sept-15-2016.pdf

About the Survey

The 2021 *First Nations Freshwater Management and Governance Survey* was shared with First Nations staff and leadership across BC by FNFC staff via email and social media for 10 weeks from November 2021 to January 2022. Prize incentives were offered to support a higher response rate.[3]

The survey was structured to collect both quantitative statistics and qualitative insights through open-ended questions on the following:

- What does First Nations management and governance of fresh water look like in BC today?
- What conditions, capacities, and relationships support First Nations to protect fresh water in their territories, and how can these be improved?
- How do these results compare to the 2016 survey, *Indigenous Watershed Initiatives and Co-Governance Arrangements: A British Columbia Systematic Review?*

A Note of Caution in Interpreting Survey Results

This survey and analysis were conducted using Survey Monkey software and basic descriptive statistics. As such, the findings in this report represent the insights of those individuals who completed the survey and cannot be interpreted as representing the insights of all First Nations communities and organizations across BC. Statistical reliability measures that could enable survey results to speak representatively to a broader population, such as random sampling and a confidence interval of 95%, were not used.

Who Participated in the Survey?

A total of 86 respondents from 65 First Nations communities and fisheries organizations across BC responded to the survey. While the results in this report are not representative of all 200+ First Nations communities in BC, the strong response rate from across all regions of the province provides a meaningful picture of First Nations work on water in BC.

The following regions are grouped together to make general geographical comparisons from the survey results:

- 30 respondents from the Mid-Fraser, Upper-Fraser, and Fraser Valley regions grouped as the **Fraser River Region** (46% of survey respondents);
- 16 respondents from the Central Coast, North Vancouver Island and Mainland Inlets, North Coast, West Coast Island, and Haida Gwaii regions grouped as the **North and Central Coastal Region** (20% of respondents);
- 8 respondents from the South Vancouver Island and Mainland Inlets and the Lower Mainland regions grouped as the **Southern Islands and Lower Mainland** (15% of respondents);
- 6 Upper Skeena and Northern Transboundary regions grouped as the **Northern Region** (13% respondents); and,
- 5 respondents from the **Transboundary Columbia** (5% of respondents).

3 Prizes included twenty $100 gift cards and three grand prizes of $1,500 towards a community's environmental initiatives. Winners were selected through a random draw.

Key Findings at a Glance

Taken together, these insights can inform First Nations strategies to continue to rebuild internal capacity for water governance and advance freshwater protection. These themes also provide opportunities for prospective partners and funders seeking to support First Nations work on water across BC.

Five (5) key themes emerged from the survey findings:

Water Work is Diverse

Water as a Connector

Recognition of Indigenous Jurisdiction and Authority is a Foundation of Watershed Security

A Growing First Nations Water Network in British Columbia

Human Resource and Financial Needs

1. Water Work is Diverse

First Nations are undertaking a broad range of activities to protect the health of water and aquatic habitat in and beyond their territories.

These activities include active management, such as monitoring of water quality and quantity in creeks, streams, rivers, and lakes, monitoring and restoration of fish habitat and populations, and managing referrals for water licenses and authorizations for surface and groundwater in their territories. Work on water also includes activities that support governance and decision making, such as revitalizing Indigenous laws and knowledge systems related to water, and developing policies, strategies, declarations, and plans centred on fresh water. Disaster management and mitigation activities related to droughts, floods, cumulative effects, and climate change represent a growing proportion of First Nations work on water.[4]

4 For case studies on specific First Nations-led freshwater management and governance activities, see FNFC (2018). *Protecting Water Our Way: First Nations Freshwater Governance in British Columbia*. Available at: https://www.fnfisheriescouncil.ca/wp-content/uploads/2022/03/FNFC-ProtectingWaterOurWaySingles_FINAL-updated-by-AA.pdf

What is Water Governance vs Water Management?

Governance is the "Who? What? How?" of decision making and jurisdiction, and the process of holding decision makers accountable — who has the power to make what decisions about water, and how? Water governance activities include revitalizing Indigenous water laws and/or developing strategies to assert a Nation's jurisdiction of water.

Management refers to ongoing on-the-ground operational activities. Water management activities include water monitoring and habitat restoration.[5]

2. Water as a Connector

Survey respondents indicated that their strongest relationships related to their work on water are their relationships with other First Nations. Most respondents expressed interest in strengthening their relationships with Crown governments.

Work on water connects First Nations efforts to drive water management and governance in their territories have the potential to strengthen relationships between communities and relationships with governments, and have crossover benefits that extend beyond improving the watershed health. For 92% of survey respondents, working on water resulted in stronger relationships with First Nations and non-First Nations partners. More than 80% of respondents cited protection of fish, stronger connection to land and territory, and intergenerational sharing of Indigenous knowledge as added benefits derived from their work on water.

Survey results and a scan of government-to-government agreements, many of which seek to establish new forms of decision making, demonstrate that several First Nations are working with Crown governments to advance freshwater management and governance priorities. Although provincial and federal governments were perceived by many respondents as key partners to advance water initiatives, responses also highlighted a need for government partners to continue to improve their cultural understanding and knowledge of working with First Nations, and to implement UNDRIP.

5 Adapted from Brandes, O and Tim Morris et al. (2016). *Illumination: Insights and Perspectives for Building Effective Watershed Governance in B.C.* Available at: https://poliswaterproject.org/files/2016/06/POLIS-Illumination-web.pdf

3. Recognition of Indigenous Jurisdiction and Authority is a Foundation of Watershed Security

A shared understanding between all levels of government of what Indigenous jurisdiction and authority of water looks like (shared and exclusive) is critical to advancing watershed security in British Columbia.

The ongoing reluctance of Crown governments and other partners in the watershed to recognize Indigenous jurisdiction, authority, and decision making related to fresh water was perceived by most respondents to be a key non-financial barrier for First Nations work on water. While a growing number of government-to-government agreements exist between Crown governments and First Nations, only a few contain provisions for increased First Nations involvement in decision making related to fresh water.

4. A Growing First Nations Water Network in British Columbia

There are clear opportunities for collaboration between First Nations to work on water.

Most respondents' strongest relationships are with other First Nations in their watersheds, followed by relationships with tribal councils and First Nations organizations, and then First Nations outside of the watershed. These relationships can still be deepened, and respondents highlighted their work on water as having strong potential to improve these relationships. Water monitoring is one example of a clear opportunity for collaboration on water work among First Nations, from securing software to support the sharing and storing of data, to sharing capacity to implement Indigenous protocols for data and information sharing across a watershed.

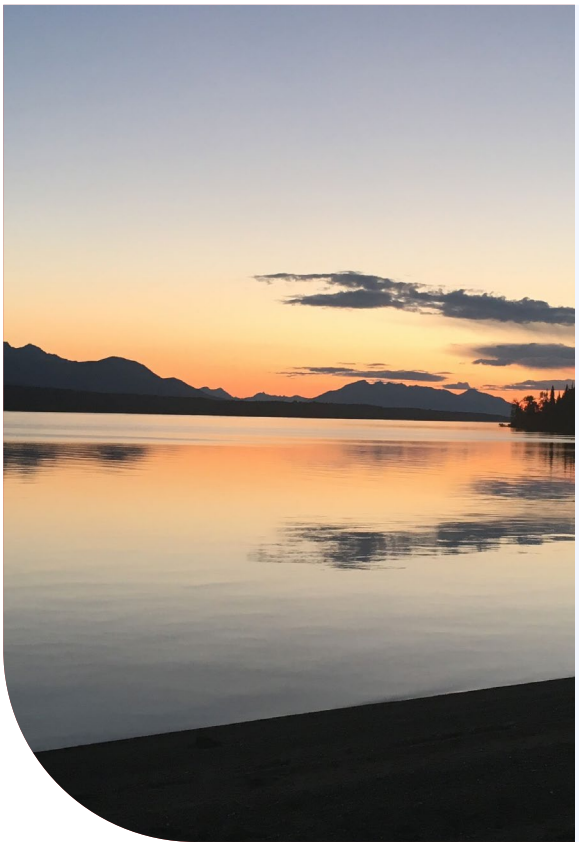
Keith West

5. Human Resource and Financial Needs

Water planning and governance work requires long-term stable funding.

First Nations in BC are rich in knowledge, tools, and skills to make decisions about and protect fresh water in their territories. They are, however, diverse in their access to financial, human resources, and technical capacity to work on water. The survey highlights that these capacities are very much interconnected. For example, First Nations with limited budgets for water management and governance struggle more with human resourcing and technical capacity than First Nations with higher annual budgets for work on water. While First Nations access to resources appears to be slowly improving compared to 2016, First Nations with limited budgets continue to be much less likely to engage in important work such as strategic water planning or revitalizing Indigenous water laws.

Human resource needs are especially pressing and were cited as the top non-financial barrier that limits First Nations work on water. For example, for communities with dedicated human resources to work on water, most respondents reported that few of these roles were permanent. These staff positions are likely intended to be long-term but are limited due to funding cycles. Human resource needs also include difficulty attracting, hiring, retaining, and in some cases housing staff. These challenges are highlighted by respondents across a range of budgets to work on water.



Takla Lake During Early Stuart Sockeye Program, Neil Heron

How Do 2021 Survey Results Compare to 2016 Survey Results?

First Nations-led water governance and management in BC has undergone rapid change, even in the past 5 years. Key changes include:

- Increased availability of financial resourcing for First Nations to work on water
- Increased human resource challenges in finding the right people to work on water
- Improved relationships with other First Nations and with Crown governments

See "Tracking Change" section on page 32 for details on changes over time.

First Nations-Led Freshwater Management and Governance in British Columbia: Survey Results

The results of the survey are divided into 4 sections:

1. **Who is working on water in First Nations communities in BC?**
2. **What water work are First Nations doing?**
3. **Who are First Nations working with on water?**
4. **What are First Nations capacity needs for working on water?**

1. Who is Working on Water in First Nations in British Columbia?

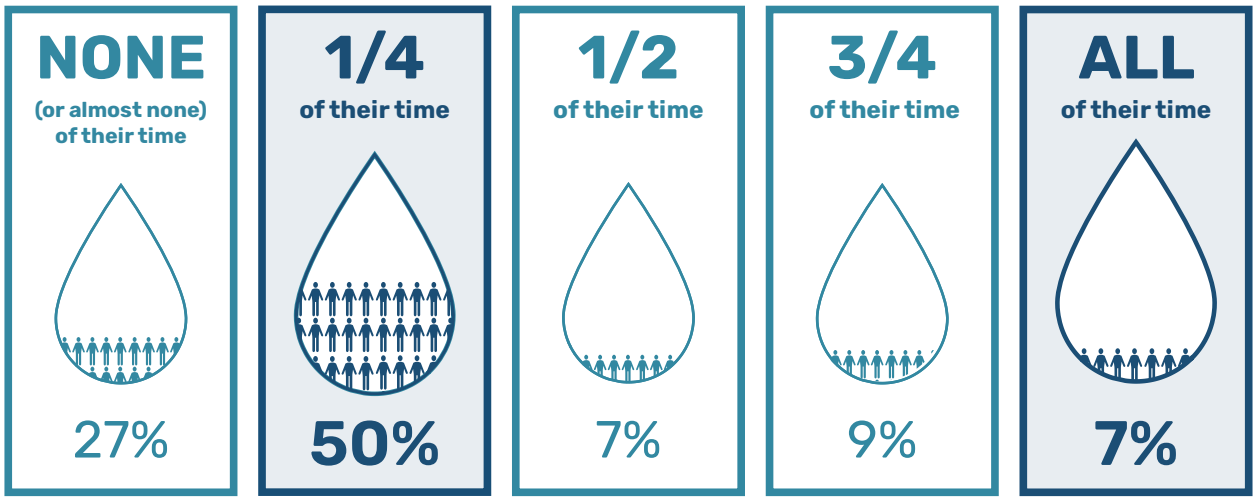
First Nations water work in British Columbia is typically done through Nations' fisheries or natural resources departments, and led by a mix of staff, leadership, and external contractors. In some cases, the same individual will occupy multiple concurrent roles.

Most staff who work on water hold a lands and resources, environment, natural resources, or stewardship role within their organization, with 26% reporting that they work directly on water, 34% working on water in connection with other projects and activities (e.g., fisheries), and 37% working on water both directly and indirectly. Given the correlation between work on water and work on fish, it's not surprising that 27% of staff respondents hold a position with "fisheries" in their job title. Only 6% of staff respondents reported job titles that include water, watersheds, or aquatic habitat.

Figure 1 shows that First Nations have limited time to work exclusively on water.

There is a correlation between a First Nation's overall budget to work on water and the amount of time that First Nations staff spend working on water. All respondents who spend 100% of their time on water work have annual budgets of $100,000 or more to work on water management and governance. In other words, First Nations with a budget of over $100,000 per year to work on water are more likely to employ staff or hire contractors that work exclusively on water projects and initiatives.

Figure 1. How much time do respondents spend working on water?



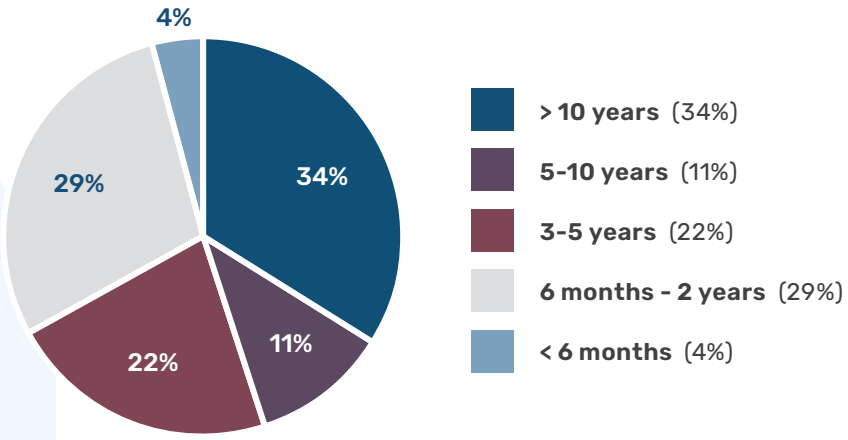
Half are only spending 1/4 of their time on water and only a small number work on water exclusively.

As shown in Figure 2, almost half of survey respondents (45%) have held their positions for more than 5 years, with more than a third in their positions for ten or more years. 86% of respondents indicated that their positions are full-time, yet only 20% of these respondents described their positions as permanent; in other words, most respondents had shorter-term contracts for full-time positions. Given the lack of permanent positions, it is surprising that 67% of respondents have held their positions for more than 3 years. It is possible that Nations' natural resource departments intend staff positions to be long-term, but are unable to designate these positions as permanent due to funding cycles—likely contributing to the human resource challenges that First Nations face in working on water (see Section 4, "What are First Nations **capacity needs** for working on water?").

Figure 2. Length of Time Respondents Have Been in Their Role

67%

have held their position for at least 3 years.



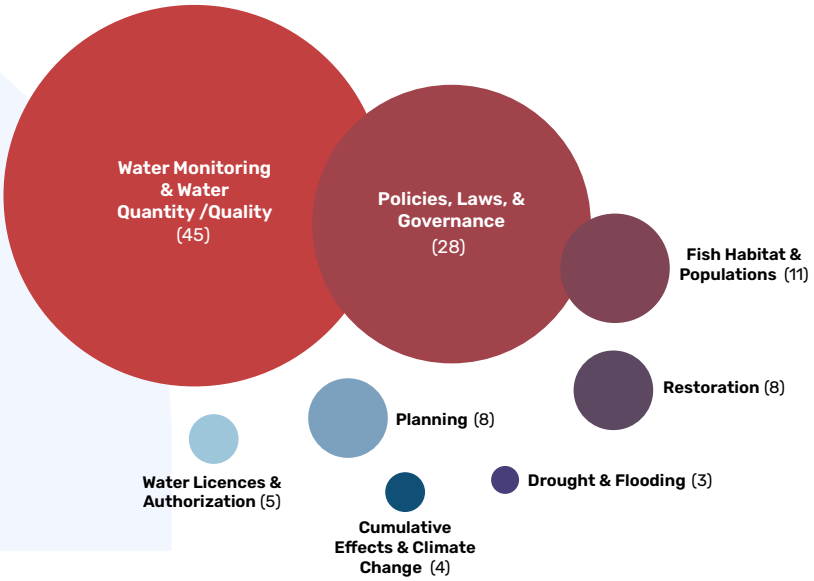
2. What Water Work are First Nations in BC Doing?

First Nations water work tends to focus on a mix of on-the ground management activities such as monitoring and restoration, as well as planning and developing policies and laws.

First Nations communities are undertaking a broad range of activities to manage and govern fresh water in their territories. This work falls into 8 categories:

Figure 3. Water Work Undertaken Over the Past 5 Years

By frequency of reference. 60 respondents provided input into their water work over the past 5 years.



Water monitoring is the activity most frequently cited by respondents, with just under half of all respondents reporting unprompted that they have undertaken water monitoring work over the past 5 years. Work relating to a community's own policies, laws, and governance is the second most cited water activity undertaken by respondents.[6]

If we compare the activities that respondents engaged in over the last 5 years across communities that have high, medium, and low budgets to work on water issues, activities appear to be relatively similar (water quality and flows, monitoring, laws and governance, and restoration), except for one important distinction: communities with an annual budget of less than $10,000 to work on water do NOT dedicate time to developing water plans and strategies (e.g., creating plans or strategies for lakes or watersheds).

6 Future research could explore the relatively small proportion of respondents who identified responding to water license referrals as part of their work on water, given that this is likely a significant activity for First Nations in a number of regions across the province. As this question was open-ended rather than multiple choice, it's possible that respondents may consider referrals for water licenses as part of their broader environmental management regime rather than as work specific to water.

Margonish Creek Confluence With Skeena Before Eulachon Fishing Season, Penny White

Focus on Water Monitoring

Only 2% of respondents reported that their First Nation was NOT involved in any kind of water monitoring work. The top 3 specific activities that respondents are currently undertaking related to water monitoring are:

1. **Collecting water data**
2. **Supporting traditional practices and Indigenous knowledge**
3. **Sharing water data**

Respondents also identified their top three needs to support and expand their water monitoring work:

1. **Water monitoring equipment**
2. **Training to support the collection of water quality and quantity data**
3. **Software to share and store data**

Motoring to the Fishing Site - Tahltan Lake, Kerry Carlick

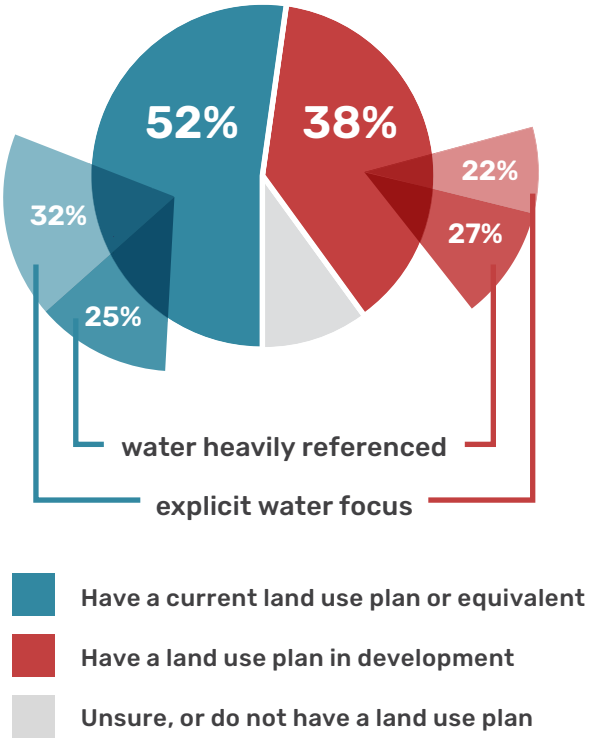
Water Plans and Strategies

60% of respondents indicated that their First Nation currently has a written document in place to protect water in the entirety of their traditional territories (i.e., beyond reserve lands). These documents could include water declarations, strategies, or plans for critical streams or waterbodies. One third of these documents integrate Indigenous knowledge and/or laws. 21% of respondents indicated that they are in the process of working on a document to protect water for their First Nation.

Of those First Nations without a current water protection document in place, 66% reported that developing a document is a priority. 63% of those with annual budgets less than $10,000 for water work indicated that developing a document was a priority, compared to 79% of First Nations with annual budgets over $100,000 for water work. These results suggest that availability of financial resources is a key constraint in the development of water protection documents.

A number of respondents reported not having a standalone water plan or strategy, but have instead integrated provisions for water protection into their land use plans for their territories, comprehensive community plans, fisheries policies, or forestry agreements. 90% of respondents reported having a land use plan for their territories either in progress or already in place. Half of these plans include water to a significant degree, suggesting that land use plans are an important tool for First Nations work on water. Future research could assess the extent to which water is accounted for in land use and other types of plans.

Figure 4. Land Use Plans & Provisions for Water



Water, Cumulative Effects, and Climate Change

Several respondents indicated that their water work includes activities related to mitigating climate change (including drought, floods, and fire), and managing cumulative effects. Respondents reported that the three most significant contributors to cumulative impacts on freshwater are climate change (95%), forestry (93%), and invasive species (70%). The responses vary across regions, reflecting the unique impacts that First Nations are facing depending on the geographic and social contexts of their territories. Figure 5 illustrates how these impacts vary across BC based on responses.

Respondents were asked what they are doing to make aquatic ecosystems more resilient to climate change. Open-ended responses to this question included:

- Stream & wetland restoration (12)
- Indigenous knowledge preservation & sharing (9)
- Water monitoring & testing (7)
- Flood mapping & control planning (3)
- Drinking water storage (3)
- Planning for & upgrading infrastructure (3)
- Understanding laws & stories (2)
- Research (2)
- Climate modeling (2)
- Improving dike systems (2)

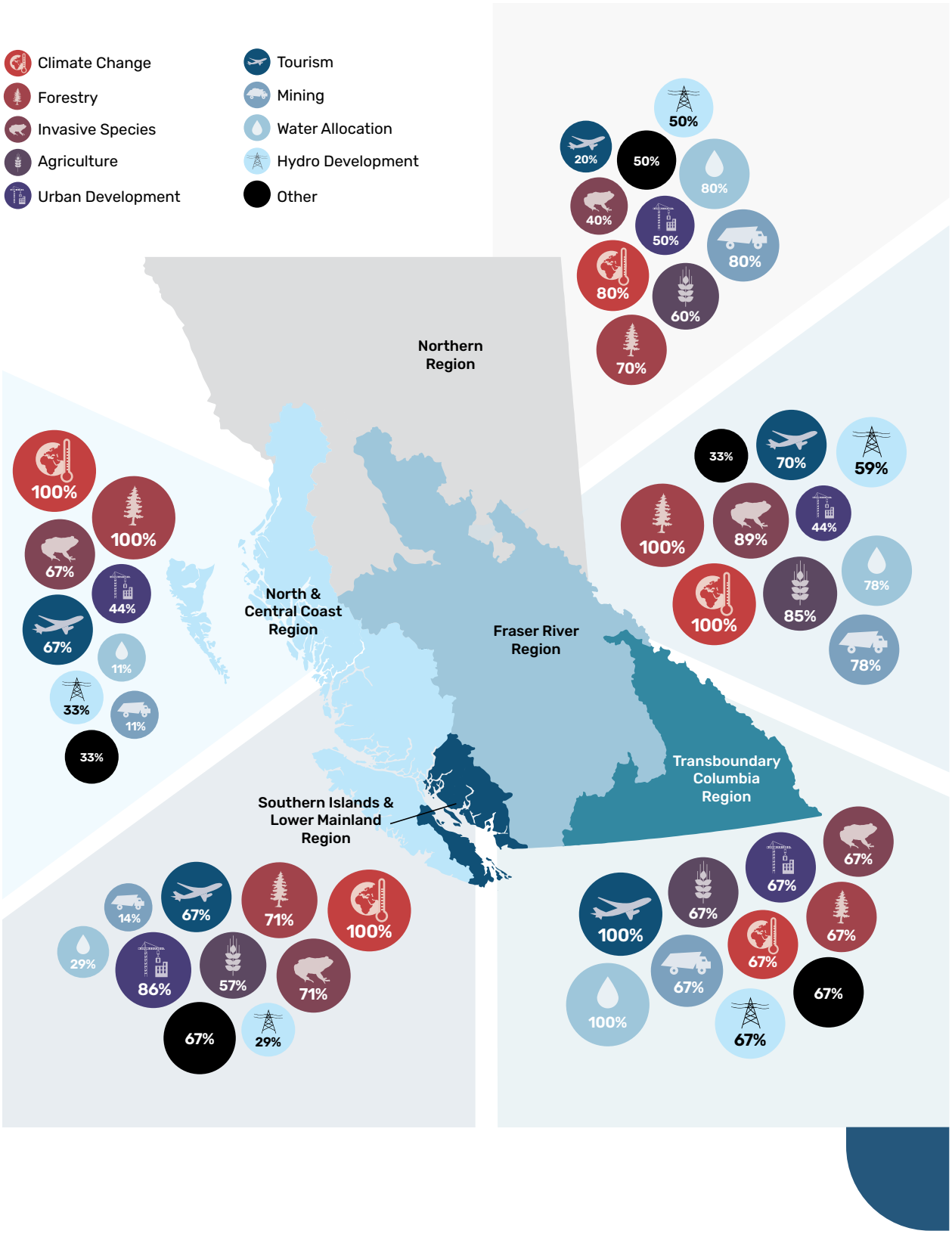
Northern Lights Babine River, Seamus Enright

Crossover Benefits of Working on Water

First Nations work on water has positive impacts that extend beyond improving the health of water. As a result of their community or organization's work on water, respondents highlighted the following cross-over benefits:

- Stronger relationships with other partners (92%)
- Protection of fish (90%)
- Stronger connections to land and territory (88%)
- Intergenerational sharing of Indigenous knowledge (80%)
- Improved drinking water (58%)
- Strengthened Nation governance structure and processes (57%)
- Stronger connection with youth in the community (52%)
- Language revitalization (32%)

Figure 5. Cumulative Effects Felt by Region



Implementing UNDRIP in a Freshwater Context

Respondents were asked what changes they see as most critical to advancing implementation of the *United Nations Declaration on the Rights of Indigenous People* (UNDRIP) in the context of water management and governance. Many respondents highlighted the **need for recognition of Indigenous jurisdiction and authority** related to water by Crown governments and other partners in the watershed in order to enhance First Nations roles in water decision making. Other responses to this open-ended question included the need to change the current "First in Time First in Right" water allocation and license regime to align with UNDRIP, and the importance of building stronger relationships with the BC government. Several respondents referenced UNDRIP Article 32, which requires a First Nation's "free, and informed consent prior to the approval of any project affecting their lands and territories."[7] 64% of survey respondents explicitly used the language of Free, Prior and Informed Consent as a framework through which development proposals are evaluated in their territories.

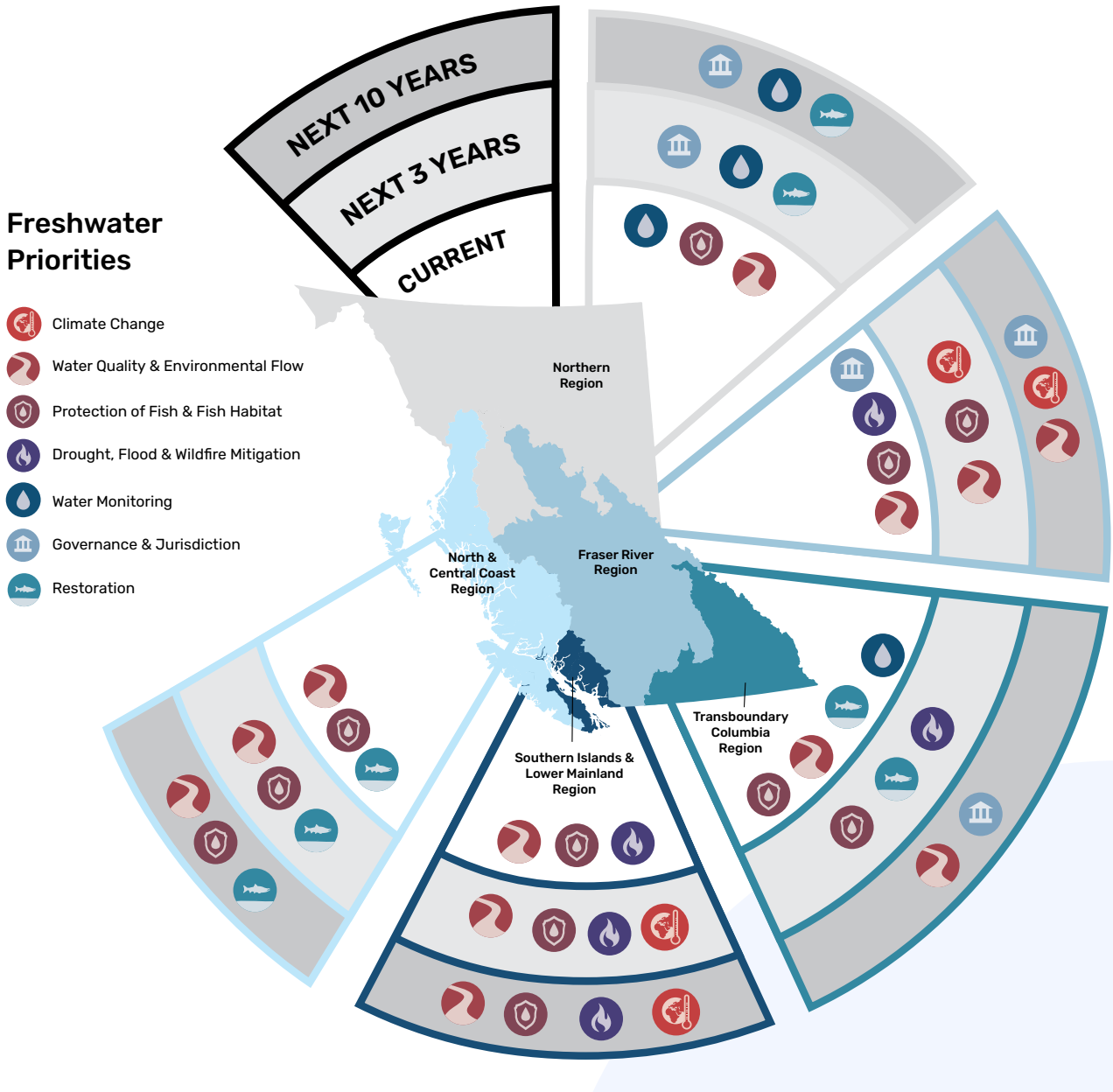
Looking to the Future: Anticipated Priority Work on Water

Respondents highlighted various priorities related to their work on water that they intend to address in the coming year. Short-term priorities are centered on urgent issues that involve doing physical work on the land and water to improve overall watershed health, such as protection of fish habitat and disaster remediation (e.g., drought, flood, and wildfire). These short-term priorities are relatively similar across regions and tend to focus on water management as opposed to water governance activities. 44% of respondents indicated water quality, quantity, and flows as the highest priorities. 40% of respondents cited protection of fish and fish habitat as priorities. When asked to anticipate their priorities for their work on water over the next 3 years, respondents highlighted habitat restoration and climate change adaptation and mitigation as key priorities.

The frequency with which managing water quality and quantity and fish protection were cited as priorities across the various timeframes suggests that First Nations are committed to continuing this work as long-term. Respondents also identified governance activities, such as revitalizing and/or developing new Indigenous laws and policies, and climate change mitigation and adaptation measures as priorities for the next 10 years.

7 Article 32 (2) of UNDRIP: "States shall consult and cooperate in good faith with the Indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development. This principle is often referred to as that of free prior and informed consent (FPIC)." https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

Figure 6. Priority Freshwater Issues by Region: From Now to 10 Years Into the Future



3. Who are First Nations Working With on Water?

Successful water work often means working with others. For 92% of respondents, working on water resulted in stronger relationships with other partners both in and beyond the watershed.

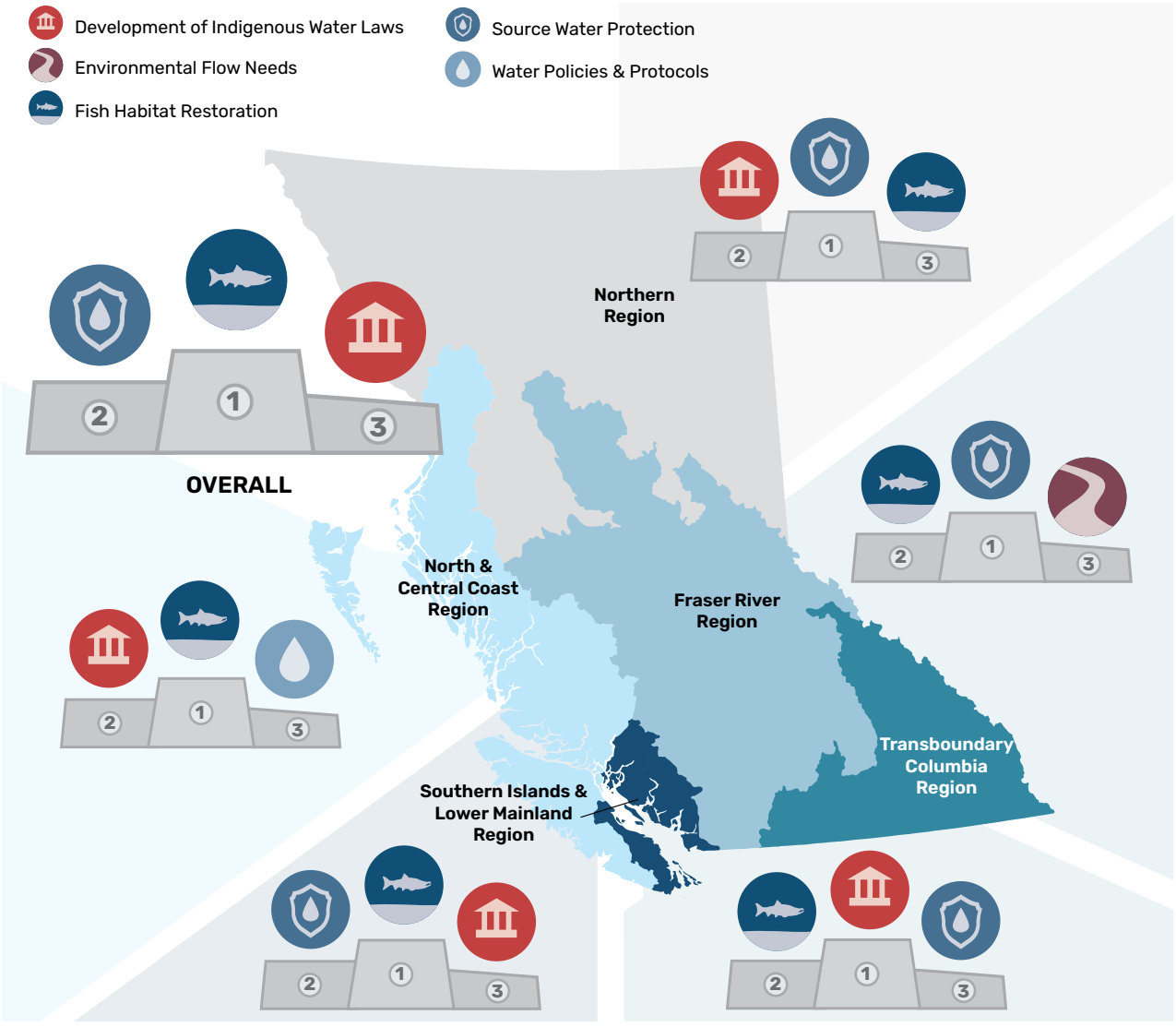
Relationships with Indigenous, Federal, BC Provincial, and Local/Regional Governments

Respondents were asked about the overall strength of their relationships with current partners, including Crown and local/regional governments, other First Nations governments, and industry and stewardship groups (including ENGOs).

The following relationships were identified as the strongest:

- Relationships with other First Nations in the watershed
- Relationships with Indigenous organizations and tribal councils
- Relationships with First Nations outside of the watershed

Figure 7. What Water Activities do First Nations Most Want to Collaborate on With Other First Nations?



Respondents were asked to identify the top 3 partners seen as most significant in advancing water protection issues in their region, regardless of whether they were current partners. The following partners were identified as most significant:

- BC provincial government (71%)
- Other First Nations within the watershed (59%)
- Federal government (47%)

The majority of respondents indicated a strong interest in strengthening relationships with the BC government and the federal government, specifically through work on water.

Figure 8. Top 3 Most Desired Partners to Work with On Water

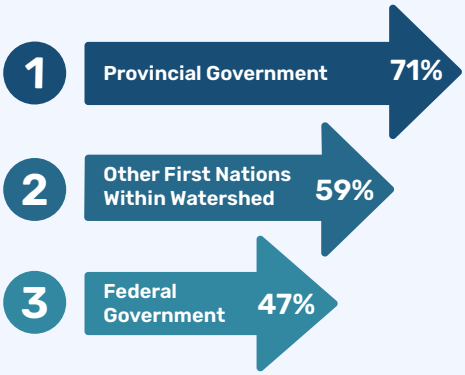


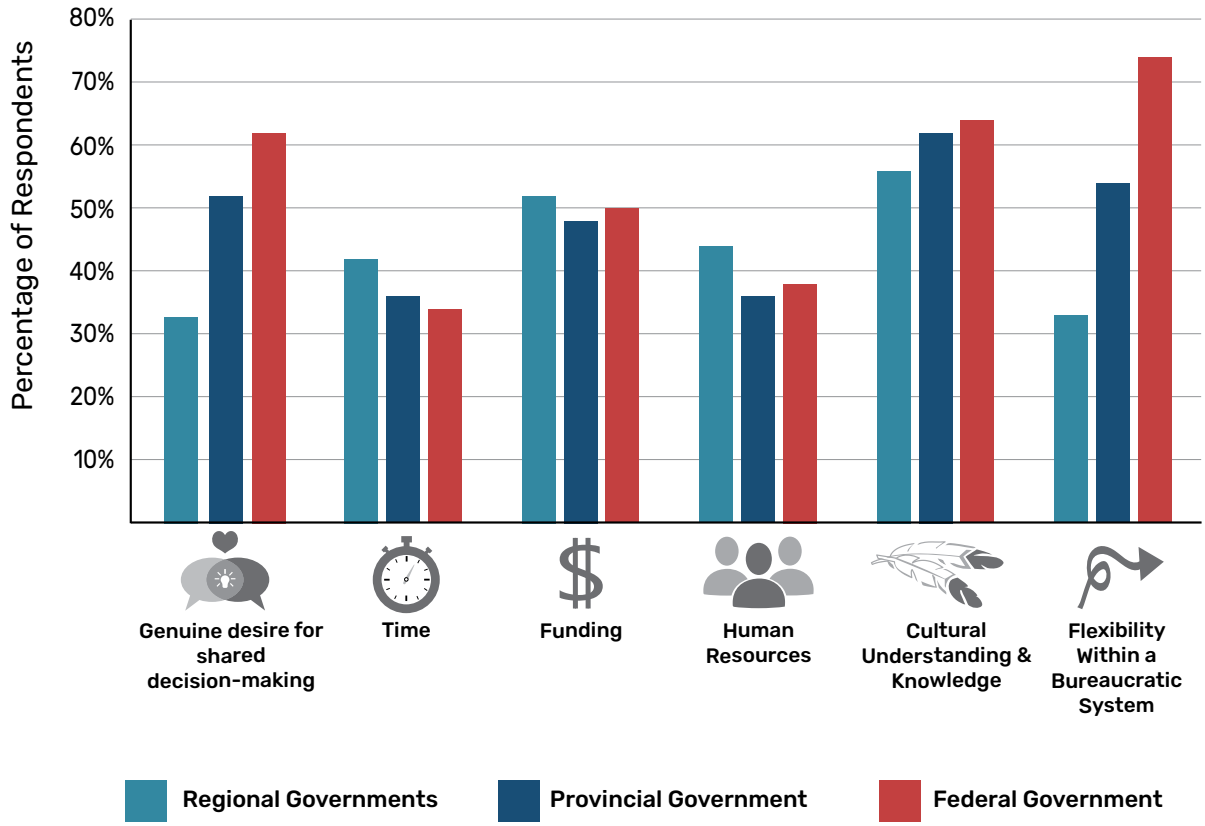
Figure 9 illustrates respondents' perspectives on Crown and regional/local government capacity and needs for improvement across 6 categories:

- Genuine desire for shared decision making
- Time
- Funding
- Human resources
- Cultural understanding and knowledge
- Flexibility within a bureaucratic system

Cowichan Calling Back Salmon Ceremony, Doreen Peter

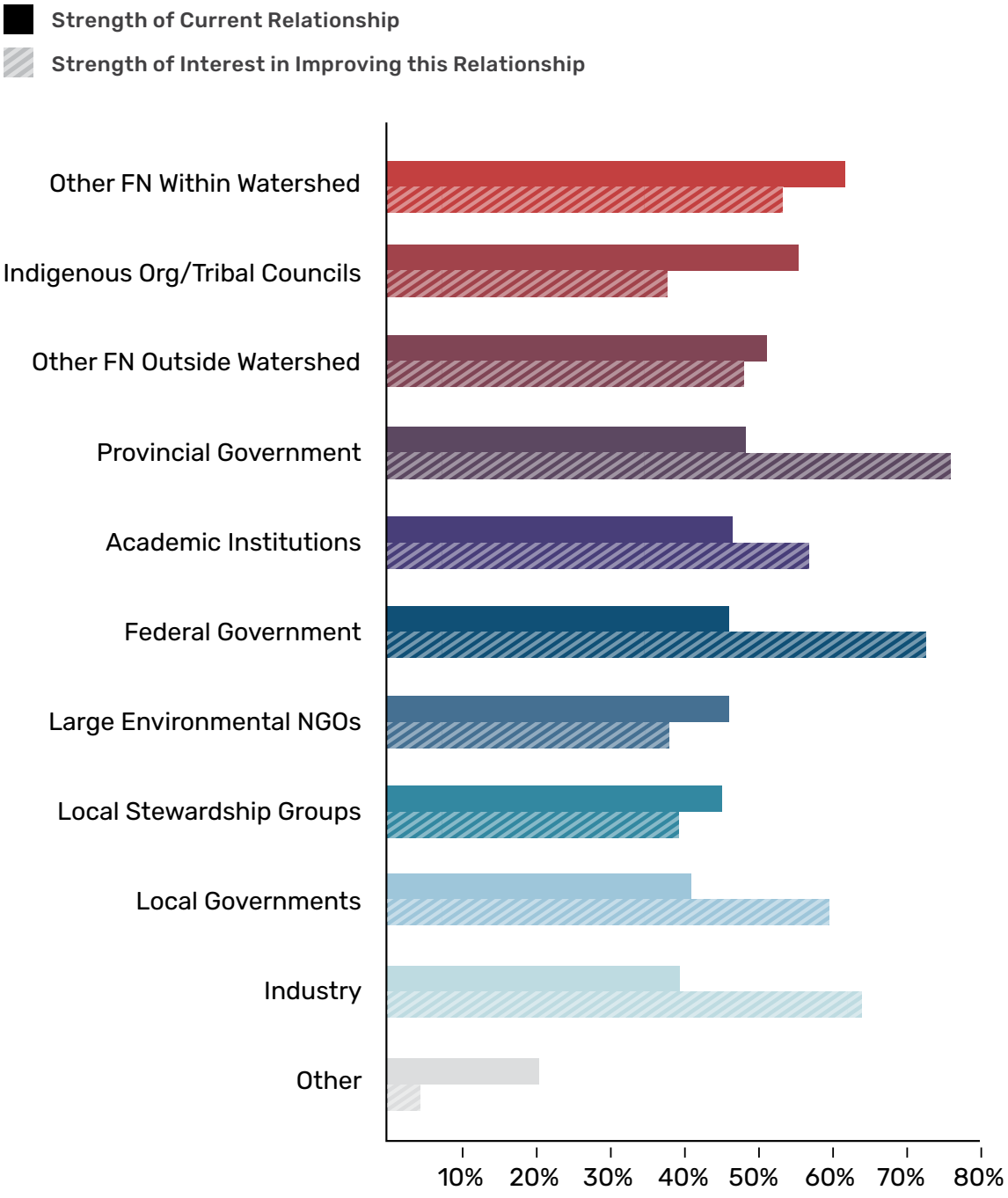
Figure 9. Perspectives on Government Capacities that Need Improvement

Respondents reported their strongest relationships as those with other First Nations communities and organizations. Respondents' weakest relationships overall tended to be with industry, although they expressed keen interest in strengthening their relationships with industry. Respondents indicated a desire to improve most relationships that they perceived as weak, except for those with ENGOs and local stewardship groups.



Coho Smolt CWT Project Lower Stikine, Kerry Carlick

Figure 10. Relationships That Respondents Would Like to Strengthen

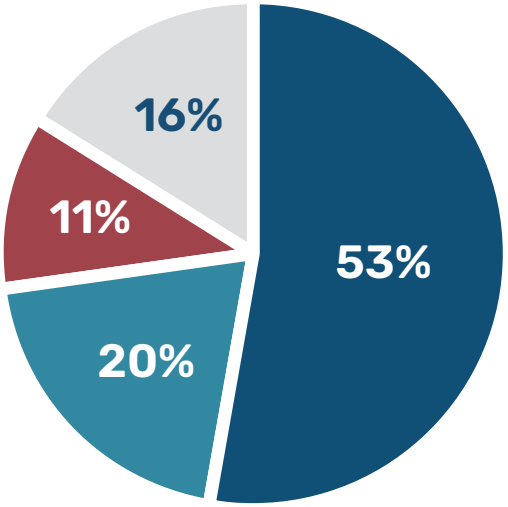


Did you know?

A growing number of relationships between First Nations and Crown governments are formalized through government-to-government (G2G) agreements. In BC, G2G agreements incorporate various provisions related to land and resource management that are tailored to the specific geographic area. In a few cases, these agreements contain provisions for shared decision making. G2G agreements include Strategic Engagement Agreements, Reconciliation Agreements, Collaboration and Pathway Agreements, Memoranda of Understanding, and Collaborative Stewardship Frameworks (CSFs). Finalized G2G agreements are publicly available on the Province of BC website[8].

53% of respondents are signatories to current G2G agreements, which highlights the prevalence of this relationship model across the province. 11% of respondents reported that they are currently in the process of working on a G2G agreement. The proportion of respondents that either have or are working toward a G2G has likely influenced respondents' perceptions of the nature and strength of their relationships with Crown governments.

Figure 11. Government-to-Government Agreements And Water



- **Is a signatory to a G2G** (53%)
- **Is not a signatory to a G2G** (20%)
- **In process of working on a G2G** (11%)
- **Unsure if a signatory to a G2G** (16%)

Checking Smolt Traps CWT Project Lower Stikine River, Kerry Carlick

8 See the Province of BC Website at: https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/reconciliation-other-agreements

Of the 53% of survey respondents with G2G agreements in place, 27% of those agreements include specific provisions for water, 22% of which include decision-making processes and authority. In other words, although water is a component in just over a quarter of G2G agreements, it is not generally the key point of focus.

There does not appear to be a correlation between being a signatory to a G2G agreement in general and reported budget levels for water work; however, First Nations with G2G agreements that include specific provisions for fresh water are more likely to have higher budgets for water work. It's possible that the funds are included in their G2G agreements, but the correlation may also suggest that Nations who prioritize water are seeking funding for water work from other sources.

15% of survey respondents also noted that they have agreements that include provisions for fresh water with local or regional governments. These agreements are not G2Gs, and take on diverse forms and applications (e.g., watershed committees, enterprises owned by multiple First Nations). For example, one First Nation signed an MOU with the neighbouring local government to ensure clear lines of communication between the parties about their shared watershed.

Smolt Sampling, Seamus Enright

4. What are First Nations Capacity Needs for Working on Water?

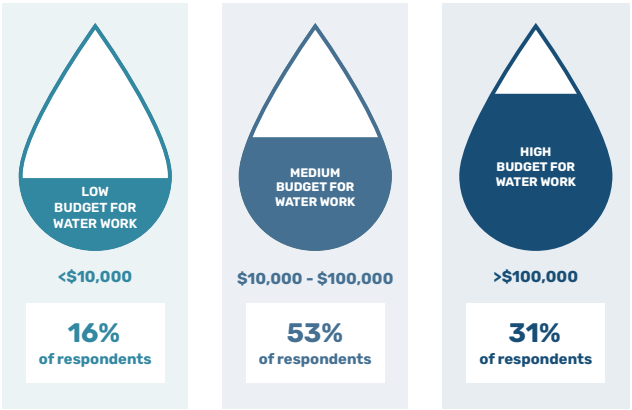
Most respondents face financial, technical, and human resource challenges. Human resource challenges present an especially acute barrier to First Nations work on water.

Financial Capacity to Work on Water

First Nations face both financial and non-financial barriers to their work on water. Financial capacity and resourcing have a direct influence on the nature of water work First Nations can undertake. As shown in Figure 12 First Nations budgets to work on water vary greatly across BC. Respondents indicated that the majority of their work on water is resourced by Crown governments. Specifically, the Department Fisheries and Oceans Canada and the Province of BC are the top two funders that have supported most respondents' work on water.[9]

Port Alberni Inlet Checking Set Net for Chinook, Brandee Sam

Figure 12. Annual Budgets on Water by Percentage of Respondents

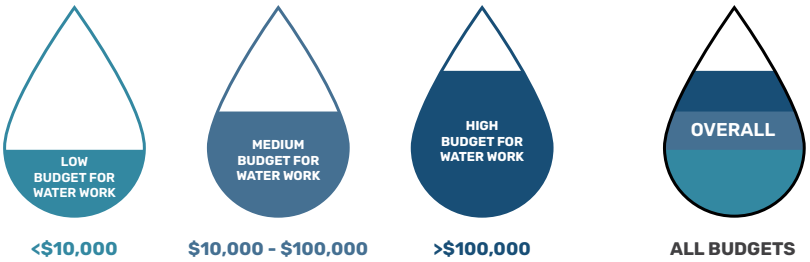


Financial capacity as correlated to supporting specific water management and governance activities is shown below. For example, First Nations with more resourcing are more likely to develop strategies or plans to protect water and to engage with stakeholders and other levels of government in the development of these plans than are those with less resourcing for work on water.

Respondents were asked what issues they would address if they could secure reliable funding for water management and governance activities. While there is slight variation across regions, First Nations across BC are generally interested in engaging in similar water work, with a focus on aquatic habitat restoration and climate change mitigation and adaptation. Priority activities are generally similar across First Nations with low, medium, and high budgets for water work, although survey results suggest a difference in the order of these priorities.

9 37% of respondents indicated that their water work is supported through government-to-government agreements. Other funders for First Nations work on water include ENGOs (35%), Environment and Climate Change Canada (25%), impact benefit agreements (20%), industry (18%), and charitable organizations (11%). Further research could explore different models of funding available through these partners (e.g., annual vs. multi-year) as well as trends (e.g., why ENGOs constitute a relatively high proportion of funding for First Nations work on water).

Table 1. Financial Capacities by Budget on Water



	<$10,000	$10,000 - $100,000	>$100,000	ALL BUDGETS
Have a budget to develop strategies, plans, and/or visions to protect water	0%	32%	36%	27%
Dedicate funds to engage with other government and stakeholders on strategies, plans, and/or visions to protect water	33%	63%	64%	59%
Have the financial capacity to hire external experts for advice or supports, or water-related projects	67%	37%	64%	55%

Nearly all respondents to an open-ended question on how they would allocate additional financial capacity indicated that they would create at least one staff position to work exclusively on water, although experience suggests that a team is needed to undertake the range of activities First Nations are working on. Six (6) respondents noted that they had already established a staff role specific to water. Survey respondents have creative visions for the activities that this new role would lead, including monitoring, community coordination, fisheries and stream rehabilitation, G2G relationship building and negotiation, planning, and development of Indigenous policies and laws.

How Would Respondents Allocate Additional Financial Capacity?

- 84% Restoring aquatic habitat
- 82% Climate change mitigation and adaptation
- 76% Monitoring of aquatic ecosystems
- 75% Developing and/or implementing your community's own water policies/laws/protocols
- 73% Revitalizing Indigenous knowledge
- 73% Hiring Staff
- 68% Equipment
- 51% Ensuring Clean Drinking Water

Non-Financial Barriers to Work on Water

Based on open-ended survey questions, respondents identified the following three key non-financial barriers preventing them from advancing work on water in their territories:

1. **Human resources,** including challenges in hiring and retaining staff;
2. **Lack of recognition of Indigenous decision-making authority and jurisdiction,** which contributes to a lack of First Nations involvement in decision making related to fresh water; and,
3. **Time and conflicting priorities** which limit First Nations capacity to address work on water.

Human Resources

Human resource challenges include an inability to hire qualified staff, retain staff, retain professional services, and provide on-reserve housing for staff. While most respondents from First Nations that have some degree of human resource capacity to work on water indicated that their positions are full-time, only a small portion of those positions are permanent. Finding the right people to do the work who are trained as Indigenous knowledge holders and/or western scientific experts, as well as retaining First Nations citizens for employment, are examples of human resource-related barriers that constrain First Nations work on water.

Recognition of Decision-Making Authority and Jurisdiction

Lack of recognition of First Nations authority and jurisdiction related to water by Crown and local/regional governments and other users in the watershed was the second most frequently cited barrier to advancing First Nations work on water. Respondents highlighted the need for improved relationships with Crown government partners, and for all orders of government to recognize Indigenous authority and address issues of jurisdictional overlap in order to support a greater decision-making role for First Nations on water.

Time and Conflicting Priorities

Time was often referenced together with human resource challenges, suggesting that time challenges can in part be addressed by adequate staffing support. However, respondents were clear that they require the right people who are sufficiently knowledgeable and have dedicated time and resourcing to do the necessary water work.

CSTC Sturgeon, Hannah Wasstrom

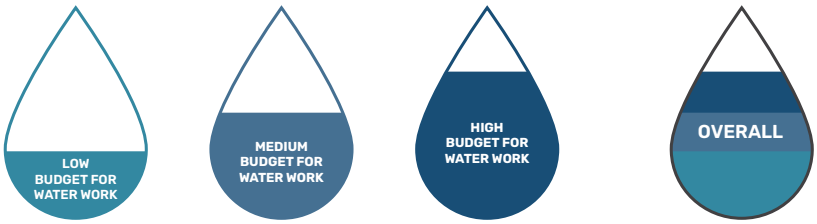
Focus on Human Resource Capacity to Work on Water

The majority of respondents would prioritize hiring staff if they had access to sufficient funding for their work on water.

Human resource struggles are pervasive across all responses, with respondents experiencing challenges attracting staff both from inside and outside the community. Even when there are individuals in the community that are available and capable of filling water roles, 25% of First Nations still have challenges recruiting staff. This shortage of internal human resource capacity is clear, with 51% of respondents reporting that they need to rely on contractors to meet organizational needs related to work on water. When asked what they would prioritize with a stable and adequate budget, 73% of respondents indicated they would hire staff. In contrast, only 31% would hire external contractors, suggesting a general preference for building stable, long-term staff positions to establish in-house capacity.

Although groups with higher budgets for water work experienced less severe human resource capacity issues, all budget groups cited human resource challenges. While it likely easier to attract and retain staff if organizations are offering higher salaries and permanent positions, survey results show that increased financial capacity does not fully resolve human resource challenges.

Table 2. First Nations Human Resource Capacities Across Different Budgets for their Budgets on Water



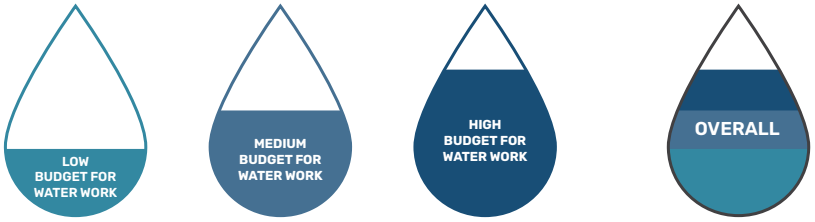
	<$10,000	$10,000 - $100,000	>$100,000	ALL BUDGETS
Have at least one staff position with water responsibilities	38%	56%	73%	58%
Have people in community to hire to develop water plans to protect water	25%	20%	27%	25%
Able to attract employees in community to meet their needs	0%	4%	27%	13%
Able to attract employees from outside community	0%	20%	40%	25%
Retain contractors to meet organizational needs	38%	52%	60%	51%

Technical Capacity to Work on Water

A third barrier to water work is technical capacity, such as having appropriate monitoring equipment, training in how to use that equipment, and the capacity to store, analyze, interpret, and report data. Although survey respondents cited technical capacity challenges less frequently than human resource challenges, respondents linked challenges in technical capacity with those connected to human resources. Lower reported technical capacity corresponds with lower budgets to work on water, except when it comes to equipment (i.e., some First Nations with lower budgets for water work still have access to technical equipment). Survey results suggest that support for increased technical capacity could come in the form of training, strengthening a water technical network, and/or water database management software or tutorials.

Table 3 illustrates that technical, human resource, and financial capacity are interrelated; in general, First Nations with lower budgets for water work struggle more with human resources and technical capacity than those with higher budgets.

Table 3. Technical Capacities Across Budgets for Water Work



	<$10,000	$10,000 - $100,000	>$100,000	ALL BUDGETS
Have staff with technical training to support development of water plans	29%	56%	60%	54%
Have a network of outside agencies that can support them in their water work	14%	60%	73%	58%
We have equipment to support this work	57%	48%	60%	54%
Have access to data on watershed health	29%	44%	47%	42%
Can input data into a shared database	29%	32%	53%	37%

Tracking Change: How Do 2021 Results Compare to 2016 Results?

A Note of Caution in Comparing 2016 and 2021 Survey Results

Survey results represent the insights of respondents and do not capture the views of all 200+ First Nations across BC. However, because the sample sizes for both the 2016 and 2021 surveys were large, comparing the results can provide useful insight into general trends over time. Of the 65 First Nations communities that responded to the 2021 survey, 25 had also responded to the 2016 survey. Further research would be required to assess and confirm change in a statistically meaningful way.

Change #1: Increased Financial Capacity

First Nations in BC have greater financial capacity to work on water issues today than 5 years ago. Although the 2021 survey results highlight a broad range in water funding available for First Nations work on water, the 2016 survey found that most First Nations were operating on budgets for water work of less than $30,000 a year. The 2021 survey found that most respondents are operating on annual budgets for water work of more than $50,000, with 30% of respondents operating on budgets over $100,000 and 16% still operating on budgets of less than $10,000.

One explanation for this increase in funding may be the coordination of efforts of government and philanthropic funders in BC to specifically resource First Nations-led work on water.[10]

The $143-million BC Salmon Restoration and Innovation Fund (BCSRIF) launched in 2019 and the $27-million Healthy Watersheds Initiative launched in 2020 may also account for an influx of resources for First Nations water-related work. Although financial capacity has increased somewhat since 2016, it's significant that less than one third of 2021 respondents have annual budgets of $100,000 or more to work on water. This amount is equivalent to a little more than one staff position, and is therefore the bare minimum required to undertake the range and scope of water work for First Nations. It's worth noting that an annual budget of $100,000 allocated specifically to water is also likely less than the equivalent budget of many ENGOs and local governments in BC to work on water.

10 See for example the BC Water Funders Collaborative at https://www.bcwaterfunders.org/

Change #2: Greater Human Resource Challenges

Human resource issues faced by First Nations working on water are more pressing in 2021 than they were in 2016. In general, First Nations face more challenges hiring from within and outside of communities than in 2016. Currently, only 13% of respondents can hire staff from within their communities to meet human resource needs, and 25% can hire staff from outside their communities. Further research is needed to explore whether this challenge is unique to the freshwater sector or part of a broader labour shortage issue across First Nations communities. In 2016, 29% of respondents were able to hire staff from both within and outside of their communities to meet freshwater needs. Overall, survey responses suggest that technical capacity for First Nations work on water has remained relatively unchanged since 2016.

Change #3: Strengthened Relationships with other First Nations and Crown Governments

First Nations relationships with Crown governments on water are generally stronger today than they were in 2016. In the 2021 survey, most respondents perceived industry as their weakest relationship. In 2016, the weakest relationships were with the governments of BC and Canada. This suggests that in general, First Nations relationships with Crown governments may be improving, perhaps due to reconciliation commitments made by the provincial and federal governments within the last 5 years, and the passing of BC's *Declaration on the Rights of Indigenous Peoples Act (Declaration Act)* in 2019.

The 2016 report additionally used a social network analysis to look at connections related to water work between First Nations across BC. That analysis found that First Nations were largely carrying out their water work in isolation. In 2021, First Nations in BC reported that their strongest relationships are with other First Nations in the watershed and expressed strong interest in continuing to deepen their collaborations with other First Nations on both cultural and ecological aspects of water. This stronger connection may be attributed to evolving relationships among First Nations on other natural resource issues (e.g., forestry and fisheries), funding and capacity that supports increased collaboration, and structured processes to support information sharing, coordination, and strategic opportunities between First Nations —such as the BC First Nations Water Governance Roundtable, the BC Freshwater Legacy Initiative, the Indigenous Leadership Advisory Circle of the Healthy Watersheds Initiative, and the First Nations Fisheries Council's *Water for Fish* program. Future research could seek to better understand relationships between First Nations and other neighbours in the watershed (e.g., with the agricultural and ENGO sectors).

Tahltan Fisheries and DFO Staff Sampling Adult Sockeye at Tahltan Lake Adult Sockeye Weir, Kerry Carlick

Opportunities for Crown Governments and Water Funders

Findings from the 2021 Survey of First Nations-Led Water Management and Governance in BC highlight 4 key opportunities for Crown governments, water funders, and prospective partners seeking to support First Nations work on water in BC:

1. Provide stable, long-term funding for First Nations water management and governance initiatives.

Although First Nations face several non-financial barriers to working on water, these are connected with the limited budgets to work on water in the majority of First Nations across BC. The 2020 Healthy Watersheds Initiative (and renewal in BC Budget 2022) and the BC government's commitment to develop a Watershed Security Fund offer promising opportunities to unlock new sources of funding for First Nations work on water. These funds should seek to prioritize long-term multi-year support for First Nations water management and governance initiatives and participation as full partners in collaborative and co-development initiatives with other governments.

2. Include support for human resources.

Long-term predictable funding is key to supporting First Nations to create permanent and well-paid staff positions to work on water. First Nations with budgets for water work over $100,000 per year are more likely to direct resources to building in-house capacity by employing staff (as opposed to external short-term contractors). It's important to recognize that this amount is the **bare minimum** needed annually to support First Nations to focus on work on water; experience suggests that a team of staff (rather than one staff person) with a range of skills is needed to take on the range of activities First Nations are currently undertaking or intend to undertake.

Rose-Ann Billy

3. Create opportunities to meaningfully strengthen relationships between Crown and Indigenous governments.

Provincial and federal government commitments to implementing UNDRIP and BC's *Declaration Act* must be fully realized, including the recognition of Indigenous jurisdiction, authorities, responsibilities, and decision making related to fresh water as a foundation of watershed security. Enduring structures for collaboration on water between First Nations and Crown governments at regional and province-wide scales are critical to strengthening these relationships, as are future G2G agreements and MOUs between Indigenous and Crown governments that include meaningful provisions related to water governance and shared decision-making.

4. Support First Nations to "Work Together on Water."

A First Nations Water Network is clearly taking root in BC. Moving forward, this network can support the collective leadership of First Nations to work together better and stronger on water, within and across watersheds. 2021 survey results highlight that source water protection, Indigenous water laws, policies, and protocols, and fish habitat protection are priorities across all regions. Resourcing First Nations to work on these priorities is a clear way to support collaboration, as is supporting "Tier 1" (communications and management processes open to First Nations only) strategic spaces that are focused on water management and governance to identify shared concerns and solutions regionally and provincially.

Kokanee Dissection - Okanagan, Ruby Alexis

Moyeha Mountain, Uu-a-thluk (Nuu-chah-nulth Tribal Council Fisheries)

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