

#GWFEDI

EQUITY, DIVERSITY, AND INCLUSION STRATEGY

GLOBAL WATER FUTURES

2021-2023





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GWF'S EDI VISION IS TO ACHIEVE EXCELLENCE IN WATER RESEARCH
IN WAYS THAT CHALLENGE SOCIAL, ECONOMIC, AND ENVIRONMENTAL
INEQUITIES AND EMBED THE PRINCIPLES OF EQUITY, DIVERSITY, AND
INCLUSION IN OUR WORK

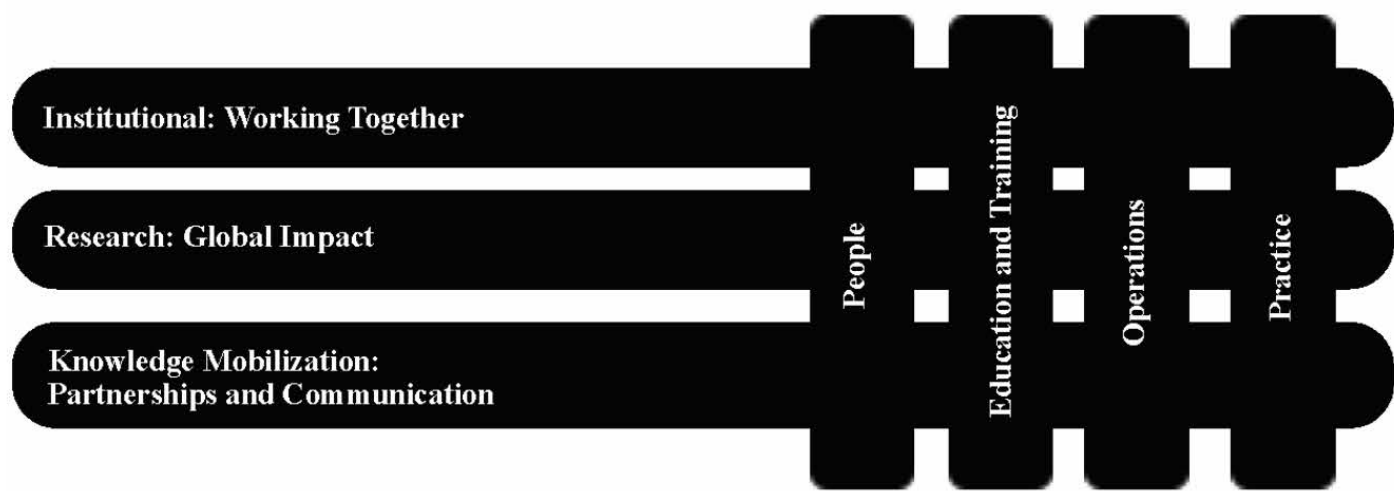
GWF EDI ACTION PLAN SUMMARY

Working together across the extensive Global Water Futures (GWF) research program provides a clear opportunity to accelerate knowledge sharing and implement EDI practices specific to inclusive water research (Figure 1).

Building upon best institutional practices across the GWF network, the 2021-2023 EDI Strategy is a starting point to open a conversation about how to expand our collective commitment to EDI in GWF and build EDI leadership capacity among GWF members.

FIGURE 1. GWF EDI THREE PILLAR APPROACH

Three pillars: Institutional: Working Together, Research: Global Impact, and Knowledge Mobilization: Partnerships and Communication. Four cross-cutting areas: People, Education and Training, Operations, and Practice inform GWF's approach to EDI.



The GWF EDI Strategy 2021-2023 includes over 30 recommendations unique to GWF's particular research program, institutional arrangements, and operational requirements organized in alignment with the three-pillar approach implemented in four cross-cutting themes. The strategy also includes accountability and performance measurement mechanisms that align with each of the three pillars. Given that GWF is at the mid-point of the research program, all recommendations are designed to be actioned within a three-year time frame and contribute to the research program's success. In addition, many actions are intended to contribute to the legacy of GWF's work in Canada and internationally.

MEET THE TEAM

As a research network, GWF's strength is in the diversity of our team. As of April 2020, GWF employs 962 HQP across 51 projects and 6 core teams. In addition, GWF members work with 72 Indigenous Communities and Governments and more than 478 unique stakeholder organizations and individuals, including 86 partners, 305 collaborators, and 87 end-users.

Our network includes 166 undergraduate students, 214 master's students, 175 doctoral students, 117 postdoctoral fellows, 60 professional research associates, 30 research scientists, 71 technicians, and 16 visiting fellows and professors and 190 faculty members from 18 Canadian Universities.

GWF is directed by Prof. John Pomeroy, Director and Chair of the Strategic Management Committee (SMC). Dr. Pomeroy reports to the GWF Oversight Committee of Vice Presidents Research from the University of Saskatchewan, University of Waterloo, Wilfrid Laurier University and McMaster University. The Oversight Committee is chaired by Dr. Baljit Singh VPR of the University of Saskatchewan. Prof. Corinne Schuster-Wallace was appointed as GWF's Associate Director in 2020 and her role as EDI Champion for the SMC. To further support our work, Dr. Andrea Rowe joined GWF in the fall of 2020 as an Equity, Diversity, and Inclusion Specialist.



Key Terms and Concepts

Anti-racism: Requires people to make an active commitment to challenging racism and discrimination in all of its forms, in policy, practice, and interpersonal communications [1].

Diversity: Is a relational concept; no one person can be diverse on their own. We are diverse in our identities, experiences, and relationships with each other [2].

Equity: An equity-based approach to organizational development and research means continuously challenging historically accepted ways of doing things to give individuals the resources they need to be successful rather than giving everyone the same tools and support [3].

Equity-Seeking Groups: Universities use the term equity-seeking groups to recognize groups including women, Indigenous People, people with disabilities, and visible minorities underrepresented or marginalized [4].

Equity-Deserving Groups: The term equity-deserving groups shifts attention towards Black People, Indigenous People, People of Colour, Women, People with (dis)abilities, and LGBTQ2+ People as deserving of representation and belonging rather than exceptions within the university [5].

Inclusion: Relates to the quality of the experience that people have in their work environment. Whether in the hiring process, research teams, classrooms, or offices, creating an inclusive environment means anticipating that people experience the world differently and designing experiences to reflect these needs [6].

Intersectionality: Is a concept coined by American scholar Kimberlé Crenshaw. Intersectionality is a prism or lens to understand how people's experiences of multiple and overlapping identities and systems of oppression impact their life experiences and opportunities [7].

Introduction

GLOBAL WATER FUTURES

GWF aims to position Canada as a global leader in water sciences for the world's cold regions, be the global partner of choice for transdisciplinary water research, and provide strategic tools to manage water futures in Canada and internationally. Water research is at the core of environmental, social, and economic well-being globally. GWF researchers are leaders in many academic disciplines that contribute to an in-depth knowledge of water research in Canada and internationally. Embedding the principles of equity, diversity, and inclusion (EDI) in the fabric of GWF's operations and research is critical to achieving our core goals and objectives.

GWF's Strategic Management Committee (SMC) recognizes that systemic barriers to EDI in science do exist and require tangible action to make lasting change. Successful EDI work will require active participation and engagement from students, faculty, and staff across the research network. Together we can connect people working within the network, external partners, and end-users of the research around a shared vision for EDI in water research.

The 2021-2023 EDI Strategy includes three central pillars of engagement; Institutional EDI, EDI in Research, and EDI in Knowledge Mobilization.



These three pillars address how we work together as colleagues internally to GWF (Institutional EDI), how we impact the world (EDI in Research), and how we build partnerships and communicate our findings (EDI and Knowledge Mobilization). In addition, GWF is committed to an intersectional approach to EDI that considers how power structures influence EDI when people hold multiple intersecting identities (e.g., age, race, class, gender identity, dis(ability), and more).

Working together across such an extensive research network provides a clear opportunity to accelerate knowledge sharing and implement EDI practices specific to inclusive water research. The 2021-2023 EDI Strategy is a starting point to open a conversation about how to expand a collective commitment to EDI in GWF and build EDI leadership capacity among GWF members. Four key areas within each of the pillars have been identified; People, Education and Training, Operations, and Practice. Actions that draw on evidence-based research are proposed as a foundation for EDI moving forward. The strategy also builds on the input received from GWF members and partners during consultation sessions with faculty, students, staff, and partners and written submissions received through an anonymous survey in March of 2021. The GWF EDI Strategy is a living document shared on the GWF EDI webpage and implemented across the GWF research network.

INSTITUTIONAL EDI: WORKING TOGETHER

GWF includes students, faculty, and staff from 18 Canadian universities. As a result, GWF includes many unique organizational policies, norms, and practices that inform how we work as a team. The objective of this section is to normalize implementing EDI practices as inclusive colleagues in water research. The institutional protocols and actions proposed in this section are designed to build upon best institutional practices across the GWF network. The protocols will serve as templates that partner institutions can adapt to meet their specific needs.

In 2018, CFREF gathered data to measure the representation of people who self-identify in four equity-deserving groups: Women, Indigenous people, people with disabilities, and racialized minorities. The targets against which the data is measured are the Canada Research Chairs (CRC) program 2029 EDI objectives. In 2018, 40.6% of GWF members identified as women (CRC 50.9%), 1.4% of GWF members self-identified as a person with a dis(ability) (7.3% preferred not to indicate) (CRC 7.5%), and 19.5% of GWF members self-identified as being a racialized minority (11.1% chose not to self-identify) (CRC 22%). GWF also includes many people that hold multiple and intersecting identities within and beyond the category of equity-deserving groups, including a significant representation of Indigenous faculty and HQP, not specified in the 2018 data.

Data serve as an accountability measure for the presence and absence of diversity among water researchers. However, quantitative data are a starting point and not a destination. An active EDI strategy requires taking meaningful steps to establish a path forward for institutional change by removing systemic barriers when and where they exist. EDI work must also broaden the focus from a quantitative understanding of EDI to a more dynamic focus on equity and inclusion experienced in practice. GWF's Strategy takes an intersectional approach to address barriers to EDI based on multiple dimensions of power and privilege, including socioeconomic status, gender identity, race, sexual orientation, dis(ability), and more. The following sections focused on people, education and training, operations, and practice, provide opportunities to build foundations from which we can create a welcoming work environment for everyone.



GLOBAL WATER FUTURES
SOLUTIONS TO WATER THREATS
IN AN ERA OF GLOBAL CHANGE

PEOPLE

Recruitment Protocol: Introduces inclusive design principles that normalize differences in needs and experiences in the recruitment process. Seamlessly integrates information about family and caregiving, access for people with dis(abilities), religious and cultural inclusion, and more into the process [8].

- **Action:** Building upon best institutional practices across the GWF network, develop a recruitment protocol template that GWF members can adapt to their specific institution that supports equitable and inclusive hiring experiences for job seekers. Proactively provide information about breastfeeding/chestfeeding, childcare, prayer space, campus accessibility, wellness breaks, and more to job candidates [9].

Retention and Promotion: Individual contributions are more likely to be underestimated if people are a member of an under-represented group [10]. Research finds that formalizing performance measurement reduces bias and supports objective performance measurement [11, 12].

- **Action:** Building upon best institutional practices across the GWF network, develop equitable performance measurement metrics for faculty, staff and HQP: [13]
- **Faculty:** Develop metrics for tenure and promotion that recognize community-engaged research, transdisciplinary research, grey literature, policy reports and more that contribute to EDI [14]. Recognize that traditional measures of academic excellence, including successful grants, citation indices, and invited international lectures, can privilege scholars in dominant social groups [15].
- **Staff:** Establish a career pathing template, including personal development goals and performance measures (e.g. include times to review pay, compensation, and growth opportunities regularly) [16].
- **HQP:** Create a career development plan template that can be used by HQP to map academic and non-academic career goals, measure performance, and create dialogue about resources to support career growth [17, 18].

GWF-YP Supervision: The GWF-YP executive is responsible for leveraging existing groups' capacity and building larger communities of young water researchers at each of the partner universities.

- **Action:** Support the GWF-YP to continuously build partnerships that are instrumental to the success of the Global Water Futures GWF-YP program, including celebrating student success, advertising events, and administering travel bursaries.

GWF-YP Mentorship and Sponsorship: Recognize that significant barriers prevent GWF-YP from fully participating in water research.

- **Action:** Support GWF-YP to host accessible events and incorporate EDI principles in GWF-YP networking and mentorship opportunities. Support GWF-YP to reduce socioeconomic barriers by fundraising for grants that support non-academic expenditures (e.g., outdoor gear for field research, travel grants, and professional training).

GWF-YP Inclusion: The GWF-YP network plays an essential role in establishing a culture of inclusion for students and early career researchers in water research.

- **Action:** Support GWF-YP to explore new ways of connecting with their membership, maintaining a current membership list and develop a welcome package for incoming students to connect them with fellow students, opportunities, events to support inclusion and belonging.

Supervision and Sponsorship: Positive mentorship and sponsorship relationships are vital in experiencing equity and inclusion in academia [19]. Supervisors frequently act as mentors and sponsors (e.g. nominating students for scholarships and awards), in addition to their supervisory duties. These relationships often depend on informal and inter-personal relationships that arise out of shared personal experiences, which may marginalize people with different identities and life experiences.

- **Action:** Encourage faculty to engage in mentorship and sponsorship relationships based on goals, desired acquisition of critical competencies for growth outside of the supervisory relationship[20]. Encourage staff and HQP to diversify their mentorship and sponsorship to include others beyond the supervisory relationship[21].

Exit Interviews: The phenomenon of women, Black People, Indigenous People, People of Colour, LGBTQ2+ People and People with dis(abilities) leaving academia at higher rates than cisgender, White men is well documented in academic literature [22,23]. Theories, including the "leaky pipeline" and "vanishing box," seek to explain the systemic, interpersonal, and individual reasons for this phenomenon [24,25]. However, reversing this trend requires a practical knowledge of factors influencing exit that may be addressed in real-time and inform future decisions within the network [26].

- **Action:** Develop a streamlined five-question exit interview template that supervisors and employees can use to document experiences in GWF and submit via written documentation or guided conversation to capture feedback about reasons for departure and contribute to organizational learning [27].

EDUCATION AND TRAINING

Anti-Racism Training: Anti-racism is an active commitment. To change institutions, people must be actively anti-racist, a process that requires a personal commitment to learning and unlearning racist histories and practices [28].

- **Action:** Host anti-racism workshops in partnership with leaders in the field. Include modules on combatting environmental racism particularly appropriate to water research[29].

Intercultural Communication: As teams and organizations become more diverse, it is essential to invest in learning communication strategies that help everyone listen and speak in ways that support open dialogue [30,31].

- **Action:** Conduct intercultural communication seminars led by; intercultural communication experts, researchers, and people with lived experiences working across cultures.

Interrupting Bias: A growing body of research finds that unconscious bias courses are ineffective because people have biases that training alone does not eliminate[32]. However, teaching skills to interrupt bias as it happens has been demonstrated to be more effective at shifting organizational norms [33]

- **Action:** Offer training on interrupting bias in different forms, including micro-aggressions, power hierarchies, bias due to race, gender identity, sexual orientation, age, dis(ability), body size and more.

Psychological Safety: Creating an environment where people feel empowered to speak up about their personal experiences is positively correlated with EDI, workplace satisfaction, and innovation [34].

- **Action:** Offer training on psychological safety to build individual and organizational capacity to lead and participate in high-performing teams, research groups, and labs.

Learning Resources: EDI is continuously evolving as a field of research. People and communities are also actively redefining language and priorities.

- **Action:** Develop and maintain a library of EDI resources specific to water research on the GWF EDI webpage.

Core EDI Training Module: Develop a core EDI training module required for GWF faculty, students, and staff to ensure that everyone working within the research program has a foundational knowledge of EDI principles.

- **Action:** Negotiate agreements to make available access to EDI training materials already developed and used at GWF partner institutions for GWF members, building on institutional strengths and best practices.

OPERATIONS

Workspace: Accessible workspaces, both virtual and physical, are critical to EDI. Many university campuses offer student accessibility services; however, similar services may not be available to faculty and staff. Access to equipment and resources specific to accessibility in water research may also be absent [35].

- **Action:** Create a guide for students, faculty, and staff to have meaningful conversations about accessibility in water research. Advocate for and commit to normalizing accessibility considerations in water research in virtual and physical spaces.

Events: Conferences, events, and professional networking opportunities are often spaces where people experience a sense of belonging (or exclusion) [36]. Access to professional events can profoundly impact career trajectories for students, post-docs, emerging scholars, and leaders in the field.

- **Action:** Develop an inclusive events protocol, including an event code of conduct that considers accessibility in physical and digital spaces, religious and cultural inclusion [37]. Include information about catering, audio and visual accessibility, childcare, prayer space, financial remuneration (or expenses), anti-harassment measures, networking opportunities, and more.

Procurement: Support local, ethical, and environmentally conscious suppliers [38].

- **Action:** Develop a guide to EDI considerations in procurement that adds value to partner institutions' existing practices. Establish procurement arrangements for accessibility-related services, including captioning, interpretation, and more.

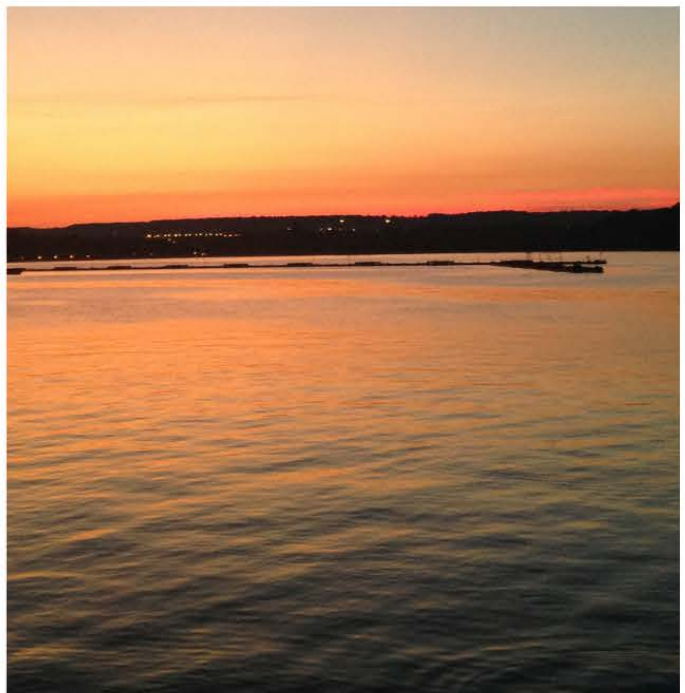
PRACTICE

Case Studies: Useful tools to explore ethical dilemmas and evidence-based approaches to EDI in numerous contexts, including; urban and rural research, northern research, and international research collaborations [39].

- **Action:** Gather anonymous experiences specific to EDI in water research and write case studies that synthesize multiple experiences to facilitate learning.

Experiential Learning: Stories are a powerful way to learn about wise EDI practices and experience situations from multiple perspectives [40].

- **Action:** Offer GWF members opportunities to develop video content, participate in interactive learning experiences such as theatre performances, art exhibitions, film screenings, and more to foster experiential learning.



EDI IN RESEARCH: GLOBAL IMPACT

The impact of GWF's research is global in scope. Between Sept 2016 and March 2020, GWF members produced 786 publications, including 610 peer-reviewed international journal articles, 33 conference proceedings, 22 books and book chapters, and 125 non-refereed articles and datasets related to their GWF research in 14 different fields. Of the peer-reviewed publications, 49.5% were co-authored with researchers from other countries and regions, 17% of the publications were among the top 10% most cited articles worldwide, and 53.2% were published in the top 10% of journals.

GWF research has also made a significant impact beyond academic publications. GWF researchers delivered 1848 presentations, seminars and lectures, including 1384 conference presentations and 464 invited, plenary, and keynote lectures. Furthermore, 230 GWF students and trainees took up professional positions in industry, government, and academia, and 141 graduate and undergraduate theses were completed.

In January 2019, Global Water Futures announced 6 Indigenous co-led projects across Canada to aid Indigenous communities in water-related issues. These projects include 14 Indigenous communities, 11 Canadian Universities, 69 investigators, and 36 HQP. These projects advance the understanding of Traditional Knowledge and western knowledge indicators and working together to research and support water governance, food security, sediment restoration, water security, climate change and human and ecosystem health in Indigenous communities.

By strengthening GWF researchers' capacity to incorporate EDI principles into fieldwork practices, methodologies, and community-engaged research, we can contribute even more through our work. With GWF's extensive research network, there is also an opportunity to build capacity among the world's leading water research to mitigate the differential impact of empirical and theoretical research findings on marginalized people as a critical component of the research network's legacy.



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PEOPLE

Become an Early Adopter: Research finds that demographic diversity (particularly people in historically underrepresented groups) contributes to novel recombinations and science innovation. However, others' rate of adoption of these innovative ideas is lower. This paradox suggests that the novel contributions of people in underrepresented groups are discounted [41].

- **Action:** Value the contributions of scholars in underrepresented groups citing publications, nominating innovators for awards, and inviting people to give lectures nationally and internationally. Support recognition of innovation in academic hiring, tenure, and promotion.

Focus on Strengths: Water research can often involve physically demanding work and long periods of fieldwork in extreme conditions (e.g. glaciers) that may be physically inaccessible. Health and family considerations may also pose temporary or permanent restrictions on fieldwork.

- **Action:** Provide information about accessibility and different paths to participation in water research. Build research teams that emphasize people's strengths and the many ways people contribute to water research [42].

External Conference Participation: Conference and panel participation are significant opportunities to support EDI in water research by being aware that your participation impacts others. Take into consideration the social, political, economic, and environmental impacts of conference participation and travel.

- **Action:** Inquire about the diversity and representation of your conference panel and advocate for inclusion (e.g. leaders in many countries have refused to participate on all-male panels). Recognizing that EDI is context-specific and being asked to speak in many cases is a privilege. Use your power as a water researcher to extend opportunities to others whose voices may be marginalized.

EDUCATION AND TRAINING

Research Protocol: Engage GWF researchers in a conversation to develop an awareness of data disaggregation and potential research impacts [43].

- **Action:** Develop a protocol with critical questions and prompts to help researchers consider the way that their data collection and research outputs may differentially impact urban and rural communities, people of different socioeconomic status, people with dis(abilities), Black People, Indigenous People, People of Colour, LGBTQ2+ People, and more.

OPERATIONS

Fieldwork Protocol: Creating inclusive fieldwork environments welcoming people of all backgrounds and identities and free from harassment is critical to excellence in water research [44].

- **Action:** Develop a fieldwork protocol that includes a code of conduct and information about inclusive field research practices (e.g. religious and cultural inclusion, dietary requirements, accessibility, or alternative paths to participation for people with disabilities, mental health support, and more).

EDI in Grant Applications: Developing meaningful, specific, and impactful EDI statements are an increasingly important aspect of applying for research grants [45].

- **Action:** Equip GWF researchers with the tools to connect their research program to evidence-based EDI practices and institutional initiatives through group workshops and checklists.

PRACTICE

Indigenous Community-Led Research Projects Legacy: GWF has recognized the significance of Traditional Knowledge and respecting Indigenous community participation through co-creation and co-development of research projects [46]. After extensive consultation, GWF created an Indigenous community water research strategy. These six projects advance the understanding of Traditional and western knowledge.

- **Action:** Provide opportunities for project leads, partners, and communities to share learnings about community-engaged research in ways that build capacity and support a legacy of co-creation in water research within and beyond GWF.



KNOWLEDGE MOBILIZATION: PARTNERSHIPS AND COMMUNICATION

Knowledge mobilization and communication are an essential bridge between GWF members and our partners [47]. GWF members work with 72 Indigenous Communities and Governments and over 478 unique stakeholder organizations and individuals. The ability to mobilize knowledge for the benefit of society and the economy is a defining characteristic of the entire Global Water Futures CFREF program.

Knowledge mobilization is a priority across each of the GWF research projects and has been from their inception. In the research design, particular attention is paid to the kinds of research outputs that end-users need and can use. Incorporating EDI into knowledge mobilization and communication in GWF will allow the network to build on existing strengths, reach a wider audience, and amplify a diversity of voices [48].

Bringing an EDI lens to KM and Communication will contribute to GWF's effectiveness bridging gaps between academia and industry and facilitating inclusive policy advice.

PEOPLE

Accessible Communication: Accessibility is a core component of both equity and inclusion. Taking practical steps to support accessibility helps to build strong partnerships, ensuring that people are not left out because the means of communication are inaccessible. Accessible communications strategies also provide GWF content to a more diverse audience, further supporting knowledge mobilization [49].

- **Action:** Develop a GWF accessible communication protocol that includes information on captioning, sign language, translation, transcription, accessible website design, and more. The accessible communication protocol will apply to online and in-person communication.



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SOLUTIONS TO WATER THREATS
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EDUCATION AND TRAINING

EDI and KM: Effective knowledge mobilization is layered and multi-disciplinary work requiring a high degree of coordination and communication throughout the research process [50]. It is essential to support researchers to identify power dynamics at every stage of their research, especially when there is a possibility of equifinality or multiple plausible outcomes for a phenomenon [51,52].

- **Action:** Develop an Equity, Diversity, and Inclusion (EDI) and Knowledge Mobilization (KM) protocol to help researchers identify multiple and conflicting narratives within communities. Provide additional training to researchers to mitigate social, economic, and environmental inequities as they arise in research. Include GWF's intersectional approach to EDI in the Knowledge Mobilization Summer School.

Truth and Reconciliation in Water Research: An ongoing commitment to the process of Truth and Reconciliation is a critical component of KM and partnerships in water research.

- **Action:** Actively support faculty, students, and staff to take up the recommendations in Towards Reconciliation: The 10 calls to action for natural scientists [53]. Provide ongoing opportunities for researchers to learn about their responsibility to uphold Indigenous land rights, learn Indigenous languages and place names, and work with communities to develop mutually beneficial research [54].

OPERATIONS

Actioning KM and EDI When Organizing Conferences, Panels, Events:

Organize diverse conference panels and events to impact water research inclusion substantively. Diversity and inclusion in conferences and events require thoughtful consideration of expertise, partnerships, and desired research outcomes in addition to demographic diversity. Normalize questioning the presence or absence of voices and recognize that diversity is not limited to gender identity or race; consider age, physical dis(ability), sexual orientation, geographic representation, neurodiversity, socioeconomic status and more in a panel's composition.

- **Action:** Develop a protocol to help event organizers expand social networks, consider the connection between content and EDI to develop substantively inclusive conferences and events.

PRACTICE

Women+Water Lecture Series: Explores gendered water-related impacts and challenges facing women who work in water research in Canada and internationally. This series facilitates active discussion tailored to encouraging and supporting recruitment, retention, and mentorship of women in water research and the gendered dimensions of water research impacts.

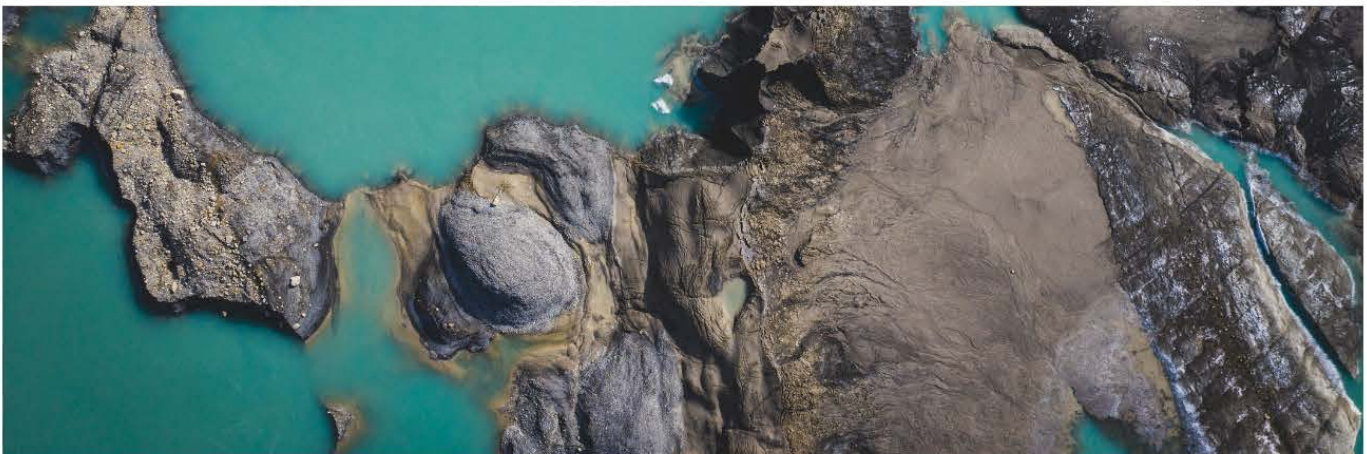
- **Action:** 1). Increase national and international participation in the Women + Water Series. 2). Design Women + Water mentorship opportunities. 3). Expand the intersectional lens within the series, further recognizing the expertise of Black Women, Indigenous Women, Women of Colour, People with disabilities, gender non-conforming and transgender women as producers and consumers of water knowledge. 4). Publish an international Women + Water expert list to enhance women's visibility in the field [55].

Distinguished Lecture Series (DLS): Engages ten world-leading scientists in lectures, tutorials and workshops each year, providing opportunities to understand breakthroughs in various aspects of water security from a global perspective and for HQP networking with international leaders.

- **Action:** Support speakers to make presentations more accessible, including captioning and french translation. Diversify the types of knowledge and speakers recognized as distinguished in water science.

Science Features: Are a research-based news hub focused on GWF's scientific initiatives, outcomes, and advancements. This initiative provides GWF researchers, students and staff the opportunity to share their science and research outcomes in plain language to a broad audience ranging from water enthusiasts to fellow researchers.

- **Action:** Encourage researchers to share knowledge with new audiences and make connections between scientific findings and social, economic, environmental, and health impacts. Explore different mediums for communicating to diverse audiences in accessible formats (e.g., YouTube videos, graphic art, and more).



ACCOUNTABILITY AND EVALUATION

Committing to EDI requires implementing quantitative and qualitative performance measures that align with each of the strategy's three pillars. Quantitative performance measures capture changes in representation, while qualitative measures capture changes in sentiment and experience [56]. Successful EDI work also requires organizational dynamism measured by the capacity to implement the activities proposed in the strategy, let go of practices that no longer work, and take up new grass-roots initiatives that emerge within the organization as EDI work evolves.

INSTITUTIONAL EDI: WORKING TOGETHER

GWF Engagement Survey: Conduct an engagement survey that anonymously gathers qualitative and qualitative data about sentiments of inclusion, experiences of equity and inequity, professional satisfaction, and intersectional measures of identity to guide actions that support inclusion and well-being in GWF.

EDI Dashboard: Develop an EDI Dashboard to track progress in the organization's composition, funding, leadership [57], and research. The EDI Dashboard acts as an accountability structure and contributes to organizational growth helping faculty, students, and staff leverage existing resources and support grant applications with quantitative metrics [58].

EDI IN RESEARCH: GLOBAL IMPACT

EDI Research Expert List: Develop an expert list of GWF researchers that contribute to the vision of achieving excellence in water research in ways that challenge social, economic, and environmental inequities. Recognize substantive contributions to the advancement of EDI in research methodologies, practices, and data analysis, as evidenced by publications in academic journals, books, grey literature, policy reports, and newspaper and magazine articles.

Knowledge Mobilization: Partnerships and Communication

KM and Partnership Survey: Incorporate an intersectional EDI lens into the KM evaluation process in the GWF research program. Support learning from partner experiences and achievements in ways that contribute to GWF's research legacy and inform new opportunities for KM and partnerships in future water research projects and policy impact.

STRATEGY 2021-2023

Develop a GWF EDI Strategy Progress Report available on the GWF EDI Dashboard to measure progress on the activities undertaken in GWF to implement the strategy. Metrics may include but are not limited to the number of hours, types of EDI training offered, number of participants, EDI website visits, number of protocols developed and the number of times protocols are downloaded. The GWF EDI Strategy Progress Report will also adapt the United Nations Global Compact Network Canada Maturity Model Blueprint for Gender Equality Leadership in the Canadian Private Sector to GWF capture organizational change within the research network [59].

CONSULTATION PROCESS

The 2021-2023 Draft GWF EDI Strategy was open for consultation between February and March 2021. In addition, GWF hosted virtual consultation sessions for faculty, students, staff, and partners. A survey was also made available to capture anonymously written contributions to the GWF EDI strategy.

FOR FURTHER INFORMATION PLEASE CONTACT THE AUTHORS

Dr. Andrea May Rowe, Equity, Diversity, and Inclusion Specialist, Global Water Futures, Global Institute for Water Security, University of Saskatchewan: andrea.rowe@usask.ca

Dr. Corinne Schuster-Wallace, Associate Director Global Water Futures, Professor Geography and Planning, University of Saskatchewan: cschuster.wallace@usask.ca

The language in this document reflects a certain time and place, Canada in 2021. The language used in EDI work is continually evolving to reflect the preferences of people and communities. Terminology and acronyms will be updated periodically to reflect this evolution.

REFERENCES

- ¹ Canadian Race Relations Foundation Glossary of Terms. (2020).(Accessed May 14, 2021).
- ² Rowe, A. Saska, S.and Lochhead, I. (2019). [Inclusion, Intention, and Investment, a Playbook for Retaining Women Working in Tech.](#) MoveTheDial.
- ³ NSERC Guide for Applicants: Considering Equity, Diversity, and Inclusion in Your Application. (Accessed May 14, 2021).
- ⁴ [Government of Canada Employment Equity Groups.](#) (2007). (Accessed May 14, 2021).
- ⁵ Tetty, W. (2019). [Inspiring Inclusive Excellence-Professor Wisdom Tetty's Installation Address.](#) University of Toronto.
- ⁶ Donovan, R. (2020). [Design Delight from Disability.](#) Return on Disability 2020 Global Economics of Disability.
- ⁷ What is Intersectionality? (2018). Kimberlé Crenshaw. [Youtube.](#) [She Coined the Term "Intersectionality" Over 30 Years Ago. Here's What it Means To Her Today.](#) (2020). Time Magazine.
- ⁸ [Recruiting and Hiring Diverse Faculty Guidelines.](#) Ryerson University. (Accessed 17 December 2020).
- ⁹ [Change Together A Diversity Guide For Startups and Scaleups.](#) A Collaboration between Tech Girls Canada and TWG.
- ¹⁰ Bloodhart, B., Balgopal, M.M., Casper, A.M.A., Sample McMeeking, L.B., Fischer, E.V. (2020). [Outperforming yet undervalued: Undergraduate women in STEM.](#) PLoS ONE 15(6): e0234685.
- ¹¹ Hagiwara, N., Kron, F. W., Scerbo, M. W., & Watson, G. S. (2020). [A call for grounding implicit bias training in clinical and translational frameworks.](#)*The Lancet*, 395(10234), 1457– 1460.
- ¹² Campbell, K. [10 Performance review biases and how to prevent them.](#) Culture Amp. (Accessed 17 December 2020).
- ¹³ Uhlmann, E.L., Cohen, G.L.(2005). Constructed criteria redefining merit to justify discrimination. *Psychological Science*, 16(6), 474-480.
- ¹⁴ Domingo, C. R., Gerber, N. C., Harris, D., Mamo, L., Pasion, S. G., Rebanal, R. D., & Rosser, S. V. (2020). [More service or more advancement: Institutional barriers to academic success for women and women of color faculty at a large public comprehensive minority-serving state university.](#) *Journal of Diversity in Higher Education*. Advance online publication.
- ¹⁵ Henry, F., Dua, E., James, C.E., Kobayashi, A., Li, P., Ramos, H., Smith, M.S. (2017). [The equity myth Racialization and Indigeneity in Canadian universities.](#) UBC Press.
- ¹⁶ Ibarra, H. (2020). [Reinventing your career in the time of coronavirus.](#) Harvard Business Review.

- ¹⁷ Woolston, C. (2020). Pandemic darkens postdocs' work and career hopes. *Nature*, 585, 309-312.
- ¹⁸ Cheryan, S., Ziegler, S. A., Montoya, A. K., & Jiang, L. (2017). Why are some STEM fields more gender balanced than others? *Psychological Bulletin*, 143(1), 1–35.
- ¹⁹ Gerwin, V. (2020). 'Blood, sweat and tears': Building a network for Black scientists. *Nature*.
- ²⁰ Lasse, C. (2016). Using Competency Models for Mentoring. Association for Talent Development.
- ²¹ Hodapp, T. & Brown, E. (2018). Making physics more inclusive. *Nature*, 557, 629-632.
- ²² Plummer, K. (2020). Reimagining Your Workplace in Rainbow: A Guide to LGBTQ2+ Inclusion for HR, People, & DEI Leaders. Feminuity.
- ²³ Guglielmi, G. (2018). Sexual-minority students more likely to abandon science majors. *Nature*.
- ²⁴ Etzkowitz, H. & Ranga, M. (2011). Gender dynamics in science and technology: From the “leaky pipeline” to the “vanish box.” *Brussels Economic Review Special Issue*, 54(2/3), 131-148.
- ²⁵ Popp, A.L., Lutz, S.R., Khatami, S. Van Emmerik, T. & Knoben W.J.M. (2019). A global survey on the perception and impacts of gender inequality in the Earth and Space sciences. *Earth and Space Science*, 6, 1460-1468.
- ²⁶ Spain, E., Groysberg, B. (2016). Making exit interviews count. *Harvard Business Review*.
- ²⁷ Kim, J. (2019). When colleagues leave. *Inside Higher ED*.
- ²⁸ Moriah, K. (2020). How anti-Black racism on Canadian university campuses robs us all. *The Conversation*.
- ²⁹ Waldron, I. The Enrich Project. (Accessed 18 December 2020).
- ³⁰ Razavi, S. (2021). Breaking through language barriers. *Science*. 371 (6525), 206.
- ³¹ Business of Inclusion Podcast. (2020). Toronto Region Immigrant Employment Council.
- ³² Green, T.L. and Hagiwara, N. (2020). The problem with implicit bias training it's well motivated, but there's little evidence that it leads to meaningful changes in behaviour. *Scientific American*.
- ³³ Williams, J.C., Mihaylo, S. (2019). How the best bosses interrupt bias on their teams. *Harvard Business Review*.
- ³⁴ Edmondson, E.C. (2019). *The fearless organization: Creating psychological safety in the workplace for learning, innovation, and growth.* John Wiley & Sons.
- ³⁵ Sukhai, M. & Mohler, C. (2017). *Creating a culture of accessibility in the sciences* 1st edition. Academic Press.
- ³⁶ King, L., MacKenzie, L., Tadaki, M., Cannon, S., McFarlane, K., Reid, D., & Koppes, M.

(2018). Diversity in geoscience: Participation, behaviour, and the division of scientific labour at a Canadian geoscience conference. *Facets*, 3(1), 415–440.

³⁷ Sardelis S., Oester S., and Liboiron M. (2017). Ten strategies to reduce gender inequality at scientific conferences. *Frontiers in Marine Science*, 4, 1–6.

³⁸ Chartered Institute of Procurement and Supply. Equity, Diversity, and Inclusion. (Accessed 18 December 2020).

³⁹ Sandoval-Lucero. E., Maes, J.B., (2019). Case studies in equity, diversity, and inclusion in higher education: An intersectional perspective. Kendall/Hunt Publishing Company.

⁴⁰ Alderman, D., Perez, R.N., Eaves, L.E., Klein, P. & Muñoz, S. (2019). Reflections on operationalizing an anti-racism pedagogy: teaching as regional storytelling, *Journal of Geography in Higher Education*.

⁴¹ Hofstra, B., Kulkarni V., Munoz-Najar Galvez S., He B., Jurafsky D., & McFarland, D.A. (2020). The diversity-innovation paradox in science. *PNAS*, 117 (17), 9284-9291.

⁴² Chiarella, D., & Vurro, G. (2020). Fieldwork and disability: An overview for an inclusive experience. *Geological Magazine*, 157(11), 1933-1938. doi:10.1017/S0016756820000928

⁴³ Schuster-Wallace C.J., Sandford, R.S.W., and Merrill, S. (2019). Water Futures for the World We Want. Global Water Futures, University of Saskatchewan.

⁴⁴ Gilley, B., Atchison, B., Feig, A., & Stokes, A. (2015). Impact of inclusive field trips. *Nature Geoscience*, 8, 579-580. <https://doi-org.cyber.usask.ca/10.1038/ngeo2500>

⁴⁵ NSERC Guide For Applicants: Considering Equity, Diversity, and Inclusion in Your Application. (2015). NSERC.

⁴⁶ Martin-Hill, D., Fabra-Zamora, J., Kreps, P., Gendron, D. (2020). Indigenizing research A resource guide for Indigenous Peoples academics and policymakers A living document.

⁴⁷ Global Water Futures Knowledge Mobilization Strategy. (2017).

⁴⁸ Global Water Futures Knowledge Mobilization White Paper. (2017).

⁴⁹ Sukhai, M. & Mohler, C. (2017). Creating a culture of accessibility in the sciences 1st edition. Academic Press.

⁵⁰ Iwanaga, T. and Wang, H.H. and Hamilton, S. H. and Grimm, V. and Koralewski, T. E. and Salado, A. and Elsayah, S. and Razavi, S. and Yang, J. and Glynn, P. and Badham, J. and Voinov, A. and Chen, M. and Grant, W. E. and Peterson, T. R. and Frank, K. and Shenk, G. and Barton, C. M. and Jakeman, A. J. and Little, J. C. (2021). Socio-technical scales in socio-environmental modeling: Managing a system-of-systems modeling approach. *Environmental Modelling and Software*, 135 (2021) <https://doi.org/10.1016/j.envsoft.2020.104885>

⁵¹ Williams, T. G. and Guikema, S. D. and Brown, D. G. and Agrawal, A. (2020). Assessing model equifinality for robust policy analysis in complex socio-environmental systems. *Environmental Modelling and Software*. 134 (2020) <https://10.1016/j.envsoft.2020.104831>

⁵² Badham, J. and Elsayah, S. and Guillaume, J. H.A. and Hamilton, S.H. and Hunt, R. J. and Jakeman, A. J. and Pierce, S. A. and Snow, V.O. and Babbar-Sebens, M. and Fu, B. and Gober, P. and Hill, M. C. and Iwanaga, T. and Loucks, D. P. and Merritt, W. S. and Peckham, S. D. and Richmond, A. K. and Zare, F. and Ames, D. and Bammer, G. (2019). Effective modeling for Integrated Water Resource Management: A guide to contextual practices by phases and steps and future opportunities. *Environmental Modelling and Software*. 6 (116), 40-56. <https://10.1016/j.envsoft.2019.02.013>

⁵³ Truth and Reconciliation Commission of Canada. (2015).

⁵⁴ Wong, C. and Ballegooyen, K. and Igance, L. and Johnson, M.J.G. and Swanson, H. (2020). Towards reconciliation: 10 Calls to Action to natural scientists working in Canada. *FACETS*. 5(1) <https://doi.org/10.1139/facets-2020-0005>

⁵⁵ Lights on Women. (2017). European University Institute Florence. Florence School of Regulation. (Accessed 18 December 2020).

⁵⁶ D'Ignazio, C., Klein, L.F. (2020). Data Feminism. The MIT Press.

⁵⁷ Canadian Centre for Diversity and Inclusion. (2020). Diversity Meter Survey: Executive Summary and Insights Presentation Report. Simon Fraser University.

⁵⁸ University of Calgary. (2021). Equity, Diversity, and Inclusion, EDI Dashboard.

⁵⁹ United Nations Global Compact Network Canada. (2020). Maturity Model Blueprint for Gender Equality Leadership In the Canadian Private Sector.