

# ICABCCI

Integrated Climate Action  
for BC Communities Initiative

## LCR Snapshot

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### Building Equity Using Nature-based Solutions: Webinar Summary and Briefing Note

MARCH 2, 2021



## Background

A low carbon resilience (LCR) lens coordinates and mainstreams adaptation, mitigation, and co-benefit strategies into policy, planning and implementation processes. **Deborah Harford**, Executive Director, ACT (the Adaptation to Climate Change Team), in the Faculty of Environment at SFU, and SFU Research Associate **Dr. Alison Shaw**, Principal, FlipSide Sustainability, co-developed ICABCCI (Integrated Climate Action for BC Communities Initiative) to produce action-based research that supports local governments in implementing effective, streamlined climate action. The research will be collated into guiding resources and an LCR Framework for Climate Action, to be used by local governments across BC and Canada and beyond.

After witnessing the effects of the COVID-19 pandemic on Canadian communities, ACT hosted a national webinar, **Building Equity Using Nature-based Solutions**, to share community-based initiatives that address social justice, equity, and climate action. This snapshot is a summary of outcomes from that webinar, contributions of guest speakers, and ACT's research on equity and nature-based solutions.

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## Acknowledgments

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SFU is located on the unceded and traditional territories of the Coast Salish Peoples, specifically the shared territories of the **Słkwx wú7mesh Úxwumixw (Squamish)**, **Tsleil-Waututh, xʷməθkʷəy əm (Musqueam)**, **Kwikwetlem**, **Kwantlen**, **Matsqui**, **Katzie**, and **Semiahmoo First Nations**.





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## 1. INTRODUCTION

On November 25, 2020, ACT (The Adaptation to Climate Change Team), SFU facilitated a Canada-wide virtual webinar, **Building Equity Using Nature-based Solutions**, co-hosted by the Canadian Climate Adaptation Community of Practice. This webinar was a continuation of ACT's work on a regional approach to green infrastructure, nature-based solutions and low carbon resilience, with a specific focus on the intersections of these solutions with equity and social justice.

The event had 164 attendees, including environmental professionals, representatives of all levels of government, and students and experts from across Canada. Featured presentations included ACT Executive Director **Deborah Harford** and ACT research assistant **Paige Hunter**, detailing research and nature-based solutions recommendations from ACT's most recent work alongside guest speakers **Grant Fahlgren** and **Katherine Howard**, both thought leaders in their respective fields.

**Grant Fahlgren** is a member of Wabigoon Lake Ojibway Nation, a Project Designer at PFS Studio, and the Chair of the Reconciliation Advisory Committee of the Canadian Society of Landscape Architects. While completing his Master's of Landscape Architecture Grant became the first Canadian to receive the National Olmsted Scholarship for his graduate work focusing on adaptations to sea level rise informed by traditional knowledge. Grant's research has since expanded into his professional practice working on community planning projects in collaboration with Indigenous communities.

**Katherine Howard** is the Project Manager for VanPlay, the City of Vancouver's Parks and Recreation Services Master Plan. VanPlay deliberately focuses on equity, inclusion, and access to parks and recreation. Katherine's work has been featured in *Monocle Magazine*, the World Resources Institute Ross Centre for Sustainable Cities' blog, *The City Fix*, *CBC*, and the *Vancouver Sun*.



## 2. EQUITY IN CONTEXT

Equity is defined here as “the fair treatment, access, opportunity, and advancement for all people [that strives to] identify and eliminate barriers that have prevented the full participation of some groups” (Kapila et al., 2016).

The impacts of the COVID-19 pandemic, compounded with current and projected climate change impacts, highlight the urgent need for communities to take action on justice and equity, climate change, and biodiversity loss. The pandemic has exposed the cascading nature of these crises and the risks they pose, highlighting the intersectional nature of disparities and vulnerabilities in communities across the globe.

Emerging research shows that nations that have done the least to contribute to climate change are often, unjustly, the most vulnerable to climate change impacts. The same is true at the community level; the pandemic has exposed systemic vulnerabilities related to income inequality, ethnicity, and aging populations which, combined with entrenched histories of redlining,<sup>1</sup> environmental racism, and energy poverty, are the same vulnerabilities that put our communities at greater risk under current and projected climate change.

Communities are at greater risk from climate change when they already experience vulnerability. For example, in 2020 a lack of safe, secure housing led to a high number of heat-related illnesses and deaths in low-income neighbourhoods in Montreal and Vancouver. COVID-19 added complexity during these heat events and exacerbated the climate-related crisis, both because people were required to spend more time in their homes, many without air conditioning or sufficient insulation, and partly because COVID-19 protocols delayed the in-person assistance that many communities rely on.

Governments and decision-makers can prepare for and reduce risks of these cascading impacts both by reducing vulnerability and promoting equity in policy, planning, and decisions. The urgency for this course of action is underscored by the severity of projected climate impacts such as more frequent and intense extreme storm events, increases in vector-borne disease, and epidemics and pandemics in the coming decades (Leal-Filho et al., 2020). One way to approach the challenge of increasing and cascading impacts over time is to consider equity and climate change in all planning.





### 3. EQUITY AND CLIMATE ACTION

Low carbon resilience (LCR) is a leading-edge approach used to coordinate and mainstream climate actions in decision processes. LCR is used to strategically reduce risk and vulnerability while reducing emissions and fulfilling equity goals as well as other community priorities, such as human health and economic development, in sustainable ways. Reducing vulnerability to climate change impacts (adaptation) will be most effective if it involves building the capacity of vulnerable populations while applying systemic thinking to advance a range of co-benefits.

Green infrastructure (GI) is a key LCR strategy which can, when planned carefully, act as a tool for improving justice and equity for vulnerable populations while helping to conserve ecosystems and benefit biodiversity. GI is defined as “a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services” (European Environment Agency, 2017). Use of GI through rehabilitation and expansion of parks, urban forests, and wetlands as well as installation of manmade features such as rain gardens can both minimize the impacts of climate change and improve community sustainability. GI delivers a wide range of services including reduced vulnerability to heat and flood events, carbon sequestration, and avoided emissions from the expansion and construction of grey infrastructure such as pipes and culverts, and the use of cooling systems such as air conditioning.

Beyond these many climate-related benefits, GI improves habitat for biodiversity, and benefits human health and community livability. When planned carefully, GI can also act as a tool for improving justice and equity for vulnerable populations.

## 4. EQUITY AND GREEN INFRASTRUCTURE

Colonial histories of development have often resulted in inequitable access to green space, a consequence which is still apparent in land use today. Greening projects designed to remedy this disparity and advance LCR, if not planned strategically, can actually exacerbate vulnerabilities by driving green gentrification<sup>2</sup> and displacement of marginalized communities. Local governments using public funds for neighbourhood improvement can bring benefits to both the public and private sector, such as increased revenue for public services and increased property value for homeowners (Hogan, 2015; Nathan, 2019), but equity issues may arise if displacement results from redevelopment. Displacement primarily affects renters, who may be faced with increased rent or landlords who decide to sell when their property becomes more valuable. While investment in GI can be beneficial to communities, measures should therefore be taken to ensure benefits are distributed equitably to the existing community and avoid displacement while strategically implementing GI solutions that advance LCR.

Equity is acted out at the micro scale of neighbourhoods or communities. Community-scale injustice can be seen through historic and persistent environmental racism and spatial processes of redlining, neighbourhood divestment, and gerrymandering<sup>3</sup> (Anguelovski, 2013; Haney & Bacalao, 2020). In the United States alone, historically redlined neighbourhoods are an average of 2.6°C warmer than non-redlined areas in the same city, and, in Minneapolis, historically redlined Black neighbourhoods are as much as 15°C warmer than other areas of the city (Borunda, 2020) partly due to lower presence of green spaces that have a cooling effect.

In summary, GI has the potential to benefit a range of environmental, social, and economic issues through cooling, improving permeability, and regulating water flows. These findings underscore the need to examine strategic ways to address equity and access to GI benefits simultaneously. The following set of recommendations for achieving this goal emerged from the webinar presentations, dialogue with webinar attendees, and ACT's research.



## 5. RECOMMENDATIONS FOR LOCAL GOVERNMENTS AND PROJECT MANAGERS

### 5.1 Identify and act on opportunities for equitable solutions.

In Edmonton, Alberta, the COVID-19 pandemic has provided an opportunity to equitably increase local food security along with health and wellbeing. The City developed a pop-up community garden initiative consisting of 350 garden plots in 30 locations across the city, selected based on proximity to grocery stores and multi-family dwellings. The initiative revealed that a higher density of lower-income families were located in food deserts. The intentional consideration of equity in the design and implementation of this project offers an example of GI services being delivered where they are most needed.

### 5.2 Recognize that working with Indigenous Peoples to build ecologically resilient natural systems in urban and rural settings benefits socio-cultural health and climate resilience.

The Indigenous Peoples' Garden in Assiniboine Park, Winnipeg, MB is an example of the convergence of GI and Indigenous Knowledge (IK). The project is led by Indigenous landscape and architectural designers and is designed to be a place for ceremony and intercultural events. The park was planned over several years with extensive input and engagement from elders and community leaders, and the implementation and installation process partnered Indigenous youth with horticultural professionals. In this case, advancing equity involved creating opportunities to value and integrate IK into GI planning and implementation.





### 5.3 Find innovative ways to create equity when greening low income or otherwise vulnerable neighbourhoods.

Community engagement is crucial to the success of GI projects; however, vulnerable communities and their members may not have the capacity to participate nor advocate for their needs. The team behind VanPlay, the City of Vancouver's Parks and Recreation Master Plan, developed an innovative tool that allows the City to identify areas that are underserved by GI. Using a geographic information system (GIS), they identified areas they called Equity Initiative Zones using criteria that include concentration of urban tree canopy and demand for low-barrier services. Future parks and recreation investments are prioritized using these zones. In addition to identifying underserved areas, the plan also promotes flood resilience by identifying areas that are vulnerable to sea level rise and coastal inundation, addressing the intersection of equity, climate change, and biodiversity loss.

### 5.4 Attention to power and time is often the most valuable asset when addressing equity issues.

Successful collaboration is dependent on trust, mutual understanding, and commitment to sustained effort over time; however, many vulnerable communities have unfortunate histories of broken trust with governments or project leaders. The 11<sup>th</sup> Street Bridge Project in Washington, D.C. is designed to address the geographic segregation between Capitol Hill on one side of the Anacostia River and the low-income neighbourhood of Anacostia on the other side. Planning for the project began five years prior to the planned opening date, allowing time to build trust and embed equity in the planning process. The project was led by non-profit Building Bridges Across the River (BBAR), in partnership with the D.C. Department of Planning, D.C. Public Health, the D.C. Department of Housing and Community Development, and other non-profits. BBAR worked with the community of Anacostia to develop an Equitable Development Plan that covers four focus areas: workforce development, small business enterprise, housing, and arts and culture. Community engagement planning for these meetings budgeted for food and childcare as well as stipends for key stakeholders, creating a low-barrier engagement process for those needing financial support. Taking time to build trust allowed BBAR to uplift the community and develop programs to avoid displacement from gentrification that might otherwise have occurred from this type of large-scale greening project. The result has been increased homeownership and financial stability for the community.



## 6. CONCLUSION

Green infrastructure (GI) is a valuable LCR strategy and, if planned well, has the potential to become a key tool in building equity and resilience as we move forward into a green recovery from the COVID-19 pandemic. However, the success of its development is dependent on the structure of planning processes, which can ensure that projects support equity benefits, or conversely can decrease equity. Key conditions for advancing equity via GI, such as prioritizing and investing in time for trust building, valuing the needs and roles of Indigenous Peoples, allowing space for innovation, and working creatively to identify and act on opportunities, have been shown to facilitate equitable outcomes for vulnerable community members, with multiple additional benefits for health and biodiversity.

## 7. ENDNOTES

**1** Redlining was a discriminatory practice in North America whereby banks and insurance firms would categorize areas based on investment risk. Areas that were 'redlined' were considered high risk. Areas with high investment risk could either be due to environmental factors like flood risk, but also existing communities considered 'high risk'. Vulnerable populations were often below the redline. Those living in redlined areas were often low-income communities of colour and were often denied loans or insurance. (Kenton, 2020)

**2** Green gentrification is defined as "the production of urban inequities through greening visions and interventions such as greenways, parks, or community gardens." (Anguelovski et al., 2019)

**3** Gerrymandering is the practice of drawing electoral district boundaries to favour a certain political outcome during elections. Gerrymandering has also been used to "dilute the voting power of ... ethnic or linguistic minority groups" (Duignan, 2019)

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# **ACT** Action on Climate Team

ACT (Action on Climate Team) in the Office of the Vice President, Research and International at SFU is a state-of-the-art research-to-practice hub for the mobilization of climate change and sustainability knowledge and solutions. We work across sectors to mobilize relevant knowledge for practice.

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