

## The Importance of Parks - *a summary of the research*

Metro Vancouver residents rated parks and natural areas as the **most important** value for living in the region. Loss of green space was the **top concern** after affordable housing and traffic congestion (Transport 2050 engagement, Translink).

Parks and the ecosystems they protect, provide a wide range of **benefits and services** to residents and communities. These are outlined below:

Parks contribute to <b>carbon neutrality</b> through:	
<b>Carbon credits</b> to balance Metro Vancouver’s corporate carbon footprint	Carbon credits from regional parks land acquisition and restoration enabled Metro Vancouver to achieve corporate carbon neutrality for 2019 and subsequent years, potentially through to 2022.
<b>Storing and sequestering</b> of carbon	At least 3.5 million tonnes of carbon are stored in regional parks ecosystems with thousands more tonnes of carbon sequestered every year.
Greenways help <b>reduce GHG emissions</b> from vehicles	Improvements to the Comox-Helmcken greenway corridor in Vancouver resulted in 23% fewer daily automobile trips for local residents (Frank and Ngo, 2016)
Parks support <b>resilience to climate impacts</b> by:	
<b>Supporting biodiversity</b>	Ecosystems with high biodiversity are more stable and can adapt better and faster to change (Oehri et al., 2017; Duffy et al., 2017)
<b>Capturing and controlling floodwaters</b>	The Town of Gibsons assessed the economic value of the stormwater management services provided by Whitetower Park ponds and found them to be worth \$3.5-4 million (Sahl et al., 2016)
<b>Protecting shorelines</b> and at-risk communities	Protection of the Caribbean coastline by coastal ecosystems was valued at between \$750 million and 2.2. billion (USD) (Mehvar et al., 2018)
<b>Reducing local temperatures</b>	Tree canopy of at least 40% was found to reduce daytime air temperature by as much as 3-5°C (Ziter et al., 2019)
Parks provide extensive and significant <b>human health and wellbeing</b> benefits by:	
<b>Improving mental health</b> , e.g. depression, stress	<ul style="list-style-type: none"> <li>• The importance of access to parks during times of stress has been underlined by the huge increase in visitation to regional parks - 67% increase in April compared to 2019 - during the <b>Covid pandemic</b></li> <li>• Half an hour of nature weekly reduces depression risk by 7% (Shananhan et al., 2016)</li> <li>• Metro Vancouver residents living near multiple parks were found to be 19% less likely to have stressful days (UBC, 2019)</li> </ul>

	<ul style="list-style-type: none"> <li>Improvements to the Comox-Helmcken greenway in Vancouver resulted in a 10% decrease in the number of days of poor physical and mental health for local residents (Frank and Ngo, 2016)</li> </ul>
<b>Improving physical health,</b> e.g. immune system function, cardiovascular disease	<ul style="list-style-type: none"> <li>Metro Vancouver residents living near multiple parks were found to be 43% less likely to be obese, 37% less likely to have diabetes, and 39% less likely to have heart disease (UBC, 2019)</li> <li>Half an hour of nature weekly reduces high blood pressure rates by 9% (Shananhan et al., 2016)</li> <li>Access to and/or amount of greenspace: <ul style="list-style-type: none"> <li>reduces asthma prevalence (Feng and Astell-Burt, 2017)</li> <li>reduces cardiovascular disease (Donovan et al., 2015)</li> <li>improves immune system functioning (summarized in Kuo, 2015)</li> <li>decreases breast cancer risk (O’Callaghan-Gordo et al., 2018)</li> </ul> </li> </ul>
<b>Improving pregnancy outcomes</b>	Exposure to greenspace while pregnant is linked to healthier birth weights (James et al. 2015, Dadvand et al. 2012)
<b>Improving cognitive function</b>	Living in greener neighborhoods is associated with slower cognitive decline in elderly (Keijzer et al., 2018) and improves cognitive development in children (Dadvand et al., 2015)
<b>Improving social cohesion</b>	Parks facilitate social cohesion by creating space for social interactions. (Jennings & Bamkole, 2019)
<b>Reducing mortality risk</b>	Up to 12% decrease in the greenest areas compared to least green (Crouse et al. 2017, James et al. 2015)
<b>Reducing health inequality</b>	Health inequality related to income deprivation is reduced (Mitcham and Popham, 2008)
<b>Reducing medical costs</b>	Metro Vancouver residents living near multiple parks have healthcare costs of 48-75% less for diabetes, 59-69% less for hypertension, and 33-69% less for heart disease (UBC, 2019)
<b>Reducing crime rates</b>	The presence of parks and other green space reduces urban crime (Shepley et al., 2019)
<b>Encouraging outdoor recreation</b> (e.g. hiking, biking, nature watching)	<ul style="list-style-type: none"> <li>Metro Vancouver residents living near multiple parks are 33% more likely to meet the weekly recommended level of physical activity (UBC, 2019)</li> </ul>

	<ul style="list-style-type: none"> <li>Improvements to the Comox-Helmcken greenway in Vancouver resulted in a 16% increase in the number of days' local residents engage in moderate physical activity (Frank and Ngo, 2016)</li> </ul>
Allowing <b>connections to nature</b> - which also leads to <b>pro-environment awareness</b>	A positive, connected relationship with nature leads to sustainability/pro-environment attitudes and well-being benefits (Lumber et al., 2017; Sandifer et al., 2015)
Parks generate billions of dollars for the <b>economy</b> through:	
<b>Nature-based tourism</b>	In 2005, 1.2 million tourists spent ~\$1.2 billion in BC (Wilson, 2010)
<b>Outdoor recreation</b>	In 1996, BC's residents spent \$2.3 billion on recreational activities that were in or associated with natural areas (Wilson, 2010)
<b>Real estate value</b>	<ul style="list-style-type: none"> <li>Proximity to passive parks was found to provide a minimum 20% premium on single family homes in Alberta. Values were higher for passive than active parks (ARPA, 2007)</li> <li>Natural spaces (including parkland) add more than a quarter of a billion dollars to real estate values in just two areas of Mississauga (CVC, 2009)</li> </ul>
<b>Job creation</b>	<ul style="list-style-type: none"> <li>Recreation and parks are the largest employer of any municipal department and are a predominant employer of community youth (BCRPA, 2020)</li> <li>Creating bicycle-only infrastructure (e.g. building bike lanes) led to 11.4 jobs per \$1 million spent. Pedestrian-only infrastructure (e.g. sidewalks) and multi-use trails, created close to 10 jobs for each \$1 million spent (Garrett-Peltier, 2011)</li> </ul>
Park ecosystems also provide:	
<b>Clean air</b>	Trees and other plants capture particulate matter and cool the air which reduces ozone formation (Wang, 2019; Nowak & Heisler, 2010)
<b>Clean water</b>	The value of water filtration services provided by forests and wetlands in the Lower Mainland was estimated to be \$1.6 billion (Wilson, 2010)
<b>Pollination</b> by providing habitat for pollinators	The value of bee pollination for crops in Canada has been conservatively estimated at \$1.2 billion per year (Wilson, 2010)

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## Regional Parks Key Facts

The regional parks system is made up of **23 Regional Parks, 5 Regional Greenways, 2 Regional Park Reserves, and 2 Ecological Conservancy Areas.**

**13,632 hectares** of land is protected by regional parks, including 80.4 hectares acquired in 2019.

Regional parks make up **~5%** of Metro Vancouver's land base.

The Regional Park Land Acquisition Fund was increased from \$7.57 million to **\$11.57 million** annually.

Regional parks received nearly **12 million** visitors in 2019. Visitation is growing at **3.9% per year.**

More than **1,000 public programs, events and outreach** activities reached **62,000 people.**

**7,250 volunteers and park partners** contributed **22,000 hours** to stewardship, education and interpretive programs.

The regional parks system protects over **9,000 hectares** of sensitive ecosystems.