

SFU

ACT

Adaptation
to Climate
Change Team



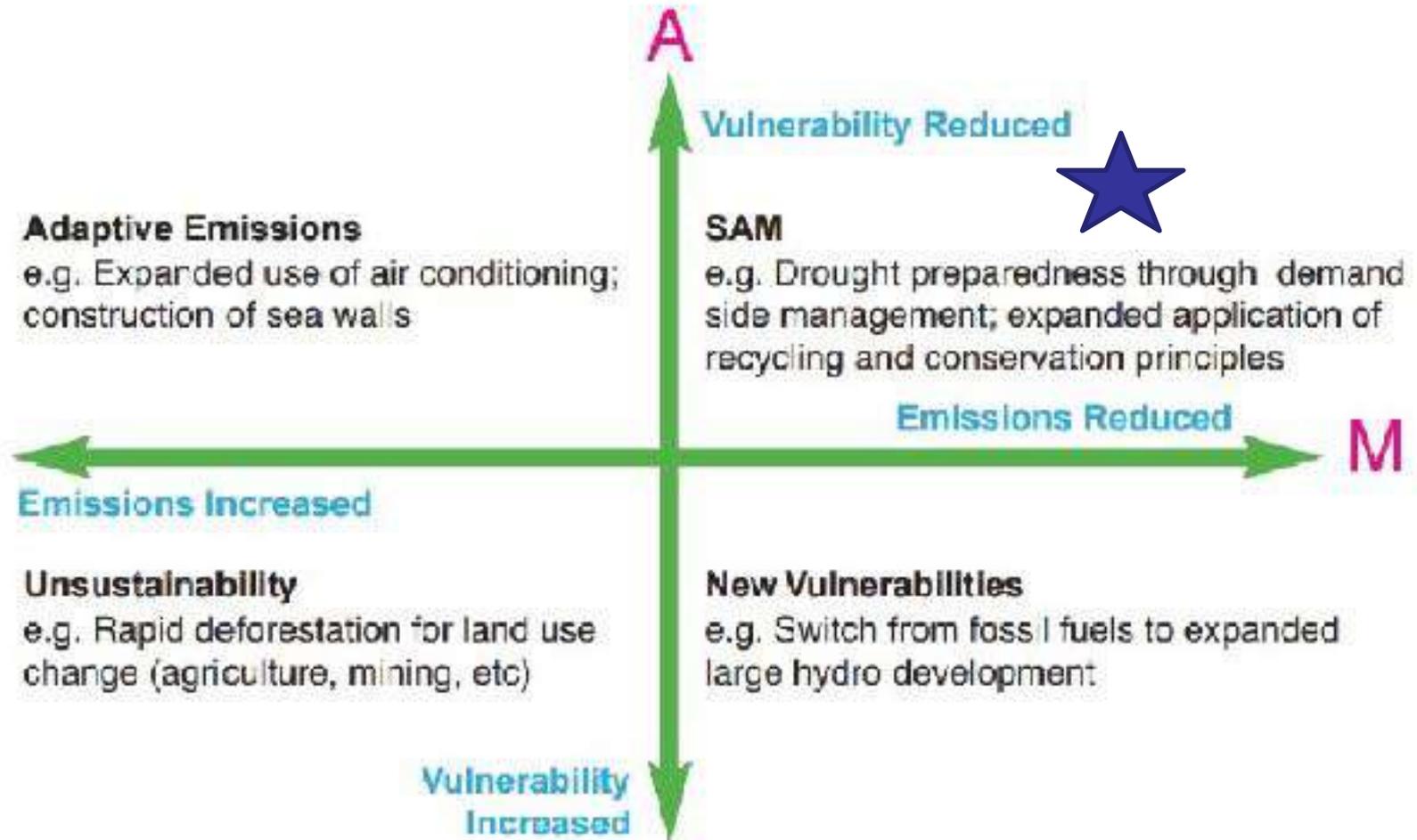
Climate Action: Co-Benefits for Health

Presentation to Making the Links 2018

November 5, 2018

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Integrated Planning for Low Carbon Resilience



Climate Change in Canada

Flooding (coastal, river, and rain-based); sea level rise; heat & drought; melting glaciers and permafrost; shifts in ecosystems and species.

Changes in average annual temperature, 1950-2010

Temperatures have been increasing across Canada. Warming was greatest in Yukon and the Northwest Territories.

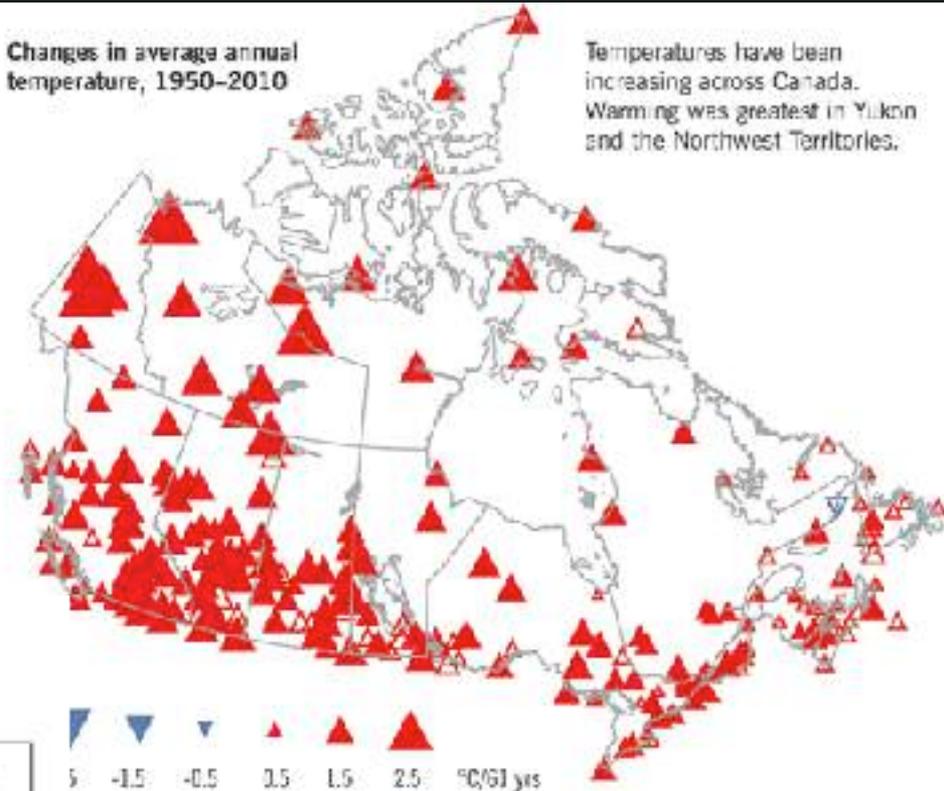
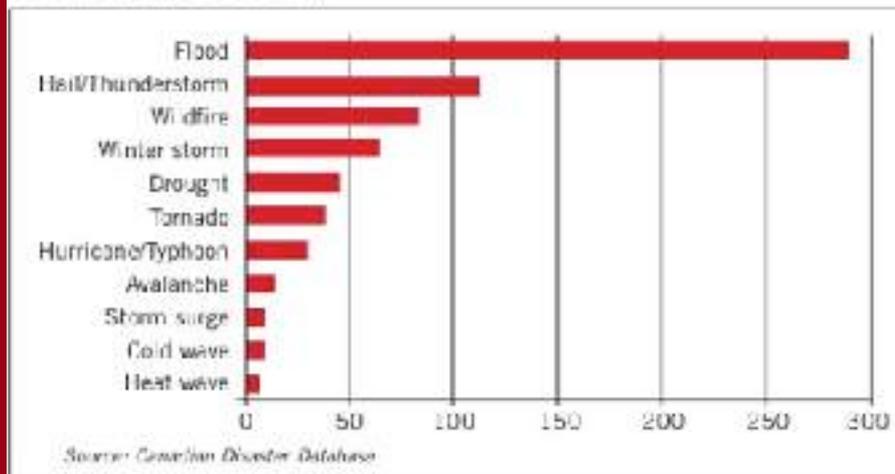
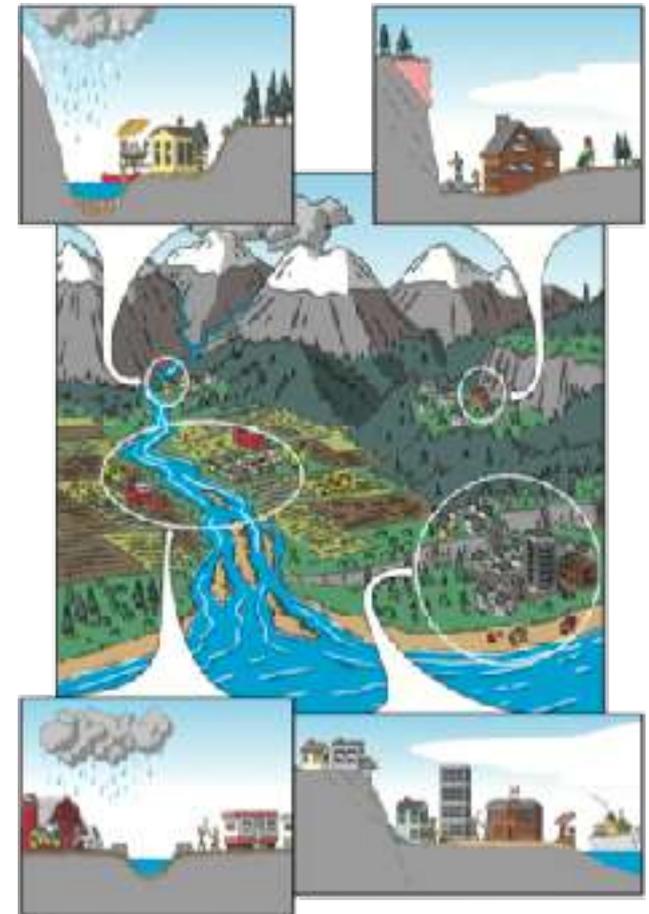
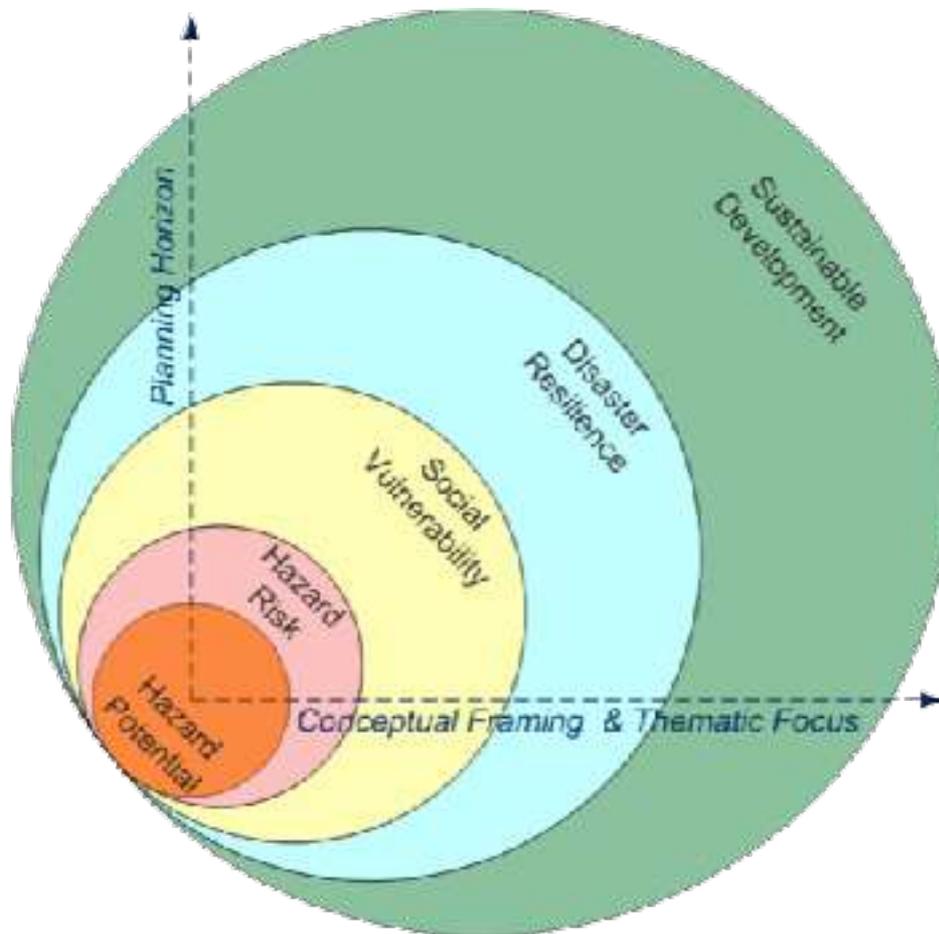


Figure 1:
Number of Hydrological and Meteorological Disaster Events in Canada (1900-2013)

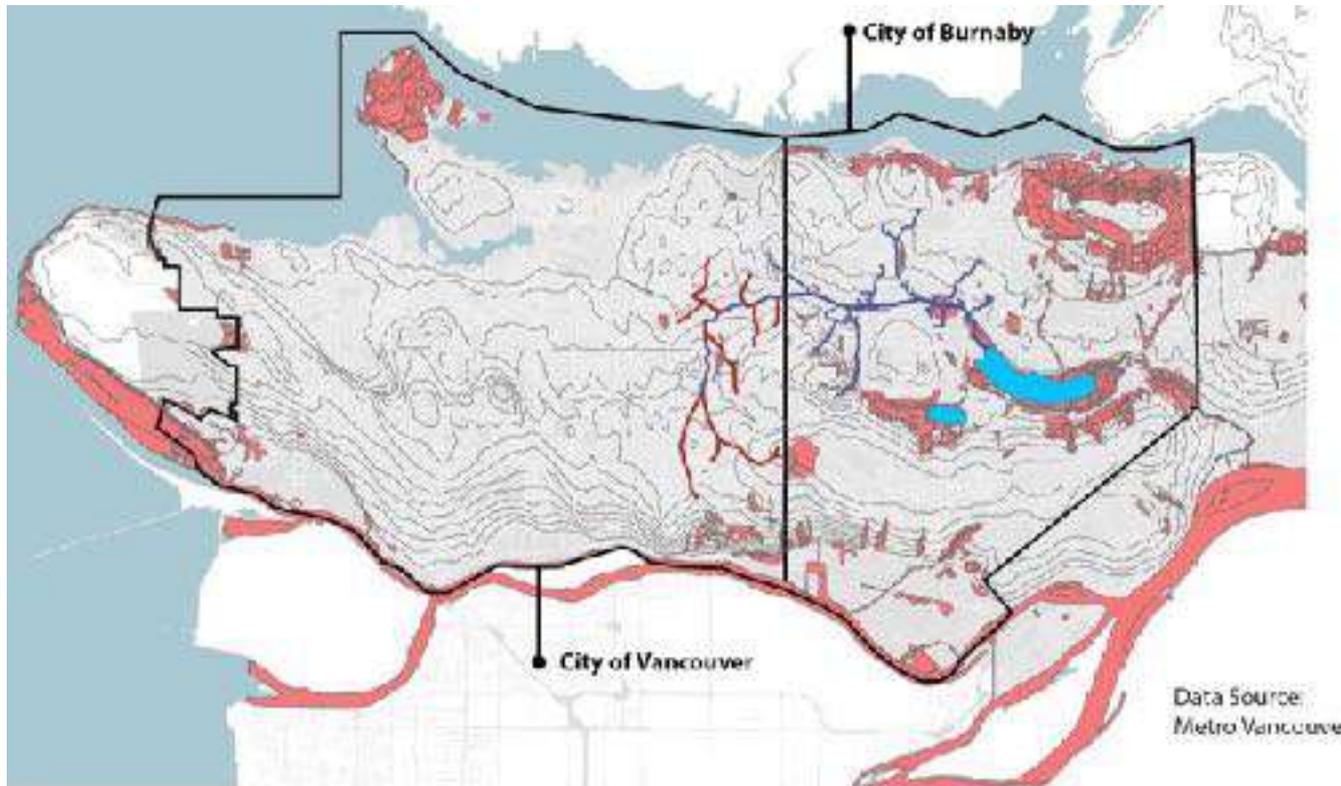


Social Vulnerability

Intrinsic characteristics of human-natural systems that predispose a community to the potential damaging effects of a hazard



Ecosystem Restoration: Cumulative Benefits

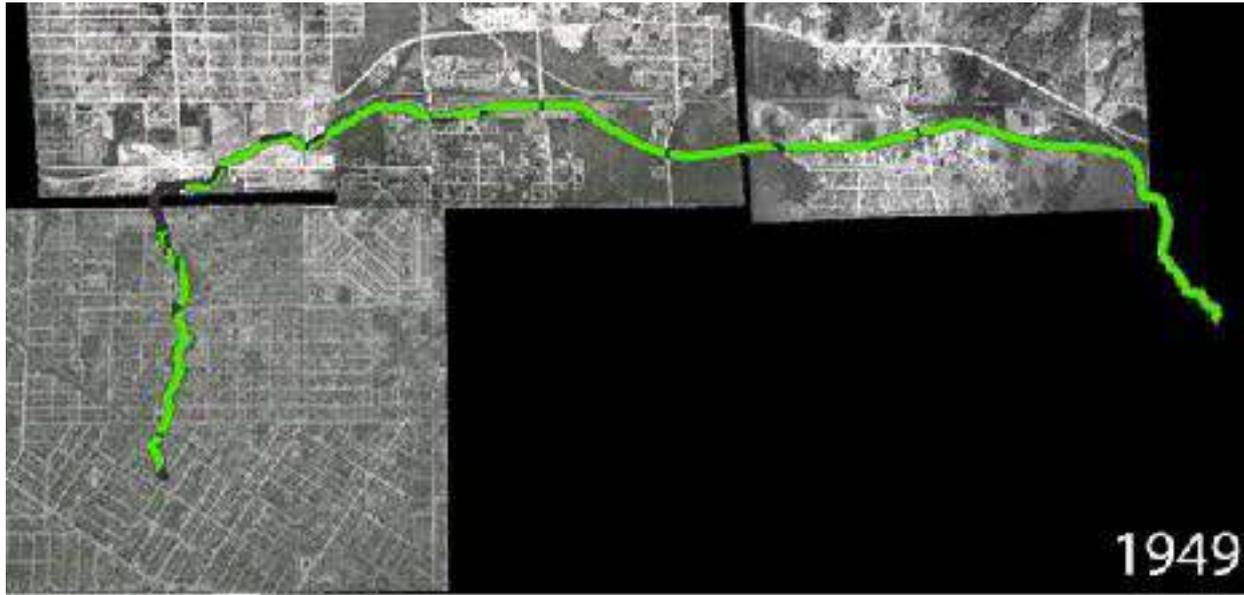


Question:
How are municipalities gaining cumulative benefits through collaborative ecosystem restoration across jurisdictional borders in the Still Creek watershed?

“Focus on creation, restoration, conservation of ecological structures to provide services from nature that moderate the adverse effects of climatic extremes and variability.”

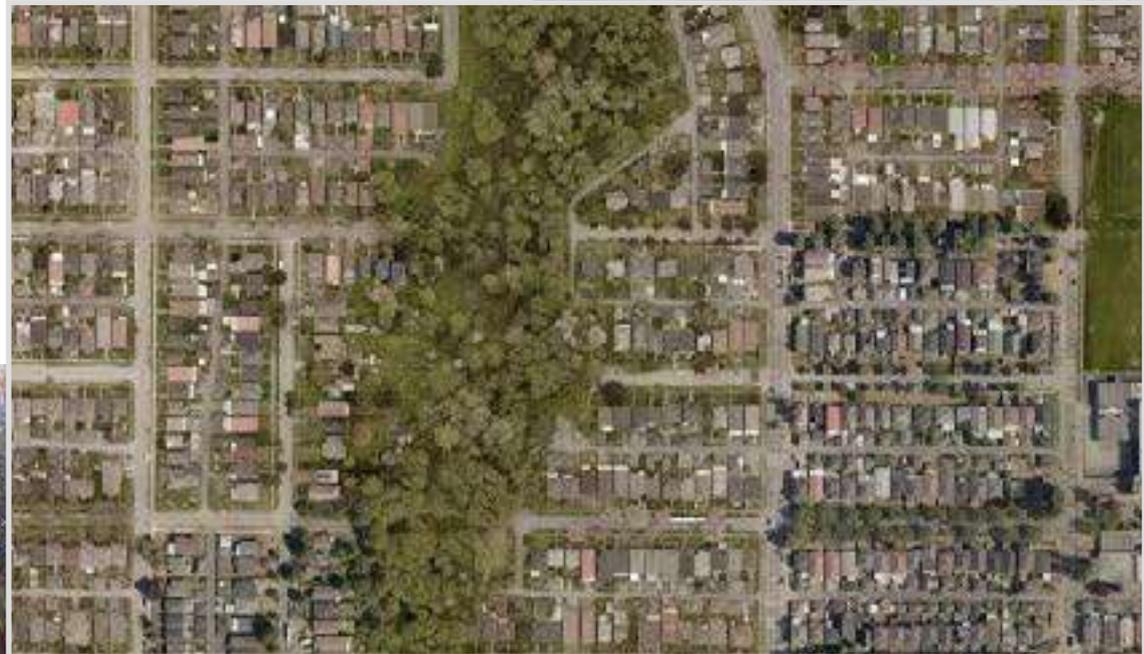
(Wamsler, 2015)

Ecosystem Restoration: Cumulative Benefits

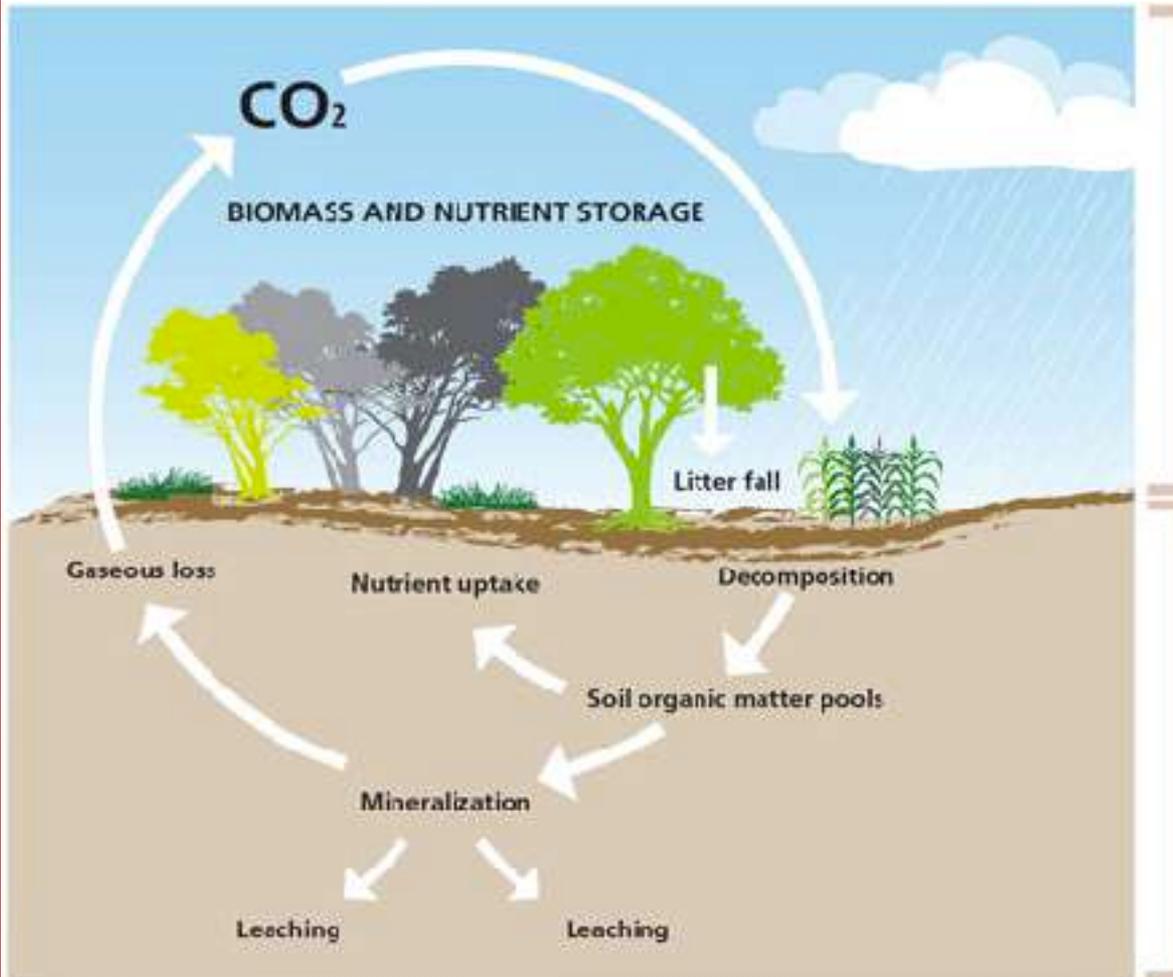


Climate Change Adaptation Benefits

- ☑ Reduced extreme heat
- ☑ Stormwater absorption



GHG Benefits



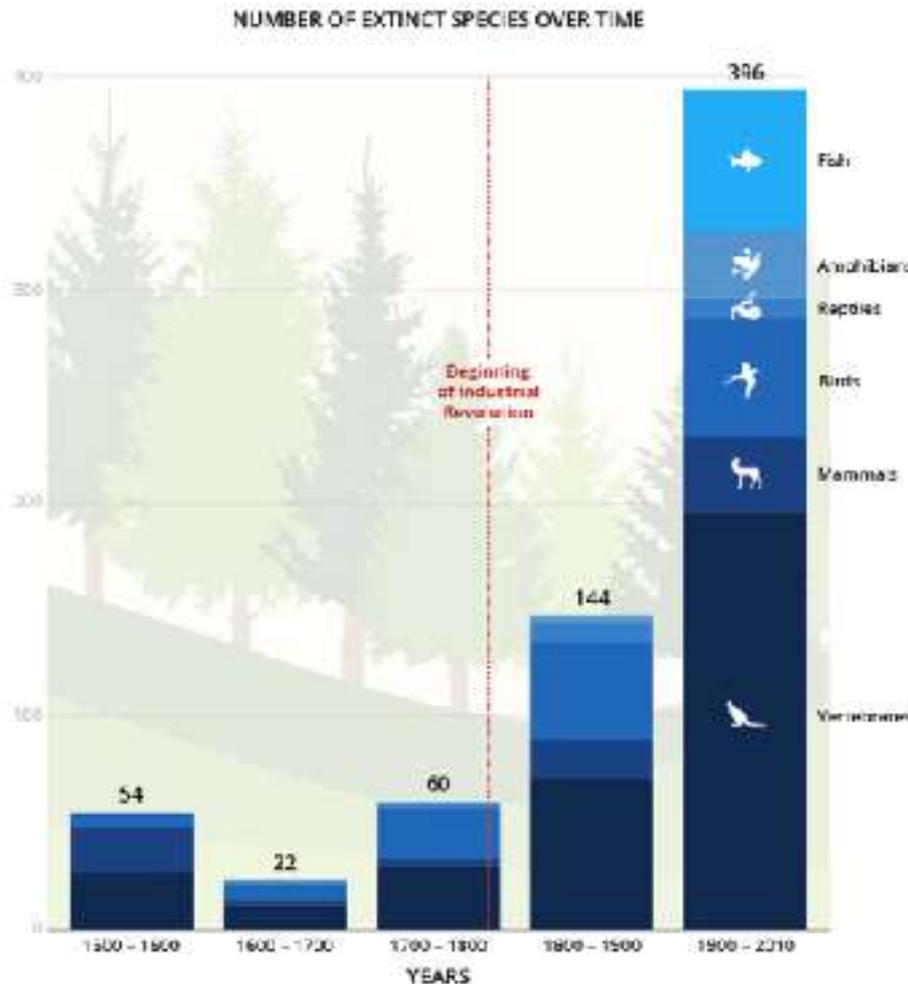
☑ Reduced need for energy intensive processes, e.g. air conditioning, storm water pumping

☑ Carbon sequestered in vegetation & soil

☑ NB: Potential benefits for food and water security

Biodiversity Benefits

Sixth mass extinction



Improve biodiversity health, link habitat, reduce fragmentation

Salmon began returning annually in 2012 after decades of absence



Value of a Tree?

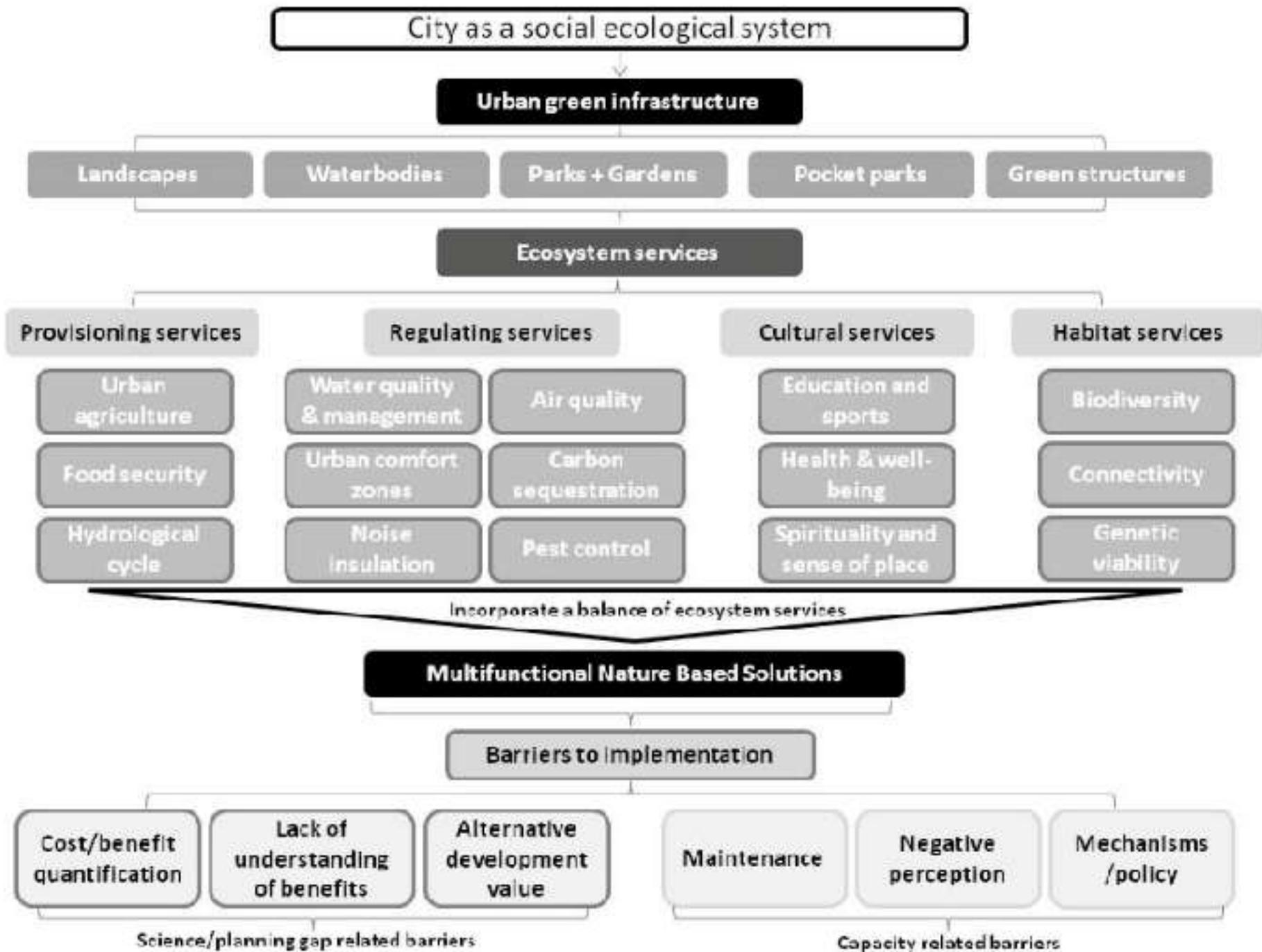


A single tree provides \$73 worth of air conditioning, \$75 worth of erosion control, \$75 worth of wildlife shelter, and \$50 worth of air pollution reduction. Compounding this total of \$273 for fifty years at 5% interest results in a tree value of \$57,151.

(American Forestry Association, 1992)

24 additional social and environmental benefits : environmental, economic and social. Green spaces deliver **social and health benefits of up to £1.44 billion per year** for the UK economy.

(ARUP, 2014)



Winning Conditions

- ☑ Collaboration and partnerships (multiple jurisdictional levels plus community groups)
- ☑ Establishment of formal collaborative entity
- ☑ Public input
- ☑ Innovative sources of funding

Question:

How might these findings be applied in your area?



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For more information about ACT, our policy reports, and adaptation resources, please go to:

act-adapt.org

ACT thanks past and present partners: Wilburforce Foundation, Bullitt Foundation, Zurich Canada, BC Ministry of Environment, AMEC Engineering, BC Hydro, Plutonic Power, NRCan, ICLEI Canada, PICS, Real Estate Foundation of BC, and SFU's Faculty of Environment.