# Ecohealth in Action:

## Achieving Health and Wellbeing through Greenspace in Ontario

**NOVEMBER 9, 2017**
**Chestnut Conference Centre, Toronto**

*Prepared by Suzanne Barrett and Karen Morrison, on behalf of EcoHealth Ontario. These notes reflect the general nature of the meeting and group discussions.*

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# Contents

# Introduction

EcoHealth Ontario's second biannual meeting, Ecohealth in Action, focused on supporting and expanding the ecohealth community in Ontario—by creating new opportunities for collaboration and introducing the organization's new resources and tools. Participants engaged in a full day of discussion, knowledge exchange, debate and networking.

The workshop was hosted by EcoHealth Ontario and Forests Ontario, with support from Conservation Ontario, Credit Valley Conservation, Ontario Biodiversity Council, Ontario Public Health Association, Toronto Public Health and Toronto and Region Conservation Authority. It brought together approximately 90 professionals from a variety of sectors to hear from experts and discuss priority themes for action.

The workshop agenda is included in Appendix 1. Appendix 2 contains a full list of the workshop participants and their affiliations. Appendix 3 summarizes the workshop evaluations submitted by participants.

# Presentations


Steve Hounsell, Chair of the Ontario Biodiversity Council, welcomed participants to the meeting. He remarked on EcoHealth Ontario's success in bringing the public health, planning, parks and environmental communities together. He called on the audience to engage with the critical challenges of biodiversity protection, enhancement and restoration, particularly in the context of global climate change. Mike Puddister, Co-Chair of EcoHealth Ontario was the second speaker. He provided the group with a brief background on EcoHealth Ontario (EHO), introduced EHO's new online video *Improving Ontario's Ecohealth,* and provided an overview of the day's agenda. The subsequent presentations provided a framework for the morning's discussions. They are available on the EHO website. The brief summaries below include highlights from the round-table discussions that followed each presentation.

## *Healthy Ecosystems—Healthy Communities: The Importance of Ecohealth in the Age of the Anthropocene.*

**Faisal Moola**
PhD., Director General, David Suzuki Foundation, University of Toronto and York University.

Dr. Moola provided an overview of the various ways that humans have impacted ecological systems, particularly the effects of intense and sprawling urban development. He noted the ways in which forests and wetlands help us fight climate change by sequestering and storing greenhouse gases from the atmosphere at relatively low costs, and with high aesthetic values. He referenced ecological economics and pointed to the 2.6 billion dollars in benefits that natural capital provides to the Greater Toronto Area Greenbelt each year. He highlighted a promotional figure from his organization's Rouge National Park campaign, with the slogan 'every bee is a flying $50 bill.' Dr. Moola briefly discussed some issues around equity and access to greenspace, drawing on data from the City of Toronto, as well as the clear link between tree cover and urban property values. He drew attention to the gap between trees planted and trees removed in the city, and the precarious situation of many species being at risk in urban environments. He discussed his recent work on neighbourhood greenspace and self-reported health data in Toronto, which found a significant health benefit associated with higher street tree density. Dr. Moola briefly introduced a new initiative in Louisville, Kentucky that is implementing a greenspace restoration program as a public health intervention, and spoke about the David Suzuki Foundation's Homegrown National Park Project as an example of how people can create positive engagements with their local greenspaces.

### DISCUSSION

The discussion period encouraged participants to identify the messages that they most resonated with. For many, it was the range of health benefits associated with greenspace, for others it was the idea of 'unequal ecologies,' and the need to address health and environmental inequalities in low income and racialized areas. The messages related to ecological economics and natural capital were also highlighted, and the visualization of the bee as a 50-dollar bill was considered very informative, although not a 'resonate message' for some. An alternative, 'every bee is 100 apples for people to eat' was suggested as another possibility—one that makes a clearer connection between bees and their critical role in pollinating food crops.

Some of the discussion focused on urban ecologies and the need to 'green up' balconies, and create mosaics of interconnected greenspaces. One participant observed that "if it is environmental, then it is preventable," which seems relevant to a number of population health challenges related to the environment, even if too late for some (such as climate change). The need for scientific evidence—on par with that for interventions such as reducing salt and sugar intake—was suggested, particularly given the desire for evidence-based policy on the part of public health units. The need for increased advocacy was raised, as was the relationship between biodiversity and resilient human communities.

## *Ecohealth in Ontario—Learning from the Past and Present*

**Karen Morrison**
PhD, York University

Dr. Morrison's presentation focused attention on the 2017 EHO publication *Leveraging the Benefits of Green Space for Environment and Health Benefits: A Casebook of Ontario Initiatives*. The casebook emerged out of a recommendation from the inaugural 2015 EHO workshop, that EHO "compile examples of a suite of current activities that seek to enhance the links between ecosystems and public health in order to better communicate the range of activities and themes that are available to the ecohealth community to affect change and to highlight the work already underway" (p. 14). Dr. Morrison briefly introduced the audience to the ten cases, under the headings: Mortality, Morbidity and Livelihoods; Flooding and Regional Deforestation; Social Justice and Equity; School Greening and Urban Forests; Mental Health and Wellbeing; Hospital Gardens and Mood Walks; Greenspace and Bluespace; Greenbelt and Greenway; Ecological Resilience; and Street Trees and Urban Parks. The presentation highlighted the way in which the cases are embedded in the wider ecohealth-related literature to enhance their utility as a pedagogical resource.

### WORKSHOP

The workshop participants were then asked to provide additional examples of work in Ontario that could be included in an expanded casebook. A matrix was provided at each table to encourage participants to think not only about particular cases, but also key themes that should be included to highlight the holistic, interconnected (systems thinking) nature of ecohealth activities. A wide variety of new examples from Ontario was identified, ranging from urban re-greening, naturalizing, retrofitting and de-paving, to school-scaping, ecoschools and family nature clubs; pesticide use and soil testing (e.g. for lead); First Nations programs and the engagement of Elders; street and highway-scaping, treeplanting and tree maintenance; stormwater and wild fire management; urban farms, prison farms and pollinator parks. Cases from other parts of the world were also identified, as were potential new themes such as air quality, soil quality, taxation policies, access, indigenous reconciliation, planning and development, visual literacy, rural/urban/suburban contexts, and education.policy on the part of public health units. The need for increased advocacy was raised, as was the relationship between biodiversity and resilient human communities.

## *Why Biodiversity is a Public Health Imperative*

**Sarah Elton,**
PhD Candidate, University of Toronto

Sarah Elton provided the audience with information about the 2017 EHO publication, *Conserving Biodiversity: A Public Health Imperative*. EcoHealth Ontario is formally recognized as a working group of the Ontario Biodiversity Council. The report articulates the issues and opportunities connecting biodiversity with public health in the province. Ms. Elton's presentation provided some background on biodiversity and health, both internationally and in Ontario. She focused attention on Norfolk County as a case study, and on the complicated issue of global climate change. She linked the issue of biodiversity loss to socio-cultural health and reminded the audience that biodiversity sustains the resilient ecosystems that provide the foundation for Ontario's society. She then looked forward in terms of policy and action, and the need to conserve, protect and restore habitat.

### DISCUSSION

The discussion topic asked participants to identify ways in which they could apply their knowledge about biodiversity and health relationships in their work. The dominant theme that emerged from the group conversations was the need to focus attention on the education of young people through outdoor education, including opportunities to be 'immersed' in biodiverse ecosystems, in order to understand, explore and appreciate them. It was noted that some of the people who are leading innovative child and nature programs, such as the forest school movement, are not necessarily involved in designing policies or other programs (such as minimum standards of greenspaces in daycares and schools; school gardens) related to this work. Opportunities exist to better link school greening to reduced injuries, higher achievement and more creative play, and to leverage professional development days to educate teachers about the relationship between biodiversity and health. A key message was the need to bring health language into environmental education programs.

Other responses included:

- move biodiversity from a science-base and integrate it into popular culture
- promote biodiversity as a government resource, including a focus on green infrastructure
- secure Ministry of Health funding for biodiversity initiatives
- promote biodiverse methods to mitigate climate change
- invest in citizen science
- engage politicians in success stories
- require decision-makers to spend time in an ecosystem before they decide to alter it
- build living walls and bring wildflowers to the office
- educate public health professionals and practitioners, as well as politicians, decision-makers, landscaping and park professionals about the ecological determinants of health
- develop the economic case for local biodiversity protection
- engage First Nations as well as new Canadians (immigrants and refugees)
- link foresters and land use planners to develop 'landscapes for life'

The website http://ontariobiodiversitycouncil.ca/conserving-biodiversity-public-health-imperative/ was mentioned. It is a website based on Conserving Biodiversity: A Public Health Imperative that was produced by EcoHealth Ontario to provide ideas about how to include and apply knowledge about biodiversity/health relationships at work. The OPHA/OPPI Public Health and Planning 101 course was put forward as an example of a tool that can develop a common understanding among different disciplines and create discussions related to shared agendas.

## *Policies to Promote Health and Wellbeing through Greenspace*

**Helen Doyle**
Manager, York Region Public Health

**Rob Voigt**
Chair, Planning Issues Strategy Group,
Ontario Professional Planners Institute

The presentation by Helen Doyle and Rob Voigt focused on the critical work being done at the municipal level to support the achievement of health-based outcomes through effective greenspace policy. It introduced the audience to a third 2017 EHO publication, the *Greenspace and Ecohealth Toolkit*. The toolkit was designed to promote adoption of local and provincial policies that support healthy ecosystems for healthy communities. It suggests this be done through a focus on improving health and wellbeing through greenspace provision, design, and access. It includes a series of case studies from municipalities, health units and conservation authorities, as well as legislative tools and a 'playbook' on how to achieve healthy communities through healthy greenspace. By explicitly linking greenspace with health, it addresses a gap in the current literature by communicating the important connection between greenspace and health, showcasing the diversity of programs, policies and practices and promoting the continued evolution of ecohealth policy at the community level by profiling relevant tools. The toolkit illustrates the connections between municipal planning and public health tools, and shows how they can work both independently and synergistically to advance health outcomes through greenspace.

## DISCUSSION

The presentation generated a lively discussion that was guided by three overarching questions: What's happening already? How could you use the Policy Toolkit in your work? How could we measure progress?

With regard to the first question, several opportunities were identified, including the upcoming revisions to the Ontario Public Health Standards, which will emphasize the promotion of healthy natural and built environments, as well as address climate change, with a particular emphasis on health equity, priority populations and evidence-informed decision-making. In addition, updates to municipal Official Plans provide an opportunity to lobby for new thinking and new language to promote an ecohealth perspective. There are some significant capacity issues that impede province-wide action, particularly in comparing urban and rural areas, and there is still considerable resistance to greenspace protection in many growth policies.

In some cases, the onus has been on public health units to educate municipal councils about the links between greenspace and health, including those related to land uses changes, such as deforestation, wetland degradation and flooding. There is a need for additional support, mentoring and information exchange to nurture, recognize and engage political champions throughout the province. There are many entry-points to engage decision-makers. Some communities are positioning themselves to utilize the widespread interest in healthy living to protect, enhance and restore habitat, and to invest in public transit, walkability, community gardens and other initiatives that reduce their environmental impact and enhance the quality of life for residents.

Potential uses of the Policy Toolkit include supporting advocacy work, educating, and engaging the public in thinking about the connections between their environment and their health. It can be used to encourage interdepartmental collaboration to achieve shared health, planning and ecological objectives at a reduced cost. The case studies can help participants articulate their shared, and divergent, values to facilitate communication and collaboration. The case studies help support a business case for ecohealth, particularly by making connections between climate change and the costs to both public health and infrastructure.

The toolkit will also be helpful when reviewing plans and setting standards (e.g. for accessibility). It helps showcase the need for equity and access to greenspace for vulnerable populations, and highlights some of the interventions that can be considered, such as seniors playgrounds and school greening. In addition, it draws attention to the need to guard against implementing greening interventions in low income neighbourhoods that raise property values to the extent that they drive out the vulnerable populations that the greening initiative was intended to help.

The toolkit can also assist the ecohealth community in changing the definition of development in the 21st century to, requiring that the ecological determinants of health and wellbeing be protected, enhanced and restored.

Measuring and tracking the implementation of ecohealth policies requires a multi-pronged approach. There are opportunities to generate quantitative data (such as percentage tree cover, greenspace, pollutant reduction, etc.) using geographic information system data and systems such as iTree. This can help to quantify impacts and improvements to ecological systems. Quantitative measures can also be used to track social media interest and campaign reach. Qualitative approaches, including the development and promotion of stories, speeches and opportunities for community education and engagement with the ideas are also important.

There is a need to establish baselines and conduct annual evaluations. This will require political support and performance measures. The focus could be on municipal budget allocations (i.e. funding distribution), policy changes, epidemiological data (noting the challenges posed when they are linked to ecological parameters in this nascent field), the commodification of ecological costs and benefits (i.e. if cutting a tree costs society x, then saving it is valued at y) and/or targeting specific communities. Watershed report cards could be leveraged to help support these goals, although this would require the buy-in of their constituent municipalities. In the short term, ecohealth needs to be more present on council and senior management agendas, as well as at professional conferences and public meetings.

It may be beneficial to think not only of the carrot, but also of the stick. What would a system of enforcement and monitoring of green infrastructure and natural asset management look like? Is a provincial policy statement needed to support an ecohealth philosophy? How can regulations be made stronger and be better enforced? Is there a role for punitive measures for those violating ecohealth principles to the detriment of ecological and community health and wellbeing?

# Moving Ahead: Round Table Discussions

## INTRODUCTION

As a warm-up, participants were asked to identify their favourite greenspaces and what made them special (see below). The range of responses shows that greenspaces of all shapes and sizes can have positive health benefits.

### FAVOURITE GREENSPACES

- **Waterfront Trail** – opportunities for relaxation, meditation, active living
- **Enchanted Forest** – reclaimed gravel pit
- **Quarry at Dyers Bay (Bruce Peninsula)** – grassroots planting
- **Sherwood Park** – 100 year old trees
- **Parents' property in Norfolk County**
- **Trinity Bellwoods Park** – Toronto
- **The Beaches Boardwalk** – both greenspace and 'blue' space
- **Rattray Marsh**
- **Darlington Provincial Park**
- **Colonel Samuel Smith Park** – trees, birds, wildlife, trails
- **My backyard** – peaceful place to de-stress after work
- **Killbear Provincial Park** – rugged wildlife
- **Cottages and family property** – e.g. Kawartha; peaceful, crown lands, memories of growing up
- **Algonquin Park** – water for kayaking; freedom; serenity; nostalgia
- **Huron/Kitchener** – seasonal changes; community; old growth hemlock; richness for all senses
- **Toronto Brickworks** – education, "city within a park"
- **Hillcrest Park** – black locusts
- **Milton Forest** – release from stress
- **Sudbury forest trails** – detachment from people and busy lifestyle
- **York Regional Forests and York Region Trail Systems** – Oakridges Trail; enjoyable memories of family camping

Participants then worked in small groups to discuss the following topics:

1. Business case for ecohealth
2. Children's health
3. Responding to climate change
4. Quality of urban greenspace
5. Mental health
6. Measuring success

Here is a summary of highlights from the discussion groups:

## 1. Business Case for Ecohealth

***How can green space reduce health costs?***

Discussion focused on ways to present a business case with information that resonates with decision makers, the public, municipal staff, development industry, community agencies. For example, we should develop common, compelling facts that can be used by professionals to communicate key messages, such as the links between greenspace, health and asthma, shade policies, and protection from extreme heat and UV radiation. It was noted that key messages don't always need to be quantifiable.

It is important to overcome obstacles associated with who should pay for greenspace and associated programming. For example, when explaining to municipal councils that health care costs can be reduced by investing in greenspace and related benefits (reducing respiratory and cardiovascular disease, reducing climate change health impacts, etc.), their response is often, "these health care costs are provincial responsibilities, not municipal". A suggestion was to frame the benefits as "improved quality of life" rather than "reduced health care costs," as the latter is something that all parties have a responsibility for under the Planning Act.

Participants emphasized that representation from the financial sector at all levels is vital. The Ministry of Finance should be involved in these discussions, and should be encouraged to include health costs and benefits in calculations, return on investment, etc. Ecosystem services valuation has to be internalized in decision making (currently, external costs such as health benefits are not considered when estimating the value of greenspace or green assets) and new metrics are needed.

We should also engage the insurance industry—they were the first to quantify costs from climate change impacts such as flooding as they became aware of the costs to their industry. They want to invest in resilient communities.

Additional suggestions:

- Present stories, using real people to make the case for social and health benefits. Use visual images to illustrate.
- Engage in the competition for skilled talent by focusing on the advantages of livable communities and green spaces that promote a healthy lifestyle.
- Can we assess what proportion of a health issue, such as cardiovascular disease, is attributable to a specific risk factor like air quality? And how much of that risk can be ameliorated by greenspace?
- Using the example of Ontario's decision to close Angus Seed Plant: a traditional economic assessment killed the seed plant because it only looked at current costs and returns. It did not consider the value of trees for future generations.
- Present the social justice/health equity argument (e.g. watersheds transcend municipal boundaries so an upstream municipality may have to forego development to reduce flooding downstream).
- Map the 'influential network' – developers, board of trade, insurance companies—and build relationships with media.

***Do you think municipal decision makers understand the ROI from green space?***

The short answer is 'no.' Some municipalities 'get it', but not the whole picture. One of the challenges is the time lag with return on investment (ROI). Municipalities may not see the benefits in the short term. We need a new model for assessing the value of greenspace that includes all benefits and all greenspaces.

There may also be costs. For example, opposition to green roofs may be based on concerns about maintenance (green roofs may leak if not properly installed and maintained), liability and insurance costs. We need to educate property owners and tenants about potential issues and how to avoid them.

We need to make it a business advantage to incorporate greenspace/green roofs, etc. into development. This advantage can apply to the developer, the architect, the municipality and the property owner.

It may also be helpful to link greenspaces to investments that will resolve key municipal issues. For example, if the municipality has a priority to address crime, provide evidence on neighbourhood greenspace and crime rates. In high density urban communities, the emphasis might be on the benefits of greenspace as respite to help address mental health issues.

We should try to focus on arguments that will work in each specific context. For example, when presenting the case for greening/tree planting/ecosystem protection/climate change adaptation in a northern municipality that spends 50% of its budget on roads, it may be advantageous to focus on cost saving rather than return on investment. In Haliburton, blue space is everything, so measures to protect it will resonate with lake lovers.

We need to provide good examples to explain the ROI. For example, in addition to the health benefits listed above:

- Urban forest/street tree canopy increases property values, thereby increasing the municipal tax base.
- Multiple benefits of community gardens include local food, social connections, climate change mitigation and adaptation (e.g. reducing food kilometers travelled, addressing food insecurity).

***Which of these economic impacts from climate change do you think greenspace is most effective in addressing and why: urban heat island, flood mitigation, poor air quality, others?***

Flooding is the most expensive impact of climate change for Canadians, and it has a very visible impact. It is important to address this issue from multiple fronts e.g. insurance/costs; public health/health impact; home owners/ property damage; conservation authorities/ecosystem damage. One of the issues is that most of the land in Southern Ontario is privately owned, so we need economic incentives to help use private property for the public good.

TOP RECOMMENDATIONS FOR ACTION:

1. **Map your Influencers**—who are the drivers of change? For example, when it comes to climate change, it is the insurance industry.
2. **Develop a new economic impact model**—bring the financial folks to the table and explain the factors that need to be included in a cost/benefit analysis for greenspace.
3. **Develop key points**—evidence that all of us can use in advocating for healthy greenspace for healthy people. For example, EcoHealth Ontario could post 20 compelling facts based on research (with citations) that ecohealth advocates can use in their communications.

## 2. Children's Health

***Can children who are raised mostly indoors flourish?***

Yes, children who are raised mostly indoors can flourish, but having access to nature and outdoor settings enriches their physical, mental and social experiences. Nature deficit disorder may contribute to elevated levels of anxiety and depression that can be alleviated by time spent in greenspaces. Physical activity is another health benefit of playing outdoors. Kids don't seem to get sick as often if they have access to the outdoors.

Children bond with nature. Once they connect, they can develop a lifetime of caring, and perhaps even ultimately make behaviour changes and support funding for the environment.

We need to recognize that sometimes it's difficult for kids to get outdoors, particularly if they have working parents who get home too late or when it's already dark, etc. Immigrant experience can be another barrier to getting kids outdoors. New immigrants may not be accustomed to the way Canadians use the outdoors for social and physical activities.

***How can greenspace and health care complement one another?***

There is evidence that experiencing nature outdoors or even seeing nature through windows helps to alleviate and/or manage mental and physical health issues. These benefits can be provided by hospital/health care playgrounds and garden areas accessible to young patients. They can provide a safe way for children to get outdoors while they are convalescing or being treated.

Some American doctors are providing prescriptions to get outdoors, in an effort to alleviate or manage patients' mental and physical issues. Prescriptions could go further to say where to go (many people are unfamiliar with their neighbourhood parks).

***Where should children play?***

Kids can play anywhere, but they should play outside a lot. Kids need places where they can use their imaginations. This doesn't always have to be in a park–could be in front or back yards–just need to get kids to go outdoors.

The best option is outdoors in natural spaces that provide features like logs, stumps, rocks, trees and shrubs that children can use imaginatively for play purposes.

The quality of play spaces is important. Good play space in nature enriches experience, teaches children about nature and our relationship with it and stimulates physical and mental benefits. There is a wide spectrum from natural greenspaces to asphalt school yards.

Highly groomed parks are not inviting places for children and their caregivers. For example, there may be limited biodiversity in trees, shrubs and other plants; "no-touch" formal gardens; absence of picnic tables, seating, etc. People will take children to parks if there are things that entice them.

Most of all we need 'complete communities' that are walkable, encourage more socialization among people and reduce fear of the unknown. One option could be supervised play spaces in parks. Greener school yards would be helpful also. The Evergreen Foundation, and some conservation authorities, provide support for people to incorporate more natural play spaces into school yards and neighbourhoods.

Participants brought a social justice perspective to the discussion, suggesting some ways to implement and sustain ecohealth projects in the neighbourhoods that need them most. For example, it is critical to encourage collaboration and engage community groups, local champions and businesses. It may be necessary to begin by addressing parental perceptions of the risks involved in childrens' interaction with greenspace. Extensive trail networks can link people and neighbourhoods to greenspace resources both near and further from home.

New schools are still being built without greenspaces. Some suggestions to address this issue included:

- Bring in expertise from parents, and encourage home and school activism.
- Engage the school board and teachers to take ownership.
- Undertake pilot projects involving school boards and other organizations such as the Evergreen Foundation.
- Aim to resolve conflicts with curriculum demands. Ministry policies should focus on the implementation of biodiverse schoolyards and outdoors classrooms as an integral part of education rather than an optional addition.

***What are the barriers to using play spaces?***

The group made a list of some of the most common barriers:

- Fear of natural spaces (wildlife, strangers, physical dangers—near water, big rocks, etc.). These fears are fed by television/video/films.
- Parents want kids supervised if they go off the home property, but if they're both working/single parents they don't have time to take kids out themselves.
- Some new immigrants come from cultures where they are not used to sending children out to play (too dangerous, too polluted, etc.).
- Parks may be perceived as remote places where drugs are sold, teenagers hangout, vandalism occurs, and they are therefore not appropriate for children.
- Parents feel play has to be 'organized'—play dates, elaborate activities, etc.
- Kids are already overscheduled and sometimes have too much homework—which reduces time available.
- School yards are often wastelands rather than inviting play spaces.
- Insurance and legal 'red tape'.

TOP RECOMMENDATIONS FOR ACTION

1. **Influence provincial policy**, ENGOs, conservation authorities, municipal parks, recreation departments and local schoolboards to invest in programs to green schoolyards and provide more greenspaces in neighbourhoods that need them the most.
2. **Educate teachers and parents** about the importance of outdoor play (preferably through experience).
3. **Incorporate more natural play spaces** into formal parks, school yards, institutions, storm-water management facilities and green infrastructure projects. Include elements that will attract families—spray pads, small berms, wild edges, BBQs, picnic areas, natural playgrounds, fun interpretive signage, seating, shade etc.
4. **Prioritize neighbourhoods** that need these facilities the most. Include children in the design: for example they can brainstorm the kinds of things they would like to see in play spaces (including more nature) and draw their own play spaces.

## 3. Responding to climate change

***How can we harness greenspace to mitigate and adapt to climate change?***

Greenspace can be used in a variety of ways for both mitigation and adaptation. For example, greenspaces such as parks and rain gardens in urban areas can help decrease flooding during extreme rain storms. The planting of trees, shrubs and other plants increases carbon sequestration, while also reducing the 'heat island effect' in cities. By using a variety of species, including heat and extreme weather tolerant species, green spaces can be made more resilient to our changing climate.

To support climate change mitigation and adaptation, we need policies and programs which support the preservation of greenspace and communicate its value. Examples of potential actions include:

- Enhance collaboration between conservation authorities and municipalities to support greenspace preservation
  as an avenue for recreation as well as climate protection.
- Use innovative tools to prioritize the areas most at need. For example, Peel Region created the Peel Tree Planting Prioritization Tool, which utilized GIS mapping – including social and environmental indicators to prioritize urban tree planting based on environmental, social, and economic need.
- Green public lands, such as hospital grounds and schools, to enhance greenspace within already developed community spaces.
- Identify the potential negative side effects of enhancing greenspaces, such as vector-borne diseases, and identify solutions for these impacts. Health Equity Impact Assessments (HEIA) can help support the identification of any co-harms.
- Consider the social determinants of health (SDOH) when implementing greenspaces.

***How can local actions make a difference to a global problem?***

Municipalities have the opportunity to make a big difference in climate change mitigation, as the amount of greenhouse gas (GHG) emitted in a community is influenced by the way our communities are built. To reduce GHGs and improve human health, we need compact, complete communities which are not car dependent for everyday needs.

In addition, providing impetus locally can help build up to higher political levels. Specific suggestions included:

- Provide people with information on local impacts, including those that affect their health and wellbeing, to help change consumer patterns.
- Use economic instruments such as pricing to draw the attention of people who aren't motivated by environmental or health concerns and encourage them to take action.
- Eat locally and seasonally. Educating people about food will help to reduce carbon, nutrient and water footprints.
- Change the way we work; many buildings are used only from 8am-4 pm; need more work from home, plus flexible spaces like the Centres for Social Innovation.
- Shift attitudes, for example from cars to public transport.
- Develop plans with specific targets to motivate people. For example, the City of Toronto has a 40% tree canopy target, which will help reduce climate change impacts, including those that affect human health.

Addiction to oil is a pervasive problem. Many people are in a pre-contemplation phase, not ready to make personal changes in response to climate change issues. There continues to be climate change denial and many people do not seem to care about it. We need to find ways to educate and motivate the general population to make changes.

***How can we successfully adapt when we don't know all that is coming?***

We need to create more resilient ecosystems by supporting natural systems and planting a diverse range of trees and other vegetation. Modelling of flood plains can help to influence policy. We need to have effective emergency management plans in place.

### TOP RECOMMENDATIONS FOR ACTION

1. **Mitigate**
   - Change our lifestyles towards more compact communities and more active transportation
   - Support the expansion of high quality greenspaces, with trees planted for carbon sequestration
   - Develop and implement mitigation plans with targets for actions to reduce GHG emissions (e.g. 40% tree canopy)
2. **Adapt to what is coming**
   - Develop more resilient ecosystems; including more diverse plant species
3. **Change the narrative**
   - Bring diverse stakeholders together to bring different perspectives to the table
   - Use simple, effective communications and education; avoid doom and gloom
   - Focus on the positive aspects of personal and societal change such as health improvements and business models

## 4. Quality of Urban Greenspace

***What is the issue?***

Some foundational issues reduce the quality of greenspace from a health perspective. For example many parks are heavily manicured, whereas more natural landscapes would provide greater health benefits. It is often difficult to maintain ecological integrity and biodiversity in urban landscapes. We rarely have sufficient information about accessibility and usage for a range of groups within the population.

***How might an ecohealth perspective help to address this issue on a local scale?***

There are many opportunities. For example, we can combine uses and functions such as flood plain mitigation with a park for people to enjoy. We can be more creative in finding new greenspaces that are not part of the traditional parks system (e.g. rooftops, utility corridors, sports-fields, industrial/business parks).

It would be worthwhile to map the health status of neighbourhoods and correlate with information about the configuration, availability and design of parks and other greenspaces.

Action can be encouraged at the neighbourhood level by engaging and using local resources, especially through the healthcare community.

***Who's already working in this area?***

Here are a few examples:

- Simcoe Muskoka: urban official plan
- Simcoe County: school board "hands in the dirt" and "school ground greening" initiatives
- Tommy Thompson Park in Toronto: Natural Minds—Lasting Connections pilot program
- Healthy Barrie: piloting the Park Rx program
- Parks Ontario: promoting conservation from a health perspective similar to Park Rx
- Black Creek Sustainable Neighborhood Retrofit Action Plan: balcony gardens, community gardens, local orchards, etc.
- Trust for Public Lands: ParkScore program provides a way to assess strengths and weaknesses of a park system, locate underserved neighbourhoods and compare cities

TOP RECOMMENDATIONS FOR ACTION

1. **Encourage local action:** every community has different needs; work with people in the local community who know their local greenspace; need to adapt to local conditions and adopt creative local solutions e.g. green roofs, private properties, balcony gardening workshop, laneways, pop up parks on land slated for development, solar panel charging stations
2. **Update building codes and policies** to require green infrastructure and provide incentives for planting and maintaining trees on private property
3. **Involve doctors** in outreach and education regarding ecohealth; develop a continuing professional module

## 5. Mental Health

***What is the issue?***

Most of us live in urban areas where we are affected by sensory overload, noise (e.g. sirens, traffic) and a sense that we are being herded like cattle. People are 40% more likely to have mental illness in urban areas (rather than in rural areas). In cities, we experience decision fatigue from our busy lifestyles. Living among large numbers of people can lead to social avoidance and social isolation. These factors are harmful to mental health and wellbeing generally, but are particularly keenly felt by aboriginal people who love being on the land with friends and family. In many urban areas, there aren't enough inclusive, outdoor meeting places where diverse groups can share experiences.

***How might an ecohealth perspective help to address this issue at a local scale?***

An ecohealth perspective can bring greater awareness of the health benefits of nature such as helping them to cope with stress and boost their immune systems. In turn, this awareness will lead to policies and programs, increasing opportunities for people to access nature in their daily lives. Some examples were suggested:

- Consider design measures to increase social interactions in parks, such as trees and seating around playgrounds and sports-fields.
- Be proactive about collaboration; seek out connections outside of the 'usual suspects'; these can include settlement commissions, extractive industries, developers and the engineering sector.
- Encourage inter-sectoral communication within municipalities, and use resources like the Ecohealth and Greenspace Toolkit.
- Create an atmosphere for generating ideas and a shift to a "yes we can" culture.
- Enhance our abilities to listen and give a voice to marginalized and vulnerable populations.
- Design for the long-term; in the face of short-term political cycles it is harder to lose projects that are built-in from the beginning.
- Treepedia (M.I.T Senseable City Lab) provides a different way of measuring/exploring tree canopy in cities around the world; can be useful in measuring the quality of greenspace.
- Prioritize neighbourhoods that are ecologically deficient.
- Connect with mental health facilities to expand and maintain tree planting programs.

***Who's already working in this area?***

- Province
- Conservation authorities
- Public health units
- Cities
- Land managers
- Champions
- NGOs
- Health professionals

TOP RECOMMENDATIONS FOR ACTION

1. **Increase collaboration** among all stakeholders and identify champions at all levels.
2. **Promote the ecohealth brand** more aggressively and give it a real voice. Ecohealth is not a gimmick and is here to stay.
3. **Produce a catchy video** portraying real-time effects of outdoor experiences in parks.

## 6. Measuring Success

***What is the issue?***

Different kinds of data are used by public health units, planners, and parks departments. For example:

- Public health relies on data for community health profiles—needs high levels of participation.
- Planners follow the ebbs and flows of use, services and populations.
- Parks rely more on use and customer satisfaction data—typical online response is 10-15%.

***How can we develop an ecohealth approach?***

The group brainstormed some opportunities for cross-sectoral indicators:

A. Those in the public eye like "number of days beaches closed in a community" or "number of smog days," both of which indicate restriction in outdoor activities among public.

B. Asset management and its relation to ecological services e.g. street trees not only as a maintenance burden, or a number planted, but their role in storm-water management (reducing overflows), providing shade (reducing temperatures) etc. which can be valued as an asset.

C. An ecohealth report card of a community for councilors, e.g. with the kinds of parameters used for LEED neighbourhood design criteria (not just buildings) with multiple benefits.

We spent some time on the dilemma (for one group member) of closing a park and replacing it with a pond and wetland, because of a history of flooding and the need for greater outflow capacity. How do we shift conversation from the loss of a baseball diamond to the potential benefits in terms of:

- Ecologically complex systems
- More natural, diverse and potentially native flora and fauna in a wetland
- Potential learning site for schools e.g. monitoring by high school students
- Green space health benefits for a broader population e.g. for young children to explore with parents, for older adults to walk safely, etc.
- Reduction in calls to the police regarding drinking or loitering in a park

TOP RECOMMENDATIONS FOR ACTION

1. **Use multiple mixed methods at different levels**; for example observations of activities, environmental indicators, and good stories with visual images (photos and videos) of people and greenspaces.
2. **Explore "Go-Pro"** video monitoring potential.
3. **Measure the physiological effects** of being in "better" greenspaces.

# Adapting to the Anthropocene —Panel Discussion

The workshop concluded with a vigorous panel discussion moderated by Dr. Donald Cole, Professor at the Dalla Lana School of Public Health. The panelists were Dr. Charles Gardner, Medical Officer of Health for Simcoe Muskoka District Health Unit, Kim Gavine, General Manager of Conservation Ontario and Rob Voigt, Chair of the Planning Issues Strategy Group for the Ontario Professional Planners Institute. Dr. Charlotte Young of envision SYNERGY created a poster capturing highlights of the discussion.

**Dr. Donald Cole**

**Dr. Charles Gardner**

**Kim Gavine**

**Rob Voigt**

**Charlotte Young**



***The Anthropocene can be described as the current geological period, starting in the 18th century when human activities began to impact global climate and ecosystems on a significant scale. Part of adapting to the Anthropocene is coping with extremes. How can an ecohealth lens help us do this better?***

The most fundamental issue is that we have become entirely used to being in a human dominated environment—we have forgotten that this is new in our history as a species, and that what is actually normal for us is the hunter-gatherer way of life from which we evolved and only relatively recently left behind. An ecohealth lens shows us that we suffer on at least two levels because of this change: (1) that we do not get to enjoy the pleasure of being in natural environments, and (2) that we are undermining the eco-services that we need to survive.

We can identify and communicate (in plain language) the many impacts on the planet that are caused by humans, and in turn harm ourselves. Much that is helpful for climate change adaptation is also good for climate change mitigation, for health and for quality of life. The greening of our communities is beneficial on all of these fronts. The incorporation of vegetation throughout our communities begins to mimic the hunter-gatherer way of life for us, and thus we inherently find it to be appealing and healthful. It also helps to buffer temperature extremes, to absorb storm runoff, and to capture GHG emissions. With a mindful approach, such greening can help preserve biodiversity and provide habitats for many species of bird, animals and plants.

We can emphasize that ecohealth is a great movement and is here to stay: for example, "environmental action is preventative health care".

***Adapting to the Anthropocene needs to be for the "seven generations". What would you like to be able to tell your great grandchildren about what you and others did?***

We would like to say that we tried to reduce our individual and collective impacts on the planet, and that we helped to create great places where people live. We should communicate pride in the work that we are doing and a strong belief that each one of us can make a difference. We should also acknowledge that we have learned from our mistakes, and hope that future generations will do better.

Another perspective is that instead of asking, "what kind of planet are we leaving to our children?" we can ask, "what kind of children are we leaving to our planet?" We need to adapt our education system to get our children back outdoors again if we hope for them to feel connected to their natural heritage enough to protect it.

***How could our institutions take the Anthropocene more seriously?***

We have god-like technology, mammalian emotions and medieval institutions! Clearly we need to re-think our institutions. Institutions are made up of *people*—we all need to make changes. Bad things happen when good people don't stand up and speak out; do something constructive today!

We need to recognize that this may not be the last "cene." We need a new approach to bring about a "symbiocene ," wherein people live in harmony with the planet. This is slow, difficult work that we must do collaboratively.

We need to make better use of visual communications and story-telling. People are motivated by their own self-interest. Stories sell, so showcase individual stories with people who can identify with them. For example, use GoPro technology combined with measurements of physiological responses to demonstrate health benefits of nature experiences.

The public health sector is beginning to do more effective work in ecohealth, but needs to continue increasing its collaboration with other sectors and learning from them. Ecohealth solutions require the collective role of multiple institutions. We need to adopt health frameworks that recognize the natural environment as the ultimate foundation for life and health.

Institutions may lack early adopters/visionaries. We need to act together with urgency to overcome the slowness of our institutions. This will require the collective action of ministries, local communities and businesses and will in turn increase motivation for individuals to make changes.

Remember to find play and fun in the work that needs to be done. By combining work and play, we'll have energy to be more creative; and to integrate art and science.

We are strategy rich, but implementation poor; we need to create and engage the public. Many people don't believe that we can actually seriously harm the planet, so we need to re-pitch concepts in a different light to convince decision-makers. It usually takes a crisis for decision-makers to change their minds, so we should leverage "extremeness" to encourage change.

# Synthesis of Workshop Themes

The following interrelated themes emerged from the workshop:

## QUALITY OF LIFE

As opposed to 'health,' which some may (shortsightedly) dismiss as a provincial budget line, most agencies have a mandate to enhance, protect and/or restore the quality of life of their constituents. This language may, therefore, provide a useful way to frame ecohealth interventions in a range of different sectors.

## CO-BENEFITS FOR SOCIETY

The multitude of co-benefits that greenspace provides – not only for public health but also for ecosystems, economic systems and resilient communities – needs to be continually and consistently highlighted in order to prevent narrow agendas and limited cost/benefit analyses from derailing investments in greenspace and green infrastructure.

## LANDSCAPES FOR LIFE

Ecohealth interventions can happen at a range of spatial-temporal scales. Integrated planning of these landscapes to protect, promote and enhance the health of vulnerable populations, including children and the elderly, can optimize their value to communities.

# Summary of Recommendations

See previous sections for detailed recommendations from the roundtables. In summary, the major recommendations for Ontario's ecohealth community included:

1. Create additional communication resources, including readily accessible facts, figures, stories and case examples, to support arguments for different approaches and programming. These should include resources that focus on vulnerable populations and the co-benefits of the ecohealth approach.
2. Cultivate leaders in the political and bureaucratic spheres in order to provide a larger audience for ecohealth, and to create a place on the agenda of additional agencies and programs. Designate protected time and roles for people to work on ecohealth initiatives within municipalities, health units and other agencies.
3. Work with economists, governments and the financial sector to develop a business case for the benefits of greenspace on health and wellbeing.
4. Develop resources to highlight the climate change mitigation and adaptation benefits of greenspace for human health and wellbeing.
5. Include ecohealth perspectives in our understanding of childrens' health, and bring health language into environmental education programs.
6. Explore ways to form ecohealth hubs in regions throughout Ontario.

# Appendix One—Agenda

## *Agenda: Ecohealth in Action Workshop*

November 9th, 2017 (8:30 am–4:00 pm)
Gionvanni Room, Chestnut Conference Centre, Toronto

***Ecohealth in Action*** will feature a stellar lineup of panels and presentations from leaders in the fields of public health, planning, environment and conservation that will highlight the important role professionals in many sectors can play in improving Ontario's ecohealth.

Presentations will introduce several new resources that have been developed by EcoHealth Ontario to serve the needs of practitioners. Interactive round-table discussions will allow participants to exchange information, share ideas, learn from one another and develop new partnerships.

***Ecohealth in Action*** is the second biennial meeting hosted by EcoHealth Ontario. Our first workshop, ***Realizing the Health Benefits of Green Spaces in a Changing World***, was held in 2015.

Highlights from the day will include:

**Keynote Presentation: Healthy Ecosystems - Healthy Communities: the Importance of Ecohealth in the Age of the Anthropocene**

Dr. Faisal Moola, Director General, Ontario and Northern Canada, David Suzuki Foundation

**Ecohealth in Ontario - Learning from the Past and the Present**

Dr. Karen Morrison, Adjunct Professor, Faculty of Environmental Studies York University

**Why Biodiversity is a Health Sector Imperative**

Sarah Elton, PhD Candidate at the Dalla Lana School of Public Health

**Policies to Promote Health and Wellbeing through Greenspace**

Helen Doyle, Manager, Public Health Branch, York Region Community and Health Services Department
Rob Voigt, Chair of Planning issues Strategy Group, Ontario Professional Planners Institute

**Moving Ahead - Round Table Discussions on a range of topics including adapting to climate change, children's health, and building a business case for ecohealth**

Facilitated by Suzanne Barrett, EHO Coordinator, and Dr. Karen Morrison, Adjust Professor, Faculty of Environmental Studies York University

**Adapting to the Anthropocene - Panel Discussion**

Dr. Donald Cole, Professor, Dalla Lana School of Public Health (Moderator)
Dr. Charles Gardner, Medical Officer of Health, Simcoe Muskoka District Health Unit
Kim Gavine, General Manager, Conservation Ontario
Rob Voigt, Chair, Planning Issues Strategy Group, Ontario Professional Planners Institute

EcoHealth ONTARIO

# Appendix Two—Participating Organizations

Association of Local Public Health Agencies
Back to Nature Network
Canadian Association of Physicians for the Environment
Central Lake Ontario Conservation Authority
City of Barrie
City of Burlington
City of Guelph
City of Toronto
Clean Air Partnership
Conservation Ontario
Credit Valley Conservation Authority
David Suzuki Foundation
EcoHealth Ontario
envision SYNERGY
Etobicoke Master Gardeners
Evergreen
Forests Ontario
Friends of the Greenbelt Foundation
Green Communities Canada
Humans in Nature
Lake Simcoe Region Conservation Authority
North Bay Parry Sound District Health Unit
Ontario Biodiversity Council
Ontario Healthy Communities Coalition
Ontario Parks Association
Ontario Professional Planners Institute
Ontario Public Health Association
Ontario Trillium Foundation
Peel Public Health
Peel Region School Board
Province of Ontario
Royal Botanical Garden
Sandy Hill Community Health Centre
Simcoe Muskoka District Health Unit
St Clair Region Conservation Authority
Toronto and Region Conservation Authority
Trees for Hamilton
University of Toronto
University of Western Ontario
Wilfred Laurier University
York Region Public Health
York University

# Appendix Three—Workshop Evaluation Summary

Prepared by M.J. Kettleborough, Forests Ontario

## INTRODUCTION

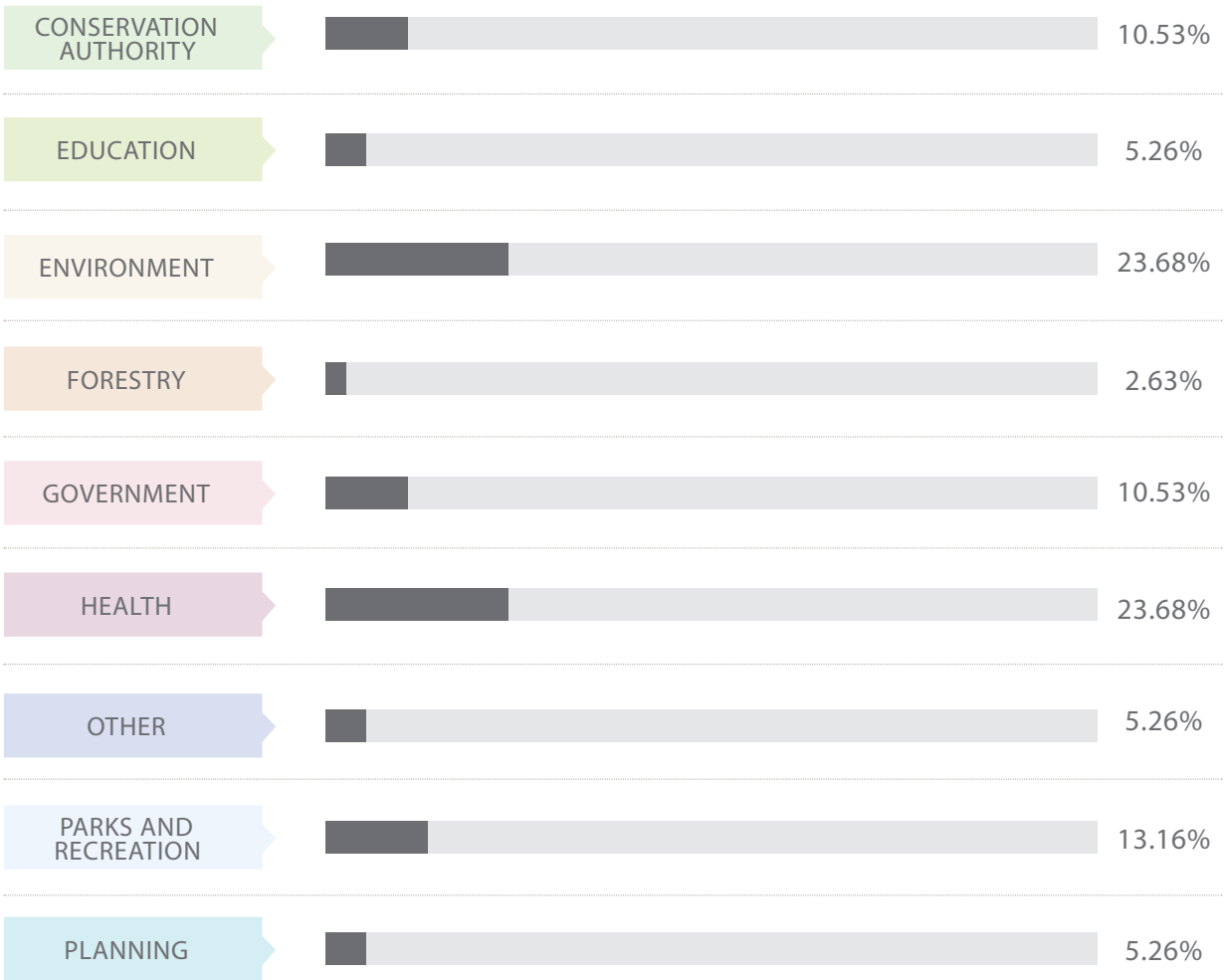
Participants were asked to fill out an evaluation form at the end of the Ecohealth in Action workshop. Reminders were made throughout the day to fill out the form, and any participants who left early were encouraged to fill out the portions of the evaluation that were applicable. Fifty-six people submitted evaluations.

According to the collected data, the workshop was positively received overall. The median score given to the workshop as a whole was 82%, the highest score given was 100%, and 80% of attendees said the workshop was "great."

More than 80% of respondents indicated the round table discussions were 'great,' and 65 per cent stated they would change their work as a result of the workshop.

41% of respondents indicated they expected to start a new collaboration after attending the workshop, and 38% indicated they might start a new collaboration.

## RESPONDENTS BY SECTOR



## GENERAL COMMENTS

The following are a selection of comments from the Ecohealth in Action evaluations:

"I enjoyed the round-table discussions and the participatory approach. It was a great opportunity to share ideas with people who have policy influence and to learn about the different stakeholders."

"Excellent, energizing event. The panel at the end was great."

"The event was well organized. The day went quickly with a nice pacing and flow. There were clear instructions regarding tasks and 'what comes next.'"

"It was good to be a part of this, to be part of the conversation, and adding my voice to the conversation—from my experience and perspective."

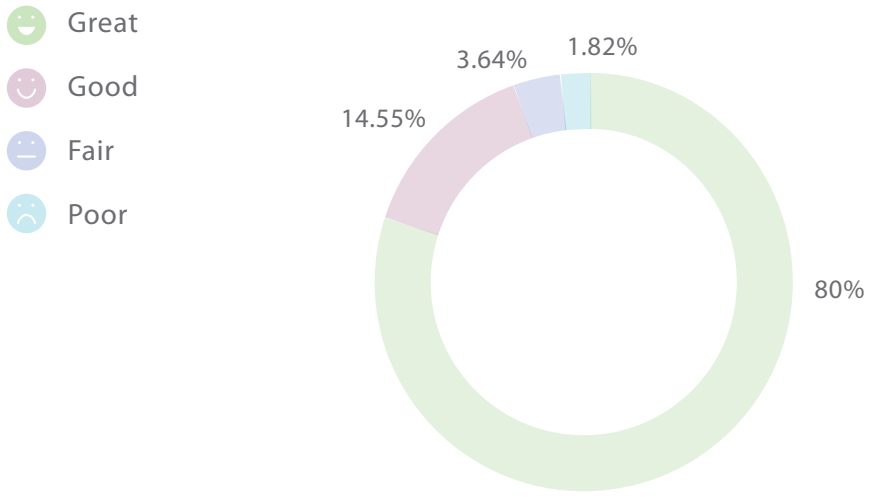
"I like the interactive approach. Thank You."

**The following summarizes a selection of the evaluation questions and responses. To view the evaluation results in their entirety, please visit:** www.surveymonkey.com/results/SM-WJB5XXJM8/

## OVERALL ASSESSMENT

The workshop received a very positive response, with most respondents indicating it was 'great' or 'good,' with the majority indicating 'great.'

Of the 15 comments received, a high majority was very complimentary. Several comments praised the presentations, and respondents said they found the workshop to be thought provoking, inspiring and well-balanced. One person said the room was a bit too small, whereas another complimented the venue.



## WORKSHOP PRESENTATIONS

*Healthy Ecosystems—Healthy Communities: the importance of Ecohealth in the Age of the Anthropocene* (Dr. Faisal Moola)

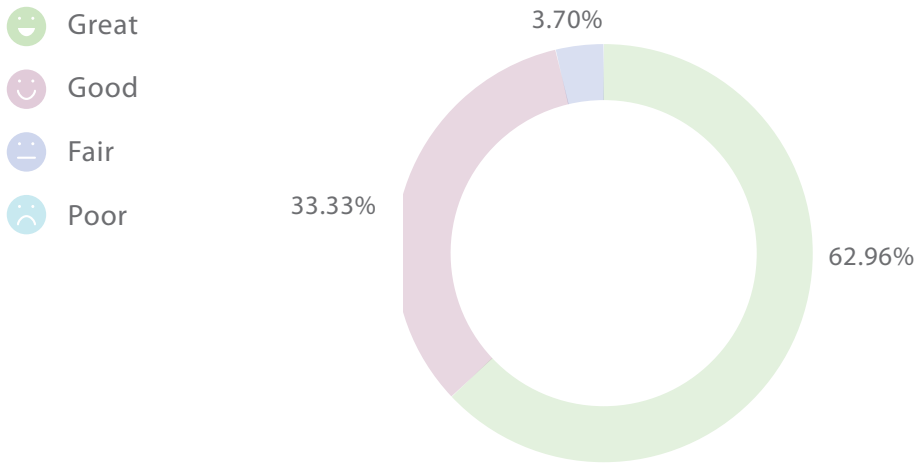
*Ecohealth in Ontario—Learning from the Past and the Present* (Dr. Karen Morrison)

*Why Biodiversity is a Health Sector Imperative* (Sarah Elton)

*Policies to Promote Health and Well-being through Greenspace* (Helen Doyle, Rob Voigt)

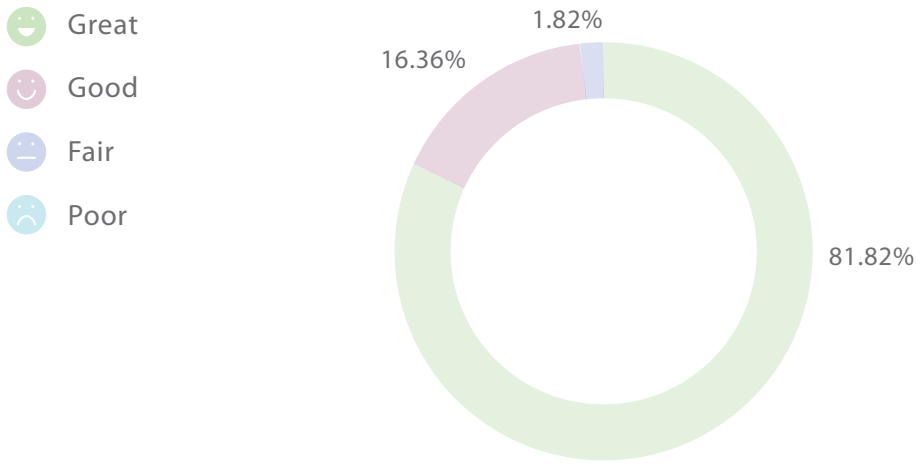
The vast majority of respondents viewed the workshop presentations positively, with 63% rating them as "great" and 33% rating them as "good."

There were 17 comments made regarding the presentations. One person suggested that the speakers could have been more diverse. Two people asked if the presentations would be made available (they are available on the EHO website). Most comments indicated that the presenters communicated well.




## ROUNDTABLE DISCUSSIONS

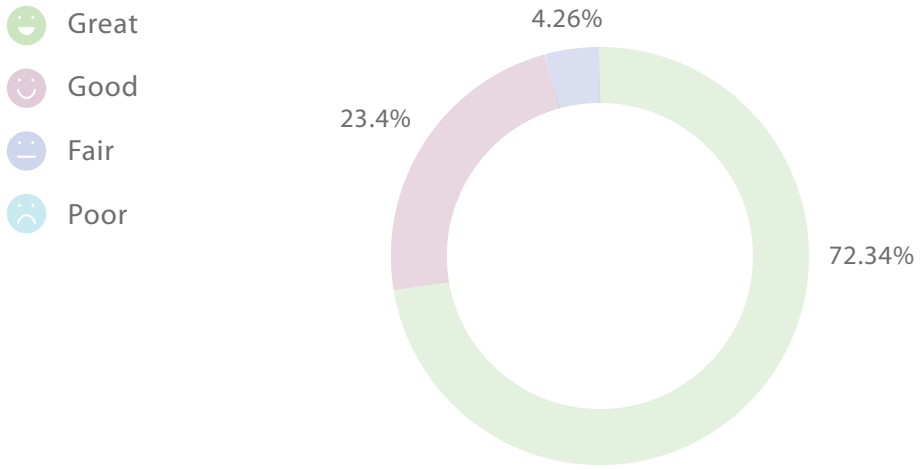
Most of the respondents viewed the roundtable discussions positively—82% said they were "great," and 16% said they were "good."



## PANEL DISCUSSION

The panel discussion was well-received, with 72% of respondents rating it as "great" and 23% rating it as "good."

One person indicated that it was the best panel they had seen in a long time. Four respondents indicated that they missed this session, as they had to leave early.



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