



Date: July 14, 2014

TO: Board Members - Vancouver Park Board
FROM: General Manager - Parks and Recreation
SUBJECT: Environmental Education and Stewardship Action Plan

RECOMMENDATIONS

- A. *THAT the Board approve Rewilding Vancouver: From Sustaining to Flourishing. An Environmental Education and Stewardship Action Plan for the Vancouver Park Board (included in Appendix A).*
- B. *THAT the Board direct staff to provide a status update on the progress made toward EESAP implementation and key outcomes, and reconvene the Environmental Education and Stewardship Task Force at least once, within the next year.*

SUMMARY

The Park Board Strategic Plan and Board motions in November, 2013 and May, 2012 resulted in the creation of an Environmental Education and Stewardship Task Force (EESTF) focused on preparing an Environmental Education and Stewardship Action Plan (EESAP) for the Vancouver Board of Parks and Recreation. The Task Force, along with two working groups, worked together through the winter and spring of 2014 to understand existing environmental education and stewardship assets, partnerships and programs in the Park Board. The group then developed a focused and strategic set of forty-nine actions for the Park Board and partner organisations to work toward over the next five years. Achievement of this action plan will require new resources and greater emphasis on environmental education and stewardship priorities in both parks and community centres, and the investment, support, and initiative of many partner organisations and volunteers.

POLICY

On November 18, 2013 the Board approved the Terms of Reference for the Environmental Education and Stewardship Task Force, and appointed Commissioners Niki Sharma and Sarah Blyth as co-chairs.

The Board endorsed Phase 1 of its new Strategic Plan on May 18, 2012, including the strategic objective to be "a Leader in Greening".

The Board approved a Leader in Greening motion on December 10, 2012 that directed staff to (among other tasks) establish a Leaders in Greening Task Force that would develop strategy and actions for the Leaders in Greening strategic plan objective, identify performance metrics to measure achievement of these actions, and engage

partners, volunteers and community groups to work together in greening or educational projects that work to achieve our goals.

Vancouver City Council received the report of the Engaged City Task Force in April, 2014.

BACKGROUND

The sixteen member Task Force was co-chaired by Commissioners Niki Sharma and Sarah Blyth, and its eleven members included representatives from: Community Centre Associations, Vancouver School Board, park partners, stewardship organisations, youth representatives, Simon Fraser University, and City staff from public engagement, arts, culture and environment, and park planning departments. The Task Force was supported by two working groups which focused on the themes of stewardship and environmental education. The working groups included 28 representatives from a range of non-profit environment, education and arts- focused organisations, as well as Park Board staff from both operations and community centre programming.

The terms of reference outlined for the Task Force described the purpose for this group as follows:

Mandate:

1. The Environmental Education and Stewardship Task Force (EESTF) is advisory to the Park Board;
2. EESTF will develop highly strategic and focused goals, strategy, actions and performance metrics for the Park Board to include in an Environmental Education and Stewardship Action Plan; and
3. EESTF will engage partners, volunteers and community groups to work together in development and implementation of this plan.

Responsibilities:

1. Stay connected and integrate with existing green stewardship and education policy, strategy and activities in the city.
2. Integrate with the Park Board Strategic Plan, the Greenest City 2020 Action Plan, and the Engaged City Task Force.
3. Understand the existing contributions that the Park Board makes to green education, advocacy and stewardship in the city.
4. Focus on action and implementation, building on existing vision and strategy.
5. Find highly creative and innovative ways to address budget and staffing constraints.
6. Work collaboratively and respectfully with other task force members and other stakeholders.
7. Complete a final report, consisting of recommended and prioritised actions for the Park Board to consider.

The group first met in February, 2014 and focused on understanding and clarifying the work of the Task Force, understanding the context, and discussing opportunities and challenges associated with this action plan. One broader stakeholder event was hosted, where park partners, community gardeners, and other volunteer-based

organisations doing environmental education and stewardship work in parks and community centres were invited to provide feedback into the creation of draft actions for consideration in the plan. The group then identified, revised and refined the actions included in the final EESAP, and worked together to develop the action plan provided in Appendix A.

DISCUSSION

Action Plan

The EESAP responds directly to three directions, six goals, and 12 objectives from the Park Board Strategic Plan, as described in detail on page 14 and 15 of the EESAP. The EESAP builds on existing Greenest City Action Plan targets.. It suggests new metrics designed to specifically measure the success in implementing the action plan. The EESAP includes three priority areas, each with its own objectives and goals, and 49 actions describing priority areas of focus for the Park Board and partner organisations over the next 5 years. Several quick start projects are also included, describing some of the recent projects that are connected to the EESAP.

Consultation

Broad-based public consultation was not undertaken for this initiative due to recent and extensive consultation on the Greenest City Action Plan and limited staff resources. Focused stakeholder engagement through the Task Force and Working Groups solicited invaluable advice, input and expertise, and one park partners stakeholder event and a public webpage were also included as part of the consultation efforts.

Implementation

The EESAP includes clear actions and time frames for the Park Board to work toward, and there are five critical considerations to ensure successful implementation of the action plan.

First, the staff responsible for implementation of each action needs to be identified and fully engaged and empowered in project planning and delivery. Park Planning and a Recreation Programmer focused on environment will take the lead on coordinating implementation, and require support and resources to realise actions identified in this plan. Staff from community centres, fundraising, volunteer management, park planning, park development, horticulture, arboriculture, golf operations, park supervisors, and others will need to be actively involved in implementation. It is recommended that a staff team be brought together to coordinate implementation and remain accountable to each action.

Second, the Park Board will need to engage in new partnerships, and nurture existing partnerships, in order to implement the EESAP. Many of the actions require strong collaboration with community partners and volunteers. Many of these relationships are already in place, however they need to be more fully supported and connected in order to realise their full potential.

Third, clear accountability for plan implementation needs to be established. This includes reconvening the Task Force at least once within the next year, and reporting

to the Board on progress. It also means monitoring and reporting out against the targets and metrics outlined in the action plan, and identifying clear accountabilities for each action. A review and potential renewal of the EESAP should be initiated in the fourth year of the plan so that clear objectives, goals and actions continue after the five year term of the EESAP has been completed.

Finally, appropriate planning and allocation of capital and operating budgets needs to be made in order to develop, operate and sustain the implementation of the EESAP, Staff will evaluate the resource requirements of the priorities identified in the Plan and explore internal and external opportunities to support delivery of the actions identified in the Plan. Staff will report back to the Board on these findings. The 2015-2018 capital plan has included a request for a new investment in environmental education and stewardship as well as for biodiversity projects, which will be reviewed by the Board and Council in September, 2014 and considered by the public through the plebiscite in November, 2014.

CONCLUSION

The creation of the first Environmental Education and Stewardship Action Plan brings together many aspects of the Park Board strategic plan, and builds on the strong partnerships that the Park Board has with community organisations working to provide more opportunities for people to learn about and experience nature in the city. The Task Force and Working Groups brought years of experience and wisdom to the table to share with the Park Board in this important work, and this same collaborative effort will be required to fully realise the vision and potential contained within the Environmental Education and Stewardship Action Plan.

Prepared by:
Parks
Vancouver Board of Parks and Recreation
Vancouver, BC

/lc

REWILDING VANCOUVER

FROM SUSTAINING *to Flourishing*

AN ENVIRONMENTAL EDUCATION
& STEWARDSHIP ACTION PLAN

FOR THE VANCOUVER PARK BOARD

JULY 2014



Thirteen Ways of Looking at a Gray Whale, After Wallace Stevens and ending with a line from Rilke

By Brad Cran

*Written for the City of Vancouver's
Greenest City initiative to become
the Greenest City in the World
by 2020 and in recognition of
the gray whale that swam into
Downtown Vancouver on May 5th
2010*

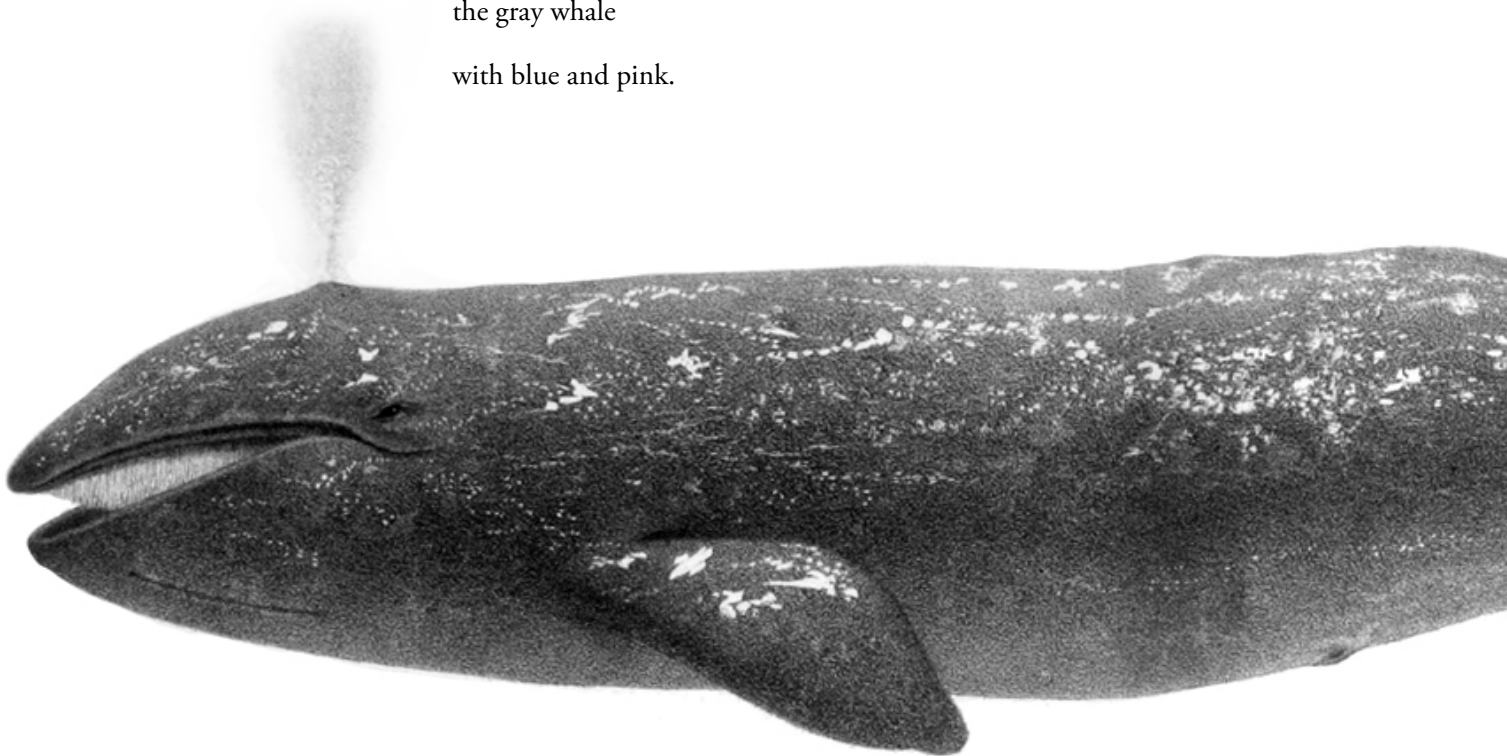
1
An armoured lung,
a living castle of barnacle
and bone; a peaceful
leviathan moving with
the ease of a dark cloud.

2
The child knows more
about the gray whale
than the adult.
When given crayons
the adult says he does
not know how to draw.
The child is already drawing
the gray whale
with blue and pink.

3
In the world of opposites
the gray whale is an ocean cave
populated by sea otters.

4
No I didn't see the whale but
the man behind me at Starbucks did.
Everyone was talking about it
and someone said "did you
see the whale?" his eyes danced
and he shouted across the store
I did, he kept saying. I did.
I saw the whale.

5
And the Whale said
Behold the natural world.



6

The woman died and the man
grew frail and ashen.

His life slowed to the pace
of the gray whale.

7

Forget the secrets of Elephants
The gray whale thinks in music.

8

In the Oregon aquarium, the children sit
below the skeleton of the Gray Whale
drinking cola.

9

The thing is, my dad doesn't like people much.
We saw the whale on the pier outside the market.
Even after the whale had gone, my dad wanted to stay
and talk to everyone else who had seen it.

10

Do not live in habit. Do not take the most
basic assumptions for granted. Consider
the city of whales. If you seek it with your eyes
you will never find it. It lives only in the symphonics
of the ocean. It's music is to the ear
as the pavement is to your foot.

11

Can you believe its August. Can you believe
there is a whale in English Bay. How lucky
we are to walk through Stanley Park. My heart
beats at the speed of birds. I've stopped believing
in loneliness. Here we are. It's summer.

I want to be in love.

12

Some were trying to decipher what the whale
was telling us. Other already knew.

13

And there you were
below the mountains
in the heart of the city
gazing at the gray whale.
You must change your life.



ILLUSTRATION | CHARLES MELVILLE SCAMMON (1872)

CONTRIBUTORS

Many thanks to the members of the Environmental Education and Stewardship Task Force and Working Groups for their valuable contributions to this action planning work, as well as for their work and commitment to environmental education and stewardship.

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COVER: *Evergreen Canada Stewardship Activities
at Renfrew Ravine Park*

PHOTO | DANIEL ROTMAN, courtesy of Evergreen Canada

1 FOREWORD

By J.B. Mackinnon

If the past century witnessed the golden age of conservation, the coming hundred years will mark the age of rewilding. No longer will we settle for saving the last wild spaces or species from extinction. Instead, we will work to bring nature back to exuberant life, everywhere. Inspired by the incredible ecological abundance of the past, and looking to a future in which culture and nature must once again be interwoven in order for each to survive, we will rewild our world.

Examples already abound, not only in wilderness areas but in “humanized” environments. In Seoul, South Korea, a river flows where cars once raced along a freeway. In London and New York, fish spawn again in urban waterways after decades of absence. In Banff National Park, bears, wolves and other animals use landscaped overpasses to cross the Trans-Canada Highway. A new relationship with nature is emerging that uses human ingenuity to permit a profound re-engagement with the living earth.

Vancouver has every reason to be a world leader in this groundshift. As a global city, Vancouver’s most extraordinary quality is its enduring connection to the living world. Vancouverites deeply value their mountains, ocean and the Fraser River. Within city limits it is possible to see sights—immense flocks of snow geese, prowling coyotes, pods of porpoises—that are the equal of the wildest parts of many nations. We live in perhaps the only big city on earth in which a wild-living creature—salmon—is a part of our identity, as it has been since the Musqueam, Squamish and Tsleil-Waututh Nations first cared for these lands and waters.

It is of paramount importance that we recognize, celebrate and build upon this unique heritage. Researchers have proved that access to nature is not only good for our physical, mental and spiritual health, it is essential to it. Our global society, too, still depends for its existence on a healthy planetary ecosystem. We must care for the natural world. Yet we will do so only if nature remains meaningful, valuable and visible to us—a challenge in an increasingly urban and virtual world. In Vancouver we have the opportunity to become not only the greenest but also the most ecologically literate city on earth: a model for the world.

Yes, Vancouver has suffered de-wilding. We have buried nearly all of our former salmon streams; driven species like the yellow-billed cuckoo, western bumble bee and spotted skunk to local extinction; and cut down forests that were taller than any still standing in Canada today. As this important report makes clear, we have done too little, too late to protect the wild qualities of our landscape and our selves.

Yet in these pages there is cause for optimism. This city can do more than offer more access to nature; it can also give nature more access to the city. This is the right place; this is the right time. By rewilding Vancouver, we will create a city that is not only more resilient, but also more exciting, more fascinating, more magical to live in—wilder in every sense of the word.



"The Seven Sisters of Stanley Park"

PHOTO | S.J. THOMPSON, City of Vancouver Archives
(ca. 1900)

2 PREFACE

The Environmental Education and Stewardship Task force was born from the strong connection Vancouver residents have with our green spaces. These spaces allow us to experience nature in our urban environment. We are fortunate to be surrounded by the beauty of oceans, mountains and forest where we recreate and gather. We understand that when nature flourishes, we flourish.

The Task Force supports the ambitious goal of the Park Board and the City to become the Greenest City in the world, including ensuring that everyone lives within a 5 minute walk of a greenspace. The Vancouver Charter gives the Park Board full responsibility for the protection and care for permanent and temporary public parks, which is a unique and important stewardship role to protect green spaces for future generations. We encourage the Park Board to include about protecting and restoring local habitats and supporting endangered species within their Greenest City and Vancouver Charter responsibilities and commitments.

We represent some of the most engaged, knowledgeable , creative and committed practitioners in the field of environmental education and stewardship. We created this action plan to engage Vancouver residents in creating flourishing natural environments in every corner of our city.

This work is ultimately inspired by the resiliency and beauty of the natural world that finds spaces to thrive even in the harshest urban environments. We believe that every Vancouver resident should be able to witness the magic of seeing salmon in their local stream, whales in the harbor, and eagles above them. We hope you will help us make this possible and join the call to rewild Vancouver.

NIKI SHARMA

ON BEHALF OF THE TASK FORCE &
WORKING GROUPS, JULY 2014



PHOTO: Royal Canadian Air Force
City of Vancouver Archives (ca. 1926)

*Looking up into
Vancouver's
urban forest
canopy*
PHOTO | NICK PAGE

3 EXECUTIVE SUMMARY

Vancouver is world-renowned for its beauty and liveability, including regular recognition for its Greenest City Action Plan, the seawall, Stanley Park, and other natural features. It's been proven that regular access to nature is healthy for both body and mind, and there is a strong case to be made for allowing nature back into cities for human and ecosystem wellbeing.

This action plan aims to improve and enhance experiences of nature for all Vancouverites, and to increase understanding and awareness of nature in the city. It was collaboratively developed by environmental education and stewardship experts and practitioners working in the City of Vancouver, and beyond. It represents the best thinking and ideas of this group, and provides a cohesive set of 43 actions for the Park Board to pursue over the next 5 years. Achievement of the objectives, goals and actions outlined in this plan will require strong leadership from the Park Board, as well as meaningful partnerships with many people and organisations in the city.

The plan recommends the following priorities, objectives and goals:

PRIORITY 1: SPECIAL WILD PLACES IN THE CITY

Objective:

The Park Board is responsible for caring for many remnants of Vancouver's ecological history—big trees, bird calls, streams and shorelines, coyote crossings, and the other sounds, smells, and sights of a wilder nature. Let's create opportunities for people to have rich experiences with nature in the special wild places in the city while protecting and enhancing them at the same time.

PRIORITY 2: NATURE IN EVERYDAY LIFE

Objective:

The Park Board plays host to the daily experiences of many Vancouverites—from a morning dog walk through the neighbourhood park and an exercise class at the local community centre, to a senior's lunch and Mah Jong game, and afterschool climb in the playground and an evening game of bocce. Let's integrate nature into the daily experiences of Vancouverites by allowing it back into public spaces and places.

PRIORITY 3: MEANINGFUL PARK BOARD LEADERSHIP

Objective:

The Park Board is widely recognised as an important caretaker of natural spaces in the city; shorelines, ravines, forests and wetlands are all under its care. Let's make the most of the unique assets, relationships and role of the Park Board in service of thriving natural spaces and of people engaged with nature.

Biodiverse wetlands near the shore of CRAB Park

PHOTO | NICK PAGE

4 INTRODUCTION

Experiences of nature returning to the city never fail to capture the imaginations of Vancouverites. From the gray whale spotted in False Creek and the chum salmon spawning in Still Creek, to the daily eastward migration of the crows to East Van, city dwellers are fascinated by these connections to nature in our urban environment.

Vancouver has a rich history of environmental protection, education and stewardship. These are the traditional territories of the Musqueam, Squamish and Tsleil-Waututh Nations who have cared for the land and sea for many generations. Vancouver is the birthplace of many of Canada's longest standing and respected environmental non-profit organisations including the Society Promoting Environmental Conservation, David Suzuki Foundation, Stanley Park Ecology Society, Nature Vancouver, Green Club, Vancouver Natural History Society, Greenpeace and Environmental Youth Alliance all founded more than 20 years ago. Each week people with long histories in Vancouver interact with those that are new to the city, and the importance of cultural traditions, histories and understandings of nature in this context are diverse, complex, and fascinating.

As the city becomes increasingly urban, the importance of access to nature for health and wellbeing becomes more and more important. Research tells us that people in cities are increasingly affected by "nature deficit disorder," with symptoms including reduced ability to concentrate, problems with heart and lung health, mental health challenges and others, and that some of the most vulnerable people in our communities are those that are most deeply affected.^{5,6}

Some are beginning to imagine what a rewilded city might look like, and to help us to remember our ecological history and the other creatures that once

called this place home.^{7,8} Though it is challenging to imagine peacefully reintegrating black bears into the heart of the city, it is possible to imagine a city flooded with bird song, frog calls, big trees, and salmon swimming in our rediscovered streams. It is possible to imagine a city where everyone can have rich and meaningful experiences in nature as a part of their everyday lives. It is possible to transition our conversations about sustaining and protecting what exists, to dialogue about people and nature flourishing together.

This action plan is one chapter in a larger story. The City and Park Board are working on plans and projects that sustain and grow the urban forest, increase and enhance biodiversity, and support thriving bird life. These are more technical pieces focused on the ecological structures needed to rewild the city, and the policies, plans and practices that are needed to support this work. This Environmental Education and Stewardship Action Plan is the people-focused chapter in the story. It recognises the untapped potential of parks and community centres to encourage and enable people to more fully relate and connect to the natural world. Its aim is to identify inspiring and effective actions that leverage the unique assets of the Park Board and also widely involve Vancouverites in rewilding ourselves, and becoming more engaged with nature in the city.

5 Louv, Richard. *The Nature Principle*. Algonquin Books of Chapel Hill, Chapel Hill N.C. 2011.

6 A.F. Taylor, Kuo, F.E. Is contact with nature important for healthy child development? *State of the evidence. Children and Their Environments*, pp 124-140. Cambridge University Press, Cambridge UK. 2006.

7 Mackinnon, J.B. *Our Once and Future World*. Random House, Toronto. 2013.

8 Monbiot, George. *Feral*. Allen Lane, Toronto. 2013.



5 CONTEXT

5.1 Definitions

What is Rewilding a City?

George Monbiot, author of *Feral: Rewilding the Land, the Sea and Human Life* offers an apt description of what rewilding might mean in

Vancouver. “Rewilding, to me, is about resisting the urge to control nature and allowing it to find its own way. It involves reintroducing absent plants and animals (and in a few cases culling exotic species which cannot be contained by native wildlife), pulling down the fences, blocking the drainage ditches, but otherwise stepping back.



Low tide at Spanish Bank
PHOTO | NICK PAGE

The ecosystems that result are best described not as wilderness, but as self-willed: governed not by human management but by their own processes. Rewilding has no end points, no view about what a ‘right’ ecosystem or a ‘right’ assemblage of species looks like. It lets nature decide.”⁵

5 Monbiot, Richard. *Feral: Rewilding the Land*,

This description focuses on ecological forces, so how do humans integrate into and experience these systems? Richard Louv, author of the *Nature Principle*, says that “human beings exist in nature anywhere they experience meaningful kinship with other species. By this description, a natural environment may be found in wilderness or in a city.”⁶

What is Environmental Education?

There are several definitions of environmental education that form useful context for this work. Many of them centre on the education and learning of children, however environmental education can, and should, be a lifelong process. The Canadian government provides a vision for environmental learning that provides great context for the Park Board:

*Canadians of all generations and from all sectors of society should be given opportunities to engage in environmental learning within and beyond the classroom walls, where critical questions can be asked and a sustained and meaningful dialogue can take place. With increased awareness, knowledge, skills, attitudes, values, and motivation, Canadians can become more ecologically literate and act competently to build a sustainable future for humans and ecosystems. Environmental learning must be inextricably linked to values and ethical ways of thinking.*⁷

the Sea and Human Life. Allen Lane, and imprint of Penguin Group. 2013. Pp. 9-10.

6 Louv, Richard. *The Nature Principle*. Algonquin Books of Chapel Hill, Chapel Hill N.C. 2011. Pp. 52-3.

7 Framework for Environmental Learning and Sustainability in Canada. Government of Canada, 2002.



▲ “Reflecting Still Creek” art & stewardship project at Renfrew Ravine Park
PHOTO | CARMEN ROSEN, courtesy of Still Moon Arts Society

The United Nations proclaimed the Decade of Education for Sustainable Development from 2005 - 2014, and much work has been underway over the last ten years in response to this mandate. The basic vision of the decade is a “world where everyone has the opportunity to benefit from education and learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation.” Further, the UN recognises that “educating to deal with complex issues that threaten planetary sustainability is the challenge of education for sustainable development. Education reform alone will not accomplish this. It will take a broad and deep effort from many sectors of society.”⁸ This establishes that there is a clear role for organisations like the Park Board and our partners, and that we can’t leave it up to the formal

education system alone to make progress on this important issue.

What is Environmental Stewardship?

Aldo Leopold says that the land ethic “enlarges the boundaries of the community to include soils, waters, plants and animals, or collectively: the land. ...A land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his (sic) fellow-members, and also respect for the community as such.”⁹

Environmental stewardship is a principle that recognises the need to conserve and restore natural ecosystems for the benefit of current and future generations of all species. Environmental

⁸ International Implementation Scheme. United Nations Educational, Scientific and Cultural Organisation (UNESCO). 2005

⁹ Leopold, Aldo. *The Sand County Almanac*. Oxford University Press, New York. 1949. Pp. 204.

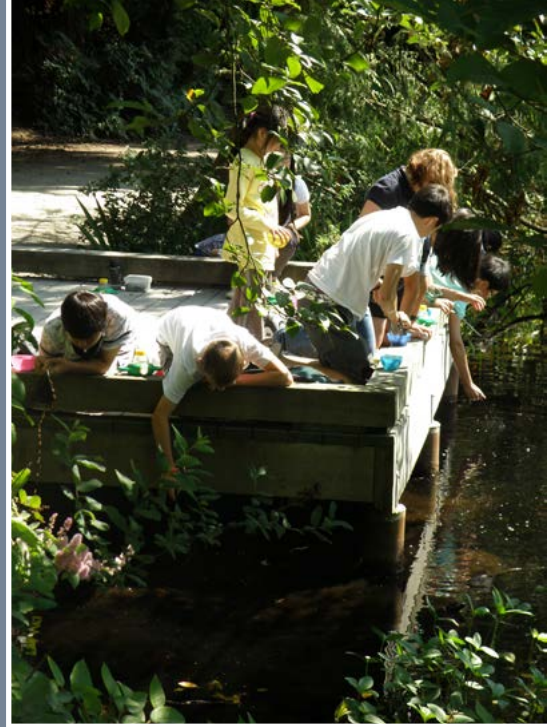
IN FOCUS:

Kids + Nature

The Stanley Park Ecology Society (SPES) runs many educational and stewardship programs each year for school children and the public, focused on increasing knowledge of this fantastic urban park while protecting it for future generations. One highly engaging program is called Nature Ninjas. It gives students in grades 4-7 the experience of camping in an urban park, and exploring and having fun in nature right in the heart of Vancouver. Students experience nature first hand, enhance their knowledge of local ecology, and develop practical skills while teachers are provided with a safe, affordable and easy program that integrates neatly into their life sciences curriculum. Since 1992, more than 5,000 students have camped in Stanley Park through the Nature Ninja / Urban Camping program. SPES offers many other school programs including fieldtrips, teaching resources, classroom based programs, as well as diverse public education walks, talks and workshops.

The Young Naturalists' Club (YNC) helps children aged 5-12 and their families to get outdoors and have fun together while exploring Vancouver's nearby nature through their network of local volunteer-led nature clubs. Members can access a variety of programs, resources and tools to learn about and step up for nature. One young naturalist, Maja, has been working with SPES to help restore the Beaver Lake Bog in Stanley Park, supported by a Generation Green Award from the City of Vancouver and Vancouver Foundation.

PHOTOS | ROBYN WORCESTER, MICHAEL SCHMIDT, PIERRE CENERELLI; courtesy of the Stanley Park Ecology Society



Context

stewardship moves from simply respecting the environment toward responding and actively taking responsibility for human and ecosystem health. It's a commitment to act in an environmentally, socially and economically sustainable manner. Stewardship refers to a wide range and scale of actions by individuals, communities, groups and organisations working alone or collaboratively, to promote, monitor, conserve and restore ecosystems in accordance with guiding principles. These principles are based on current scientific evidence with emphasis on protecting biodiversity and ecosystem integrity.

5.2 Relevant Background

Greenest City Action Plan

The Greenest City Action Plan was approved by Vancouver City Council in July, 2011 and outlines 10 goals and 15 targets established to realise the vision of becoming the greenest city in the world by 2020. The goal most directly relevant to the work of this task force is:

- » Access to nature: Vancouver residents enjoy incomparable access to green spaces, including the world's most spectacular urban forest.

This EESAP also responds to and supports implementation of the lighter footprint and local food goals.

IN FOCUS:

Communities + Trees

The Champlain Heights Community Association partners with the Park Board to host the longest running annual Earth Day celebrations in Vancouver, resulting in the plantings of thousands of trees in Everett Crowley Park since 2001. Park Board donates the trees and shrubs each year and identifies and prepares the planting areas. Volunteers then plant the trees and shrubs, and enjoy the festivities and performances at this popular community event.

The Jericho Stewardship Group and the Stanley Park Ecology Society regularly work with the Park Board to identify tree planting and forest restoration sites and opportunities. The Park Board provides plant material, and the stewardship groups recruit, train and manage volunteers to ensure a great time is had by all, and that proper care and attention is paid to forest stewardship.

TreeKeepers, a partnership between the Environmental Youth Alliance and TreeCity, works with the Park Board to encourage and facilitate tree planting on private property. In 2013-2014 they distributed almost 4,000 trees, and provide information and support to residents and business owners to encourage proper tree care and long-term health. They also train cohorts of volunteer citizen foresters who learn the basics of tree planting, maintenance and care and help to keep an eye on the urban forest.

Healthy City For All Action Plan

The Healthy City For All plan was in development at the time of publishing the Environmental Education and Stewardship Action Plan, however there are several draft goals that directly apply to the work of this task force and include:

- » A good start for children;
- » Feeding ourselves well;
- » Being safe and feeling included;
- » Cultivating connections;
- » Active living and getting outside;
- » Lifelong learning;
- » Expressing ourselves; and
- » Environments to thrive in.

▼ Various community-led tree planting initiatives, including reforestation efforts at Jericho Beach and Citizen Foresters at Oak Park

PHOTOS | NICK PAGE; TREEKEEPERS

Urban Forest Strategy

The Urban Forest Strategy was reviewed by Council on April 15, 2014 and includes goals and strategies to:

- » Protect existing trees and continue to grow canopy cover
- » Plant new trees that are the right species for each appropriate location
- » Actively manage and care for trees on City and Park Board lands

Biodiversity Strategy (pending)

The Biodiversity Strategy is underway, and is exploring the addition of a biodiversity-focused target to be added to the Greenest City Action Plan. It identifies biodiversity hot-spots in the city,



Context

and discusses opportunities and strategies to protect and enhance them.

Bird Friendly Strategy (pending)

The goal of this strategy is to create the conditions for native birds to thrive in the City of Vancouver. It includes the development of landscape and building design guidelines, research and monitoring, art, awareness and education, and economic development and tourism.

Biodiversity and Pollinator Project Motions 2014

Both City Council and Park Board passed similar motions on biodiversity and pollinators in 2014 which included directing staff to:

- » Recommend a strategy to ensure that biodiversity targets are set as part of the Greenest City Action Plan, and to develop a strategy to increase and protect green space;
- » Develop strategies for supporting pollinators as part of upcoming policy and planning work as well as in Park Board operations and through partnerships.

Mayor's Engaged City Task Force

In 2012, Mayor Gregor Robertson and Councillor Andrea Reimer convened a group of more than 20 experts in public engagement and community building. Their task was to recommend strategies to increase neighbourhood engagement, and improve upon the ways that the City connects with Vancouver residents.

The group worked together to develop a definition for what makes an engaged city, as well as four building blocks to describe its' characteristics:

An engaged city brings people together for conversations to address issues of common importance, to solve shared problems, and to bring about positive social change. It involves people in the decision-making process such that it improves the resulting decision and, over time, builds the trust that is needed for fully empowered communities to actively create a common future.¹⁰

The four building blocks for an engaged city include:

1. Building knowledge
2. Building capacity
3. Building trust
4. Building power

Finally, the group recommended that the City formally adopt the International Association for Public Participation "spectrum of public participation" to guide the City's conversations with communities. These elements of the Engaged City Task Force report informed the EES task force by providing a framework for how the Park Board might design an environmental education and stewardship action plan that responded best to building collaborative, empowered relationships in support of rewilding the city and ourselves.

¹⁰ Vancouver Mayors Engaged City Task Force Final Report, p. 11. City of Vancouver, January 2014. Accessed May 2014 at: <http://vancouver.ca/your-government/engaged-city-task-force.aspx>

Vancouver Foundation Connections and Engagement Survey

In June 2012, the Vancouver Foundation surveyed Metro Vancouver residents to determine what regional issues were of most concern to them, and affected them most directly.¹¹ They expected to hear some of the long-lasting challenges in the region including homelessness, poverty and environment. They heard these issues, but underlying everything they heard a deep concern about isolation, disconnection and loneliness.

The results of this survey were reviewed by the task force, and provided useful and important context as to the potential role that the Park Board can play in enhancing community connections and engagement through environmental education and stewardship initiatives. Survey respondents described community-oriented places that they visit monthly, with community centres, recreation centres, and libraries being the most common facilities. Respondents also indicated how often they volunteer, and what some of the barriers to participation in volunteer work are for them. The Vancouver Foundation is using the survey results to develop new programming, as well as new metrics to understand how their investments are impacting these survey results over time. The Park Board has many beautiful, accessible venues to host people, neighbours and communities. Though the work of the task force was focused on a specific topic, it's clear that the city needs more compelling and appropriate ways to combat isolation and loneliness, and this call to action provided inspiration and insights that were very useful in the creation of this action plan.

¹¹ Connections and Engagement: A survey of metro Vancouver. Vancouver Foundation, June 2012. Accessed May 2014 at: <http://vancouverfoundation.ca/initiatives/connections-and-engagement>

► *A peek into the diversity of community-led conservation efforts in Vancouver parks*

PHOTOS | courtesy of the South Coast Conservation Program & Stanley Park Ecology Society



6 VISION + PRINCIPLES

The Greenest City Action Plan and the Healthy City for All Action Plan, both provide vision, goals and targets that support the creation of this EESAP. The Park Board Strategic Plan provides more specific vision about stewardship, education and advocacy in Vancouver's parks and recreation system and is detailed below.

Park Board Strategic Plan

The mission of the Vancouver Board of Parks and Recreation is to provide, preserve and advocate for parks and recreation to benefit all people, communities and the environment. The vision is to be leaders in parks and recreation by connecting people to green space, active living and community.

In May 2012, the Park Board 5-year Strategic Plan framework was adopted, and several goals and objectives provided strong guidance to the work of the Environmental Education and Stewardship Task Force:

1 GREAT EXPERIENCES

Our culture is inclusive and service oriented. We strive to deliver extraordinary experiences for everyone.

1.3 Enhanced Participation & Active Living: Encourage active and healthy lifestyles and promote community involvement.

2 RELEVANT PROGRAMS + SERVICES

We plan and deliver parks and recreation services that meet the needs of our communities both now and in the future.

2.1 Proactive Service Planning & Delivery: Assess parks and recreation needs and provide diverse and inclusive services that reflect Vancouver's current and future requirements.

2.3 Vibrant Arts & Culture Experiences: Actively facilitate public participation in and access to the arts.

PARKS & REC FOR ALL

1. GREAT EXPERIENCES
2. RELEVANT PROGRAMS & SERVICES

PARK BOARD STR

3 GREEN OPERATIONS

We are green in all that we do; we strive to minimise our footprint through green policies and practices that reduce carbon dependency, enhance energy conservation and reduce waste.

3.2 Greener Spaces: Preserve, restore and expand green space. Use the Park Board's horticultural expertise to support plant conservation, landscape restoration, garden design and local food production.

4 HEALTHY ECOSYSTEMS

We grow green neighbourhoods by providing our communities with easy access to nature and advocating for healthy and sustainable environments.

4.1 Green Stewardship: Model and advocate for best practices in ecosystem enhancement and management.

4.3 Green Education & Advocacy: Use Park Board expertise, programs, facilities and partnerships to increase awareness and knowledge of sustainable living.

5 PARTNERS

We seek, build and maintain relationships to benefit Vancouver by being an open and accountable partner.

5.1 Effective Partnerships: Partner to deliver programs and services and further strategic objectives.

5.2 Productive Collaborations: Build positive and open relationships.

5.3 Valued Volunteers and Advocates: Appreciate and acknowledge the efforts of volunteers and advocates.

6 COMMUNITY

We are committed to connecting people. We facilitate healthy lifestyles and enrich communities. We actively promote collaboration and participation.

6.1 Active Community Participation: Encourage active participation in parks and recreation.

6.2 Improved Communication and Engagement: Maintain and enhance relationships with users and the community.

6.3 Open and Approachable Organisation: Be accessible, transparent and accountable.

LEADER IN GREENING

3. GREEN OPERATIONS

4. HEALTHIER ECOSYSTEMS

ENGAGING PEOPLE

5. PARTNERS
6. COMMUNITY

STRATEGIC FRAMEWORK



7 EXISTING ENVIRONMENTAL EDUCATION & STEWARDSHIP ASSETS

Bugging out at the 2014 Van Dusen Botanical Garden Plant Sale
PHOTO | NICK PAGE

The Park Board has years of experience working with partner organisations on environmental education and stewardship, however does not currently have a comprehensive and integrated strategy or dedicated resources. This section summarises the current programs, staff, infrastructure, and other resources that are currently connected to environmental education and stewardship goals.

Programs and Financial Support

The Neighbourhood Matching Fund supports neighbourhood-based groups that want to make creative improvements to local public lands, including parks. Eligible projects must actively involve the community and build neighbourhood connections, and many projects have an environmental element however this is not required. Community groups can apply for up to \$10,000 in reimbursable expenses, and there is currently \$40,000 available each year.

Park Partners are organisations with formal stewardship arrangements with the Park Board, connected to a specific park in Vancouver. Currently there are formal park partnerships with three organisations working respectively in Stanley Park, Jericho Park, and Everett Crowley Park. The partnership with the Stanley Park Ecology Society

is the largest and longest running, and provides an example of a successful collaboration. Park partnerships do not come with direct funding, and often the Park Board works with the Park Partner to come to some agreement about co-stewardship of the park through either a formal or informal agreement.

There are currently **13 artist residencies, involving more than 50 artists, in park fieldhouses** as well as one environment-focused residency. Many of these artists are engaged in community-based environmental art practices, including a bird-focused project in Queen Elizabeth Park and an urban weaver project in Maclean Park. Most of these residencies were established in response to a call for expressions of interest issued in 2012, with residencies in place until early 2015. The program is run by the Park Board's Arts, Culture and Engagement team.

Community gardens are in place in 25 city parks. Many of these produce food grown in individual plots, and others include fruit trees, pollinator gardens, collaborative gardening spaces, intergenerational and intercultural gardening projects, arts- and education based gardens, and ornamental gardening. Each of these goes through a public consultation process, and once approved typically has a 5-year renewable license agreement in place with the Park Board.

When appropriate, Park Board staff sometimes contract a non-profit partner organisation to provide services under a contract. These typically have a focused scope of work, set of deliverables, and timeline and will provide funding in exchange for these services. They access the unique experience and expertise of the partner organisation in



Arts + Ecology

Rethinking the way we live, we produce, and we consume, Sharon Kallis and others in the arts community who work with the Park Board through its fieldhouse and artist residency programs engage local artists and residents in hands-on conversations about materials and where they come from. The Urban Weavers project brings together cultural traditions and new ways of using locally available materials to explore different weaving practices. It shifts thinking about "invasive species" in the city from problems to be solved, to an opportunity of finding ways to use an abundance of underutilised resources. Partnering with the Stanley Park Ecology Society, Sharon and other urban weavers and volunteers pull ivy from steep, forested slopes in Stanley Park and crochet them into erosion control mats that, once dried, suppress the return of ivy and provided an opportunity for native species to re-establish themselves.

The Means of Production garden grows art crops, where artists can cultivate the soil and community together and create projects with materials grown here in Vancouver. This collaboration between the Environmental Youth Alliance and the artists' collective plan, manage, and harvest the crops together in partnership with artists and community members. The new Trillium Park North site will be Means of Production 2.0. It's a purpose built space managed collaboratively with the Park Board for artists to grow plants traditionally used in this province, process them on-site, and have dedicated workshop spaces at a larger scale.



To support environmental art programs in Vancouver parks, please visit: <http://vancouver.ca/parks-recreation-culture/environmental-art.aspx>

Weaving projects at various Vancouver park sites, including: Second Beach; MacLean Park; Means of Production (China Creek North Park)

PHOTOS | SHARON KALLIS, DEREK IRLAND

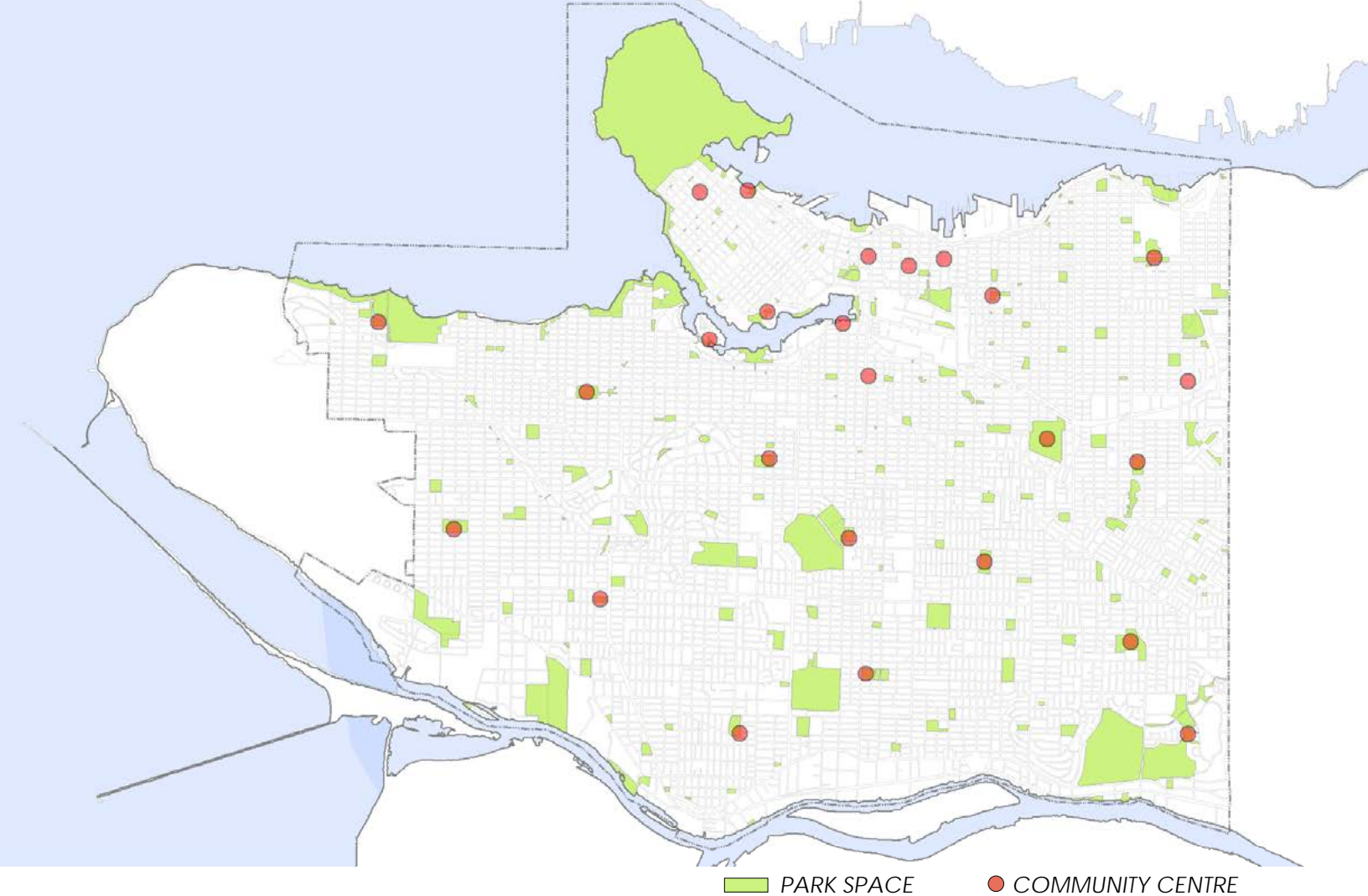
recognition of their knowledge of a particular park site, community centre, or other attribute.

Many community centres offer environmental programming that contributes knowledge, experiences, and activities in support of Greenest City goals. Each time the new recreation guides are published, staff work to identify “greenest city” programs and brand and market them in order to encourage participation. From time to time community organisations are encouraged to develop new programs, and community centres can then choose programs from this list that will be of most interest to residents. Participants experiences

with these programs is not currently evaluated or analysed.

There are many informal collaborations with community- and neighbourhood based groups working in parks, golf courses, and community centres. These can be characterised by having no formal agreement in place, and by having a staff person (e.g. operations, planning or recreation) who is supportive of community-based efforts. This support can take the shape of giving permission and/or access, providing some operational support (e.g. delivering soil), and sometimes providing materials (e.g. plants, trees).





Staff and Infrastructure

There are more than 220 parks in the City of Vancouver, as well as 24 community centres (see above map). This infrastructure provides a great deal of opportunity for environmental education and stewardship in the city.

There are currently no dedicated Park Board staff persons responsible for supporting environmental education and stewardship directly. There are staff focused on volunteer support at Roundhouse Community Centre, Britannia Community Centre, and VanDusen Botanical Garden whom each focus on their own facilities and on a wide range of different topics. Most community centres have volunteer-run Community Centre Associations,

and many centres and parks have volunteer activity happening on a regular basis. Planning and operations staff do their best to respond to requests for projects and support from community members on an ad hoc basis, with the exception of more formal park partners relationships described above. Some examples of this type of support include: access/permission for invasive species removal; shared tree planting projects; establishment of pollinator meadows; and work with artists to harvest natural materials.

► (Far right) EYA Pollinators' Paradise at Oak Meadows Park
PHOTOS | NICK PAGE

IN FOCUS:

Birds + Bees + Butterflies

The Environmental Youth Alliance (EYA) has several pollinator paradise projects, including the Nectar Trail that connects VanDusen Botanical Garden and Oak Meadows Park. Plants that support pollinators are being planted along this corridor on public and private properties, including spectacular plantings and an insect hotel built into a repurposed phone booth. EYA aims to raise awareness about declining native bee populations and the importance of pollinators, and empower residents to take action in their own yards and boulevards.

EYA, along with other partners including Hives for Humanity, VanDusen Botanical Garden, Allan Garr, and others have joined together in the Pollinator Project, initiated by Park Board Commissioner Niki Sharma and endorsed by Vancouver City Council. The project connects organizations working to support pollinators in the city, and has created common branding and resources to share. Community gardens and others in the city were provided with pollinator plant seeds in the spring of 2014 to encourage pollinator plantings across the city.

Stanley Park Ecology Society (SPES) has worked to support wildlife in Stanley Park for many years, including the monitoring of Great Blue Heron populations in Stanley Park. SPES more recently collaborated with the Park Board and other partners to host Bird Week. Bird Week included a wide range of events and activities, including speakers, films, taxidermy workshops, and the annual City Bird competition which inspired more than 700,000 votes and crowned the Black-capped Chickadee as the 2015 City Bird.





8 TAKING ACTION

8.1 Targets

Established targets were chosen to reinforce and support existing environment-focused plans that are already established policy by Council and Park Board Commissioners in order to keep efforts focused.

1. Greenest City, Access to Nature: Ensure that every person lives within a 5 minute walk of a park, greenway, or other green space by 2020
2. Greenest City, Access to Nature: Plant 150,000 additional trees in the city between 2010 and 2020
3. Greenest City, Access to Nature (pending): Increase the amount of natural forest, shoreline, wetland and stream habitat, actual target still to be determined
4. Greenest City, Local Food: Increase city-wide and neighbourhood food assets by a minimum of 50% over 2010 levels
5. Greenest City, Lighter Footprint: Reduce ecological footprint by 33% below 2006 levels. Metric: Number of people empowered to take action on Greenest City goals

8.2 Metrics

These metrics will be used to supplement the targets above with more detailed, specific information about how the Park Board and our partner organisations are doing in terms of achieving the priorities and goals described below. These will help us to understand when and how we are moving in the right direction in terms of achieving the vision, principles, goals and targets

◀ *Getting ready for a pollinator planting event at Oak Meadows Park with the EYA*

PHOTO | NICK PAGE

contained in this action plan. They will also provide staff, elected officials and community partners with the data needed in order to learn, adjust and adapt, and continue to improve upon how the plan is being implemented.

1. Number of community organisations and volunteers involved.
2. Number of formal partnership agreements in place.
3. Number of environmental education and stewardship projects (new, completed and sustained).
4. Square metres of habitat restored, and number of habitat structures installed, by community members.
5. Number of environmental education and stewardship programs offered in parks and community centres; number of people participating.
6. Others to be added as EESAP implementation progresses.

8.3 Priorities and Actions

Three high level priorities are included in this five year action plan. Each priority area includes an objective, a brief description of quick start actions underway while planning work progressed, goals, and actions. Follow-up work will include identification of the essential staff and partner organisations that have strong roles to play in implementing each action.

PRIORITY 1: SPECIAL WILD PLACES

PRIORITY 2: NATURE IN EVERYDAY LIFE

PRIORITY 3: MEANINGFUL PARK BOARD LEADERSHIP

Pileated Woodpecker
PHOTO | DON GENOVA



PRIORITY 1

Special Wild Places

OBJECTIVE

The Park Board is responsible for caring for many remnants of Vancouver’s ecological history— big trees, bird calls, streams and shorelines, coyote crossings, and the other sounds, smells, and sights of a wilder nature. Let’s create opportunities for people to have rich experiences with nature in the special wild places in the city while protecting and enhancing them at the same time.

QUICK START ACTIONS

Q1 Identify the special wild places in the city and detail the features that make them unique.

Status update: A draft of the biodiversity hot spots has been created, with 28 sites being identified for their unique features. Sites are located across the city, on both public and private lands, and include forest, shoreline, stream, wetland, and marine environments. Sites range from 0.8 to almost 300 hectares in size, and each has a set of features that make it a unique place to understand and explore biodiversity in the city. This draft will be further refined through the development of the Biodiversity Strategy (see page 26).

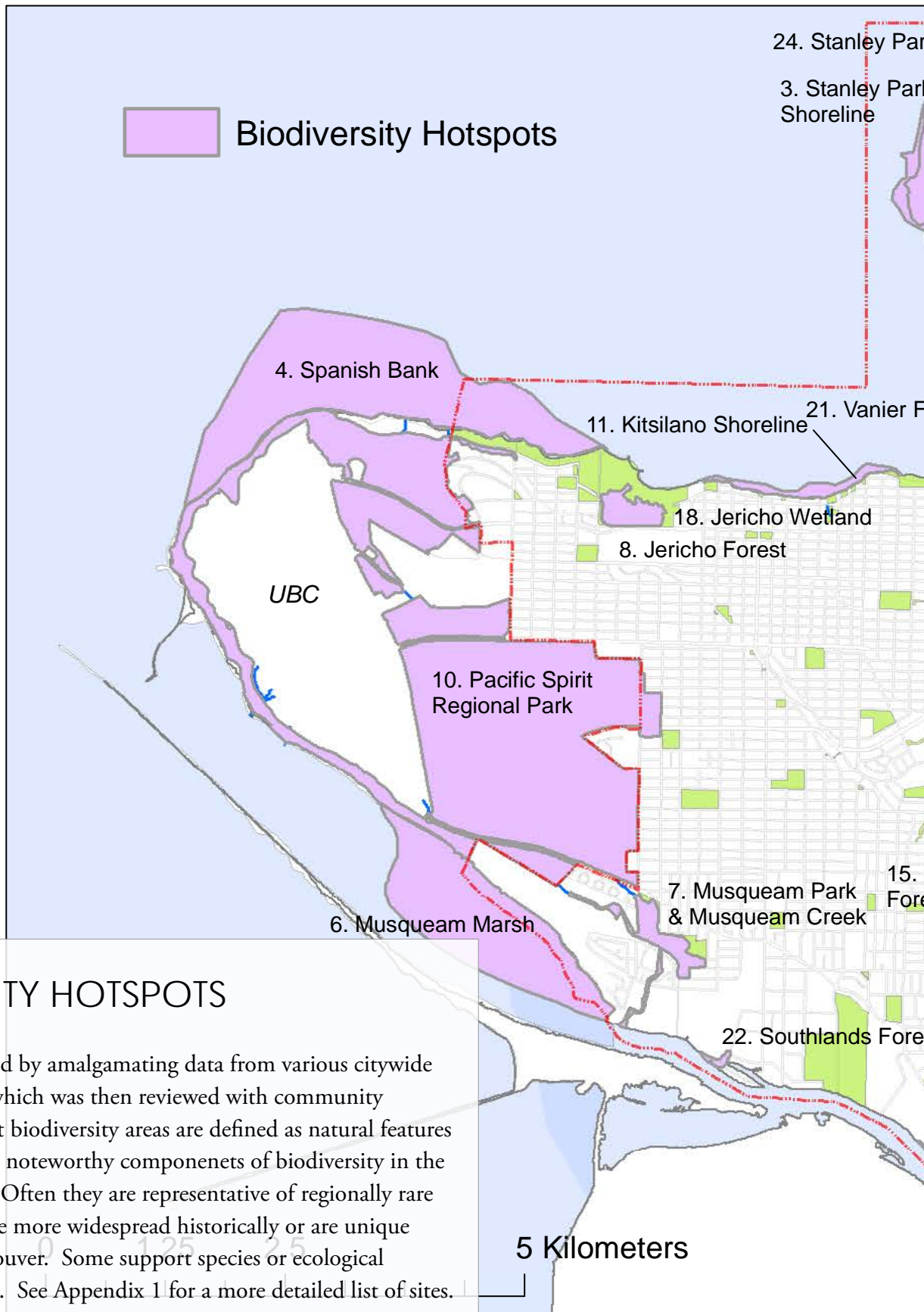
Q2

Explore the feasibility of an outdoor school located at one of the special wild places.

Status update: A Greenest City Scholar from the University of British Columbia will research this topic through the summer of 2014, and provide recommendations to the Park Board, as well as to the project advisors, as to the feasibility of utilising Park Board infrastructure to support the establishment of an outdoor school in Vancouver, and what model(s) for the school might be the best fit for Vancouver's context.

"Reflecting Still Creek" art & stewardship project
PHOTO | CARMEN ROSEN
courtesy of Still Moon Arts Society







Taking Action

GOAL 1.1

Enhance, protect, maintain and monitor the special wild places in Vancouver parks, beaches and open spaces through collaboration and strong partnerships. Encourage stewardship and education activities in and around these places.

ACTIONS (0-2 YEAR)

01 Using the experiences of staff and stakeholders, and identified biodiversity hot spots, develop criteria for what makes a “special wild place” where environmental education and stewardship resources can be focused. Identify the initial 2-4 high priority locations to focus efforts.

02 Develop and grow informal collaborations to support activities at each priority wild place, including: shared stewardship plans, collaborative education plans, access to Park Board infrastructure and assets, funding, and other relevant types of support.

03 Explore opportunities to use Park Board infrastructure and staff resources to support activity and programming in special wild places (e.g. community centres, fieldhouses, gardening and programming staff, arborists).

04 Develop framework agreement(s) for stronger, more formal environmental education and stewardship partnerships between Park Board and partner organisations.

ACTIONS (3-5 YEAR)

05 Develop formal agreements and plans for special wild places between the Park Board and partner organisations. These plans should include: unique stewardship and education opportunities; current and potential partnerships; risks and challenges; role of Park Board staff, partners and volunteers; project timelines and budgets; management, communication and decision-making processes; evaluation processes.

06 Build strong, relevant, mutually supportive partnerships with First Nations at specific sites.

07 Explore the feasibility of a world-class nature centre at one of the high priority special wild places.

08 Explore feasibility and capacity to increase number of special wild places that are collaboratively cared for by Park Board with partners through environmental education and stewardship activities.



IN FOCUS:

Restoration + Celebration

The Still Moon Arts Society celebrates and stewards the Still Creek Watershed through sharing stories about its past, conducting research and 'reimagining' it with neighbours. Each year the Renfrew Ravine is celebrated through the Moon Festival with brightly lit lanterns made by the community – ultimately making Renfrew Ravine a central part of the community.

Still Moon, with Evergreen, inspire groups of volunteers to clean up garbage, remove invasive species like English Ivy and Himalayan Blackberry, plant native species, and sample water quality in an effort to improve the health of the ravine. The Still Creek Watershed is slowly being brought

PHOTOS | CARMEN ROSEN, KAITLYN FUNG, courtesy of Still Moon Arts Society; DANIEL ROTMAN, courtesy of Evergreen Canada

back to life, with chum salmon returning to spawn in 2013, marking their first return in approximately 80 years. Strong neighbourhood-based partnerships make these projects a reality, and also include the Collingwood Neighbourhood House, Renfrew Community Centre, Windermere Secondary, and many others.

In 2013, the Park Board approved a new master plan for Renfrew Ravine Park and Renfrew Community Park. The master plan aims to enhance access to nature while preserving and enhancing the ecological functions and benefits of the parks.

PRIORITY 2

Nature in Everyday Life

OBJECTIVE

The Park Board plays host to the daily experiences of many Vancouverites – from a morning dog-walk through the neighbourhood park and an exercise class at the local community centre, to a senior’s lunch and bridge game, an afterschool climb in the playground and an evening game of bocce. Let’s integrate nature into the daily experiences of Vancouverites by allowing it back into public spaces and places.

QUICK START ACTIONS

Q3

Initiate projects focused on supporting pollinators

Status update: Both the Park Board Commissioners and City Councillors voted to direct staff to work with partners and develop programs and projects in support of pollinators in the City. To date a group of partner organisations including Hives for Humanity, VanDusen Botanical Garden, and Environmental Youth Alliance have developed promotional and educational materials, distributed wildflower seeds, installed new forage and hives/lodges, and identified pilot sites to test changes to Park Board operations practices in support of pollinators. Oak Meadows Park has a newly planted area focused on pollinators, managed in collaboration with the Environmental Youth Alliance, and it includes a wide range of plants as well as an insect hotel made from a repurposed telephone booth.

Q4

Pilot an environment-focused fieldhouse residency in a park.

Status update: The Invasive Species Council of Metro Vancouver has partnered with the Park Board to set up operations in the Adanac Park fieldhouse in 2014. In exchange for this space, they will provide public- and staff training on invasive species management techniques.

IN FOCUS:

Stewardship + Culture

Green Club is a pioneer organisation that demonstrates Vancouver's ethno-cultural diversity in green education. Since 1993, Joseph Lin has been leading walks through parks and engaging people on a variety of environmental topics around the region. Most of the families that participate in these programs are from China and Taiwan, some are newcomers and others have lived in the Lower Mainland for many years. As a physician, Joseph understands the links between health and having active experiences outdoors. Participants enjoy learning about natural history while being active and spending time with each other and developing a strong sense of belonging and community. Joseph also recognises the similarities between biodiversity and multiculturalism, and celebrates the human and natural diversity of this region through his work.

PHOTOS | JOSEPH LIN



Taking Action

GOAL 2.1

Initiate and enhance city-wide partnerships on a variety of nature-focused topics.

ACTIONS (0-2 YEAR)

09 Develop criteria for identifying priority topics to focus partnerships and work, and identify the initial 2-4 high priority topics. Potential topics include: pollinators, urban forest, species mapping, birds, water, forest bathing, urban foraging, nature and health, invasive species, habitat restoration, streams and shorelines, wetlands, biodiversity enhancement, environmental art, community gardens, and others. Consider annual activities following natural cycles on different topics..

10 Research and build database of existing organisations, programs, people, and other resources already working on priority topics and develop relevant and effective partnerships focused on collaborative planning and strategy development.

11 Utilise the unique assets of the Park Board (as described in section 8) to leverage additional knowledge, skills, funding, programming, and other resources in collaboration with partners.

12 Develop list of natural material needs of artists and craftspeople, and develop system to connect artists with plant materials being removed from parks.

13 Develop understanding of curricular needs of environmental educators and other teachers and work to build partnerships that utilise Park Board assets.

14 Create an adopt-a-park program that encourages schools and other community groups to undertake stewardship and environmental education activities in their neighbourhood park.

15 Identify potential partnerships with organisations serving vulnerable populations who have limited access to nature to provide supports that help to improve access.

ACTIONS (3-5 YEAR)

16 Develop a collaborative strategy with the Vancouver School Board to identify opportunities where environmental education and stewardship priorities between the Park Board and the Vancouver School Board can be achieved together. An example may be to explore opportunities to connect physical education, leadership, social studies, science, and service learning programs of the Vancouver School Board with environmental education and stewardship opportunities, and with environmental and outdoor education.

17 Explore further opportunities to utilise Vancouver Public Library resources (i.e. staff, space, materials) in support of environmental education and programming (e.g. nature themed book clubs in community centres).

18 Develop partnerships with post-secondary education institutions to connect their research, teaching, learning, internship, and co-op needs with opportunities to contribute to environmental education and stewardship projects, programs and needs.

GOAL 2.2

Establish parks and community centres as neighbourhood-based sources of information, inspiration and celebration of environmental topics.

ACTIONS (0-2 YEAR)

19 Build team of environmental programmers to support environmental education and stewardship efforts in community centres and park operations. Partner with environmental education experts to develop research-based programming.

20 Inventory neighbourhood parks to identify locations where natural habitat features, such as pollinator meadows, rain gardens, natural play features, climbing trees, mud and log hollows, and others can be developed.

21 Develop plant lists, planting plans, environmental art opportunities, pollinator infrastructure, stewardship plans, and other resources to streamline installation of habitat features.

22 Survey community centres to understand environment and nature focused programs and initiatives already underway, what partnerships are in place, and where best new opportunities may be.

23 Identify champions at each community centre with interest in environmental topics; understand what support they need to further their interests and work.

24 Connect existing groups and individuals doing environmental education and stewardship work in centre catchments; identify opportunities for further connection, collaboration and support.

ACTIONS (3-5 YEAR)

25 Ensure a comprehensive wayfinding/signage strategy includes connecting to natural spaces and features throughout the city

26 Create both interactive physical and on-line spaces in each community centre to share environmental education and stewardship information, events, and resources.



▲ A mallard and her ducklings by Stanley Park's Beaver Lake
PHOTO | NICK PAGE

PRIORITY 3

Meaningful Park Board Leadership

OBJECTIVE

The Park Board is widely recognised as an important caretaker of natural spaces in the city; shorelines, ravines, forests and wetlands are all under its care. Let's make the most of the unique assets, relationships, and role of the Park Board in service of thriving natural spaces and of people engaged with nature.

QUICK START ACTIONS

Q5 Host the annual Bird Week with expanded activities, in collaboration with partners.

Status update: Bird Week is hosted during the first week of May, and includes the annual city bird competition where the Black-capped Chickadee was crowned the 2015 city bird. Other events included bird-related workshops, walks, talks, exhibitions and lectures across Vancouver. Partners included: Stanley Park Ecology Society; Tourism Vancouver; Bird Studies Canada; Pacific Wildlife Foundation; Nature Vancouver; Vancouver Public Library; Vancouver School Board; and Environment Canada.

Q6 Reflect Effect environmental education pilot program.

Status update: In an effort to increase research-based youth programming offered in community centres across Vancouver, the Park Board partnered with two CityStudio alumni to develop and pilot the Reflect Effect program funded by the Vancouver Foundation. The experiential program guides youth through using creative media as a tool for exploring environmental themes and projects in the City of Vancouver. Using the Greenest City Action Plan goals as a framework, youth meet community leaders and go on field trips focusing on local food, clean water, green transport, green buildings, and zero waste. Youth do daily nature-based activities and are encouraged to express their opinion and creativity through an end of program project that is exhibited at the Youth Week art exhibition. To date, two pilots have been run at Marpole-Oakridge and Britannia Community Centres and a toolkit has been developed in order to share learning with new community centres. A third pilot is in the planning stages.

GOAL 3.1

Initiate and enhance communication, coordination, networking, access to information, and learning opportunities to build stronger cross-sector collaboration and partnerships amongst people and organisations with experience and expertise to share about environmental education and stewardship.

ACTIONS (0-2 YEAR)

27 Inventory existing programs, First Nations initiatives, partner organisations, stewardship initiatives, environmental art projects, multicultural initiatives, community gardens, and other related projects and develop a visual asset map that enables sharing and connection.

28 Research existing scope of work and capacity of environmental education and stewardship focused organisations and stakeholders to understand opportunities and gaps, and develop supports that enhance communication and collaboration.

29 Develop plant lists, planting plans, environmental art opportunities, pollinator infrastructure, stewardship plans, and other resources to streamline installation of habitat features.

30 Identify key audiences to focus Park Board stewardship and environmental education activities using strong demographic and environmental education research, and develop appropriate strategies to engage those audiences. Consider a focus on youth and newcomers.

Taking Action

31 Develop a common vision, principles and brand for environmental education and stewardship initiatives in Vancouver for Park Board and partners to use in order to raise profile of issues and opportunities.

32 Support city-wide forums and opportunities to network for staff and partners twice per year, focused on specific topics or themes and connected to ecological cycles and seasons.

ACTIONS (3-5 YEAR)

33 Create a platform to share information about environmental education and stewardship initiatives, programs, projects, research, events, creative projects, graphics, etc. hosted by both Park Board and by partner organisations with an aim to make stronger connections between organisations and provide information and involvement opportunities for those seeking to connect to projects.

34 Ensure any communications, outreach and engagement strategies include consideration of First Nations and cultural communities perspectives and experiences.

35 Identify all environmental education and stewardship related data and information available at the Park Board and by partner groups, and post data to City's Open Data Catalogue and website, or other central on-line resource. Connect with the Vancouver Public Library and the Vancouver Archives to determine opportunities for collaboration on access to information.



GOAL 3.2

Support partnerships and volunteer recruitment, engagement, training, and activation aligned with city priorities and staff needs.

ACTIONS (0-2 YEAR)

36 Dedicate Park Board staff resource(s) to support volunteer coordination for stewardship and environmental education initiatives

37 Support and grow partner-led core stewardship and environmental education activities with funding and access to Park Board resources and supports (i.e. staff, space, equipment, grant application support, etc.).



PHOTO | NICK PAGE

38 Implement best management practices and guidelines for habitat restoration work being undertaken by partner organisations based on sound science and accepted practices.

39 Increase funding available for environmental projects through Neighbourhood Matching Fund; advocate for increased funding to Greenest City Fund (City of Vancouver and Vancouver Foundation).

40 Provide new funding for priority environmental education and stewardship initiatives led by partner organisations. Priorities include: support for partnerships that reduce park operational and/or capital costs; enhance maintenance and enhancement of existing projects/initiatives; aid in volunteer recruitment, training and support; improve community engagement in parks and community centres; increase support for long-term initiatives as education and stewardship are both long-term investments.

ACTIONS (3-5 YEAR)

41 Explore reduction of barriers to volunteering in parks and community centres by streamlining, reducing costs of, and simplifying insurance requirements while still ensuring safety and liability coverage.

42 Develop clear roles for volunteers that align with collective agreements and support Park Board staff.

Taking Action

GOAL 3.3

Empower and train Park Board staff to be environmental education and stewardship leaders, and to be advocates for habitat, biodiversity, wild spaces and environmental education in the city.

ACTIONS (0-2 YEAR)

43 Develop and expand environmental education and stewardship programs available through community centres and build capacity for programming staff and partners to deliver them.

44 Inventory operations and programming staff to understand existing knowledge and resources present within the organisation, and how they might be better utilised. Increase staff knowledge about resources available outside of Park Board and how they can access them

45 Create a list of potential speakers on environmental education and stewardship topics relevant to operations, community centres, planning, development and other staff and schedule crew talks/staff meetings on topics of interest, including connections Urban Forest Strategy, Biodiversity Strategy, and Bird Friendly Landscape Guidelines.

46 Schedule workshops with staff and management in relevant City departments on environmental education and stewardship topics, plans, strategies, and initiatives. Consider opening these up to partner organisations and Commissioners, where possible.

47 Leverage assets of the broader City in support of environmental education and stewardship initiatives.

ACTIONS (3-5 YEAR)

48 Leverage skills and resources of Park Board development and fundraising team to support environmental education and stewardship through securing outside funders.

49 Identify high priority natural features that span zoning and property lines in order to advocate for their protection and/or restoration. Potential areas include: False Creek Flats, Fraser River riparian areas, Still Creek.

► PHOTO | NICK PAGE





9 IMPLEMENTATION

The EESAP includes clear actions and time frames for the Park Board to work toward, and there are five critical considerations to ensure successful implementation of the action plan.

First, the staff responsible for implementation of each action needs to be identified and fully engaged and empowered in project planning and delivery. Park Planning and a Recreation Programmer focused on environment will take the lead on coordinating implementation, and require support and resources to realise actions identified in this plan. Staff from community centres, fundraising, volunteer management, park planning, park development, horticulture, arboriculture, golf operations, park supervisors, and others will need to be actively involved in implementation. It is recommended that a staff team be brought together to coordinate implementation and remain accountable to each action.

Second, the Park Board will need to engage in new partnerships, and nurture existing partnerships, in order to implement the EESAP. Many of the actions require strong collaboration with community partners and volunteers. Many of these relationships are already in place, however they need to be more fully supported and connected in order to realise their full potential.

Third, clear accountability for plan implementation needs to be established. This includes reconvening the Task Force at least once within the next year, and reporting to the Board on progress. It also means monitoring and reporting out against the targets and metrics outlined in the action plan, and identifying clear accountabilities for each action. A review and potential renewal of the EESAP should be initiated in the fourth year of the plan so that clear objectives, goals and actions continue after the five year term of the EESAP has been completed.

Finally, appropriate planning and allocation of capital and operating budgets needs to be made in order to develop, operate and sustain the implementation of the EESAP. Staff will evaluate the resource requirements of the priorities identified in the Plan and explore internal and external opportunities to support delivery of the actions identified in the Plan. Staff will report back to the Board on these findings. The 2015-2018 capital plan has included a request for a new investment in environmental education and stewardship as well as for biodiversity projects, which will be reviewed by the Board and Council in September, 2014 and considered by the public through the plebiscite in November, 2014.

◀ *EYA volunteers planting at Oak Meadows Park*
PHOTO | NICK PAGE

Special Places: Biodiversity Hotspots in the City

Introduction

Biodiversity hotspots are defined as natural features or sites that support noteworthy components of biodiversity in the City of Vancouver. Often they are representative of regionally rare ecosystems that were more widespread historically or are unique to the City of Vancouver. Some support species or ecological communities at risk.

Information on 28 biodiversity hotspots is summarized in the following table and described in more detail in the following paragraphs (listed in order of size rather than value or uniqueness; note that several areas extend outside the City of Vancouver boundary). Twenty-one are terrestrial ecosystems and seven are predominantly marine. Map 1 shows their location. Most are not afforded special protection for their biodiversity values (although many are in city parks), and the purpose of this summary is to draw attention to their value and sensitivity.



Spanish Bank is a large intertidal sand deposit that is important for fish, invertebrates, and marine birds.

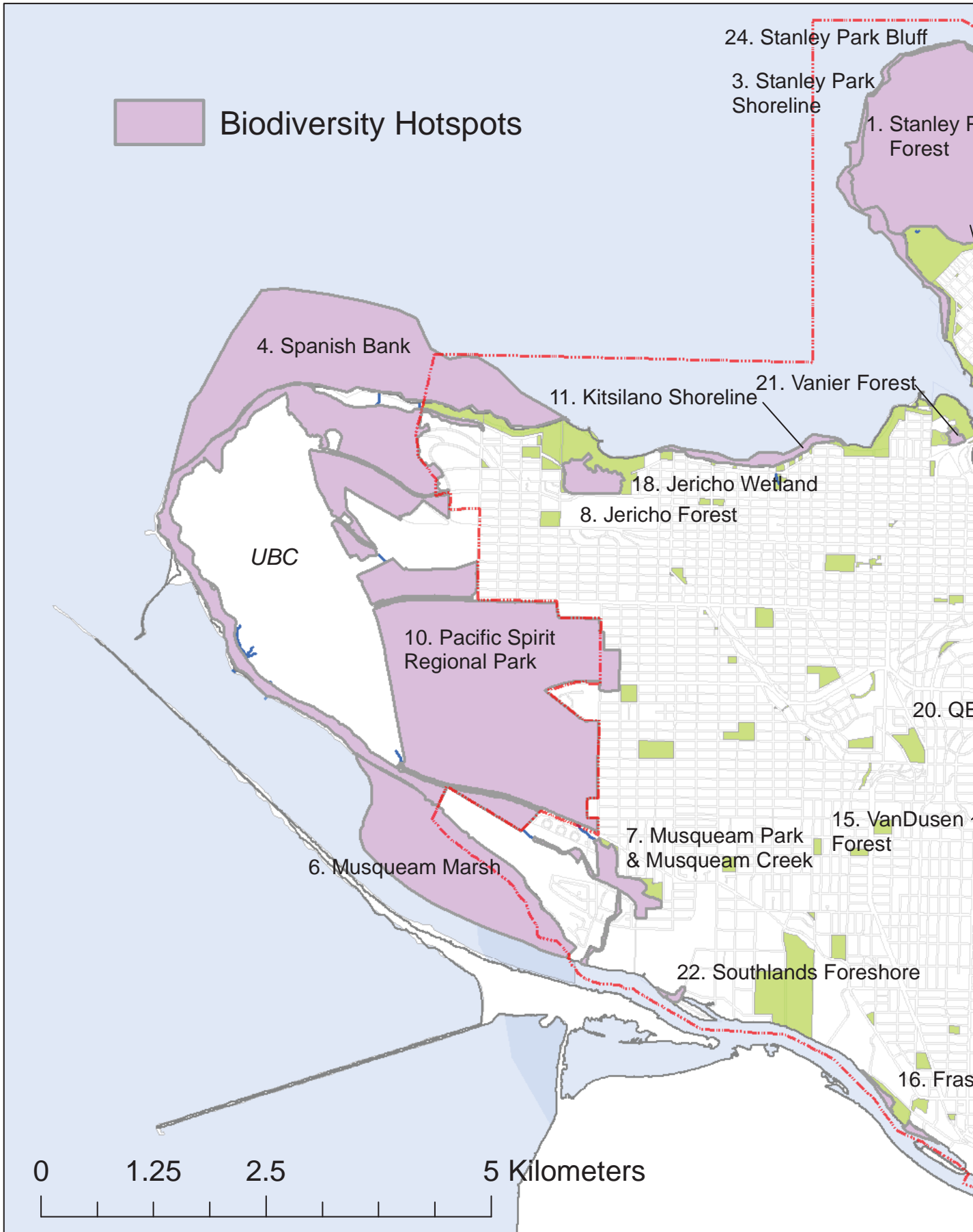
Biodiversity Hotspots in Vancouver

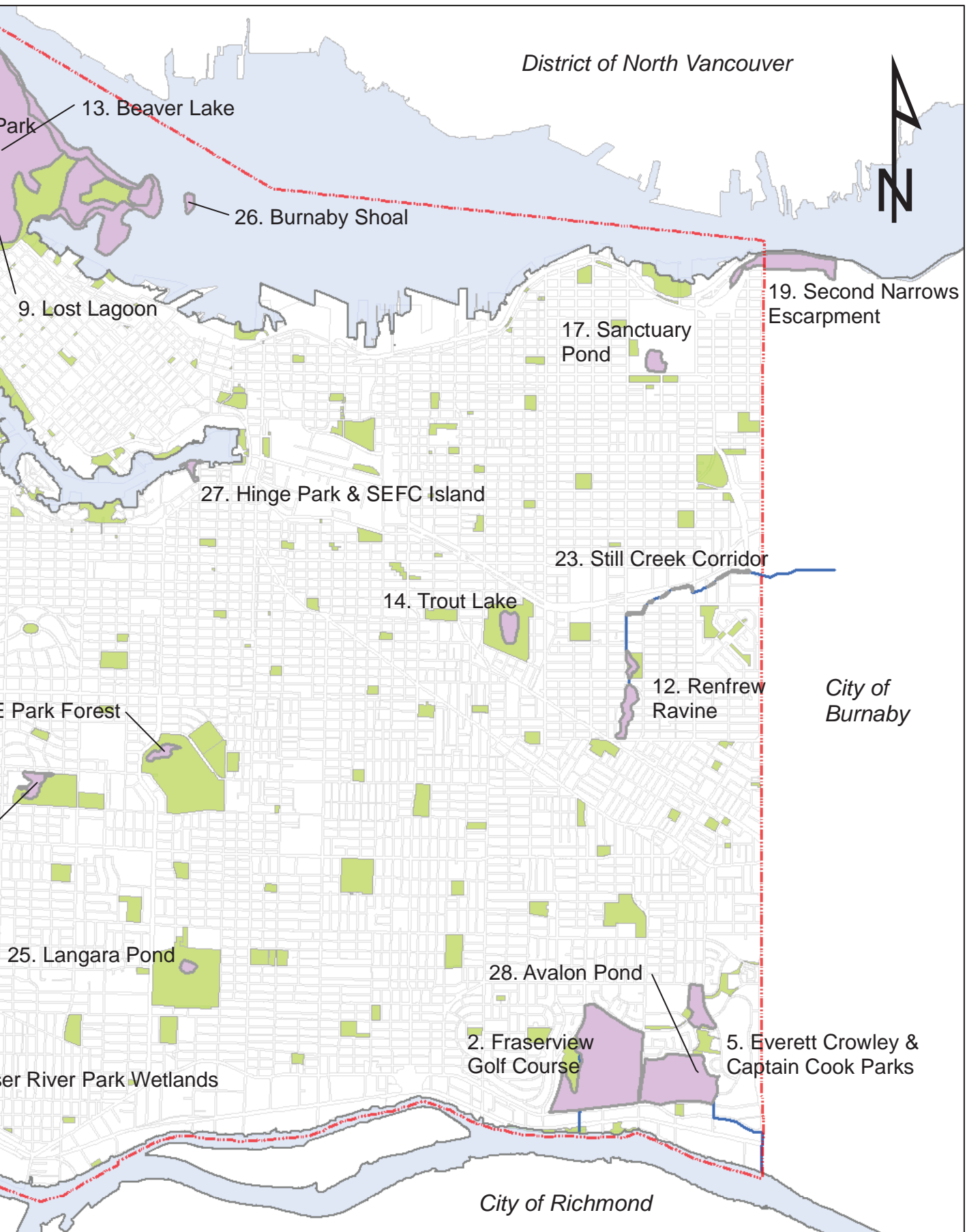
No.	Site Name
1	Stanley Park Forest
2	Fraserview Golf Course
3	Stanley Park Shoreline
4	Spanish Bank
5	Everett Crowley + Captain Cook
6	Musqueam Marsh
7	Musqueam Park + Creek
8	Jericho Forest
9	Lost Lagoon
10	Pacific Spirit Regional Park
11	Kitsilano Shoreline
12	Renfrew Ravine
13	Beaver Lake
14	Trout Lake
15	VanDusen Forest
16	Fraser River Park Wetland
17	Sanctuary Pond
18	Jericho Park Wetland
19	Second Narrows Escarpment F
20	Queen Elizabeth Park Forest
21	Vanier Forest
22	Southlands Foreshore
23	Still Creek Riparian Corridor
24	Stanley Park Bluff
25	Langara Golf Course Pond
26	Burnaby Shoal
27	Hinge Park + SEFC Habitat Islan
28	Avalon Pond

of Vancouver

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	Area (ha)	Description
	323.4	Contains some of the oldest trees in Fraser Lowland; isolated old trees occur elsewhere
	76.1	Substantial area of older, mixed forest; fragmented by golf course use
	73.2	Diverse, rocky intertidal and subtidal zone; important for overwintering seaducks
	63.5	Large, intertidal sand flat fed by bluff erosion; important for fish and shorebirds
Park Parks	47.4	Large area of deciduous forest and open meadows and shrublands in southeast Vancouver
	33.0	Largest estuarine marsh in Vancouver; productive fish habitat
	26.9	Vancouver's healthiest remaining stream; supports salmon and trout
	19.5	Large area of maturing deciduous forest
	17.4	Largest freshwater body in Vancouver; tidal until 1917 causeway construction
	17.4	Largest natural area in Point Grey peninsula; mainly outside of City boundary
	16.6	Diverse, rocky intertidal and subtidal zone; low recreation use
	8.1	Remnant forested ravine with open stream; divided into a north and south unit
	6.6	Important freshwater wetland in Stanley Park; rapidly infilling with sediment
	5.7	Important lake and wetland in east Vancouver; remnant shore bog on east side
	5.0	Mix of native forest, planted trees, ponds, and gardens in western side of botanical garden
	4.9	Constructed intertidal slough and wetlands provides a range of habitats
	4.2	Constructed small lake recognized for bird diversity; constructed in 1999
	3.5	Freshwater wetlands with rich bird and invertebrate diversity
Forest	3.3	Band of mixed forest east of the Second Narrows Bridge; connects to City of Burnaby
	3.0	Maturing native conifers within the developed gardens; important for migrating songbirds
	2.2	Prominent patch of red alder and black cottonwood forest adjacent to the Burrard St Bridge
	2.2	Created intertidal marsh and adjacent riparian area along the Southlands Trail
	2.2	Narrow and fragmented stream corridor that is partially restored
	2.0	Unique rock bluffs on northern edge of park including Prospect Point
	1.9	Large created pond or small lake that is important for waterfowl and other birds
	1.8	Shallow subtidal area east of Brockton Point; little information
nd	1.8	Constructed wetland, riparian zone, island, and intertidal areas adjacent to Olympic Village
	0.8	Large freshwater wetland in Everett Crowley Park; doubled in size in 2010





Appendix 1

1. Stanley Park Forest. Stanley Park is Vancouver’s most important urban forest and a regionally significant biodiversity area. Other than the remnant old trees on the Point Grey escarpment near UBC and Lighthouse Park in West Vancouver, Stanley Park is the only lowland site in Metro Vancouver with trees older than 150 years old. Stanley Park was set aside as a naval reserve to provide Douglas-fir trees for ship masts, which protected it from logging. Old forests are found east of Beaver Lake, as well as scattered through second-growth forests in the western side of the park.

2. Older Forests of Fraserview Golf Course. The forests dividing the fairways of Fraserview Golf Course support some of the city’s oldest trees outside of Stanley Park. Vivian Creek, which supports a small and fragile population of resident cutthroat trout, also flows through a natural channel within the golf course. The older forests of Fraserview Golf Course anchor a network of natural areas in the Killarney neighbourhood in the southeast corner of the city including Everett Crowley and Captain Cook parks. There is potential to improve ecological connections to Central Park and the forested ravines in Burnaby.

3. Stanley Park Shoreline. Like the Kitsilano shoreline, the rocky shoreline of Stanley Park is a rich habitat for intertidal life. Variable substrate ranging from exposed sandstone to gravelly cobble combined with differences in current and wave exposure increase habitat diversity. The lower intertidal zone and shallow subtidal zone supports bladed algae including bull kelp, while the middle intertidal has rockweed, sea lettuce, and barnacles. Brockton Point supports a unique community of Vancouver feather-duster, a tube-dwelling worm with a head like a sea-anemone. The shore of Stanley Park and adjacent subtidal areas provided access to important food resources which supported nearby First Nations villages.

4. Spanish Bank. The sandy intertidal flats of Spanish Bank are a unique habitat that is rich in fish, invertebrates, and birds. It is formed by the deposition of sand eroded from the bluffs of the Point Grey peninsula, as well as silt and sand moved by the North Arm of the Fraser River. It is often a mixing zone where sediment-rich freshwater from the Fraser River meet the cooler and clearer marine

waters of English Bay. The sand flats support vernal pool communities including vernal pool salamanders, vernal pool sculpins, and surf smelt. It is included within the Burrard Inlet Important Bird Area.

5. Everett Crowley + Captain Cook Parks. These forested parks, together with Fraserview Golf Course, are part of the city’s ecological network in south east Vancouver. They provide ecological connections to the Fraser River to the south and to the ravines in City of Vancouver to the east, north east. Everett Crowley’s biodiversity is increasing over time as forests mature and active restoration projects and communities continues. Avalon Pond (Hastings Park) is an important ecological feature in Everett Crowley Park.

6. Musqueam Marsh. Musqueam Marsh is a large wetland on the North Arm of the Fraser River. It consists of ha of marsh and mudflat. Approximately 100 ha of marsh are found within the City’s boundaries. It is an important habitat for juvenile salmon and also supports shorebirds and waterfowl. Wetlands in marine wetlands are also critical for o



Musqueam Marsh is the largest wetland in the City of Vancouver.

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dary. The marsh is recognized
non as they migrate to sea,
fowl. Organic-rich sediments
carbon capture and storage.



and in the City of Vancouver.

7. Musqueam Park + Musqueam Creek. Musqueam Creek and its major tributary Cutthroat Creek are the only streams in Vancouver that drains from a forested watershed with hydrologic and water quality processes relatively intact. Both streams originate in the forested ridge of Point Grey in Pacific Spirit Regional Park.

Musqueam Creek flows through a forested ravine in Musqueam Park, bisects the Musqueam First Nation Reserve, and joins the North Arm of the Fraser River through a new fish passable tide gate. It continues to support coho salmon, chum salmon, and cutthroat trout, as well as a diverse wildlife community associated with the stream corridor. The stream is culturally important for the Musqueam First Nation who have lived at its mouth for thousands of years. They have led habitat restoration and education efforts on the stream for several decades. Forests in Musqueam Park also provide important linkages from Southlands to Pacific Spirit Regional Park.



Musqueam Creek supports coho salmon, chum salmon, and cutthroat trout.

8. Jericho Forest. Most of the southern half of Jericho Park is forested with a mix of red alder and black cottonwood that developed following the end of military use. While vegetation diversity is low, the scale of the forest (about 15.6 ha) contributes to its value for biodiversity. Active forest restoration by the Jericho Stewardship group, Evergreen Canada, and the Park Board will increase habitat value over time.



Maturing deciduous forest in Jericho Park.

9. Lost Lagoon. Lost Lagoon is the largest freshwater body in Vancouver (17 ha). It was formed in 1917 when the causeway bridge connecting the downtown peninsula with Stanley Park was replaced with a road built on fill. Tidal water movement was stopped and the lagoon transitioned from a marine, to brackish, and finally to freshwater environment. The lagoon is shallow (<2.5 m deep) and provides poor habitat for fish and other aquatic organisms: it is known to support introduced carp, three-spine stickleback, and non-native western painted turtles. But it also supports a diverse waterfowl community particularly on the west side near to outlet of Ceperley Meadows.

10. Pacific Spirit Regional Park. About 10 ha of forest on the western boundary of the City of Vancouver are contained within Pacific Spirit Regional Park. The park is the largest natural area in the Point Grey Peninsula and one of the most important forested parks in Metro Vancouver. The small portion in the City of Vancouver is composed of older mixed forest; little is known of its specific ecological values or features.

11. Kitsilano Shoreline. Between the western edge of Kitsilano Pool and the docks of the Royal Vancouver Yacht Club is a sandstone, boulder, and cobble intertidal shelf that is rich in intertidal life.

Rockweed, barnacles, and sea-lettuce community. Shorebird and waterfowl because of the reduced recreation and shoreline.

12. Renfrew Ravine. Renfrew Ravine consists of five ravines in the city (Vivian Creek, Renfrew Ravine, Grandview Cut [mainly] encompasses 8.7 ha of mixed forest. The developed northern unit north of East and the southern unit. Still Creek flows through them. They are currently present. The mixed forest is rich and diverse enough to support a small population of squirrel which is unusual given its sparse forested areas.



Exposed shelf of the Kitsilano shoreline.

13. Beaver Lake. Beaver Lake, in Stanley Park, is composed of shallow open water and a bog. It is changing as the rapid growth of trees accelerates the rate of sediment accumulation and succession. The lake is expected to disappear in 10 years without intervention. Beaver Lake is a key to Stanley Park's biodiversity even with the presence of invasive species and recreation use.

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anley Park, is a 6.8 ha wetland
reas, marsh, swamp, and shore
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fill in within the next 15 to 20
Lake is an important part of
h threats and pressures from

14. Trout Lake. Trout Lake in John Hendry Park is the third largest freshwater ecosystem in Vancouver. It was once surrounded by a shoreline bog with distinctive peatland vegetation that is largely gone. Infilling and drainage to allow for playing fields and trails has reduced the extent of the wetland surrounding the lake, but it still supports a mix of riparian shrub thickets, marsh, and a small area of bog vegetation including patches of sphagnum moss and shore pine. Round-leaved sundews, a unique part of coastal bogs, appear to have disappeared in the past 5 years. No native fish species are found in the lake but introduced carp, black crappie, and bluegill are regularly caught by shore fishers. The lake's water system is largely artificial: there are no direct surface drainage connections from the surrounding catchment, and over 200,000 cubic meters of potable water are pumped in annually to maintain the water level and improve water quality.



Remnant lodgepole pine in wetland margin of Trout Lake.

15. VanDusen Forest. Many of the habitats in VanDusen Botanical Garden are examples of “novel ecosystems” which incorporate a mix of both native and non-native plants. The forests of the north west portion of the garden are formed primarily of native conifers, with an understory ranging from exotic rhododendrons and azaleas to Himalayan blackberry. Adjacent ponds contribute to the park's importance for birds.

Appendix 1

16. Fraser River Park Wetland. The intertidal slough, marshes, and riparian forest in Fraser River Park successfully combines productive habitat with recreation use. It was created in 1985 on the site of an old gravel storage area. The wetlands are used by juvenile salmon, great blue heron, belted kingfisher, and waterfowl. Henderson's checkermallow, a rare wetland plant with distinct pink flowers, occurs on the wetland margin.

17. Sanctuary Pond in Hastings Park. The Sanctuary Pond was constructed in 1999 as a first step in increasing green space and ecological value in Hastings Park. It has developed into an important bird habitat in which over 130 bird species have now been recorded. It is now also stocked with hatchery-raised trout to provide an urban fishing opportunity. The long-term goal is to connect Sanctuary Pond to Burrard Inlet through a restored stream corridor.

18. Freshwater Wetlands in Jericho Beach Park. Jericho Beach Park is a larger park that encompasses forests, wetlands, and shoreline habitats. The wetland encompassing marsh, shallow open water, and swamp is the park's most important ecological feature. Their present form is manmade but they occur in the approximate location of a historical intertidal wetland. The wetlands support rich bird habitat, a large tree frog populations, and predators such as owls, otters, and coyote. The wetlands also support a small population of Vancouver Island beggarticks, a rare wetland sunflower. Ongoing habitat restoration by the Jericho Stewardship Group helps maintain the wetlands, but they are gradually filling in because of abundant cattail growth and sediment accumulation.

19. Second Narrows Escarpment Forest. The Second Narrows escarpment extends from the eastern edge of Vancouver along Burrard Inlet to Burnaby Mountain. It is forested with a mix of maple, red alder, and isolated conifers. While it is likely an important corridor for east-west wildlife movement, the lack of significant habitat in north east Vancouver limits its connectivity value. It is an important habitat for migratory birds in April and May. More surveys are needed to document its biodiversity value.



Cattail marsh in Jericho Park wetland

20. Queen Elizabeth Park Forest. Queen Elizabeth Park is an important stop-over for migrating birds as they fly to its tall trees which stand out on the skyline. It is considered a bird watching hotspot in the city. Species include Orange-crowned, Wilson's, Black-throated, and Townsend's warblers. Vegetation in the understory in many areas provides nesting or other biodiversity values. The park also has conifer trees on the north west corner.

21. Vanier Forest. Vanier Forest is composed of smaller forest patches that develop along the shoreline. Alder and black cottonwood are the dominant trees in the understory of Himalayan blackberry. Biodiversity value is primarily as bird habitat for raptors and migrating songbirds. The forest is located on the south central portion of the forest.

22. Southlands Foreshore. Southlands is a coastal ecosystem with wetlands, tidal channels, and black cottonwood, willow, cedar, and alder. Some areas remain outside the dike including a small slough on Island, the small tidal slough at the end of the dike, and isolated patches of riparian forest.



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Queen Elizabeth Park is recognized as a habitat for nesting songbirds which are drawn to the crest of Little Mountain. It is one of the reasons Vancouverites come to the park to see species such as the Black-throated Grey, Yellow-rumped, and others. Regular maintenance to remove tall grasses and shrubs reduces its value for bird habitat. The largest area of mature forest is located in the center of the park.

Characteristic of many of the streams in the park are those located on disturbed fill areas: red cedar and Douglas fir are the dominant canopy trees with an understory of ferns and some native shrubs. The riparian habitat including foraging areas and nesting sites. There is a small seasonal wetland in the park.

The park was once a floodplain with seasonal channels, and forests dominated by Douglas fir and spruce. Only very limited areas of wetland were created west of Deering Street, and east of Blenheim Street, and

23. Still Creek Corridor. Despite the high level of surrounding urbanization, fragmentation, and channelization, the Still Creek corridor in East Vancouver is a hot spot for biodiversity. The City of Vancouver’s ongoing work to restore the channel and riparian zone of Still Creek was rewarded by the return of over 20 chum salmon in November 2012 and 2013. Beaver also use the corridor and improved connections to Burnaby provide an opportunity for other species such as mink and otter to colonize the area. Incremental work on the stream has included riparian zone restoration, creation of more complex channels and floodplains, stream daylighting, and addition of spawning gravel. Future works are planned under the ongoing implementation of the Still Creek Integrated Watershed Management Plan (2005).



Still Creek corridor in east Vancouver.

24. Stanley Park Rock Bluffs. Exposed bedrock is unusual in Vancouver and only occurs on the northern shore of Stanley Park, at Queen Elizabeth Park, along the south edge of Great Northern Way, and along the Kitsilano shoreline. The sandstone and andesite bluffs from Siwash Rock to Prospect Point are the largest and most important of these areas. Regionally rare species found on the bluffs include nesting pelagic cormorant (no longer present), northern alligator lizard, and Oregon stone-crop. The flora and fauna of the bluffs have not been comprehensively inventoried and more

Appendix 1

regionally rare species may occur.

25. Langara Golf Course Pond. A created pond (0.65 ha of open water) in the heart of Langara Golf Course is important for waterfowl including diving ducks. The adjacent riparian forest and shrublands is also rich in songbirds, and provides habitat for urban wildlife such as coyotes and skunks. Recent tree planting in the golf course is intended to increase forest cover along the pond margin.

26. Burnaby Shoal. Little is known about this shallow subtidal area east of Stanley Park. It rises to a depth of about 3 m under the lowest tides of the year. It is known as a navigation hazard. Current velocities can reach 1 m/s in the area which suggests it supports a rich intertidal community.

27. Hinge Park + South East False Creek Habitat Island. Hinge Park is a small stormwater-fed wetland that is rich in bird life. It connects to the restored shoreline of south east False Creek including a constructed island and intertidal zone. The cobble intertidal zone around the island has been used for herring spawning which has contributed to the return of sea birds and other species. Together these natural areas showcase the City's recent efforts to restore natural areas within urban neighbourhoods.



Hinge Park wetland on the edge of the Olympic Village.

28. Avalon Pond. The size of Avalon Pond in Everett Crowley Park

was almost doubled in 2010 when the City of Vancouver constructed a small dam at the pond's outlet. The pond is home to rare waterfowl, amphibians, and invertebrates. Located in Stanley Park, this is the largest freshwater wetland in the city. Undertaken in the city in the past 20 years, this project is one of the largest before the new pond matures into a



Avalon Pond in Everett Crowley Park

Park Board operations crews
d's outlet. Freshwater wetlands
nded pond provides habitat for
brates like dragonflies. While
regular users of Everett Crowley
wetland restoration project
0 years. It will be several years
a rich biodiversity feature.



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Acknowledgements

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