



Lower Coquitlam River Watershed Plan: Tools for Healthy Watersheds and Healthy Humans

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Introduction

The Lower Coquitlam River Watershed Plan developed by the Coquitlam River Watershed Roundtable sets out an overarching vision of a healthy watershed that is enjoyed and supported by the community. It commits to development that follows the Open Standards for the Practice of Conservation, a unique management approach that considers ecological and human well-being components and creates action plans for a healthy watershed and a healthy community.

Three Key Priorities Identified

The plan has identified key pressures that affect watershed health, and some initial priority strategies expressed as action plans to address them. Key priorities include addressing Stormwater, Invasive Species, and Development.¹ The goal is to seek to implement these strategies in a way that provides a healthy, livable community for people in this watershed.

¹ Lower Coquitlam River Watershed Action Plan July 2012-April 2015: Progress Report #1 http://www.coquitlamriverwatershed.ca/sites/default/files/CITYDOCS-%231960497-v1-Lower_Coquitlam_River_Watershed_Plan_Progress_Report_1_FINAL_for_web_April_2015.PDF pg. 4.

For Stormwater the action plan focuses on homeowner outreach to help single-family homeowners improve storm water practices in the Lower Coquitlam Region. This approach combines promoting voluntary activities with technical assistance and incentives programs.

For Invasive Species the action plan focuses on alignment of efforts in coordinating approaches to invasive species management. This includes creating an information-sharing network, coordinating activities to develop model bylaws for invasive species management and mapping inventories, aligning policies and identifying priority species, increasing resources for oversight and enforcement, and reducing invasive species impacts on riparian areas, natural areas and recreation.

For Development the action plan focused on incentives feasibility; that means conducting a feasibility study on potential incentive tools for the development community. This includes research and recommendations for green development incentive programs, addressing sensitive ecological priorities in area that are developable, addressing important areas, encouraging developers to enroll in programs that support green development, and reducing impacts on natural areas, riparian areas, recreation and livable communities.

The purpose of this report is to provide information on legal tools that can assist the Cities of Coquitlam and Port Coquitlam in achieving the objectives outlined in the Lower Coquitlam River Watershed Plan, and to provide an outline of legal tools citizens can use to participate in municipal action. Where possible this report will also identify tools that may be helpful in addressing additional pressures on watershed that the Lower Coquitlam River Watershed Plan identified but that were not made a priority for various reasons.

Structure of this Report

Part 1 will explore some of the benefits of protecting natural environments within an urban landscape and will touch on research on forest therapy stations in Japan where new medical research has shown the benefits of “nature therapy.” Parts 2 and 3 of this project will identify legal tools that can assist in supporting the goals of the Lower Coquitlam River Watershed Plan and in protecting riparian areas and greenspace more generally. Part 3 explicitly follows the priorities and action plans established by the Plan. Part 4 will identify legal processes and activities that citizens can use to participate in regional and municipal planning and to help shape development.

Methodology

Although the Roundtable is supported by both the City of Coquitlam and the City of Port Coquitlam, for ease of analysis I focus primarily in this review on the City of Coquitlam. To determine what actions Coquitlam has already taken regarding the legal tools discussed in this report I reviewed policies and bylaws available on the City of Coquitlam website through a simple web search. In particular, I reviewed the Lower Coquitlam River Watershed Plan, Coquitlam’s Official Community Plan, site development guide, rainwater policies, as well as several zoning maps. There may be other bylaws, policies, and activities of the City of Coquitlam that may be relevant for this report that are not reflected in this report.

Part 1 - The Importance of Protecting Natural Environments.

The Lower Coquitlam River Watershed Plan has done an excellent job in recognizing the strength and importance of collaborative, watershed-based decision making on an ecological scale. It recognizes the many social and economic benefits that flow from incorporating ecosystem-based approach to development. The term “green infrastructure” refers to values that ecosystems provide when integrated into an urban landscape. An example of green infrastructure is wetlands, which provide water storage and filtration. The following is a brief overview of some of the many ways that green infrastructure provides a variety of social benefits, including long-term economic benefits.

Value of Green Infrastructure

The value of green infrastructure has been documented in several publications. There are many ways in that green infrastructure adds value to a community, both economic and otherwise. A brief overview is provided.

1.1 Economic Value of Green Infrastructure

Green infrastructure such as wetlands and riparian areas provide valuable services such as managing rainwater, protecting water quality, preventing floods, preserving soils, and improving air quality.

For example, in the lower Fraser Valley natural wetlands provide at least \$230 million worth of waste-cleaning services.² Abbotsford, when faced with urban development that led to increased rainwater runoff, chose to use wetlands as storage basins for the upper urban tributaries to Fishtrap Creek. This cost \$5 million to construct but was considerably less than the cost of alternative flood-prevention options.³

1.2 Preparing for Climate Change

Communities across BC and the world are also facing significant costs due to climate change. The Provincial Government states that the costs of climate change include damage to business and property, business disruptions, and increased illness and mortality as a result of increased flooding and landslides.⁴ These costs are borne by individuals, businesses and governments. Expected impacts include threats to ecosystems that support communities, increased droughts and floods, and increased damage

² Nancy Oleweiler, *The Value of Natural Capital in Settled Areas of Canada* (2004) Ducks Unlimited Canada and the Nature Conservancy, p. 25 http://www.cmnbc.ca/sites/default/files/natural%2520capital_0.pdf.

³ Deborah Curran, *A Case for Smart Growth* (2003) West Coast Environmental Law <http://wcel.org/sites/default/files/publications/A%20Case%20for%20Smart%20Growth.pdf>.

⁴ Government of British Columbia *Climate Change Impacts* <http://www2.gov.bc.ca/gov/content/environment/climate-change/reports-data/climate-change-impacts>.

from extreme weather events, as well as sea level rise. Investing in ecologically sustainable infrastructure may increase resilience to the effects of climate change and save money in the long run.⁵

1.3 Recreation and Human Health

The inclusion of green space within the urban environment adds its own unique value, whether it is a great fishing spot, a community garden in a park, or a hidden retreat by a river. However, this intrinsic enjoyment is not the only value these areas provide. British Columbians spend \$1.5 billion per year on recreational outdoor activities.⁶ Studies have shown that proximity to green space increases the value of residential property 15-30 percent.⁷ Many businesses prefer to locate in communities based on quality of life.⁸ Ecologically sustainable development may increase property values in the long run, as people want to live in healthy and beautiful communities.

There are also significant health benefits to incorporating green space in an urban landscape. Green infrastructure contributes to population health by maintaining clean air and water and encouraging physical activity. Green infrastructure can double as biking and walking trails, encouraging active lifestyles and combating health issues.⁹

Recent research in Japan has also linked green infrastructure to many health benefits, including reduced heart rate, stress, anxiety, and negative mood.¹⁰ Called *Shirin-yoku* or “forest bathing”, walking in nature is being investigated as a means of reducing the well-documented health impacts of stress. Several studies conducted in different countries have reported that natural environments provide better emotional, physiological and restorative effects than urban environments. These positive effects are shown as lower blood pressure, muscle tension and skin conductance. There is evidence of people self-reporting more positive emotions, and improving cognitive performance after stress situations as a result of walking in nature. There is also potential benefits for emotional and mental restoration, especially in poor mental health groups.¹¹ Miyazaki’s Nature Therapy Theory suggests that human

⁵ National Roundtable on the Environment and the Economy *Paying the Price: The Economic Impacts of Climate Change for Canada* (2011) <http://www.collectionscanada.gc.ca/webarchives2/20130322143115/http://nrtee-trnee.ca/climate/climate-prosperity/the-economic-impacts-of-climate-change-for-canada/paying-the-price>.

⁶ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 25, <http://www.greenbylaws.ca>.

⁷ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 26, <http://www.greenbylaws.ca>.

⁸ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 26, <http://www.greenbylaws.ca>.

⁹ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 25, <http://www.greenbylaws.ca>.

¹⁰ Juyoung Lee et al “Influence of Forest Therapy on Cardiovascular Relaxation in Young Adults” Online (2014) Volume 2014 Evidence-Based Complimentary and Alternative Medicine, <http://www.hindawi.com/journals/ecam/2014/834360/>.

¹¹ Norimasa Takayama et al, “Emotional, Restorative and Vitalizing Effects of Forest and Urban Environments at Four Sites in Japan” (2014) 11:7 International Journal of Environmental Research and Public Health pg. 7207-7230 <http://www.mdpi.com/1660-4601/11/7/7207/htm>.

psychological and physiological functions have evolved to adapt to the forest environment. Therefore, forest stimulation facilitates psychological and physiological relaxation.¹²

Studies have concluded that even short term walking in the forest environment can result in an increase in positive feelings, subjective reporting of restoration and vitality, and a decrease in negative feelings such as tension, anxiety, depression and confusion.¹³ Another study measured heart rate variability, salivary cortisol, and pulse rate as a means of assessing stress and found that these indicators suggested that Shinrin-yoko was an effective form of relaxation.¹⁴ An overview of studies conducted on the effects of walking in the forest noted that currently there is limited work on this subject, finding only 17 relevant studies and noting that these studies are mostly conducted in Japan and often included quite small sample sizes predominantly with male students as participants. However the majority of these studies reported significant positive effects, especially on physiological stress reactions.¹⁵ Additional work by Dr. Mooli Lahad,¹⁶ a medical psychologist who works with civilians, soldiers and veterans suffering from PTSD, and Dr. Ronen Berger,¹⁷ the founder of the Nature Therapy Center in Israel, has explored the potential of nature therapy in treating post-traumatic stress in children.¹⁸

While none of this is conclusive, this is suggestive of the health benefits of even short walks in nature. Incorporating green spaces into our urban environments may be one way of encouraging a healthy and happy population.

1.4 Spiritual and Intrinsic Value of Nature

Finally, the natural environment has a special spiritual value for First Nations, among others. Many First Nations view the earth as sacred.¹⁹ For example the Kwikwetlem First Nation state that they are guided by the teaching of their Elders to respect, care for, and protect their community, their culture, and their lands, waters and resources for past, present and future generations.²⁰

For some, preserving green space and habitat has a moral dimension. Some individuals feel that humans have a moral obligation to live and create communities in a way that allows space for other

¹² Y Miyazaki et al, ““Nature Therapy” in designing our future” in *Local Perspectives on Bioproduction, Ecosystems and Humanity* Osaki, M, Braimoh A, Nakagami K eds; United Nations University Press: Tokyo, Japan, 2011; pp. 407-412.

¹³ Norimasa Takayama et al, “Emotional, Restorative and Vitalizing Effects of Forest and Urban Environments at Four Sites in Japan” (2014) 11:7 *International Journal of Environmental Research and Public Health* pg. 7207-7230 <http://www.mdpi.com/1660-4601/11/7/7207/htm>.

¹⁴ Bum-Jin Park et al, “Physiological effects of Shirin-Yoko (taking in the atmosphere of the forest) in a mixed forest in Shinano Town, Japan” (2008) 23:8 *Scandinavian Journal of Forest Research* <http://www.tandfonline.com/doi/abs/10.1080/02827580802055978>.

¹⁵ Haluza, Daniela, Regina Schonbauer, and Renata Cervinka “Green Perspectives for Public Health: A Narrative Review on the Physiological effects of Experiencing Outdoor Nature” (2014) 11:5 *International Journal of Environmental Research and Public Health* pg. 5445-5461, <http://www.mdpi.com/1660-4601/11/5/5445/htm>.

¹⁶ PhD Psychology and Education, Colombia University, USA.

¹⁷ PhD School of Health and Social Sciences, University of Abertay, Dundee.

¹⁸ Mooli Lahad and Ronen Berger *The Healing Forest in Post-Crisis Work with Children* (London: Jessica Kingsley Publishers, 2013).

¹⁹ Dave Courchene in testimony to the Commission of Aboriginal People, quoted in John Borrows and Leonard Rotman *Aboriginal Legal Issues: Cases, Materials and Commentaries* (Markham: LexisNexis Canada, 2012) pg. 4.

²⁰ Kwikwetlem First Nation “Our People” (2016) <http://www.kwikwetlem.com/our-people.htm>.

species to live and even flourish, that is linked to the intrinsic value of nature. Promoting green infrastructure allows other species to live and survive within our urban environments and the world generally. It is an important moral value for some that humans do not drive other species to extinction.

For example, in BC the Fraser River delta supports the highest winter-time densities of water-birds, shorebirds, and raptors in all of Canada. The delta is the most important migratory bird habitat on the Pacific Coast between Alaska and California, and supports several important populations of birds, including the entire world's population of Western Sandpiper and Russia's last remaining Snow Goose population.²¹ Protecting this ecosystem is important for Canada to meet its international legal obligations under the *Migratory Birds Convention Act*,²² and there may be an economic component to protecting this area, but there may also be a moral and spiritual component to protecting this unique and important area.

1.5 Compliance with Federal Laws

The federal government's *Species at Risk Act*²³ aims to prevent wildlife from becoming extinct, and to provide for the recovery of wildlife. This law prevents the destruction of endangered animals or their residence, and protects critical habitat. For the most part this applies to federal lands only, however migratory birds and aquatic animals are protected anywhere in Canada, including on private land in municipalities. The federal government may make an order extending SARA protections to non-federal lands if the laws of the Province are not effectively protecting the species. The federal government may also make emergency protection orders for a species facing imminent threats to its survival, but to date they have not done so.²⁴

Sensitive ecosystems are often the same areas where species at risk are found. Promoting an ecosystem-based approach to development allows communities to contribute to the recovery of species at risk and prevent additional species from becoming at risk. This also helps to prevent potentially costly and disruptive enforcement action in the future if federal actors need to take action under the *Species at Risk Act* to prevent harm to an endangered species.

Additionally, by promoting sustainable development, and ecosystem-based approach to development and collective decision making supports First Nations rights and furthers the goal of reconciliation. Development that includes consideration of fish and fish bearing streams will also indirectly support BC's fishing industry and other recreational industries. And as mentioned above, creating areas that support migratory birds is important for Canada's international obligations under the *Migratory Birds Convention Act*.²⁵

²¹ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 26, <http://www.greenbylaws.ca>.

²² SC 1994 Chapter 22.

²³ SC 2002 Chapter 29.

²⁴ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 238, <http://www.greenbylaws.ca>.

²⁵ SC 1994, Chapter 22.

Recent emergency protection orders by the federal government to protect four provincial White Sturgeon populations and the Nooksack Dace may have implications for municipalities in terms of land use development going forward.

Conclusion

The Lower Coquitlam River Watershed plan already recognizes many benefits of ecosystem-based approach to development. It seeks to “integrate both ecological and human well-being concepts into the watershed planning process” by using an Open Standards Practice of Conservation.²⁶ This process recognizes the value of green infrastructure, including for recreation and human health, as well as spiritual, intrinsic and economic values.

²⁶ Coquitlam River Watershed Roundtable, *Lower Coquitlam River Watershed Plan, Final Draft Version 1.0* (July 15 2015) City of Coquitlam Working Paper, pg. 7.

Part 2 - The Importance of Planning

Before addressing legal tools to assist in implementing the key priorities identified in the Plan, it is important to do some groundwork in planning and mapping. Planning identifies the vision the community has for future development. Mapping identifies where the community and the ecosystem currently stand, and the physical areas where they interact and conflict. They can show where the significant ecosystem features and sensitive areas are, and what areas are most threatened. Planning is an important aspect of any government action. The Lower Coquitlam River Watershed Plan is a great example of how defining the goals of a community can contribute to unity of vision and action.

Other planning mechanisms include regional growth strategies and regional conservation strategies. It is important to connect local initiatives to larger efforts of conservation within a regional area, and this can help to coordinate action that may be particularly relevant in regards to invasive species. However, this report is focused on what action a municipality can take independently. More details on these strategies and how they may be useful for conservation can be found in the *Green Bylaws Toolkit*.²⁷

2.1 Official Community Plans

Official Community Plans are a key aspect of green development. An Official Community Plan is a community's map to future development.²⁸ They articulate community objectives and policies regarding development. They also establish Environmental Development Permit Area guidelines for protecting ecosystems. The policies in an Official Community Plan can help a variety of decision makers and staff decide whether a proposed development fits with the communities' goals and desired patterns of land use. They encourage developers and landowners to move towards appropriate development.

It is important to note that Official Community Plans do not commit a municipality to proceed with any project specified in the plan, but all bylaws or works undertaken after the adoption of the official community plan must be consistent with the plan.²⁹ Courts will generally defer considerably to municipalities to determine what is 'consistent with' the official community plan. They are considered by the courts to be documents containing the municipalities "long term vision" rather than an explicit description of how this vision is to be carried out.³⁰

Coquitlam has an Official Community Plan.³¹ This plan identifies the goals of the community, and creates specific policies for each neighbourhood.³² The plan states the intention of balancing

²⁷ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) <http://www.greenbylaws.ca>.

²⁸ *Local Government Act* [RSBC 2015] Chapter 1, ss. 471-478.

²⁹ *Local Government Act* [RSBC 2015] Chapter 1, s. 478.

³⁰ *Residents and Ratepayers of Central Saanich Society v Saanich (District)* 2011 BCCA 484, para 56.

³¹ City of Coquitlam, "Citywide Official Community Plan" (March 2002) <http://www.coquitlam.ca/city-hall/plans/community-plans.aspx>.

³² City of Coquitlam, "Citywide Official Community Plan" (March 2002) <http://www.coquitlam.ca/city-hall/plans/community-plans.aspx>.

sustainability, housing choices and quality of life.³³ The plan also identifies overall goals of responding to internal and regional pressure by consolidating Coquitlam as a compact, complete community, respecting natural resources and enabling an integrated approach to environmental management, providing a range of housing choices, encouraging development of the local economy, supporting the development of sustainable transportation choices, and enabling community access to a range of facilities and services that meet changing needs.³⁴ This is very useful as a guide for decision-making, and is an important aspect of crystalizing the City’s approach to development and conservation.

The plan also includes specific objectives related to protecting water resources, protecting green spaces and developing parks, trails and other open spaces.³⁵ This is a good foundation towards creating a sustainable community and provides a base for building additional legal protections.

2.2 Water Sustainability Plans

The Province has recently enacted the new *Water Sustainability Act* (WSA).³⁶ This act has many mechanisms that may be useful for protecting waterways within a municipality. One possibility is creating a Water Sustainability Plan. They have the potential to allow for collaborative watershed planning and agreements between the Province, First Nations, municipalities, and other stakeholders to address many aspects of water diversion and use. Stakeholders and governments can negotiate Water Sustainability Plans regarding almost anything affecting water in an area, including but not limited to: water quality; drought planning; water sharing; changes to existing licences; and restrictions or prohibitions of certain activities.³⁷ More information on the new act can be found in Deborah Curran’s summary “British Columbia’s New *Water Sustainability Act*- Waiting for the Details.”³⁸

There are specific processes outlined in the WSA for creating a Water Sustainability Plan. The minister, on request or on the minister’s own initiative, may designate an area for a Water Sustainability Plan if it will assist in preventing or addressing conflicts between water users, risks to water quality, risks to aquatic ecosystem health, or restoration measures in relation to a damaged aquatic ecosystem.³⁹ The minister has power to create rules about how the proposed Water Sustainability Plan will be

³³ City of Coquitlam, “Citywide Official Community Plan – Part 1: Introduction and Regional Context Statement,” (March 2002) pg. 1, http://www.coquitlam.ca/docs/default-source/citywide-ocp/Part_1_-_Ch_1_-_Introduction_and_Regional_Context_Statement.pdf?sfvrsn=0.

³⁴ City of Coquitlam, “Citywide Official Community Plan – Part 1: Introduction and Regional Context Statement” (March 2002) pg. 3, http://www.coquitlam.ca/docs/default-source/citywide-ocp/Part_1_-_Ch_1_-_Introduction_and_Regional_Context_Statement.pdf?sfvrsn=0.

³⁵ City of Coquitlam, “A Healthy Environment” (March 2002) http://www.coquitlam.ca/docs/default-source/citywide-ocp/Part_2_-_3.pdf?sfvrsn=0.

³⁶ *Water Sustainability Act* [SBC 2014] Chapter 15.

³⁷ *Water Sustainability Act* [SBC 2014] Chapter 15, s. 68(2) states that, “Without limiting the terms of reference that may be established for a proposed plan, the terms of reference may include: (a) considerations relating to water in a stream, groundwater and surface water runoff not in a stream, and (b) uses of land or resources that affect the water referred to in paragraph (a)”.

³⁸ Deborah Curran, *British Columbia’s New Water Sustainability Act- Waiting for the Details* (2014) Environmental Law Center, University of Victoria http://www.elc.uvic.ca/wordpress/wp-content/uploads/2015/01/BCs-New-Water-Sustainability-Act_2014May13.pdf.

³⁹ *Water Sustainability Act* [SBC 2014] Chapter 15, s. 65.

developed,⁴⁰ or to designate a “responsible person” to develop these rules, with the minister retaining a final say over approval of the terms of reference.⁴¹

There are specific provisions that provide suggestions for what may be included in a Water Sustainability Plan, including consideration of land uses and the use of land or resources.⁴² A plan must include a description of the issues to be considered, the proposed solutions, an implementation plan, and an outline of the community consultation that has taken place during the planning process.⁴³ The plan must be submitted to the minister, who can only accept it if it complete, complies with the *WSA*, and follows the terms of reference of the Water Sustainability Plan.⁴⁴ If the proposed Water Sustainability Plan contains a recommendation that a regulation or order be made in relation to the plan there is the option of making the plan legally binding. The minister may forward the proposed Water Sustainability Plan to the provincial Cabinet, that may accept all or part of the proposed Water Sustainability Plan. Those aspects of the plan that are accepted will have the force of law.⁴⁵

Water Sustainability Plans have the potential to protect watercourses in many ways and to create a sustained dialogue about water use. Municipalities can work with the responsible person, which could be the municipality itself, who is developing the terms of reference to ensure that they incorporate community values. If elements of a Water Sustainability Plan are made into regulations there is the potential for these regulations to control a variety of actions,⁴⁶ including local government land use decisions, and implement real change in regards to water management.

A Water Sustainability Plan also may be a way of addressing longer term goals related to the pressures of climate change. The Cowichan Watershed Board and the Cowichan Valley Regional District are examples of a community that has engaged in watershed planning with a specific focus on impacts of global warming.⁴⁷ This process shares many similarities with the Coquitlam Watershed Planning Roundtable. Polis’s publication *Awash with Opportunities*⁴⁸ is another great resource if coordinated action with the Province and other entities is contemplated. This publication also provides more information on the history of water regulation in BC and the new *WSA*.

2.3 Mapping

Mapping is an equally important aspect of implementing the priorities identified by the Lower Coquitlam River Watershed Plan. Many of the legal tools available to meet these priorities will require mapping to provide the base information about the location and quality of environmentally sensitive

⁴⁰ These rules are called the “terms of reference” *Water Sustainability Act* [SBC 2014] Chapter 15, s. 66.

⁴¹ *Water Sustainability Act* [SBC 2014] Chapter 15, s. 68.

⁴² *Water Sustainability Act* [SBC 2014] Chapter 15, s. 73.

⁴³ *Water Sustainability Act* [SBC 2014] Chapter 15, s. 73.

⁴⁴ *Water Sustainability Act* [SBC 2014] Chapter 15, s. 74.

⁴⁵ *Water Sustainability Act* [SBC 2014] Chapter 15.

⁴⁶ *Water Sustainability Act* [SBC 2014] Chapter 15, s. 78- 83.

⁴⁷ Cowichan Watershed Board *Cowichan Basin: Water Management Plan* (March 2007) Westland Resource Group Inc. <http://www.cowichanwatershedboard.ca/sites/default/files/CowichanBasinWaterManagementPlan-March2007.pdf>.

⁴⁸ Oliver M. Brandes, Savannah Carr-Wilson, Deborah Curran, and Rosie Simms *Awash With Opportunity* Polis (November 2015) Project on Ecological Governance http://poliswaterproject.org/sites/default/files/Awash-FINAL-WebVersion-compressed_UpdatedDec1.pdf.

areas within the municipality. It creates a common understanding of the importance of ecosystem values on specific pieces of property. It provides clarity for developers and facilitates conversations about appropriate land development and best management practices.⁴⁹ See the Green Bylaws Toolkit for more information about scale and extent of mapping.

Coquitlam has already engaged in significant mapping work through the Environmental Watercourses Mapping that identifies the Streamside Protection and Enhancement Areas setbacks, the Riparian Assessment Areas, Ravines, Watercourse Fish Presence, Culverts, and Development Permit Areas that apply in Northeast Coquitlam only.⁵⁰ This will be an asset in implementing other legal tools that require mapping, however additional mapping may be necessary. Local governments can also gather data by asking questions on building permit application forms and other municipal documents.⁵¹

2.4 Suggested Approaches

The *Green Bylaw Toolkit* contains a recommended approach to community planning and development.⁵² The first recommended step is to create a regional growth strategy that establishes an urban containment boundary and secures a commitment from member local governments that a percentage (for example 90%) of growth over the life of the strategy will occur within the urban containment boundary.

The second recommended approach is to develop an Official Community Plan that delineates sensitive ecosystems, designates land uses and prescribed densities that concentrate development away from sensitive ecosystems, and describe how local governments will halt the loss of existing natural sensitive ecosystems.

The third recommendation is to create development permit areas where local governments requires a permit for development in an environmentally sensitive area, establish a development review process, including an environmental/green infrastructure impact assessment process, and create guidelines for development of best management practices.

The fourth recommendation is to create zoning bylaw standards that preserve large lots outside the urban containment boundary, encourage mixed use development within the urban containment boundary, establish setbacks for watercourse management and sensitive ecosystems, set specific density bonuses for specific zones, establish the maximum percentage of land that may be covered by impermeable material, set standards for, and regulate, the preservation of the natural environment, and enable development to be clustered away from environmentally sensitive areas in specific zones.

The fifth recommendation is to create bylaws that address local government-wide regulatory prohibitions on environmental issues like water quality and invasive species.

⁴⁹ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), Appendix F, pg. 300 <http://www.greenbylaws.ca>.

⁵⁰ City of Coquitlam, Environmental Watercourse Mapping (May 2006) <http://www.coquitlam.ca/planning-and-development/resources/Property-Developer-and-Builder-Resources/environmental-watercourse-mapping.aspx>.

⁵¹ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), Appendix F, pg. 301 <http://www.greenbylaws.ca>.

⁵² Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 47-48 <http://www.greenbylaws.ca>.

The final recommendation is to adopt a stormwater policy that focuses on infiltrating rainwater at its source.

Application to Coquitlam

Coquitlam is already engaged in a regional growth strategy for the Metro Vancouver area.⁵³ This growth strategy includes the goals of creating a compact urban area, protecting the environment and responding to climate change impacts, and supporting sustainable transportation choices.⁵⁴ Coquitlam also has an Official Community Plan and has developed significant mapping. Additional planning policy work may be necessary in delineating sensitive ecosystems, setting prescribed densities, and identifying strategies for managing growth. Coquitlam also has some development permit areas, although these do not seem to be primarily concerned with protecting environmentally sensitive areas.⁵⁵ Coquitlam has also adopted a stormwater policy that focuses on infiltrating rainwater at its source that appears to be comprehensive.⁵⁶ There may be opportunities to bolster this policy through bylaws, as discussed in subsection two.

Amending the Citywide Official Community Plan to reference the Lower Coquitlam River Watershed Plan, or incorporating the goals of the Watershed Plan would be one way of ensuring the goals of the Watershed Plan are considered in municipal decisions and development.

There are additional legal tools available through zoning designations and bylaws that may assist in meeting the priorities identified in the Lower Coquitlam River Watershed Plan, as discussed in subsection two.

Conclusion

Planning is an important aspect of successful ecosystem-based development. The new WSA may provide more opportunities for collaborative management with the Province, First Nations, and other stakeholders through the development of water sustainability plans.

Coquitlam, and its partner city, Port Coquitlam, are also in a good position to move forward with additional legal tools to address the priorities identified in the Lower Coquitlam River Watershed Plan, both through strengthening existing bylaws and potentially adopting appropriate policies for creating sustainable development and managing resources.

Coquitlam's existing Official Community Plan provides a good basis for this process, although incorporating the goals of the Lower Coquitlam River Watershed Plan would strengthen the impact of the existing Official Community Plan. Some of the legal tools addressed in Part 3 may require amending the Official Community Plan. For example, expanding development permit areas requires delineating the areas in the official community plan, cluster development and amenity density bonuses can be achieved

⁵³ Regional Planning Services "Regional Growth Strategy" (2016), <http://www.metrovancouver.org/services/regional-planning/Pages/default.aspx>.

⁵⁴ Metro Vancouver, *Progress Towards Shaping our Future - 2014 Annual Report*, (2014) Metro Vancouver 2040: Shaping Our Future, pg. 6-7 http://www.metrovancouver.org/services/regional-planning/PlanningPublications/MV_2040_Progress_toward_Shaping_our_Future_2014_Annual_Report.pdf.

⁵⁵ City of Coquitlam "Guide to Best Site Development" (April 2005) http://www.coquitlam.ca/docs/default-source/development-permits/Guide_to_Best_Site_Development_Practices.pdf?sfvrsn=0.

⁵⁶ City of Coquitlam, "Rainwater Management" (2016) <http://www.coquitlam.ca/city-services/drainage-sewer/stormwater-management/rainwater.aspx>.

by strong wording in the official community plan, and incorporating land acquisition policies into an official community plan can increase the options available for park acquisition. These options would require reviewing Coquitlam's Citywide Official Community Plan to see if existing wording was strong enough or if additional amendment is required.

Part 3 - Specific Priorities

Introduction- Key Legal Tools

There are several legal tools that can assist the municipal governments and the watershed community in implementing the key priorities identified in the Lower Coquitlam River Watershed Plan and strengthen the associated action plans. The focus of this report is on legal tools available to local governments, and in particular municipalities. This report also focuses on tools that are available and most relevant to the municipality of the City of Coquitlam, considering factors such as urban density. The following is a discussion of legal tools available for the top three priorities identified in the Watershed Plan: Stormwater, Invasive Species, and Development.

The Lower Coquitlam River Watershed Plan identifies two priority strategies for addressing Stormwater:⁵⁷ Outreach to single-family homeowners; and Adaptive Management Planning. Outreach to single-family homeowners is currently being developed and implemented. The focus of this strategy is to develop outreach material to help single-family homeowners improve stormwater practices. It is based on encouraging best practices, providing outreach awareness of stormwater problems, providing technical assistance to and an incentive program, and reducing stormwater impacts.

There are some additional legal tools available to municipalities that can assist in addressing storm water impacts. As well there are several legal tools available for the more general goal of protecting watercourses, and the specific Plan goals of dealing with invasive species and shaping development. Some of these tools overlap and they all complement one another.

3.1 Rainwater Management and Watercourse Protection

3.1.1 Rainwater Management Plans

Coquitlam has already developed rainwater management approaches contained in the *Coquitlam Low Impact Development Policy and Procedures Manuel*, and *Watershed Planning and Rainwater Management: Creating the Future in the City of Coquitlam*. Coquitlam recognizes that best practice includes “treating stormwater as a resource and managing rainwater to keep ... watersheds healthy.”⁵⁸ This approach incorporates the goals of preserving the natural terrain and drainage structure to the maximum extent possible, preserving the natural hydrological cycle to the extent that subsurface conditions permit, mimicking natural rainfall capture in areas of site disturbance, and ensuring the protection of property and public safety with the design of overflow capacity.⁵⁹ Thus Coquitlam has integrated several essential aspects of the water balance model into their rainwater

⁵⁷ Coquitlam River Watershed Roundtable, *Lower Coquitlam River Watershed Plan, Final Draft Version 1.0* (July 15 2015) City of Coquitlam Working Paper, pg. 18.

⁵⁸ City of Coquitlam, “Rainwater Management” (2016) <http://www.coquitlam.ca/city-services/drainage-sewer/stormwater-management/rainwater.aspx>.

⁵⁹ City of Coquitlam, “Rainwater Management” (2016) <http://www.coquitlam.ca/city-services/drainage-sewer/stormwater-management/rainwater.aspx>.

management approaches⁶⁰ They are also one of the case profiles on Waterbucket.ca.⁶¹ Coquitlam has made significant progress in this regard, and recommendations for improving the rainwater management approach relate to improving technical standards for water management and not law reform.

Burnaby, Chilliwack and Kelowna have all engaged in Integrated Stormwater Management as a part of their rainwater management. Burnaby has adopted a best management practices policy that applies to municipal projects and is recommended for private developers.⁶² Chilliwack requires new developers to manage stormwater so that there is no net increase in post-development flows into receiving watercourses, with a goal of controlling run-off so that watersheds behave as if they have less than 10% impervious material. The City monitors three subdivisions that incorporate infiltration strategies and uses the information to revise standards through adaptive management.⁶³ Kelowna requires new drainage infrastructure to be implemented according to the Storm Water Management Design Manual utilizing best management practices that are appropriate for Kelowna's conditions including the use of natural environment for the conveyance and treatment of stormwater.⁶⁴

The approach taken by these separate jurisdictions is arguably similar to Coquitlam's low impact development plan. However, each municipality has taken a slightly different approach and it may be worth exploring further to see what tools have been effective and if there are innovative approaches which could be adapted and incorporated into Coquitlam's water management plan.

3.1.2 Rainwater Management Bylaws

The City of Coquitlam has the ability to create regulatory bylaws that can control rainwater and protect watercourses. For example rainwater management can be included in a subdivision servicing bylaw, a drainage bylaw, and, to an extent, a zoning bylaw.⁶⁵ Bylaws can require runoff control, for example mandating that only so much total area be covered by impervious material.

There are several means of creating bylaws to control rainwater runoff. Some local governments adopt a simple standard that allows developers to choose their preferred method of achieving the required outcome. An example is Saanich's Subdivision Servicing Bylaw that commits Saanich to

⁶⁰ Water Balance Model and Green Infrastructure Partnership *Commentary of Effective Municipal rainwater/Stormwater Management and Green Infrastructure to Achieve Watershed Health* (April 2008), http://waterbucket.ca/cfa/files/2013/08/Commentary-on-Effective-Rainwater-Mgmt-PerformanceTargets_Nov-2008.pdf.

⁶¹ Water Sustainability Action Plan for British Columbia, *Watershed Planning and Rainwater Management: Creating the Future in the City of Coquitlam* (January 2014) The Partnership for Water Sustainability in BC, http://waterbucket.ca/cfa/files/2014/01/Coquitlam_Watershed_Planning_and_Rainwater_Management_Article_Jan-2014_FINAL.pdf.

⁶² Susan Rutherford "Integrated Stormwater Management – Burnaby" (2007) West Coast Environmental Law <http://wcel.org/integrated-stormwater-management-burnaby>.

⁶³ Susan Rutherford "Integrated Stormwater Management – Chilliwack" (2007) West Coast Environmental Law <http://wcel.org/integrated-stormwater-management-chilliwack>.

⁶⁴ Susan Rutherford "Integrated Stormwater Management – Kelowna" (2007) West Coast Environmental Law <http://wcel.org/integrated-stormwater-management-kelowna>.

⁶⁵ See "Runoff Control Requirements" Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 84, 113-115.

achieving a no-net increase in post-development flow but does so in a way that allows developers to choose the method they use to meet the requirement. Their bylaw states simply:

3.5 Storm Drains

3.5.1 General Principles

3.5.1.1

The Municipality requires that all developments provide drainage structures that will:

- reduce the rate of post development site runoff to predevelopment levels,
- improve the quality of site drainage water; and
- minimize erosion and retain sediments.

The Municipality is open to consideration of site specific drainage solutions brought forward by the Applicant, designed by the Consulting Engineer.⁶⁶

Metchosin is another example. This municipality established a performance standard of 90% of all rainfall addressed on site.⁶⁷

Additional suggestions of Bylaw Provisions are available in the *Green Bylaws Toolkit*.⁶⁸

3.1.3 Development Permit Areas

One way of addressing rainwater management is to incorporate rainwater requirements in Development Permit Areas for the protection of the natural environment (EDPA). These are specified areas where landowners must apply to alter or develop a property. An official community plan may designate development permit areas for a variety of purposes, including protection of the environment. The official community plan must describe the special conditions or objectives that justify the designation and specify guidelines that describe how the special conditions or objective will be addressed.⁶⁹ If a development permit area is specified, land in that area must not be altered or subdivided⁷⁰ except as permitted by a development permit.⁷¹ There are limitations on the type of development that a development permit can authorize.⁷²

Requirements under EDPA's can be to submit a particular plan (for example a Sediment and Erosion Control Plan) to the local government to ensure that construction work is undertaken and completed according to best management practices.⁷³ This allows staff to make site specific decisions to

⁶⁶ District of Saanich Engineering Specifications (Schedule H, Subdivision Bylaw NO. 7452, February 2004).

⁶⁷ Metchosin Protection and Management of Rainwater Bylaw no. 467 2004.

⁶⁸ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 177-178 <http://www.greenbylaws.ca>.

⁶⁹ *Local Government Act* [RSBC 2015] Chapter 1, s. 488.

⁷⁰ *Local Government Act* [RSBC 2015] Chapter 1, s. 489.

⁷¹ *Local Government Act* [RSBC 2015] Chapter 1, s. 490.

⁷² *Local Government Act* [RSBC 2015] Chapter 1, s. 490.

⁷³ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 96 <http://www.greenbylaws.ca>.

protect sensitive ecosystems. They can specify conditions and standards that a developer must meet, including requirements with regard to rainwater runoff.

An example of this is in Chilliwack, which requires the applicant to submit a Sediment Control and Erosion plan to the City prior to construction.⁷⁴

For more information on Environmental Development Permit Areas see The *Green Bylaws Toolkit* pages 96 – 100.⁷⁵

Coquitlam has a Development Permit Area in various areas throughout the City. Some of these Development Permit Areas require the developer to refer to the applicable Watershed Management Plan and Low Impact Development Guidelines for recommendations and requirements related to stormwater management.⁷⁶

3.1.4 Watercourse Protection Bylaws

In 2004 the provincial government granted municipalities authority to regulate and prohibit polluting, obstructing or impeding the flow of a watercourse under the *Community Charter*. This allows municipalities to address water quality standards and prohibit pollution of watercourses.⁷⁷

Watercourse protection bylaws can include prohibitions on fouling a watercourse, prohibiting discharge of certain substances into watercourses, prohibitions on enclosing watercourses, requirements for obtaining permits (the conditions of which can be based on best management practices), requirements for developing and implementing sediment and erosion control plans, terms of reference for the development of plans to be attached to permit applications, and offenses, penalties and remedies to enforce these prohibitions, including orders to suspend construction work.⁷⁸

The Smart Bylaw Guide contains comparison of watercourse protection bylaws of five local governments.⁷⁹

⁷⁴ City of Chilliwack “Policy and Design Criteria for Surface Water Management” (May 2002) pg. 39 http://www.chilliwack.com/main/attachments/files/658/Surface_Water_Management.pdf.

⁷⁵ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) <http://www.greenbylaws.ca>.

⁷⁶ City of Coquitlam “Guide to Best Site Development” (April 2005) pg. 29 http://www.coquitlam.ca/docs/default-source/development-permits/Guide_to_Best_Site_Development_Practices.pdf?sfvrsn=0.

⁷⁷ *Community Charter* [SBC 2003] Chapter 26, s. 8(3)(j) “A council may, by bylaw, regulate, prohibit and impose requirements in relation to ... protection of the natural environment.” This power is limited by s. 9 which relates to concurrent jurisdiction with provincial powers. This section provides that bylaws made under s. 8(3)(j) must be made in accordance with one of the specified forms of approval by the minister responsible in section 9(3). The specific authority for prohibiting pollution in watercourses is found in the Spheres of Concurrent Jurisdiction – Environment and Wildlife Regulation BC Reg 144/2004.

⁷⁸ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 126 <http://www.greenbylaws.ca>.

⁷⁹ This is available at <http://wcel.org/smart-laws-guide-web-pages>.

3.1.5 Pesticide Control Bylaws

Municipalities can prohibit and regulate the application of cosmetic pesticides on ornamental trees, shrubs and lawn.⁸⁰ This authority is limited to residential properties and cannot affect agriculture or forestry uses.⁸¹

3.1.6 Riparian Area Regulations

In recognition of the importance of riparian habitat, the Provincial government now requires local governments to protect riparian areas and begin to harmonize tri-jurisdictional regulations for development that has an impact on fish. Local government must meet the requirements of the Riparian Areas Regulation. However, they may enact their own regulations that is comparable to or exceeds the level of protection provided by the Riparian Area Regulation.

Saanich and West Vancouver have both exceeded the Riparian Area Regulations. They have also created flexibility for developers by providing them with different options to meet these standards.⁸²

Coquitlam has adopted the Riparian Area Regulation. They are able to exceed the riparian areas regulation if they choose to do so. This is another way of protecting watercourses.

Application to Coquitlam

Coquitlam has a *Stream and Drainage System Protection Bylaw*⁸³ that prohibits obstructing or impeding the flow of the drainage system or releasing waste or deleterious substance into the Drainage System. It also has requirements for sediment and erosion control, monitoring and maintenance. The bylaw includes the requirement of a security deposit. The City can require remedial action, including suspending construction if an infraction occurs. Non-compliance can result in a fine up to the maximum set out in the *Offense Act*. This appears to be a comprehensive bylaw for drainage system protection, however it should be extended to protect all watercourses, not just those that are part of the drainage system.

Coquitlam has also recently adopted a Pesticide Use Control Bylaw,⁸⁴ which bans most conventional pesticides used for garden and lawn beautification on residential or City land. Coquitlam's Rainwater Management Plan appears to be comprehensive and incorporates best practices. Coquitlam also has Development Permit Areas, some of which require developers to refer to guidelines for stormwater management.

Coquitlam appears to be in a good position for protecting watercourse. If the current measures are not adequate for managing stormwater, Coquitlam could expand controls over development through increasing requirements for stormwater management in Development Permit Areas. Another

⁸⁰ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 127 <http://www.greenbylaws.ca>.

⁸¹ The specific authority for prohibiting the application of pesticides is found in the Spheres of Concurrent Jurisdiction – Environment and Wildlife Regulation BC Reg 144/2004 under the *Community Charter*..

⁸² Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pgs. 137-141. <http://www.greenbylaws.ca>.

⁸³ Bylaw No. 4403, 2013 <http://publicdocs.coquitlam.ca/cyberdocs/getdoc.asp?doc=1567099>.

⁸⁴ Bylaw No. 4254, 2012 <http://publicdocs.coquitlam.ca/cyberdocs/getdoc.asp?doc=1249411>.

option is to implement a performance standard bylaw to control rainwater runoff such as the bylaws in Saanich or Metchosin.

The City may also wish to exceed the provincial requirement for riparian area protection as a way of protecting watercourses.

Additional Resources Available

- *Smart Bylaws Guide* is a resource to help municipalities to implement smart growth strategies through policy and bylaw change. It is available from West Coast Environmental Law at <http://www.wcel.org/issues/urban/sbg>.
- *Stormwater Planning: A Guidebook for BC* is a resource available for addressing stormwater planning, including integrated stormwater management. It is available at <http://www.env.gov.bc.ca/epd/epdpa/mpp/stormwater/guidebook/pdfs/stormwater.pdf>.
- *Green Bylaws Toolkit* is a resource designed to provide municipal and regional governments with practical tools for protecting green infrastructure within their jurisdictions.⁸⁵
- *Stewardship Bylaws: A Guide for Local Governments* is a practical guide to design fair, effective and enforceable local government stewardship bylaws. It has examples of watercourse protection bylaws at page 53 and Development Permit Areas at page 66. It is available at <http://www.dfo-mpo.gc.ca/Library/250188.pdf>.
- The Ministry of Environment's *Develop with Care* is a series of best practices guidelines that includes terms of reference for site inventories and conservation evaluations.⁸⁶

3.2 Invasive Species

The Lower Coquitlam River Watershed Plan identifies two priority strategies for addressing Invasive Species.⁸⁷ These priority strategies are alignment of efforts and a ban on the sale of invasive species. One of these actions plans, alignment of efforts, is currently in the detailed action planning phase. The focus of this strategy is to develop a coordinated approach to invasive species management that can apply for the region. The key actions for this strategy includes information sharing, establishing a coordinated approach, coordinating development of model bylaws, aligning strategies for implementation, and reducing invasive species.

3.2.1 Regulatory Bylaws

Invasive species are an area of concurrent Provincial and Municipal jurisdiction. Municipalities can regulate and prohibit “alien invasive species” as defined in the Schedule of the *Spheres of*

⁸⁵ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) <http://www.greenbylaws.ca>.

⁸⁶ It is available at <http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare/>.

⁸⁷ Coquitlam River Watershed Roundtable, *Lower Coquitlam River Watershed Plan, Final Draft Version 1.0* (July 15 2015) City of Coquitlam Working Paper, pg. 16.

*Concurrent Jurisdiction – Environment and Wildlife Regulation*⁸⁸ under the *Community Charter*.⁸⁹

Landscape bylaws can also control the type of vegetation to be planted in various areas, and can specify that native vegetation must be planted. Local governments have the power to act unilaterally in creating bylaws of this type: they do not have to refer the bylaw to the provincial government.

An example of a bylaw designed to prevent invasive species is attached to this report in Appendix A. Suggested wording if the bylaw is as follows:

Unless permitted or exempted in accordance with this bylaw, no person shall plant, cause or permit to grow, or allow to inhabit a property, an alien invasive species within 30 days of receiving notice of such an infraction.

The bylaw should include enforcement mechanisms, such as wording allowing Bylaw Officers to enter onto property to enforce the bylaw and take action as necessary to remove alien invasive species, and providing that any the owner and occupier is liable both for expenses incurred in this action and liable for a fine for contravening the bylaw.

3.3 Development

The Lower Coquitlam River Watershed Plan identifies three priority strategies for the Development Action Plan.⁹⁰ These priority strategies are a Green Development Incentive Program for Developers, Development of an Impact Map, and a Natural Space Strategy. One of these strategies, Green Development Incentive Program for Developers, is currently in the detailed action planning phase. The focus of this strategy is to conduct a feasibility study on incentive tools for the development community. The key actions for this strategy include: research and recommendations for green development incentive programs, addressing sensitive ecological priorities, addressing important areas, encouraging developers to enrol in programs for green development, and reducing development impacts on natural areas, recreation and liveable communities.

There are several legal tools available for municipalities to shape how development happens and for protecting watercourses. Landowners do not have to be compensated for any loss in property value resulting from the adoption of an official community plan, a zoning bylaw, development agreement bylaw, land use bylaw, or adoption of other bylaws,⁹¹ as long as the municipality is making good faith decisions for a proper purpose. Also, landowners have no right to any particular bylaw or zoning regulation. However, there are many reasons why a combined incentive program and bylaws, regulations and zoning may be preferred, (a carrot and stick scenario).

3.3.1 Mapping

One key to the success of the various techniques described below is mapping. Coquitlam has already engaged in significant mapping work through the Environmental Watercourses Mapping that

⁸⁸ BC Reg. 144/2004.

⁸⁹ [SBC 2003] Chapter 26, s. 9.

⁹⁰ Coquitlam River Watershed Roundtable, *Lower Coquitlam River Watershed Plan, Final Draft Version 1.0* (July 15 2015) City of Coquitlam Working Paper, pg. 19.

⁹¹ *Local Government Act* [RSBC 2015] Chapter 1, s. 458.

identifies the Streamside Protection and Enhancement Areas setbacks, the Riparian Assessment Areas, Ravines, Watercourse Fish Presence, Culverts, and Development Permit Areas.⁹² Coquitlam has also undertaken mapping in relation to the citywide Official Community Plan.⁹³ This will likely be an asset in implementing other legal tools, such as additional zoning, cluster development, or amenity density bonuses, which require mapping.

3.3.2 Parkland Acquisitions

Acquiring parkland is an important strategy for protecting environmentally sensitive areas. Municipalities can purchase riparian areas to ensure adequate protection and to create more parks and greenways that could incorporate appropriate setback from all riparian areas. Municipalities can also require the dedication of riparian areas to the municipality through EDPA permit conditions.⁹⁴

Many Official Community Plans incorporate land acquisition policies in relation to parks master plans.⁹⁵ For example, during subdivision and using amenity zoning, municipalities can purchase or dedicate land as parkland. Development cost charges also can bolster the parkland acquisition budget.⁹⁶ This is done by creating a bylaw that imposes development cost charges for the purpose of providing parkland on any person who obtains a permit for construction or subdivision. The amount of the charge must be specified in the bylaw.⁹⁷ If the development cost charge is for the purpose of acquiring parkland, the charge may be paid by providing land with a location and character acceptable to the local government, and with a market value equal to the amount of the charge.⁹⁸

Section 510 of the *Local Government Act*⁹⁹ also requires owners to dedicate up to 5 percent of land subject to subdivision as a park, or pay cash in lieu. If the Official Community Plan designates the location and type of future parkland they wish to acquire then they can choose whether to receive cash or land.

While these strategies may provide some funds or land for parkland acquisition, alone they will likely not meet a local government's conservation goals as there are often limited acquisition budgets and small amounts of land dedicated during subdivision. Official Community Plans can support other approaches to land development that can result in the acquisition of more parkland. These include amenity bonuses, cluster development, and comprehensive development zoning.¹⁰⁰ These tools can result in protecting environmentally sensitive areas and in increasing recreational areas for residents.

⁹² City of Coquitlam, "Environmental Watercourse Mapping" (2006) <http://www.coquitlam.ca/planning-and-development/resources/Property-Developer-and-Builder-Resources/environmental-watercourse-mapping.aspx>.

⁹³ City of Coquitlam, "Citywide Official Community Plan, Part 3 Area and Neighbourhood Plans" (March 2002) <http://www.coquitlam.ca/city-hall/plans/community-plans.aspx>.

⁹⁴ *Local Government Act* [RSBC 2015] Chapter 1, s. 491(1)(c).

⁹⁵ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 60 <http://www.greenbylaws.ca>.

⁹⁶ *Local Government Act* [RSBC 2015] Chapter 1, s. 559.

⁹⁷ *Local Government Act* [RSBC 2015] Chapter 1, s. 564.

⁹⁸ *Local Government Act* [RSBC 2015] Chapter 1, s. 567.

⁹⁹ [RSBC 2015] Chapter 1.

¹⁰⁰ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 61 <http://www.greenbylaws.ca>.

Additional legal tools to develop parkland for conservation purposes include establishing a municipal or regional conservation fund. The Capital Regional District has a tax of \$1.92 per \$100,000 assessed property value to support the acquisition of parkland,¹⁰¹ which provides an average rate of \$10 per average residential household. This fund is projected to generate approximately \$3.7 million each year until 2019 towards the CRD's conservation goals, including acquiring land in the Sea to Sea Greenbelt, a campaign to create an 11,000 hectare corridor of protected wilderness and parkland.¹⁰² Much of the parkland that the CRD is interested in acquiring is surrounding waterways in the Capital Regional District.¹⁰³ The Regional District of East Kootenay uses a land and improvements tax, collected as a parcel tax, created to support the conservation and restoration of fish and wildlife habitat, watersheds and open spaces, including family farms, ranches, and forested land.¹⁰⁴ Cowichan Valley Regional District uses a property value tax to support the objectives of the regional Park and Trails Master Plan.¹⁰⁵

Municipalities can establish a conservation fund by creating a service under s. 8(2) of the *Community Charter*.¹⁰⁶

For additional information on this option refer to the ELC project *Regional District Conservation Funds in British Columbia*.¹⁰⁷ Also see *Establishing a Regional Conservation Fund in British Columbia: A Guide to Local Governments and Community Organizations*¹⁰⁸ for more information and a step-by-step guide to establishing a Conservation Fund.

3.3.4 Zoning

Zoning allows local governments to regulate the use and density allowed on a specific piece of land. In a neighbourhood, use and density is the primary means a local government can shape

¹⁰¹ Micah Carmody, *Regional District Conservation Funds in British Columbia* (2009) Environmental Law Center, University of Victoria, pg. 2 <http://www.elc.uvic.ca/wordpress/wp-content/uploads/2015/02/Regional-District-Conservation-Funds-in-BC.pdf>.

¹⁰² CRD *Regional Parks Land Acquisition: Summary of Regional Parks Land Acquisition Fund* (2015) pg. 2 <https://www.crd.bc.ca/docs/default-source/parks-pdf/summary-of-2014-regional-parks-land-acquisition-fund.pdf?sfvrsn=2>.

¹⁰³ CRD *Regional Parks Land Acquisition: Summary of Regional Parks Land Acquisition Fund* (2015) pg. 5 <https://www.crd.bc.ca/docs/default-source/parks-pdf/summary-of-2014-regional-parks-land-acquisition-fund.pdf?sfvrsn=2>.

¹⁰⁴ Micah Carmody, *Regional District Conservation Funds in British Columbia* (2009) Environmental Law Center, University of Victoria, pg. 4 <http://www.elc.uvic.ca/wordpress/wp-content/uploads/2015/02/Regional-District-Conservation-Funds-in-BC.pdf>.

¹⁰⁵ Micah Carmody, *Regional District Conservation Funds in British Columbia* (2009) Environmental Law Center, University of Victoria, pg. 7 <http://www.elc.uvic.ca/wordpress/wp-content/uploads/2015/02/Regional-District-Conservation-Funds-in-BC.pdf>.

¹⁰⁶ *Community Charter* [SBC 2003] Chapter 26, s. 8

¹⁰⁷ Micah Carmody, *Regional District Conservation Funds in British Columbia* (2009) Environmental Law Center, University of Victoria, <http://www.elc.uvic.ca/wordpress/wp-content/uploads/2015/02/Regional-District-Conservation-Funds-in-BC.pdf>.

¹⁰⁸ Bryn White, Kellie Garcia and Katherine Dunster *Establishing a Regional Conservation Fund in British Columbia: A Guide to Local Governments and Community Organizations* (2011) South Okanagan-Similkameen Conservation Program, <http://www.soscp.org/conservationfundguideforbc/>.

development. On a municipal or watershed level, zoning is the primary means of preventing development in sensitive ecosystems and directing development towards more appropriate areas.¹⁰⁹

Using zoning as a tool for conservation, or “conservation zoning,” is a simple and straightforward way to direct development away from green infrastructure such as watercourses. Mapping is required to identify sensitive ecosystems or desired greenways, then once mapping has occurred zoning can designate larger lot sizes to decrease density or designate setbacks from ecological areas such as watercourse.

Local governments may establish zones and regulate the use of land, density, and many other aspects of development on the land.¹¹⁰ This includes the power to prohibit any use of land in a zone. Local governments do not have to pay any compensation to landowners for changes in the value of land due to rezoning enacted in the public interest.¹¹¹ However, conservation zoning, especially rezoning that reduces density, can be politically unpopular because it can decrease the value of property by limiting its use. This may be mitigated somewhat if conservation zoning flows out of a community-wide planning process such as the Lower Coquitlam Watershed Plan that clearly sets long-term goals for land-use and sustainability. If the goals have a high degree of public support, individual members of the community will be more likely to accept the tools chosen to meet these goals. Another example of a municipality that adopted conservation zoning is Nanaimo, where the City requires setbacks from watercourses called “leave strips.” No development or alteration of land is permitted within a leave strip.¹¹²

3.3.5 Comprehensive Development Zoning

Comprehensive development zoning is site specific zoning for a particular property.¹¹³ Each comprehensive development zone is unique and tailored to the particular site and ecological conditions of that property. This allows local governments to negotiate detailed guidelines and specifications for all aspects of development in an integrated manner. This can be beneficial for sensitive habitat and may be relevant and viable for development in and around riparian areas. Coquitlam (and Port Coquitlam) could engage in comprehensive development zoning in environmentally sensitive areas where it negotiates amenities such as additional parkland, waterfront access and rehabilitation, and innovative rainwater management.

Victoria has used comprehensive development zoning for several large redevelopments, including the award-winning Docksider Green development.¹¹⁴ Burnaby uses comprehensive development zones extensively and emphasizes an ecosystem-based approach to future development.

¹⁰⁹ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 73 <http://www.greenbylaws.ca>.

¹¹⁰ *Local Government Act* [RSBC 2015] Chapter 1, s. 479.

¹¹¹ *Local Government Act* [RSBC 2015] Chapter 1, s. 458.

¹¹² City of Nanaimo, Zoning Bylaw 2500, Section 6.3 Location and Siting of Buildings and Structures to Water Course, <http://www.nanaimo.ca/UploadedFilesPath/Bylaws/BylawNo4500.pdf>.

¹¹³ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 84 <http://www.greenbylaws.ca>.

¹¹⁴ Victoria Zoning Regulation Bylaw No. 80-159, Part 12.9 – CD-9 Zone, Docksider District <http://www.victoria.ca/assets/Departments/Planning~Development/Development~Services/Zoning/Bylaws/12.9.pdf>.

Municipal staff tailor development to site-specific constraints and opportunities, including watercourse protection and stormwater management.¹¹⁵

3.3.6 Cluster Development and Amenity Bonuses

Coquitlam may be an appropriate area for combining cluster development with amenity bonuses. Cluster development involves “clustering” development away from sensitive ecosystems and greenways.¹¹⁶ Typically it involves rezoning and subdivision of larger parcels of land where the subdivision design places development on a specified portion of the land away from the ecological features that need protection. The landowner registers a conservation covenant on the remainder of the parcel or on the sensitive ecosystem outside of the development zone. This overall approach can be accomplished through the use of several legal tools such as density averaging, amenity density bonuses, bare-land strata, and comprehensive development zoning. It can also be achieved through subdivision with strong wording in the Official Community Plan.

Comprehensive development zoning can be attractive for developers because municipalities can combine clustering with an amenity density bonus to allow more density or more lots in return for a conservation covenant, creating parkland, or restoring ecosystems. Clustering can also reduce servicing and road construction costs.

Clustering works in all sizes of communities. It can preserve significant tracts of sensitive ecosystems (for example riparian areas) and provide a buffer for green infrastructure. The effectiveness of clustering will increase when a local government has completed mapping to describe the location and extent of sensitive ecosystems.

Amenity density bonus is a legal tool where a local government allows developers to increase the density of development, for example by increasing the allowable floor space or number of units, in exchange for creating a public amenity such as parkland, clustering, waterfront access, daycare facilities or affordable housing.¹¹⁷ The landowner benefits from additional floor space or units and the community benefits from the amenity.¹¹⁸ A landowner can opt into an amenity density bonus arrangement without a rezoning if the zoning bylaw provides for increased density in exchange for amenities. Local governments can use amenity density bonuses, combined with cluster development and conservation covenants¹¹⁹ to protect environmentally sensitive areas and green infrastructure.

¹¹⁵ City of Burnaby, Burnaby Zoning Bylaw, Schedule Number VII

<https://burnaby.civicweb.net/filepro/documents/5892?preview=9810>.

¹¹⁶ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 75 <http://www.greenbylaws.ca>.

¹¹⁷ *Local Government Act* [RSBC 2015] Chapter 1, s. 482.

¹¹⁸ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 78 <http://www.greenbylaws.ca>.

¹¹⁹ Conservation covenants are a voluntary agreement between the landowner and the covenant holder. Covenants are legally enforceable rights given to a third party by a landowner. In this case the covenant holder would be the municipality. The landowner agrees to protect the land according to the words of the covenant. The covenant holder has the right to monitor and enforce the covenant to ensure that the landowner is using the land in accordance with the covenant. Covenants “run with the land,” meaning they apply to whomever owns the land, and to anyone they sell the land to, for as long as the covenant specifies. This ensures that the agreed protection endures over the long term (Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and*

This can be a useful tool to allow developers and municipalities to work together to craft unique responses to site-specific ecosystem conditions and development costs. For example density bonuses and amenity zoning could be combined to incorporate unique lot lines that minimize road construction costs and protect sensitive ecosystems. Zoning bylaws may include amenity density bonus provisions, or they may be part of Official Community Plan policies that are negotiable on a case-by-case basis.¹²⁰

In urban areas amenity density bonuses have been used to secure the dedication of parkland and the restoration of degraded ecosystems.¹²¹

Colwood is an example where a combination of zoning tools were used to develop 20 hectares of ocean waterfront bordering the Esquimalt Lagoon, an environmentally sensitive area.¹²² The City approved comprehensive development zoning that provides for amenity density bonus and clustering the development at the back of the property away from the lagoon and the existing road. The City's Official Community Plan designation allowed the overall density for the site to cluster development rather than requiring it to spread out uniformly across the landscape. No buildings were allowed within 100 meters of the lagoon and 15 meters of the riparian areas. Approximately 28 percent of the site is naturalized parkland. The developer also committed to some restoration work in the ecosystem and construction of trails and an interpretive center.

Victoria has allowed density bonuses for over 15 years and has used them for preserving and remediating the foreshore adjacent to the inner harbour and the Gorge waterway as a part of redevelopment. They also allow density bonuses for the downtown core.¹²³ The City of Burnaby has included density bonuses in its zoning bylaws and has used them extensively. To be eligible the development plan must include amenities equal in value to the increased value of the lot as a result of increased floor area ratio. They have a variety of eligible amenities, including affordable housing, park improvements, extraordinary environmental enhancements, and other benefits to the community. The bonus applies only to areas slated for intensification, which has avoided controversy. City Council decides that community benefit staff should seek in a given location. Density bonuses that relate to green infrastructure can include rehabilitation of riparian areas adjacent to development, rehabilitation of a riparian area in a City park, and the creation or enhancement of a City park with a creek running through it.¹²⁴

Green Infrastructure (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 117-188 <http://www.greenbylaws.ca>.

¹²⁰ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 79 <http://www.greenbylaws.ca>.

¹²¹ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 80 <http://www.greenbylaws.ca>.

¹²² Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 75 <http://www.greenbylaws.ca>.

¹²³ Community Planning Division *Downtown Core Area Plan* (Victoria: City of Victoria, September 2011), pg. 35- 41 http://www.victoria.ca/assets/Departments/Planning~Development/Community~Planning/Local~Area~Planning/Downtown~Core~Area~Plan/DTCP_book_web.pdf.

¹²⁴ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016), pg. 80-81 <http://www.greenbylaws.ca>. Also see Burnaby Zoning Bylaw, Section 6.22 <https://burnaby.civicweb.net/filepro/documents/5436?preview=9769>.

3.3.7 Other Zoning Tools

Additional examples of zoning bylaw approaches are available in the *Green Bylaws Toolkit*,¹²⁵ and aim to:

- Maintain large lots outside the urban containment area;
- Encourage mixed use cluster development within the urban containment area;
- Repeat setbacks from watercourse management areas and sensitive ecosystems;
- Set specific density bonuses for specific zones;
- Enable cluster development in specific zones to maintain an average density while limiting the footprint of development; and
- Limit the total amount of impermeable surfaces and encourage infiltration of rainwater.

Also see Smart Bylaws Guide Part 3 – create compact complete communities.

¹²⁶3.3.8 Environmental Development Permit Areas

Environmental Development Permit Area's (EDPA) are a type of development permit area specifically designed to protect the environment.¹²⁷ They allow staff to make site specific decisions to protect sensitive ecosystems. They can specify conditions and standards that a developer must meet and areas or natural features which must be protected.¹²⁸ A landowner must obtain a development permit for land in an EDPA before subdividing, constructing or altering the land. Local governments can create EDPA guidelines for a variety of ecosystem types or geographical features, including watercourses and sensitive riparian areas. This could be used as an effective way of protecting riparian areas and sensitive watercourses.

Official Community Plans must specify the scope of EDPAs and the conditions or objectives that justify the designation, as with other development permit areas.¹²⁹ This permitting tool can complement zoning tools. Development permits are flexible and can vary or replace some zoning and subdivision requirements.

Local government also can require “development approval information,” or information on the anticipated impact of a proposed activity, including the anticipated impact on the natural environment.¹³⁰ Areas or circumstances that may require development approval information must be laid out in the Official Community Plan and must include a description of the special conditions or objectives that justify the requirement of the development approval information.¹³¹ Additionally the municipality must enact a bylaw establishing a procedure for when the development approval

¹²⁵ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 177- 180, <http://www.greenbylaws.ca>.

¹²⁶ <http://wcel.org/smart-bylaws-guide-%E2%80%93-part-3-0>

¹²⁷ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 86, <http://www.greenbylaws.ca>

¹²⁸ *Local Government Act* [RSBC 2015] Chapter 1, s. 491.

¹²⁹ *Local Government Act* [RSBC 2015] Chapter 1, s. 488.

¹³⁰ *Local Government Act* [RSBC 2015] Chapter 1, s. 484.

¹³¹ *Local Government Act* [RSBC 2015] Chapter 1, s. 485.

information will be required, and what type of information will be required.¹³² They can choose to require an environmental impact statement by a qualified environmental professional.¹³³ This allows for a more site specific understanding of the environmental consequences of proposed development and gives the municipality a degree of flexibility and oversight on all development within the EDPA area.

The City of Nanaimo has used EDPAs to protect watercourses. The City defined setbacks from water (called leave strips) in the Development Permit Area Guidelines and reinforced by zoning bylaws.¹³⁴ Development is permitted within the leave strips only under certain conditions, and is tightly controlled if permitted. There are additional requirements for erosion and sediment control, vegetation management, habitat restoration, and identification of leave strip and encroachment boundary. There are requirements for construction plans following the publication *Land Development Guidelines for the Protection of Aquatic Habitat and Stream Stewardship: A Guide for Planners and Developers*. The Environmental Coordinator may inspect the site prior to development to ensure the developer has adequate sediment control measures in place, and construction must not disturb existing trees unless the development permit allows it.

The City expanded the EDPAs to include terrestrial ecosystems in 2005 and also designated development approval information areas where applicants may need to supply additional information such as studies. The City's Environmental Coordinator is a biologist who is involved at all stages of development and is responsible for monitoring and enforcement. It is interesting to note that while staff are aware of watercourses and areas that may contain sensitive ecosystems, the existing mapping has not identified all species and habitats. Landowners and developers regularly bring wetlands and rare species to staff's attention that mapping did not detect.

The Regional District of Central Okanagan is another example where the local government used EDPAs to require setbacks from environmentally sensitive areas.¹³⁵ Central Okanagan also incorporates performance-based criteria that establish what the end result should be but leave it up to developers as to how they will achieve this result. They have extensive Sensitive Terrestrial Ecosystems DPA guidelines that focus on habitat protection, connectivity and buffering sensitive ecosystems. The regional district uses environmental assessment, with detailed requirement in the *Terms of Reference*. These EDPA processes are triggered by applications for rezoning, subdivision, building permits and Official Community Plan amendments.

3.3.9 Impact assessments

Impact assessments allow local governments to require developers to provide development approval information, being information on the impact of the development on the community, environment, or other matters.¹³⁶ The local government may implement impact assessments by

¹³² *Local Government Act* [RSBC 2015] Chapter 1, s. 486.

¹³³ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 87, <http://www.greenbylaws.ca>.

¹³⁴ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 93- 94, <http://www.greenbylaws.ca>.

¹³⁵ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 96-97, <http://www.greenbylaws.ca>.

¹³⁶ *Local Government Act* [RSBC 2015] Chapter 1, Division 6 - Development Approval Information Requirements, s. 484 – 487.

designating development permit information areas by stating the circumstances and areas where the impact assessment is required in the Official Community Plan. If they do so, they must enact a bylaw that establishes what type of information is required and the policies and procedures for requiring it. The applicant must pay the cost of providing the information.¹³⁷

Many local governments require an initial screening of development projects to determine the appropriate level of impact assessment. This can vary from a minor review to an extensive impact assessment with mitigation of environmental damage. Others, such as the City of Port Coquitlam, are adopting an integrated scorecard or development checklist. Some level of impact assessment may be an appropriate tool for Coquitlam to control development.

The District of Saanich also requires the identification of environmental and social consequences of rezoning and subdivision under the Land Use and Development Procedures Bylaw.¹³⁸ Staff screen applications to determine if an Environmental and Social Review is necessary. If it is then the Planning Department prepares a report that outlines the review and sets out the proposed terms of reference. If it is not recommended, the Department prepares a brief memorandum explaining why, and the council has an opportunity to discuss this if they wish.

3.3.10 Other Development Tools

The City of North Vancouver has enacted award-winning Environmental Protection and Preservation Bylaw.¹³⁹ The bylaw sets municipal-wide standards for protecting the natural environment on private properties. This bylaw includes a comprehensive process for all land development, beginning with an environmental questionnaire, and including a variety of requirements. This provides a comprehensive site-specific system for protecting riparian habitat.

For more information see *Green Bylaws Toolkit*¹⁴⁰ or the *District of North Vancouver Environmental Protection and Preservation Bylaw*.¹⁴¹

Application to Coquitlam

Coquitlam already has significant mapping for most areas of the City associated with the citywide Official Community Plan.¹⁴² Coquitlam also adopted the Provincial Riparian Areas Regulation¹⁴³ for determining Streamside Protection and Enhancement Area setbacks from watercourses for fish

¹³⁷ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 109 - 112, <http://www.greenbylaws.ca>.

¹³⁸ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 110, <http://www.greenbylaws.ca>.

¹³⁹ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 128- 129, <http://www.greenbylaws.ca>.

¹⁴⁰ Deborah Curran et al. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* (Victoria: University of Victoria Environmental Law Clinic, April 2016) pg. 87, <http://www.greenbylaws.ca>.

¹⁴¹ <http://www.dnv.org/upload/documents/bylaws/6515.htm>.

¹⁴² City of Coquitlam “Citywide Official Community Plan, Part 3 Area and Neighbourhood Plans” (March 2002) <http://www.coquitlam.ca/city-hall/plans/community-plans.aspx>.

¹⁴³ City of Coquitlam, http://www.coquitlam.ca/docs/default-source/engineering-documents/Riparian_Areas_Regulation.pdf?sfvrsn=0.

habitat into the City's zoning Bylaw (Part 5 –Section 523).¹⁴⁴ There are many additional tools for developing parkland that may be appropriate, including establishing a parkland acquisition fund or conservation fund.

Zoning

There are many options relating to zoning that could help to control development, including adopting conservation zoning and requiring setbacks from sensitive ecosystems. Coquitlam uses Comprehensive Development Zoning, but not in relation to protecting green-infrastructure or waterways. Zoning provides for a comprehensive mixed use development, emphasizing medium to high residential development.¹⁴⁵ Existing Comprehensive Development Zones could be adapted to include sustainability objectives.

Coquitlam may be an appropriate area for combining cluster development with amenity bonuses. In Coquitlam the Official Community Plan already commits the City to developing as a compact, complete community,¹⁴⁶ “preventing regional urban sprawl and the preservation of selected green spaces nearby.”¹⁴⁷

The City of Coquitlam could provide amenity bonuses in exchange for developers clustering development away from ecologically significant areas, and require developers to provide covenants that the remaining areas will not be developed, or to provide parks for public use on some of the remaining areas. They could also incorporate policies in the Official Community Plan that favor clustering development away from sensitive ecosystems, even to the point of requiring the subdivision approving officer to require laying out subdivisions in accordance with ecosystem features.

Development Permit Areas

Coquitlam's Official Community Plan designates Development Permit Areas in Coquitlam for the purpose of protecting the environment, preventing hazardous conditions, and establishing objectives for the character of a neighbourhood. This includes land use designations and policies related to specific types of development.¹⁴⁸ Of particular interest is the Watercourse Protection Development Permit Areas in Northeast Coquitlam.¹⁴⁹ These Development Permit Areas, if they are currently inadequate to effectively protect watercourses, could be strengthened and adapted to include more stringent environmental requirements.

¹⁴⁴ City of Coquitlam, “Environmental Watercourse Mapping” (2010) Planning and Development Department <http://www.coquitlam.ca/planning-and-development/resources/Property-Developer-and-Builder-Resources/environmental-watercourse-mapping.aspx>.

¹⁴⁵ Coquitlam Zoning Bylaw, Part 21 http://www.coquitlam.ca/docs/default-source/zoning-bylaw/Part_21_-_Comprehensive_Development_Zones.pdf?sfvrsn=4.

¹⁴⁶ City of Coquitlam “Coquitlam Community Plan: A Compact Complete Community by Nature” (March 2002) http://www.coquitlam.ca/docs/default-source/citywide-ocp/Part_2_-_2.pdf?sfvrsn=0.

¹⁴⁷ City of Coquitlam “Coquitlam Community Plan: A Compact Complete Community by Nature” (March 2002) pg. 2-1 http://www.coquitlam.ca/docs/default-source/citywide-ocp/Part_2_-_2.pdf?sfvrsn=0.

¹⁴⁸ Development Permit Application Guide, pg. 1 http://www.coquitlam.ca/docs/default-source/development-permits/Development_Permit_Guide.pdf?sfvrsn=0.

¹⁴⁹ http://www.coquitlam.ca/docs/default-source/citywide-ocp/Part_3_-_11_Schedule_D.pdf?sfvrsn=0.

Impact Assessments

In ecologically sensitive areas impact assessments can assist in shaping development in accordance with Coquitlam's goals for watercourse protection.

Part 4 - Citizen Involvement

Introduction

Citizens have a variety of ways to be involved in municipal governance and decision making. These include legal rights to process under the *Community Charter*,¹⁵⁰ the *Local Government Act*,¹⁵¹ and other legislation. There are also creative ways of engaging with the municipal process beyond the specific legal rights.

4.1 General Legal Rights

There are several general procedural and access to information rights citizens have under the *Community Charter*.

All meetings, with a few exceptions,¹⁵² must be open to the public. All voting on bylaws must be public.¹⁵³

Some actions of municipal governments, such as public hearings for zoning and Official Community Plan bylaws, is subject to the requirement for public notice.¹⁵⁴ Different decisions require different types of public notices. For examples, for public hearing on zoning bylaws notice must be posted in public places, and published in a newspaper distributed at least weekly for two consecutive weeks or through an acceptable alternative means. The municipality may also be required to provide notice to businesses affected by certain decisions.

Citizens also have a right to access certain documents, both under the *Freedom of Information and Protection of Privacy Act* and the *Community Charter*.¹⁵⁵ Municipalities may, through a bylaw, provide for public access to records and establish procedures for accessing those records. Even if they do not do so, certain records will be required to be available for public inspection at the municipal hall during regular office hours.¹⁵⁶ There is an exception for records that would not be required to be disclosed under the *Freedom of Information and Protection of Privacy Act*.

Certain municipal records must be available for public inspection. This includes bylaws, minutes of council meetings, the annual municipal report, and many other documents.¹⁵⁷ Documents council will consider for rezoning applications (reports from consultants or developer plans for example) are also required to be public.

¹⁵⁰ [SBC 2003] Chapter 26.

¹⁵¹ [RSBC 2015] Chapter 1.

¹⁵² There are exceptions for personnel, labour relations, security of municipal property, law enforcement, etc. *Community Charter* [SBC 2003] Chapter 26, s. 90.

¹⁵³ *Community Charter* [SBC 2003] Chapter 26, s. 89.

¹⁵⁴ *Community Charter* [SBC 2003] Chapter 26, s. 94.

¹⁵⁵ [RSBC 1996] Chapter 165.

¹⁵⁶ *Community Charter* [SBC 2003] Chapter 26, s. 95.

¹⁵⁷ Listed in *Community Charter* [SBC 2003] Chapter 26, s. 97.

4.2 Specific Legal Requirements

In addition to the rights listed above, there are some specific rights that citizens have regarding municipal action.

4.2.1 Annual Municipal Reports

Council must prepare an annual municipal report and make it available for inspection. The report must include specified information such as audited financial statements, amount of tax exemptions granted, a report on municipal services, progress report from the previous year, and other information listed.¹⁵⁸

4.2.2 Petitions to Council

Citizens have the right to file a petition with council. These must be filed with the corporate officer and must include the full name and address of each petitioner.¹⁵⁹

4.2.3 Community Opinion

Council has the right to seek community opinion on any issue council believes will affect the municipality, by voting or any other process considered appropriate. The results of this opinion are not binding on council.¹⁶⁰

4.2.4 Public Hearings on Planning and Land Use Bylaws

Under the *Local Government Act* municipalities are required to hold a public hearing before adopting an Official Community Plan or rezoning bylaw. This is held for the purpose of allowing the public to make representations to the local government about matters contained in the proposed bylaw. The municipality can waive this requirement for rezoning if the rezoning is consistent with the Official Community Plan.¹⁶¹

If a hearing is held to adopt an Official Community Plan or for rezoning, notice of the hearing containing specified information such as the purpose of the bylaw and the land or lands that are subject to the bylaw must be posted as specified in the *Local Government Act*.¹⁶² If the requirement for a public hearing has been waived the municipality must still provide notice of the zoning bylaw, the land or lands subject to the bylaw, and place and times where the bylaw may be inspected.¹⁶³

¹⁵⁸ *Community Charter* [SBC 2003] Chapter 26, s. 98.

¹⁵⁹ *Community Charter* [SBC 2003] Chapter 26, s. 82.

¹⁶⁰ *Community Charter* [SBC 2003] Chapter 26, s. 83.

¹⁶¹ *Local Government Act* [RSBC 2015] Chapter 1, s. 464-465.

¹⁶² [RSBC 2015] Chapter 1, s. 466.

¹⁶³ *Local Government Act* [RSBC 2015] Chapter 1, s. 467.

All relevant materials to the decision on the bylaw must be made available prior to the public hearing in order to be acceptable under procedural fairness.¹⁶⁴ It has been suggested that providing the relevant documents a week to eleven days prior to the hearing would be acceptable.¹⁶⁵

4.2.5 Consultation During Official Community Plan Development

During development, repeal or amendment of an Official Community Plan, municipalities must provide the opportunity for consultation with various actors it considers will be affected. This should be early and ongoing. There are specific organizations that the municipality must consider consulting, including First Nations, the board of the regional district, and others.¹⁶⁶ This is in addition to a public hearing.

4.2.6 Consultation for Development of Financial Plan

Municipalities have a requirement to undertake a process of consultation regarding proposed financial plans before they are adopted.¹⁶⁷

4.2.7 Annual Meeting on Annual Municipal Report

Council must prepare an annual municipal report every year containing specified information.¹⁶⁸ The council must consider this report annually at a council meeting or other public meeting and must hear submissions and questions from the public.¹⁶⁹ The annual report must be made available 14 days prior to this meeting¹⁷⁰ and notice of the annual meeting must be posted in public notice posting places and published in a newspaper (distributed at least weekly) for two consecutive weeks.¹⁷¹

It is important to note that these are largely procedural rights only. Council members do not have to follow the public's submissions and are able to make their own decisions.¹⁷² Citizens have participatory rights in relation to municipal actions, called a "duty of procedural fairness." This is to ensure that administrative decision makers are using fair and open procedures, appropriate to the decision being made and statutory requirements. Those affected usually have a right to put forward their views and evidence, and have this considered by the decision-maker. They have a legitimate expectation of consultation.¹⁷³ However, the decision maker can come to their own conclusions, after considering the views and evidence put forward by affected citizens. The right to be heard does not include the right to have one's submissions accepted.¹⁷⁴

¹⁶⁴ *Pitt Polder Preservation Society v Pitt Meadows (District)* 2000 BCCA 415.

¹⁶⁵ *Botterill et al v Cranbrook (City of)* 2000 BCSC 1225, para 24.

¹⁶⁶ *Local Government Act* [RSBC 2015] Chapter 1, s. 475.

¹⁶⁷ *Community Charter* [SBC 2003] Chapter 26, s. 166.

¹⁶⁸ *Community Charter* [SBC 2003] Chapter 26, s. 98.

¹⁶⁹ *Community Charter* [SBC 2003] Chapter 26, s. 99.

¹⁷⁰ *Community Charter* [SBC 2003] Chapter 26, s. 99.

¹⁷¹ *Community Charter* [SBC 2003] Chapter 26, s. 94.

¹⁷² *Guimond v Vancouver (City)* [1999] BCJ No. 2529.

¹⁷³ *Guimond v Vancouver (City)* [1999] BCJ No. 2529, Para 83.

¹⁷⁴ *Guimond v Vancouver (City)* [1999] BCJ No. 2529, Para 96.

4.3 Beyond Legal Rights

Citizens have significant potential to influence development by participating in local governance and planning. It is not always necessary to rely on legal rights for involvement with local government. Proactive engagement with the community can create significant gains in municipal planning. There are several actions that citizens can take to protect watersheds.

Citizens could engage in identification and mapping of watercourses. This is an essential step to implementation of many of the legal tools mentioned in this report. While significant mapping has already been undertaken by the City of Coquitlam, identifying the location of smaller streams may be a useful activity in which citizens could participate. In Nanaimo, in their experience with EDPAs, citizens often brought additional waterways and rare species to the attention of city planners that had not been identified by the formal mapping process.¹⁷⁵

Citizens can engage in ecosystem, including stream, monitoring. This could include flagging sensitive streams and habitat where streams are particularly vulnerable. This is particularly important for provincial decision-making. At the provincial level, the government requires that provincial staff consider environmental flows when evaluating applications for new water licences under the *Water Sustainability Act*.¹⁷⁶ This means that when the Province grants new licenses, they must consider “environmental flow needs” of the stream; the amount of water necessary to be left in the stream to sustain the aquatic environment.¹⁷⁷ If the decision maker does not consider the environmental flow needs it may be possible to challenge the license.¹⁷⁸

Provincial government decision-makers can also require measures to reduce the impact on normal and sensitive streams.¹⁷⁹ For sensitive streams, which means a stream that has been designated as sensitive by regulation, mitigation measures may be required if diversion of water is likely to have “significant adverse impact” on the environment.¹⁸⁰ While this is up to the discretion to the minister, citizens have the ability to influence the Minister by gathering information on stream health through monitoring, and providing information on environmental flow needs. They can also identify areas of sensitive aquatic ecosystems and pressuring the Province to designate these streams as sensitive streams.

Other opportunities for citizen participation related to *the Water Sustainability Act* include encouraging and participating in the creation of a Water Sustainability Plan for the area.

Another option is encouraging the Province to adopt “water objectives.” These are regulations for water protection which require a person who has the responsibility to make decisions about what

¹⁷⁵ Deborah Curran, *Green Bylaws Toolkit* (November 2007) Environmental Law Clinic, pg. 77-81 <http://www.greenbylaws.ca/>.

¹⁷⁶ [SBC 2014] Chapter 15.

¹⁷⁷ *Water Sustainability Act* [SBC 2014] Chapter 15, s. 15.

¹⁷⁸ More information on the new *Water Sustainability Act* can be found in Deborah Curran, *British Columbia’s New Water Sustainability Act- Waiting for the Details* (2014) Environmental Law Center, University of Victoria http://www.elc.uvic.ca/wordpress/wp-content/uploads/2015/01/BCs-New-Water-Sustainability-Act_2014May13.pdf.

¹⁷⁹ *Water Sustainability Act* [SBC 2014] Chapter 15, ss. 16 - 17.

¹⁸⁰ *Water Sustainability Act* [SBC 2014] Chapter 15, s. 17.

kind of activities can take place in a particular area to consider the water objectives for that area when making their decision.¹⁸¹ For example, a decision to grant licenses for industrial activity in a certain area may be influenced by the water objectives of the area, and if the license is found to be contrary to those objectives the license may not be allowed.

Citizens can work to build consensus and raise awareness of important ecological issues. Watershed Watch Salmon Society is already engaged in significant action in this regard, including connecting with the yoga community and promoting the “healthy watershed, healthy humans” perspective. The “My Watershed Moment” initiative is a great example of this work in action, as it encourages citizens to think about their local community from a watershed perspective and links watershed health to human health.

Conclusion

Citizen engagement is vital for a healthy democracy and a healthy environment. There are significant opportunities for citizens to be involved in municipal decision making, including the opportunity to participate in planning initiatives such as the Coquitlam River Watershed Roundtable. The Watershed Watch Salmon Society is already working towards creating an active and engaged citizenry that care and is conscious of watershed health. Legal tools are one way of engaging with municipalities, but thinking outside of legal remedies is an equally important activity that can lead to innovation and relationship building, which support the implementation of the legal tools described in this report.

¹⁸¹ *Water Sustainability Act* [SBC 2014] Chapter 15, s. 43.

Part 5 - Summary and Conclusion

The Lower Coquitlam Watershed Plan identified three key pressures that affect watershed health. These are Stormwater, Invasive Species, and Development. As this project has shown there are many legal tools available for municipalities to address these priorities (with my focus here on the City of Coquitlam)

Stormwater

For Stormwater, Coquitlam already has significant legal tools in place to control rainwater runoff, including rainwater management plans¹⁸² and a watercourse protection bylaw.¹⁸³ Coquitlam could improve the management of rainwater by adopting a regulatory bylaw to control rainwater runoff. A performance standard bylaw which requires that all developments provide drainage structures to address all or most rainwater on site, such as the one in Saanich and Metchosin, is a best practice. Another option would be to increase the use of development permit areas and require best practices for rainwater management as a part of the development guidelines, as is already done in some parts of the City.

To increase protection of watercourses, Coquitlam could exceed the Provincial requirement for riparian area protection and increase the required setbacks from streams or from sensitive streams.

Invasive Species

To manage invasive species, Coquitlam has begun a process of establishing a coordinated approach to invasive species management. This is likely the most effective way of addressing this priority. However, the municipality also has the power to move forward unilaterally and pass a regulatory bylaw prohibiting invasive species on property within the municipality.

Development

There are many tools available to Coquitlam to address development in watercourses. A key to the success of these many tools is mapping. Coquitlam already has undertaken significant mapping and additional mapping is likely necessary depending on the particular approach taken.

Zoning is one of the most comprehensive tools available. Coquitlam has the ability to control where and how much development takes place through zoning. Coquitlam may be an appropriate place to implement cluster development and amenity density bonuses. Coquitlam is a high density urban area, so increasing allowable densities may be appropriate in exchange for clustering development away from sensitive ecosystems and streams, and requiring developers to provide parks or covenants to ensure the remaining areas will not be developed. This may also coincide with the additional community goals of

¹⁸² City of Coquitlam, "Rainwater Management" (2016) <http://www.coquitlam.ca/city-services/drainage-sewer/stormwater-management/rainwater.aspx>.

¹⁸³ *Stream and Drainage Protection Bylaw* Bylaw No. 4403, 2013.

creating compact (high density) communities, preventing urban sprawl, and avoiding unnecessary cost of infrastructure and service duplication.

Other options include increasing the use of comprehensive development zones, which provides site specific zoning tailored to goals for a particular property, conservation zoning, which takes a more blanket approach to an area by limiting densities and prohibiting certain land uses, and requiring additional setbacks from watercourses.

Using development permit areas for environmental protection is another way of allowing staff to make site specific decisions to protect sensitive ecosystems as a landowner must obtain a development permit before engaging in any development activities. This is already permitted in Coquitlam's Official Community Plan. Existing development permit areas could be strengthened and expanded.

Impact assessments can require developers to provide information on environmental consequences of development, and are most appropriate for large scale development projects.

Other innovative approaches from other municipalities include the comprehensive environmental bylaw in North Vancouver, Saanich's Urban Containment Boundary, and the Calgary Wetlands Conservation Plan. These may provide new ideas for approaches to managing the impact of development within an urban area.

Acquiring Parkland

The City of Coquitlam has several options for enhancing parkland acquisition, which can protect watercourses and limit the impact of development, as well as support other community goals of increasing greenspace. A parkland acquisition fund can provide a limited amount of land or money for the acquisition of parkland. Additional funds could be acquired through establishing a conservation fund under s. 8(2) of the *Community Charter*.¹⁸⁴

Other Options for Protecting Watercourses

The 2016 *Water Sustainability Act* provides several options for citizens and governments to protect watercourse, including encouraging and participating in the creation of a Water Sustainability Plan and/or water objectives. Citizens could also engage in mapping and monitoring of watercourses, providing valuable information about stream health and areas which are particularly ecologically sensitive.

Conclusion

The implementation of the Lower Coquitlam Watershed Plan provides an opportunity for the Cities of Coquitlam and Port Coquitlam and their residents and community organizations, to embed green infrastructure, in particular healthy functioning watersheds, within urbanizing areas. The report explains a range of legal tools available to each City for implementing the identified priorities in the Watershed Plan, which are addressing stormwater management, dealing with invasive species, and

¹⁸⁴ [SBC 2003] Chapter 26

shaping development for ecosystem protection. In addition, citizens have a number of formal legal and informal ways they can engage with the municipality as it creates bylaws and services for growth and development, as well as for ecosystem protection and conservation.

Appendix A

BYLAW NO ****, 20**

A BYLAW TO PROTECT STREAMS AND CONTROL ALIEN INVASIVE SPECIES WITHIN THE [name of municipality]

WHEREAS The Council of the [name of municipality] has the authority pursuant to Section 8(3)(j) of the *Community Charter* to enact bylaws that provide for the protection of the environment, which includes watercourse protection;

WHEREAS The Council of the [name of municipality] has the authority pursuant to Section 8 (3) (j) and (k) of the *Community Charter* to enact bylaws for the control and eradication of alien invasive species;

AND WHEREAS Council desires to protect the environment;

NOW THEREFORE the Council of the [name of municipality], in open meeting assembled, ENACTS AS FOLLOWS

1. TITLE

1.1 This bylaw may be cited for all purposes as “Stream and Invasive Species Bylaw No.****, 20**”.

2. DEFINITIONS

2.1 In this bylaw:

alien invasive species means the species listed in Schedule to the Spheres of Concurrent Jurisdiction – Environment and Wildlife Regulation, B.C. Reg. 144/2004;

drainage works means culverts, ditches, drains, rip rapped channels, and storm sewer systems, which discharge into, or collect, constrain or divert, a stream;

General Manager means the General Manager of the [name of municipality] or designate;

high water mark means the visible high water mark of a stream where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the stream a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself, and includes the active floodplain;

leakage means to allow fluid or a substance to pass from a container or from a confined area into the environment;

parcel means any lot, block or other area in which land is held or into which it is subdivided, but does not include a highway;

pollution means:

- a) pesticides, fertilizers, soaps, detergents, household and commercial grade cleaning compounds, paints, solvents, chemicals, chlorinated water, waste oil;

- b) any material or substance that is a hazardous product, contaminant, toxic substance, deleterious substance, special waste, dangerous good or reportable substance whose discharge to a stream or drainage works would be detrimental to water quality and the species inhabiting the stream;
- c) any sediment, rock, gravel, sand, clay, silt, earth, construction or excavation wastes, cement, concrete, or exposed aggregate wash water; and
- d) water, liquids and substances having a temperature higher than 65 degrees Celsius;

stream means any of the following:

- a) a watercourse, whether it usually contains water or not;
- b) a pond, lake, river, creek or brook;
- c) a ditch, spring or wetland that is connected by surface flow to something referred to in paragraph (a) or (b), including an ephemeral wetland;

PART A: STREAMS AND DRAINAGE WORKS

3. APPLICABILITY

3.1 This part applies to streams and drainage works.

4. PROHIBITION

4.1 Unless permitted or exempted in accordance with this bylaw, no person shall:

- a) Cause or permit the leakage or discharge of pollution into a stream or drainage works; or
- b) Cause or permit obstruction or impediment to the flow of a stream or drainage works.

5. EXEMPTIONS

5.1 Notwithstanding section 4, it is permitted to conduct:

- a) emergency works and services including emergency flood management;
- b) instream and other works holding valid provincial permits.

PART B: ALIEN INVASIVE SPECIES

6. APPLICABILITY

11.1 This part applies to alien invasive species as defined in the Schedule to the Spheres of Concurrent Jurisdiction – Environment and Wildlife Regulation.

7. PROHIBITION

12.1 Unless permitted or exempted in accordance with this bylaw, no person shall plant, cause or permit to grow, or allow to inhabit a property, an alien invasive species within 30 days of receiving notice of such an infraction.

8. ENFORCEMENT

8.1 Bylaw Officers are designated to enforce this bylaw pursuant to Section 264(1)(b) of the *Community Charter*.

8.2 [name of municipality] staff is authorized under the provisions of Section 16 of the *Community Charter* to enter at all reasonable times upon any property for the purpose of ascertaining whether the regulations of this bylaw are being observed.

8.3 If in the opinion of the [name of municipality] immediate steps should be taken to prevent the discharge of pollution or stop leakage that is ongoing, or if the [name of municipality] is not satisfied that the owner has taken appropriate steps to mitigate the damage caused by the breach of any provision under this bylaw, the [name of municipality] may enter onto the land to take such steps as are necessary to remedy the bylaw contravention.

8.4 If the [name of municipality] takes action pursuant to Section 8.3, every owner and occupier shall pay to the [name of municipality] within thirty (30) days of demand of same, all costs and expenses incurred by or on behalf of the [name of municipality] in:

- a) restoring or cleaning any stream, creek, waterway, watercourse, waterworks, ditch, drain, or storm sewer;
- b) installing and maintaining sediment control ponds, settling ponds, retention ponds, and containment barriers;
- c) disposing of pollution discharged contrary to this bylaw;
- d) removing alien invasive species; and
- e) generally taking all remedial measures required in order to comply with this bylaw caused by the breach of any provision of this bylaw.

8.5 Any amount unpaid together with interest on the 31st day of December in any year shall be added to and form part of the property taxes payable in respect of the real property on which the [name of municipality] took the remedial action, or the real property that caused the environmental degradation breaching this bylaw and necessitating the remedial action, and shall be deemed to be taxes in arrears and may be so entered on the tax roll by the collector.

9. 9. OFFENCE AND PENALTY

9.1 Any person who contravenes this bylaw is guilty of an offence and, upon conviction, is liable to a fine not exceeding \$10,000.

9.2 Each day a person:

- a) causes or permits the leakage or discharge of pollution into a stream or drainage works;
- b) causes or permits the obstruction or impediment of the flow of a stream or drainage works;
- c) plants or causes or permits to grow an alien invasive species; and
- d) causes or permits an applicable tree to be cut down, pruned, limbed or damaged;

contrary to this bylaw shall constitute a separate offence.

9.3 Offences for which tickets can be issued and fines imposed are prescribed in the current Municipal Ticket Information bylaw.

10. 10. SEVERANCE

10.1 If any section or other part of this bylaw is held invalid by a court, the invalid portion shall be severed.

READ A FIRST TIME this th day of, 2012.

READ A SECOND TIME this th day of, 2012.

READ A THIRD TIME this th day of, 2012.

ADOPTED this th day of, 2012.

(Signatures)

SCHEDULE A

RMOW HERITAGE TREE INVENTORY

NAME: LOCATION

English Oaks (6) Distributed among private properties at 6419, 6420 and 6424 Easy Street and 6320 Lorimer Road. Remnants of original Tapley family farm.

Red Oaks (32) Trees used at Expo 86 as part of Exhibition Avenue and relocated to Whistler Way. Two have succumbed to vehicles/building renovation and have been replaced with new.