

Revelstoke
Sustainability Action Plan
2013

Appendix 1
Healthy Ecosystems & Open Spaces

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Purpose

This Appendix compiles the updated community information that was used to prepare the *State of Sustainability Report*, information in the *Action Plan* and all of the ideas for actions that were collected during the ICSP project.

It has been created to provide background for the ICSP reports and to support future ICSP and community planning.

Sustainability Framework Linkages

Healthy Ecosystems & Linked Open Spaces

Develop a network of linked natural areas and open spaces that support habitat, ecosystem services, active transportation and recreation.

Goals

- **Open Space & Urban Vegetation:** Support access to nature, recreational outdoor space and a healthy urban forest.
- **Watershed Management:** Protect local watersheds and the community water system.
- **Biodiversity & Wildlife Management:** Manage biodiversity and human-wildlife interactions to reduce the impacts of humans on wildlife and retain natural ecosystems.
- **Environmental Nuisances:** Reduce air, light, and noise pollution and eliminate use of toxic substances.

Spheres of Influence



The City regulates development to minimize impact on the environment, and can adopt bylaws and policies to protect the environment.



The City maintains parks and open spaces and plays a role in maintaining environmentally sensitive areas.



The city, community groups, senior government agencies and the utilities collaborate to maintain natural open spaces.

Relationship to Sustainability Priorities

	<p>Climate Resilience and Healthy Ecosystems Natural vegetation and soils help to moderate local temperature and climate. The combination of plant and animal biodiversity that make up ecosystems provide the life support systems of the Earth. Connected natural areas provide habitat and corridors for wildlife.</p>
	<p>Carbon Neutral Energy and Emissions Natural vegetation and soils sequester CO2 emissions thus storing carbon.</p>
	<p>Minimal Waste Effective, efficient use and re-use of natural resources into durable, well-made products can reduce the amount of waste generated.</p>
	<p>Responsible Water Use Managed and protected natural areas help to protect water quality and quantity. A well-managed waste water system reduces potential environmental impact.</p>
	<p>Affordable, Accessible Housing Recreation amenities such as parks close to housing help to create more complete community.</p>
	<p>Caring, Engaged Community Parks create opportunities for formal and informal gathering and recreation. Local stewardship of streams and other natural areas can bring people together to care for their local landscape.</p>
	<p>Strong, Vibrant, Creative Identity Revelstoke and surroundings have distinct natural areas, in particular the mountains, waterfront, rivers, and creeks that contribute to the community's overall unique sense of place.</p>
	<p>Healthy, Active, Safe Citizens Parks and natural areas support a variety of opportunities for passive and active recreation, spiritual reflection and education. Edible landscaping and foraging opportunities also exist in open spaces.</p>
	<p>Locally Diverse Economy Job opportunities exist in natural resource management and eco-tourism.</p>
	<p>Global Connections Parks and natural areas attract tourists and employees who are looking for a high quality of life with natural amenities to fit their lifestyle.</p>
	<p>Adequate, Skilled Workforce Job opportunities exist in natural resource management and eco-tourism.</p>

Note: Abbreviations in the remainder of this Appendix are listed on the back page.

1.1 Open Space & Urban Vegetation

Integrating Goal: Support access to nature and recreational outdoor space and a healthy urban forest.

What We Know About our Community

- The City's Parks, Recreation and Culture Master Plan identifies that Revelstoke has approximately 300 hectares (excluding the golf course) designated within 12 parks and trails including:
 - four community parks – total 22.64 hectares (Centennial Park, Queen Elizabeth Park, Williamson's Lake, Kovach Park),
 - fourteen neighborhood parks – total 8.32 hectares (e.g. Big Eddy Park, Moose Park),
 - three special feature parks (Grizzly Plaza, Museum Garden, Veteran's Memorial),
 - one undeveloped park area and no conservation parks.
- Based on comparisons with other similar communities, these parks appropriately serve Revelstoke citizens now.
- The Illecillewaet Greenbelt and the extensive Columbia River floodplain 'drawdown zone' provide important riparian and wetland wildlife habitats.
- BC Hydro lands in the drawdown zone south of the Illecillewaet River provide green space along the river corridor that is valued and used by citizens.
- Mount Revelstoke National Park abuts the northeastern boundary of the City with extensive green space and habitats as well as recreational infrastructure including highway access to the alpine in the summer and trails. On its other boundaries the City is surrounded by forested provincial Crown land.
- As Revelstoke grows and changes, it will be important to recognize changing trends, demographics and needs for high quality parks and open spaces. The distribution of these spaces throughout the community is important. Twenty-two potential neighbourhood parks and one waterfront park are identified in the Parks, Recreation and Culture Master Plan (2011). Preservation of the green spaces at the Farwell, Big Eddy, Mountain View and Mt. Begbie elementary schools are important to the community. Innovative funding and park dedication opportunities will be needed to acquire and manage additional parks and open spaces.
- Some of the specific issues occurring on many of the parks and green spaces in the community include invasive species¹, littering, illegal dumping, partying (and the resultant broken glassed filled fire pits), squatters and lack of compliance with dog owners picking up their dog's waste.
- Trees within the community can provide a number of benefits including conserving energy by providing shade, improving air quality, reducing wind speed and directing air flow, reducing noise pollution, providing habitat for birds, small mammals and other wildlife, reducing storm runoff and the potential for soil erosion, and enhancing the visual and aesthetic qualities of the community.
- Trees and forested areas within Revelstoke are the responsibility of:
 - City staff for trees on City lands (parks, streets, green space), though without the guidance of management direction, excepting for the downtown core;
 - Private land owners
 - The Provincial Ministry of Forests, Lands and Natural Resource Operations and timber tenure holders who manage tracts of forested lands within the City limits that are within the Provincial Forest.
- BC Hydro prunes trees to protect power lines using practices that are not always consistent with the City's tree preservation bylaw.
- Respondents to the 2012 community survey rated urban forests, parks and green spaces as the 6th most important environmental issue, with 35% coding this as important.

Initiatives and Supportive Actions to Continue

<p>Strategic plans and collaborative action</p>	<ul style="list-style-type: none"> • The City Parks, Recreation and Culture Department manages community parks and green space consistent with the 2011 Parks, Recreation and Culture Master Plan, the Official Community Plan and annual budgets. CSRD has a cost sharing arrangement with the City for parks and recreation services. • City Environment Advisory Committee was created in 2010 to provide overview and guidance on municipal environment- related initiatives. • Illecillewaet Greenbelt Society manages the park north of the Illecillewaet River to the River Trail as a green space on behalf of the community. • BC Hydro manages much of the lands on the Columbia River floodplain, including the extensive 'drawdown zone' south of the community, which provides opportunities for recreation and important wetland wildlife habitats. • Parks Canada manages Mount Revelstoke National Park based on their Parks Management Plan (2010).
<p>Specific tools or programs</p>	<ul style="list-style-type: none"> • The south slopes of Mount Revelstoke, the airport wetlands/reservoir drawdown zone, other wetlands, and riparian areas next to streams and floodplains are recognized as environmentally sensitive areas in the OCP (2008) where development is controlled through a Development Permit Area. • City arborist, tree preservation policy and bylaw are established to implement urban forestry practices. • Management of Provincial Crown forests is based on the Revelstoke and Area Higher Level Plan Orders. • The Revelstoke Community Forest Corporation (RCFC) was formed in April 1993 to regain some control over the local forest resources.

Moving Forward on Sustainability [Highest Priority Actions]

Priority Actions	Short term	Mid term	Long term	Leader
1. Implement recommendations in the Parks, Recreation and Culture Master Plan (2011) (54 recommendations total) and monitor progress toward plan objectives.	Very High	X	X	City, 10 year plan
2. Pursue opportunities for parks/green space associated with schools, including school ground greening programs.	Very High	X		City
3. Develop and implement Sustainable Trail Strategy to minimize trail conflict, habitat loss or damage, while supporting access to nature and safe trail usage.	High	X		City
4. Develop and implement climate adaptive landscaping via bylaws (for private development) and for municipally managed landscaping and trees	High Best Practices Review	X Amend OCP and Development		City

Moving Forward on Sustainability [Highest Priority Actions]

Priority Actions	Short term	Mid term	Long term	Leader
		Standards		
5. Complete and implement a Revelstoke Urban Forestry/Tree Preservation Strategy. Consider the inclusion of: <ul style="list-style-type: none"> • food trees species that are consistent with Bear Aware practices (mainly nuts) • a memorial/commemorative tree program • a heritage tree program 	Med-High			City

Open Space & Urban Vegetation [All Actions]

Plan Year Page	All Actions	Priority	Lead	Cost/Funding
	1. Implement recommendations in the Parks, Recreation And Culture Master Plan (2011) (54 recommendations total) and monitor progress toward plan objectives.	AP – Very High	City, 10 year plan	
	2. Pursue opportunities for parks/green space associated with schools, including school ground greening programs.	AP – Very High	City	
	3. Develop and implement Sustainable Trail Strategy to minimize trail conflict, habitat loss or damage, while supporting access to nature and safe trail usage.	AP – High	City	
	4. Develop and implement climate adaptive landscaping via bylaws (for private development) and for municipally managed landscaping and trees	AP – High	City	
	5. Complete and implement the Revelstoke Urban Forestry/Tree Preservation Strategy. Consider the inclusion of: <ul style="list-style-type: none"> • food trees species that are consistent with Bear Aware practices (mainly nuts) • a memorial/commemorative tree program • a heritage tree program 	AP – Med-high	City	

1.2 Watershed Management

Integrating Goal: Protect local watersheds and the community water system.

What We Know About our Community

- Major watercourses within the City include the Columbia, Illecillewaet, Jordan, and Tum Tum Rivers. Several smaller creeks draining off Mount Revelstoke have been piped and channelized through urban areas and empty directly into the Columbia River.
- Many rivers and creeks are important Kokanee spawning waterbodies.
- The Revelstoke Golf Course is situated on the Columbia River and has a limited exemption from the pesticide bylaw to apply pesticides to maintain the course.
- Several large industries (sawmills and quarries) are located adjacent to major water bodies though their effect on the watershed is not well known.
- The Revelstoke dam upstream of the City on the Columbia Rivers has an effect on the water flows and water quality of the Columbia River.
- The City manages flood risk with a levy dyke system around the Columbia and Illecillewaet Rivers that was established and is maintained by BC Hydro.
- Some sections of the Big Eddy and Southside neighbourhoods are susceptible to flooding.
- OCP Schedule M illustrates the City's existing storm water facilities in the Central and South Revelstoke neighbourhoods, and a small portion of Columbia Park. Discharge is directly into the Columbia River. The City is currently working on a Liquid Waste Management Plan which, when complete will address storm water drainage and establish terms of reference for a master drainage plan. It is the City's intent that storm water systems meet the primary objectives of flood protection, aquatic habitat and water quality protection. Typical stormwater management measures for urban areas maximize rainfall retention at the local level; provide storm water detention; provide adequate major flow paths; utilize infiltration to manage stormwater from small frequent events; and, implement a snow management strategy.

Note: Water supply is included in Resilient Infrastructure – Water Services

Initiatives and Supportive Actions to Continue	
<p>Strategic plans and collaborative action</p>	<ul style="list-style-type: none"> • City Environment Advisory Committee provides overview and guidance on municipal environment- related initiatives. • BC Hydro has extensive research, monitoring and restoration initiatives underway in the Columbia River and Arrow and Revelstoke reservoirs through the Columbia Water Use Plan.
<p>Specific tools or programs</p>	<ul style="list-style-type: none"> • The City has adopted the Provincial Riparian Areas Regulation of the Fish Protection Act to protect aquatic areas. This is implemented through a Development Permit Area as well. • The south slopes of Mount Revelstoke, the airport wetlands/reservoir drawdown zone, other wetlands, and riparian areas next to streams and floodplains are recognized as environmentally sensitive areas in the OCP where development is controlled through a Development Permit Area. • Greeley Creek watershed, the main City water supply source, is designated as a Community Watershed, as well as the TumTum watershed, which provides some

	<p>protection from development. A Source Protection Plan is being completed for the Greeley watershed which will identify potential impacts to water quality and quantity from risks and hazards including potential climate change risks, and define how to reduce these risks.</p> <ul style="list-style-type: none"> • The City has a Pesticide Use bylaw • The City separates “clean” snow from “contaminated” snow during snow removal operations and only clean snow is dumped in the Columbia River. • BC Hydro manages much of the lands on the Columbia River floodplain, including the extensive ‘drawdown zone’ south of the community, which provides opportunities for recreation and important wetland wildlife habitats.
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Moving Forward on Sustainability [Highest Priority Actions]

Priority Actions	Short term	Mid term	Long term	Leader
1. Consider options to protect the Greeley Creek Watershed, such as including the area within the City of Revelstoke city limits, or enhancing land-use management practices in these drainages to ensure surface water quality and quantity is protected	Very high			City
2. Develop and implement policies and bylaws to promote healthy functioning of watercourses/bodies in new development, including: <ul style="list-style-type: none"> • Maintaining natural stream morphology • Utilizing green infrastructure to protect storm water system • Restricting the placement of fill or debris in natural watercourses or on lands that could lead to the discharge of deleterious materials into waterways etc. • Protecting riparian areas 	High	X		City
3. Provide the public with education on protecting water resources including wells and surface water throughout the community and area.	High			City NCES

Watershed Management [All Actions]

Plan Year Page	All Actions	Priority	Leader	Cost/Funding
	1. Consider options to protect the Greeley Creek Watershed, such as including the area within the City of Revelstoke city limits, or enhancing land-use management practices in these drainages to ensure surface water quality & quantity is protected	AP – Very high	City	
	2. Develop and implement policies and bylaws to promote water protection in new	AP – High	City	

	development, including: <ul style="list-style-type: none"> • Maintaining natural stream morphology • Utilizing green infrastructure to protect storm water system • Restricting the placement of fill or debris in natural watercourses or on lands that could lead to the discharge of deleterious materials into waterways etc. • Protecting riparian areas 			
	3. Provide the public with education on protecting water sources including wells and surface water throughout the community and area.	AP – High	City NCES - education	

1.3 Biodiversity & Wildlife Management

Integrating Goal: Manage biodiversity and human-wildlife interactions to reduce the impacts of humans on wildlife and retain natural ecosystems.

What We Know About our Community

- Local ecosystems are referred to as ‘interior rainforests’ due to the wet, moderate climate which creates ideal conditions for complex forest ecosystems with large trees, dense understory and extensive moss growth. Alpine meadows with extensive herbs and wildflowers top the steep mountains, along with glaciers.
- Reservoir flooding and operations for hydroelectricity production, transmission lines, timber harvesting and backcountry recreation have impacted the regional landscape, changing ecosystems and reducing habitats for some wildlife and fish species while enhancing others. Low elevation habitats are especially impacted, making remnant natural areas particularly important.
- Fish species have been impacted by the hydro-electric reservoirs and the water flows associated with hydro dam operations.
- The Upper Arrow Reservoir Drawdown Zone, which is periodically inundated by hydro reservoir operations, provides critical habitat that is used extensively by over 200 species of various birds, including several red and blue-listed and species. It is a critical staging point for spring migrating waterfowl, and for fall migrations when reservoir water levels allow. A significant great blue heron rookery is located in these ecosystems just south of the City limits.
- There are fourteen endangered species with habitats within the City of Revelstoke – three fish, two amphibians, 1 reptile, eight birds and three mammals.
- Timber harvesting is the dominant industrial activity in forested ecosystems around the community. The community is actively involved in timber management through its ownership of the Revelstoke Community Forest Corporation (RCFC), which manages Tree Farm License (TFL) #56 for the Downie Creek and southern portions of the Goldstream drainages. Management plans direct that two-thirds of the forested land will not be harvested. Forestry operations in the area have all achieved clean audit results from the BC Forest Practices Board and they are third party certified for sustainable forestry practices. Sustainable forestry practices was the fourth most important environmental issue for respondents to the 2012 community survey, identified by 43% of respondents.
- Hydro-electric transmission lines are also prevalent on the landscape.

- Motorized and non-motorized backcountry recreation use is extensive on the lands around the community. Heli-skiing, snowmobiling, ski touring, hiking, mountain biking and all-terrain-vehicle use occur both through tenured commercial businesses and public recreation activities. The Revelstoke Mountain Resort development is expected to increase backcountry use, heightening the need for a plan to define compatible uses within ecological and experiential carrying capacities.
- Local residents are accustomed to frequent encounters with wildlife such as bears, deer, moose, and large raptors; this close connection with the natural environment is an important aspect of life in Revelstoke.
- In the late 1990s a local initiative resulted in the Revelstoke and Area Land Use Plan which was created to enhance land use planning for the area.
- The Bear Awareness Program implemented through the Revelstoke Bear Smart Committee is working – over the 10 years before the Committee began its work, an average of 28 bears per year were destroyed, including a total of 15 grizzlies; between 1996 and 2012 the number of bears destroyed per year averaged below 7. In 2012 only 2 bears were destroyed, down from 11 the previous year. The community has yet to achieve provincial Bear Smart standards because current solid waste management practices do not require bear proof garbage containers throughout the City. As well, attractants such as fruit trees and the spawning kokanee salmon in Bridge Creek draw bears into the community.
- In the 2012 community survey, 85% of respondents deemed the condition of the natural environment around the community to be “very important” to quality of life, and over 75% rated these conditions as “very important” to the state of our economy - almost identical to the 2000 and 2007 survey results.
- 27% of respondents to the 2012 community survey coded wildlife and biodiversity as an important environmental issue making it 10th on the list of issues.

Initiatives and Supportive Actions to Continue	
Strategic plans and collaborative action	<ul style="list-style-type: none"> • The provincial government manages the provincial Crown lands adjacent to the City and from Mica to Shelter Bay in accordance with Revelstoke Higher Level Plan orders. • Parks Canada and the City are developing a close working relationship to cooperate on management of the lands along the City border with Mt. Revelstoke National Park. • As the landowner in the reservoir drawdown zone along the Columbia River and the operator of the Arrow and Revelstoke hydroelectric dams, BC Hydro manages much of the lands on the drawdown zone through the Columbia River Water Use Plan (2007) and the Upper Arrow Drawdown Zone Management Plan (2005) which were created through planning processes with interested groups. • City Environment Advisory Committee provides overview and guidance on municipal environment- related initiatives. • Revelstoke’s Bear Aware program began in 1996 under the guidance of a multi-sectoral Committee; the City and Bear Aware are working together to achieve BC Bear Smart Community status. • City, forest sector, Parks Canada and snowmobiling organizations participate in provincial caribou recovery planning and a collaborative group has formed to explore implementing a fenced calving area for ‘rearing in the wild’ as an option to recover local mountain caribou populations. • A regional multi-sectoral White Sturgeon Recovery Committee is implementing

	actions to recover sturgeon populations.
Specific tools or programs	<ul style="list-style-type: none"> • Parks Canada’s Mount Revelstoke and Glacier National Parks Management Plan (2010) provides strategic direction for the delivery of Parks Canada’s mandate for resource protection, visitor experience and public appreciation and understanding. • The Fish and Wildlife Compensation Program - Columbia funds research and mitigation activities to address the footprint impacts of BC Hydro’s dams and reservoirs throughout the Columbia Basin. • To minimize impact of development and disturbances that degrade the water quality and quantity in fish-bearing streams, the City has adopted the Provincial Riparian Areas Regulation of the Fish Protection Act to protect aquatic areas by implementing a Development Permit Area • The south slopes of Mount Revelstoke, the airport wetlands/reservoir drawdown zone, other wetlands, and riparian areas next to streams and floodplains are recognized as environmentally sensitive areas in the OCP where development is controlled through a Development Permit Area. New mapping of environmentally sensitive areas is being completed. • The provincial Conservation Data Centre tracks and reports on the status of species at risk.

Moving Forward on Sustainability [Highest Priority Actions]				
Priority Actions	Short term	Mid term	Long term	Leader
1. Evaluate the potential for land conservation tools such as conservation covenants and land donations to land conservation organizations (e.g. The Land Conservancy, The Nature Trust, etc.) to protect rare ecosystems and high value habitats within the City and in the regional area. Implement appropriate tools.	High Complete review	Implement as appropriate		City possibly in partnership with Environmental groups or students
2. Maintain marsh habitats along the Arrow and Revelstoke reservoirs.	Med-high	x	x	BC Hydro
3. Assess the need for backcountry recreation plans for high use areas from Mica to Shelter Bay. Develop and implement plans where needed.	Med-high	X Assess	X Plan	City MFLNRO
4. Identify and implement feasible re-vegetation and wildlife habitat rehabilitation projects in the drawdown zone of the Arrow Lakes Reservoir and mid-Columbia River to support nesting and migratory bird habitat and wildlife. This will require a full review of the Columbia River Water Use Plan, and monitoring recommended changes.	Med-high Complete review	Implement X		BC Hydro
5. Develop and implement a management plan for the Illecillewaet Greenbelt area.	Med-high	x		IGS
6. Implement bear-proof garbage cans.	Med-high	x		City

Moving Forward on Sustainability [Highest Priority Actions]

Priority Actions	Short term	Mid term	Long term	Leader
				CSRD Bear-Aware

Biodiversity & Wildlife Management [All Actions]

Plan Year Page	All Actions	Priority	Lead	Cost/Funding
	1. Evaluate the potential for land conservation tools such as conservation covenants and land donations to land conservation organizations (e.g. The Land Conservancy, The Nature Trust, etc.) to protect rare ecosystems and high value habitats within the City and in the regional area. Implement tools.	AP – High		
	2. Maintain marsh habitats along the Arrow Lakes reservoir and Lake Revelstoke.	AP – Med-high		
	3. Assess the need for backcountry recreation plans for high use areas from Mica to Shelter Bay. Develop and implement plans where needed.	AP – Med-high		
	4. Identify and implement feasible re-vegetation and wildlife habitat rehabilitation projects in the drawdown zone of the Arrow Lakes Reservoir and mid-Columbia River to support nesting and migratory bird habitat and wildlife. This will require a full review of the Columbia River Water Use Plan, and monitoring recommended changes.	AP – Med-high		
	5. Develop and implement a management plan for the Illecillewaet Greenbelt area.	AP – Med-high		
	6. Implement bear-proof garbage cans.	AP – Med-high		
	7. Conduct a full review of the Columbia River Water Use Plan, and monitor recommended changes.			
	8. Complete research, monitoring and recovery planning/actions for endangered white sturgeon and threatened bull trout populations, such as: <ul style="list-style-type: none"> • Experimental flow releases from Revelstoke Dam from July 1 to August 31. • A conservation aquaculture program on Arrow Lakes reservoir 			
	9. Develop and implement a feasibility study and			

	risk assessment for proposed wildlife habitat physical works in the drawdown zone of the Arrow Lakes Reservoir and mid Columbia River, such as nesting and migratory bird habitat and wildlife habitat			
	10. Create Mt. Begbie Provincial Park from the peak to the falls			

1.4 Environmental Nuisances

Integrating Goal: Reduce air, light, and noise pollution and eliminate use of toxic substances.

What We Know About our Community

Air Quality

- Air quality has been a community concern for some time. The recent elimination of bee-hive burners at sawmills has significantly improved conditions however wood heating, transportation, open burning and dust, continue to be sources of air pollution.
- Provincial air quality standards for particulate matter (PM) less than 10 micrometers (PM10) have been exceeded for an average of eight days per year since monitoring began at Revelstoke's Mt. Begbie School in 2002. This can have a detrimental effect on all residents in the air shed, especially the very young, old or infirm.
- Following the compilation of the emissions inventory for the Revelstoke air shed, it is clear that road dust emissions contribute the most to air shed PM levels.
- Another significant contributor to PM is emissions from residential space heating using wood as fuel.
- 28% of respondents from

Toxic substances

- Residents use a plethora of toxic household substances. The lack of options to dispose of toxic substances on an ongoing basis discourages responsible disposal.
- The City and some industrial users have old landfills and dump sites that have been buried and are no longer in use. It is unknown if these sites are leaching contaminated toxins.
- Toxic substances were not flagged as an important issue in the 2012 community survey.

Noise and light pollution

- Noise pollution refers to the destructive effects of excessive sound, usually based on properties of loudness and irritation.
- Although there are a number of sources of loud noise emitters in the community, there are no ambient noise level readings for Revelstoke.
- Ongoing noise from the operation of the train yard continues to be unbearable for some at times.
- Light pollution is wasted light, and thus energy. Within Revelstoke, the primary sources of light pollution are from street lights and ornamental lighting (e.g. spot lights atop the Entry Portal towers).
- Noise and light pollution were not identified as important environmental issues in the 2012 community survey.

Initiatives and Supportive Actions to Continue

<p>Strategic plans and collaborative action</p>	<ul style="list-style-type: none"> • City Environment Advisory Committee provides overview and guidance on municipal environment- related initiatives. • Criteria Air Contaminants and Greenhouse Gases and Emissions Inventory (CAC and GHGEI) • The City and CP Rail have reduced the noise from train whistles by installing gates at the railways crossings at downtown locations.
<p>Specific tools or programs</p>	<ul style="list-style-type: none"> • The North Columbia Environmental Society encourages environmental stewardship through education, information on pesticide-free gardening and other activities. • The City supports the provincial Air Quality Monitoring Program. The City passed an Anti-Idling bylaw In 2008. Burning of waste materials is regulated through the City's Open Burning Bylaw and the Provincial Open Burning Smoke Control Regulation. • The City has undertaken an anti-icing program which uses calcium or magnesium chloride to reduce the amount of salt and sand needed on the road. This should help in reducing road dust emissions. • In some years 'Clean Air Day' in June and 'Car-free Day' in September are celebrated with local events and challenges. • The City has a Pesticide Use Bylaw. • The City has implemented a Turf Management Plan to improve the condition of community fields and parks by building up the soil base and has reduced pesticide use by 75%. • The City website provides public information and education about toxic substances, alternatives, and disposal options. • Some toxic materials can be disposed at the landfill site and the private sector recycling depot. Other toxic substances are collected during seasonal recycling fairs. • The City has a Noise Bylaw. • The City has reduced the wattage of decorative city entrance lights to reduce the amount of light cast skyward at night.

Moving Forward on Sustainability [Highest Priority Actions]

Priority Actions	Short term	Mid term	Long term	Leader
1. Complete an inventory (location, contamination extent) of old solid waste sites.	Very high			City Plan
2. Develop and implement a Dark Night Sky by-law/policy that: <ul style="list-style-type: none"> • defines "light pollution". • outlines responsibilities of citizens and organizations. 	High	x		City Plan

Moving Forward on Sustainability [Highest Priority Actions]

Priority Actions	Short term	Mid term	Long term	Leader
<ul style="list-style-type: none"> encourages/requires, where appropriate, municipal usage of lighting that minimizes light pollution. 				
3. Provide public education, incentives and controls to reduce air pollution and negative impacts on air quality. Possibilities currently being worked on include: <ul style="list-style-type: none"> Accessing federal and provincial incentives to retro-fit and/or upgrade to more efficient furnaces and woodstoves. instituting a "Clean Air" bylaw (furthering the "Anti-idling" bylaw) to reduce the amount of particulate and CO2 emissions from industry, wood burning stoves/furnaces, and vehicles 	Med-high			City Plan
4. Survey the community on air quality and emissions such as space heating and vehicle use to improve the data used for emission calculations from residential and commercial heating, residential small engine use, and Vehicle Kilometers Traveled on local roads.	Med-high			City Eng &PW
5. Replace or convert fleet vehicles to alternative fuel powered engines where feasible.	Med-high Cost & Benefit Analysis			City, Businesses. Community organizations
6. Measure local silt loading along all types of roadways and use the data to evaluate the efficacy of the street sweeping program and to develop future mitigation strategies.	Med-high			City

Environmental Nuisances [All Actions]

Plan Year Page	Actions	Priority	Lead	Cost/Funding
	1. Complete an inventory (location, contamination extent) of old solid waste sites.	AP – Very high	City	
	2. Develop and implement a Dark Night Sky by-law/policy that: <ul style="list-style-type: none"> define "light pollution" as every form of illumination by artificial light which is dispersed outside the areas it is dedicated to, particularly if directed above the level of the horizon. Discuss responsibilities of citizens and organizations to " prevent the occurrence of light pollution. Encourage/require, where appropriate, the 	AP – High	City	

	municipal use of low wattage bulbs to reduce the amount of light cast skyward, such as by the decorative city entrance portals.			
	<p>3. Provide public education, incentives and controls to reduce air pollution and negative impacts on air quality. Possibilities include:</p> <ul style="list-style-type: none"> • Accessing federal and provincial incentives to retro-fit and/or upgrade to more efficient furnaces and woodstoves. • celebrating “Clean Air Day” in June or “Car-Free Day” in September with local events and challenges. • instituting a “Clean Air” bylaw (furthering the “Anti-idling” bylaw) to reduce the amount of particulate and CO2 emissions from industry, wood burning stoves/furnaces, and vehicles 	AP – Med-high	City	
	4. Survey the community on air quality and emissions such as space heating and vehicle use to improve the data used for emission calculations from residential and commercial heating, residential small engine use, and Vehicle Kilometers Traveled on local roads.	AP – Med-high		
	5. Replace or convert all fleet vehicles to alternative fuel powered engines based on cost-benefit analyses.	AP – Med-high	City, Businesses. Community organizations	
	6. Measure local silt loading along all types of roadways and use the data to evaluate the efficacy of the street sweeping program and to develop future mitigation strategies.	AP – Med-high	City	
	7. Reduce the amount of open burning within the city (encourage wood collection for heating), improve on timing for slash burning in adjacent forests.		City RFRS	
	8. Track vehicle idling			
	<p>9. Continue to monitor new data availability for use in municipal inventories, such as:</p> <ul style="list-style-type: none"> • local or provincial construction fugitive dust emission factor • Environment Canada’s report on municipal water and wastewater • data on localized prescribed burns • US EPA NONROAD data for Clearwater County or a better comparable county • data from CPR on locomotives contribution to local air quality • multiple BCMOT vehicle classification 			

	surveys from the fall, winter and spring on highway vehicle mix			
	10. Reduce noise from low flying helicopters			

Abbreviations

AP	ICSP Action Plan
City	City of Revelstoke
City Plan	City Planning Department
CSRD	Columbia-Shuswap Regional District
DE & PW	City Department of Engineering and Public Works
IGS	Illecillewaet Greenbelt Society
MFLNRO	Ministry of Forest Lands and Natural Resource Operations
NCES	North Columbia Environmental Society
RFRS	Revelstoke Fire & Rescue Services

Cost Categories

\$0 - \$999	Lowest
\$1,000 - \$9,999	Low
\$10,000- \$49,999	Medium
\$50,000 – \$99,999	High
> \$100,000	Highest