



Human-Bear Conflict Prevention Management Plan for Prince George, British Columbia

Application for Bear Smart Community Status: Phase II

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Cover Sketch Copyright© Sandra Nahornoff. Black bear mother and cub feeding on Saskatoon berries. Sketches are for purchase from the Northern Bear Awareness Society with all profits benefiting the Northern Bear Awareness Bear Smart program.

Disclaimer

This document was prepared in accordance with the Bear Smart guidelines for conducting a human-bear management plan (Davis et al. 2002) and uses expert knowledge and recent data to address and reduce the potential risk of human-bear conflict within the city of Prince George. Input was also provided by NBA members, the public, the Conservation Officer Service, and others. The author believes that this report is based on the most accurate information available; however, **bears are wild animals that can occur anywhere in Prince George at any time and the author assumes no liability with respect to the use and application of the information contained herein.**

Prince George, B.C., Canada

2009

Human-bear Conflict Prevention Plan

Provincial Bear Smart status requires that the bear management plan be fully supported and authorized by Municipal staff, Mayor and Council.

Recommended:

Sandra Nahornoff
President
The Northern Bear Awareness Society

Date: _____

Accepted:

Derek Bates
City Manager
Prince George, BC, Canada

Date: _____

The information contained within this document has been endorsed by the City of Prince George, BC.

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GLOSSARY OF TERMS

The following definitions apply to terms used in this management plan:

Attractant: Non-natural (e.g., human food, garbage, grease, birdseed, pet food) or natural foods (e.g., berries, forbs, native fruit trees) that draw bears to an area (Ciarniello 1997).

Bear-Human Interaction: see human-bear interaction.

Bear Resistant Container: “A securable container constructed of a solid non pliable material capable of withstanding 200 foot-pounds of energy (using the approved bear-resistant container impact-testing machine). When secured and under stress, the container will not have any cracks, opening, or hinges that would allow a bear to gain entry by biting or pulling with its claws. Wood containers are not considered bear-resistant unless they are reinforced with metal” (Interagency Grizzly Bear committee 1989:5).

City: The City of Prince George.

Conflict or Incident: A human-bear interaction(s) where a bear may make physical contact with a person, damage property, and/or charge toward people. In conflict cases people may use extreme evasive action in response to a bear(s), use a deterrent on a bear or destroy a bear (Wellwood and MacHutchon 1999). The bear’s behaviour may be offensive (e.g., curious or predatory) or defensive (e.g., protecting young or a food source and/or using dominance displays such as clack its jaws, swat paw(s), and/or vocalize).

COS: Conservation Officer Service.

Cub of the Year (COY): A bear cub born the previous winter and has not yet reached its first birthday. May also be termed Young of the Year (YOY).

Defensive Aggressive Bear Behaviour: Threatening behaviour displays by bears that are the result of the bear being *provoked or feeling threaten by people* (e.g., defending young, defending a carcass, too close contact). This behaviour may be the result of a surprise encounter between bear(s) and human(s). An alternative to this behaviour is offensive aggressive bear behaviour (Ciarniello 1997).

Displacement: Bear moves away from its current location (natural environment or otherwise) due to humans and/or human activities (adapted from Wellwood and MacHutchon 1999).

District: Regional District of Fraser-Fort George or RDFFG.

Food Conditioned: Bears that are continually attracted to human food and garbage as a result of food rewards. Operant conditioning, a form of learning, is most often implicated in the process of bears habitually feeding on non-natural foods (Ciarniello 1997). Bears conditioned to feeding on human foods/wastes (hereafter food conditioned) *may or may not* be habituated to humans

(Herrero et al. 2005). These bears may deliberately approach people because they are seeking a food reward or they may move away from people.

Habituation: “The relatively permanent waning of a response as a result of repeated stimulation which is not followed by any kind of reinforcement. It is specific to the stimulus” (Thorpe 1963:60).

Habituation to People/Human Habituated: A learning process in animals manifested by a lack of, or decline in, a fleeing response by the bear(s) to people (Ciarniello 1997). Bears habituated to people may be *but are not necessarily* food conditioned.

Human-Bear Interaction: Any type of exchange between bears and humans, including sightings, observations, and conflicts/incidents. “Human” is intentionally placed first since “problem” bear behaviour tends to be the result of the mismanagement of attractants by humans.

Non-Natural Foods: Foods that tend to be of human origin and would not naturally occur in the diet of bears native to the area. For example, garbage, fruit not indigenous to the area and/or livestock (Ciarniello 1997).

NBA: Northern Bear Awareness Society.

Offensive Aggressive Bear Behaviour: Aggressive bear behaviour that is *initiated by the bear* (e.g., stalking people). An alternate of offensive behaviour is defensive aggressive bear behaviour (Ciarniello 1997).

Predatory Attack: Bear attacks human(s), domestic animals or livestock as prey. Predatory bears rarely threaten or vocalize during stalking (dominance displays are rare).

‘Problem’ Bear: ‘Problem’ bears are those that act on their learned behaviour to such an extent that they are a threat to human safety and/or property when seeking out human food and/or garbage, livestock, etcetera. The bear tends to display offensive behaviour when interacting with people (Ciarniello 1997).

‘Problem’ Bear Behaviour: Behaviour which is chronically or habitually directed toward human foods, places, or items associated with people. ‘Problem’ bear behaviour tends to be a consequence of a bear feeding on non-natural foods (Ciarniello 1997) which is normally the result of mismanagement of the attractant by humans.

Proactive Management: Requires planning ahead, dissuading and anticipating events (e.g., bear problems) before they occur. Proactive management, such as securing garbage in a bear-resistant location even though one has not had any bear problems, is used to dissuade the creation of ‘problem’ bears and reduce the probability of a human-bear conflict or incident.

RDFFG: Regional District of Fraser-Fort George or District.

Reactive Management: Reacting to an event(s) as it occurs. There tends to be no or little forethought of such events. For example, continuing to destroy ‘problem’ bears without identifying and removing the source of the ‘problem’ behaviour is reactive management.

Relocation: Capturing, moving and releasing a bear(s) a short enough distance that one believes or knows through monitoring that the bear has been released within its home range.

Sighting: Human(s) sees a bear and the bear appears to be unaware of the human (Wellwood and MacHutchon 1999), may ignore the human(s) due to habituation to humans, or voluntarily moves away (displacement).

Translocation: Capturing, moving and releasing a bear a large enough distance or across a significant enough barrier that one believes (or knows through monitoring) that the bear has been released outside of its home range.

Travel Corridor: A zone or band of habitat that permits travel and access to other habitats important to bears. Corridors are used as a link to critical habitats, and often are not linear (Ciarniello 1997).

Zero Tolerance: A term applied to an enforcement of regulation in which there is no (or zero) leniency (Ciarniello 1997).

EXECUTIVE SUMMARY

The following *Human-bear Conflict Prevention Management Plan for Prince George, British Columbia: Application for Bear Smart Community Status Phase II* is the second phase of 6 steps required for Prince George to achieve Bear Smart status as determined by the Province of British Columbia (BC) Ministry of Environment (Davis et al. 2002):

Steps Required to Achieve Provincial Bear Smart Status

Steps	Description of Activity	Completed for Prince George
1	Prepare a Bear Hazard Assessment using criteria outlined in Davis et al. (2002).	✓
2	Prepare a Human-Bear Conflict Management Plan designed to address the bear hazards and land-use conflicts identified in the hazard assessment.	✓
3	¹ Revise planning and decision-making documents to be consistent with the human-bear conflict management plan.	
4	² Implement a continuing education program directed at all sectors of the community.	✓
5	¹ Develop and maintain a bear-proof municipal solid waste management system.	
6	¹ Implement " Bear Smart " bylaws prohibiting the provision of food to bears as a result of intent, neglect, or irresponsible management of attractants.	

¹Fulfillment of these activities requires partnership between the Northern Bear Awareness Society, the Conservation Officer Service, the RDFFG and the City of Prince George.

²The Northern Bear Awareness Society has fulfilled this objective since 1998.

The primary objectives of this human-bear conflict management plan (hereafter Plan) are to reduce the number of bears destroyed and to prevent human-bear conflicts within the City of Prince George (hereafter City) and the Regional District of Fraser-Fort George (hereafter District). The Plan addresses the hazards and land-use conflicts available to bears that use the City and immediately adjacent District areas. The *Bear Hazard Assessment for Prince George, British Columbia: Application for Bear Smart Community Status Phase I* (Ciarniello 2008)¹ presents a problem analysis and rates the probability of selected areas for creating problem bears and/or human-bear conflicts. The reader is encouraged to view the Hazard Assessment in conjunction with this Plan because it provides the background results that form the basis for the recommendations contained in this Plan.

The Plan is structured in order of priority to aid with phasing in its implementation which is anticipated to take from 3-5 years. The following tables address individual management issues by identifying major and minor recommendations and their stage of implementation².

¹ Available from: <http://www.northernbearawareness.com/> (Bear Smart sidebar)

² The format of this management plan follows: Ciarniello, L.M. 1996. Management Plan to Reduce Negative Human-Black Bear Interactions: Liard River Hotspings Provincial Park, British Columbia.

Major recommendations are obligatory to the overall success of the plan in reducing human-bear conflicts. The Plan will be most effective if a number of major recommendations from more than one “Issue” area are implemented simultaneously. Alternatively, a recommendation may be considered major but its implementation may not be required until a number of other recommendations are in place; some recommendations are not as fundamental to the pre-sanitization stage but gain importance after sanitization.

Minor recommendations are secondary to major recommendations. A delay in the implementation of minor recommendations should not impede the overall success of the Plan if the vast majority of major recommendations have been implemented.

Three stages of implementation have been provided to aid with the execution of this Plan:

1st Stage of Implementation: put into practice those recommendations prior to other stages. A number of first stage implementations should be executed simultaneously;

2nd Stage of Implementation: put into practice once the majority of 1st Stage recommendations have been completed or as monitoring reveals;

3rd Stage of Implementation: put into practice once majority of 1st and 2nd Stage recommendations have been completed or as monitoring reveals.

A major recommendation with a 1st Stage Implementation should receive the highest priority by managers. Options have been provided where feasible with option 1 being preferred over option 2 and so forth.

The Plan, implementation stages, and issues are meant to be adaptive to the anticipated change in patterns or behaviours of bears or humans as sanitization of the City and District occurs; if occurrence reports and/or monitoring reveal that a minor recommendation with a 3rd Stage Implementation should be implemented before additional 1st or 2nd stages are completed *then the plan should be adjusted accordingly*. For example, if fencing of the Foothills landfill alters ‘problem’ bear occurrence reports to the Chief Lake area then an assessment of hazards for the new ‘problem’ area (i.e., Chief Lake) should be immediately conducted and bear-resistant measures implemented. It is recommended that proactive management always begin with Issue One: Removing the Non-Natural Attractants combined with Issue Two: Managing Humans. It is possible that refocusing and reprioritizing neighbourhoods for management may need to occur before some areas have been made bear resistant, even if those areas previously rated as high to extreme in the Hazard Assessment. Being adaptive in management strategies and implementation is recommended in the Bear Smart background document (Davis et al. 2002).

Readers of this Management Plan are asked to ‘bear’ in mind these Note of Caution:

Prince George is situated within prime interior bear habitat, particularly for black bears, and all areas of the City have the potential to have either species of bear present at any time. The recommendations within this plan were developed with the intent of reducing the potential for human-bear conflicts as well as the number of bears destroyed each year; however, bears are wild animals and all human-bear interactions contain an element of risk. The recommendations presented in this Plan may be limited by the short-term duration of the study undertaken and the available funding. Monitoring recommendations as they are implemented and being adaptive as

new problems unfold will be required. The author assumes no liability with respect to the use and application of the information contained herein.

Recommendations are provided in order of priority beginning with the highest priority (1) onwards. *For details pertaining to recommendations as well as additional recommendations visit the appropriate section in the document.*

STEP ONE: DEVELOP AND MAINTAIN A BEAR-PROOF MUNICIPAL SOLID WASTE MANAGEMENT SYTEM

This is a required Bear Smart step with a first stage implementation:

ISSUE ONE: REMOVING THE NON-NATURAL ATTRACTANTS

Sec No.	RECOMMENDATION	CATEGORY		IMPLEMENTATION		
		MAJOR	MINOR	1 ST Stage	2 nd Stage	3 rd Stage
2.1	Residential Garbage Storage from bears:					
I	<i>Residential Automated Garbage System:</i> <ul style="list-style-type: none"> • install bear resistant latches on bins • purchase new bear-resistant bins 	√		√		
	<ul style="list-style-type: none"> • If bears remain able to violate old polycarts with new latches installed, carts in that neighbourhood must be replaced with new bear-resistant varieties. 	√			√	
	<ul style="list-style-type: none"> • Newly purchased receptacles should be of the bear-resistant variety: <ul style="list-style-type: none"> • Preferred Option: brands that remain locked at curbside and open only with compatible automated system, • Second option: brands that require the user to unlock when placed at curbside. 	√		√		
	<ul style="list-style-type: none"> • Priority of purchasing & replacing cans should follow: high to extreme areas, high areas, moderate areas, and low rated areas. 	√		√		
	<ul style="list-style-type: none"> • Priority within areas being fitted should start with periphery and households that back onto green-spaces and trails and work inwards towards neighbourhood core. 	√		√		
	<ul style="list-style-type: none"> • City: include bear smart educational material that contains the Northern Bear Awareness Society’s contact information with each resident’s garbage collection schedule. 	√		√		
	<ul style="list-style-type: none"> • Consider having bear smart tips displayed on garbage cans or on a leaflet attached to 	√			√	

	each garbage can.					
	<ul style="list-style-type: none"> • Ensure a statement is contained within the Municipal Waste Collection Agreement regarding the required emptying of bear resistant bins by chosen contractor. 	√		√		
	<ul style="list-style-type: none"> • Consider renting bear resistant bins for a monthly user fee (City). 		√			√
	<i>City to provide sheds for garbage storage through the distribution of:</i> <ul style="list-style-type: none"> • Provide lockable storage sheds for garbage totes that could be rented or purchased from the City for a fee. Sheds must remain locked unless in use and until the day of pick up, or • Provide building plans for lockable storage sheds for garbage totes, or • Contract local building centres to provide lockable storage shed building kits for garbage totes at a possible reduced rate with a voucher from the City. 	√		√		
	<ul style="list-style-type: none"> • bylaw required (see bylaw section) 	√		√		
II	<i>Trailer Parks:</i> <ul style="list-style-type: none"> • plan a residential garbage containment system for trailer parks such as a central bear-resistant transfer area(s) 	√		√		
	<ul style="list-style-type: none"> • bylaw required (see bylaw section) 	√		√		
III	<i>Curbside Pick-up for Rural Areas within the City:</i> <ul style="list-style-type: none"> • discontinue curbside pick-up in rural areas within the City • residents to bring their garbage to transfer station 	√			√	
	<ul style="list-style-type: none"> • If curbside pick-up remains for rural areas it is strongly recommended garbage totes be bear-resistant at all times. 	√		√		
	<ul style="list-style-type: none"> • bylaw required for storage (see bylaw section) 	√		√		
IV	<i>Commercial Garbage Storage Program:</i> <ul style="list-style-type: none"> • Replace plastic lids on metal bins with metal lids with a locking mechanism. 	√		√		
	<ul style="list-style-type: none"> • Purchase new bins for those that cannot be retrofitted 	√		√		
	<ul style="list-style-type: none"> • Install central bear-resistant area(s) for container storage for establishments with chronic bear problems. 	√		√		
	<ul style="list-style-type: none"> • Require food waste garbage be stored at all times in bear-resistant bins. 	√		√		
	<ul style="list-style-type: none"> • Prohibit the storage of grease and other food waste byproducts in non-bear resistant locations and barrels. 	√		√		

	<ul style="list-style-type: none"> Implement times when bins are allowed to remain unlocked and require that although unlocked lids must remain closed (e.g., 9 am – 5 pm or during open hours). 	√		√		
	<ul style="list-style-type: none"> Do not allow garbage to overflow or be strewn about the area. 	√		√		
	<ul style="list-style-type: none"> Reduce odours - Bins should be regularly hosed down during bear active season. 	√				√
	<ul style="list-style-type: none"> Place bear smart and user compliance signs on containers and storage areas. 	√		√		
	<p><i>Additional Recommendations for Commercial Establishments that also back onto green-spaces:</i></p> <ul style="list-style-type: none"> Keep bear-resistant food waste refuse containers within an area that is enclosed by a high fence. 	√		√		
	<ul style="list-style-type: none"> The area should not back on to a green-space. 	√		√		
	<ul style="list-style-type: none"> The door of the enclosure must be self-closing and locking. Doors should open outward (that is, the user must pull open from outside) rather than pushing inwards. 	√		√		
	<ul style="list-style-type: none"> Doors must be kept closed at all times. 	√		√		
	<ul style="list-style-type: none"> bylaw required (see bylaw section) 	√		√		
V	<p><i>Transfer Stations:</i></p> <ul style="list-style-type: none"> increase bin emptying frequency and/or increase number of bins 	√		√		
	<ul style="list-style-type: none"> install large sign at station gates providing information on bears & requesting user compliance of the site 	√		√		
	<ul style="list-style-type: none"> Clearly mark containers with signs to ensure proper use. Sign all bins with bear smart signs located close to the bin handle latching mechanism. 	√		√		
	<ul style="list-style-type: none"> Complete high perimeter fencing around transfer stations (if not completed). 	√		√		
	<ul style="list-style-type: none"> Place bins a minimum of 100 m away from trees and shrubs 	√			√	
	<ul style="list-style-type: none"> Consider having an attendant check transfer stations that are not manned during the active bear season. 	√			√	
	<ul style="list-style-type: none"> Provide a large sign at the transfer station entrance with bear smart information and facts, specifically requesting user compliance. Request that all lids remain closed to deter bears. 	√		√		
	<ul style="list-style-type: none"> Manage transfer stations with interagency cooperation between municipality and 	√		√		

	District.					
VI	<i>Foothills Landfill:</i> <ul style="list-style-type: none"> Complete the chain-link perimeter fencing for the Foothills landfill 	√			√	
	<ul style="list-style-type: none"> Assure perimeter fencing is at a sufficient height as to deter bears, particularly in the gully area. Suggested height for perimeter fence is a minimum of 2 meters at all points and may need to be higher on sloped ground. 	√			√	
	<ul style="list-style-type: none"> remove garbage from bushes surrounding the landfill 		√			√
	<ul style="list-style-type: none"> Consider using an electric fence in any breach areas. 		√			√
	<ul style="list-style-type: none"> Monitor the fence perimeter on a regular basis by a reliable individual. 	√			√	
	<ul style="list-style-type: none"> Immediately deal with any attempted breaches in a site-specific manner. 	√		√		
	<ul style="list-style-type: none"> Apply daily soil cover when the main dumping area is close to the perimeter fence to reduce smell and deter breaches. 		√		√	
VII	<i>City maintained open garbage bins:</i> <ul style="list-style-type: none"> Remove unnecessary bins 	√			√	
	<ul style="list-style-type: none"> Replace non-bear resistant bins with bear resistant bins. 	√		√		
	<ul style="list-style-type: none"> Sign bins for increased user compliance 	√			√	
	<ul style="list-style-type: none"> Begin with extreme and high neighbourhoods and areas that back onto parks and green-spaces. Move inwards towards the City core. 	√		√		
	<ul style="list-style-type: none"> Empty bins regularly and before they overflow. 	√		√		
	<ul style="list-style-type: none"> Clean bins with foul odours. 	√			√	
	<ul style="list-style-type: none"> Consider cementing/securing bins to ground. 		√			√
	<i>Sybertech Bins (City and Parks)</i> <ul style="list-style-type: none"> Secure lids to base of bins. 		√		√	
	<ul style="list-style-type: none"> Install latches where garbage is deposited. 		√		√	
	<ul style="list-style-type: none"> Increase frequency bins are emptied, particularly in higher use areas. 	√		√		
	<ul style="list-style-type: none"> Place lime or other smell reducing agent down bin if odours persist. 	√		√		
	<ul style="list-style-type: none"> Sign receptacles for user compliance. 	√		√		
	<ul style="list-style-type: none"> Submit bins for bear-resistant testing. 		√			√
VIII	<i>New developments on the periphery of the City:</i> <ul style="list-style-type: none"> City to require proper garbage containment areas and structures in development plans prior to approval of 	√		√		

	development plans.					
	<ul style="list-style-type: none"> • Pre-plan bear-resistant residential garbage containment areas prior to development of the site. 	√		√		
	<ul style="list-style-type: none"> • All waste receptacles (residential and otherwise) must be approved bear-resistant. 	√		√		
	<ul style="list-style-type: none"> • Developer to hire a Registered Professional Biologist to aid in planning strategy (garbage containment methods and areas, general design layout) for new developments. 	√		√		
	<p><i>Implement one or more of the following options in order of priority:</i></p> <p>I. Provide a central, communal area with large transfer station bins where residents deposit their garbage. Consider enclosing the area within a minimum 2 meter high chain-link or similarly fenced perimeter enclosed structure; or</p> <p>II. Provide a central bear-resistant garbage storage building for individual bins; and/or</p> <p>III. Mandate that all waste bins be contained within an individuals' self-owned bear resistant structure, such as their garage or privately purchased residential enclosure until the stated time allowed for curbside placement.</p>	√		√		
	<p><i>New Developments in the Regional District of Fraser-Fort George:</i></p> <ul style="list-style-type: none"> • Continue to require households in the RDFFG to use transfer stations. 		√			√
	<ul style="list-style-type: none"> • Consider implementing bear-resistant tote restrictions for households with the RDFFG that use private collection services. 	√		√		
IX	<p><i>Unauthorized garbage disposal sites:</i></p> <ul style="list-style-type: none"> • Clean up refuse at existing sites. 		√			√
	<ul style="list-style-type: none"> • Implement stricter enforcement and more frequent monitoring of known dumping sites. 		√		√	
	<ul style="list-style-type: none"> • Issue and enforce fines for violations. 	√		√		
	<ul style="list-style-type: none"> • Consider Problem Wildlife Protection Orders in addition to other fines for violations. 	√		√		
	<ul style="list-style-type: none"> • Provide barriers that would make it 	√		√		

	difficult to lift large household items over.					
	• Involve the public in clean-up.		√			√
	• Post signs with fines for violations at known dumping sites.	√		√		
	• Post signs warning of the environmental hazard of illegal dumping.	√		√		
	• Consider media messages on the effects of unauthorized sites on the environment.		√			√
2.2	Potential Pilot Projects and Testing of New, Innovative Bear-Resistant Measures as they Relate to Garbage Waste in the City and District:					
I.	<p><i>Potential Pilot Projects in Problem Neighbourhoods: Separating Food Waste from other Wastes</i></p> <p>(A) Communal Waste Collection Sites</p> <ul style="list-style-type: none"> • Install bear-resistant communal waste sites in new developments & neighbourhoods & trailer parks that are experiencing chronic bear problems. <p><i>Things to Consider:</i></p> <ul style="list-style-type: none"> • Enclosed perimeter fencing of bin areas with self-locking or automatic gates. • Selected areas for bin placement must be centrally located to increase user compliance; • Selected areas should be separated from green-spaces, trees and shrubs. The greater the distance between these features and the bin area the better; • Gates should open outwards and not be able to be pushed inwards. 		√		√	
	<p>(B) Separate Lockable Containers for Food Wastes</p> <ul style="list-style-type: none"> • Separate food wastes from other wastes and placed in a separate bear-resistant lockable container. <p><i>Things to Consider:</i></p> <ul style="list-style-type: none"> • Requires bear resistant boxes/containers for proper storage. • Requires strict user compliance. • Bears are also attracted to byproducts (e.g., packaging) that contain the smell of food and non-food wastes, such as diapers and grease. • Option: combine this pilot project with the Communal Waste Collection Sites. 			√		√
	(C) Household Garburators for Food Wastes:					

	<p><i>Things to Consider:</i></p> <ul style="list-style-type: none"> • Remains to require bear resistant containers for proper storage of wastes and byproducts that cannot be garborated. • Requires strict user compliance. • Professional engineer is required to evaluate the ability of the waste treatments facilities and the environmental effects of this pilot project 		√			√
II.	<p><i>Curbside Recycling:</i></p> <ul style="list-style-type: none"> • Implement a strong educational component that focuses on bears and proper ways to recycle in bear country. 	√		√		
	<ul style="list-style-type: none"> • Mandatory cleaning/rinsing of recyclables. Disallow any recyclable materials that contain food byproducts to reduce smell at curbside. 	√		√		
	<ul style="list-style-type: none"> • Purchase bear-resistant recycling boxes for chronic problem neighbourhoods. 		√		√	
	<ul style="list-style-type: none"> • Implement and enforce bylaws for times totes are allowed to be placed curbside and properly secured from curbside. 	√		√		
	<ul style="list-style-type: none"> • Information and bear smart messages should be available on the City of Prince George and the Regional District of Fraser Fort George’s web pages. 	√		√		
2.3	Fruit trees, Bird Feeders, Composts & Gardens:					
I	<p><i>Fruit trees:</i></p> <ul style="list-style-type: none"> • Prohibit planting of fruit trees by City or Regional District. <ul style="list-style-type: none"> * City: should not plant fruit trees, especially in high to moderate identified areas. * City: should remove fruit trees. * City: ensure all fruit trees are properly managed. * City: promote awareness on proper fruit tree management. * City: replace fruit trees with a non-fruit bearing tree or sterile tree. * City: ensure all fruit is picked before it is ripe. * City: to endorse a list of trees and shrubs attractive to bears and assure new employees are aware of the list. 	√			√	
	<ul style="list-style-type: none"> • Encourage through active media messages (TV, radio, signs) for residents to pick 					

	<p>their fruit early</p> <ul style="list-style-type: none"> * Discourage rotting fruit * Discourage attracting bears * Support the fruit exchange program 	√		√		
	<ul style="list-style-type: none"> • Discourage the planting of fruit bearing trees by all residents. 	√		√		
	<ul style="list-style-type: none"> • Encourage planting of non-fruiting varieties (residential, City & Region). 	√		√		
	<ul style="list-style-type: none"> • Suggest removal of fruiting trees in areas with chronic bear problems. 	√		√		
	<ul style="list-style-type: none"> • Enforce removal of trees from those residences and/or neighbourhoods that are not managing fruits after warning. 	√		√		
	<ul style="list-style-type: none"> • Enforce and issue DWPO or other fines for non-compliance. 	√		√		
	<ul style="list-style-type: none"> • Provide guidelines for developers mandating that they are not to plant fruit trees or low lying berry bushes. 	√		√		
	<ul style="list-style-type: none"> • Provide bear smart educational material at all outlet stores that sell fruit trees. Develop a list of alternate varieties for planting and have it available at all stores that sell fruit trees. 	√		√		
	<ul style="list-style-type: none"> • Promote the use of electric fencing for fruit trees on orchards where management of fruit may be difficult or where residents are willing to manage their trees. 		√	√		
	<ul style="list-style-type: none"> • Support the NBA Fruit Exchange Program. 	√		√		
	<ul style="list-style-type: none"> • Bylaw required (see bylaw section). 	√		√		
	<p>(A) <i>Diversionsary Fruit Tree Pilot Project:</i></p> <ul style="list-style-type: none"> • Consider enhancing the availability of fruit bearing trees on the outskirts of parks or crown land that backs onto large tracks of green-spaces. • Requires monitoring and research to assess effectiveness. 		√			√
II	<p><i>Bird Feeders:</i></p> <ul style="list-style-type: none"> • Discourage bird feeders in bear active season (April 1 – Nov. 30). • Encourage alternate forms of bird feeders 	√				
	<ul style="list-style-type: none"> • If bird feeders are used, must be secured in a bear-resistant manner. 	√		√		
	<p>If bird feeders are used:</p> <ul style="list-style-type: none"> • Bird feeders must be at least 3 meters (10 feet), and preferably 5.5 m (18 ft), above the ground <u>and</u> 1.5 m (5 ft) from the supporting structure. • Enforce the use of larger catch pans that 	√		√		

	<p>extend past the feeder itself.</p> <ul style="list-style-type: none"> • Clean spilled bird feed daily. • Consider bringing bird feeders in at night. • Limit the amount of seed placed in the feeder. • Store replacement bird seed in a bear-resistant structure (e.g., house). • Consider wrapping a smooth metal band around the girth of the supporting structure that is of sufficient width (1-2 meters wide) so that bears are unable to climb past the banding. 					
	<ul style="list-style-type: none"> • Enforce Problem Wildlife Protection Orders in addition to other fines for violations. 	√		√		
III	<p><i>Composts:</i></p> <ul style="list-style-type: none"> • Accept non-cooked food waste compost at landfill and select transfer stations (could be pilot project). 	√		√		
	<ul style="list-style-type: none"> • Encourage indoor composting in high bear rated neighbourhoods. 	√			√	
	<ul style="list-style-type: none"> • Provide bear smart composting information with composters when purchased/provided. 	√			√	
	<ul style="list-style-type: none"> • Consider purchasing bear-resistant composts for neighbourhoods with chronic bear problems. 	√			√	
	<p><i>If outdoor composting is promoted educational material should address:</i></p> <ul style="list-style-type: none"> • Placement of composts – avoid placing composts backing up to green-spaces or trails. Place in open with breaks around bin. • Encourage regular turning of composts. • Discourage meats, fish, eggs, dairy or similar foods in composts. • Promote the use of lime to reduce odour. • Educational material should accompany each compost and be reviewed by a qualified individual. 	√		√		
2.4	Domestic Carcass Removal & Agricultural Attractants:					
I.	<p><i>Ranching practices general:</i></p> <ul style="list-style-type: none"> • Encourage the creation of a central area for calving/birthing and neonatal care. 	√		√		
	<ul style="list-style-type: none"> • Secure grain and other attractants fed to domestic animals in a bear-resistant manner. 	√			√	

	<ul style="list-style-type: none"> Promote the use of properly trained recognized breeds of bear dogs for protection of livestock. 		√		√	
	<ul style="list-style-type: none"> Investigate the use of a number of alternate deterrent techniques to dissuade bears from the site. 		√		√	
	<ul style="list-style-type: none"> Encourage a rural network of bear watch. 		√			√
	<ul style="list-style-type: none"> Remove bears that habitually kill livestock but only if the attraction is addressed at the same time. 	√		√		
	<ul style="list-style-type: none"> Issue and enforce DWPO for improperly managed operations that will not voluntarily comply with Bear Smart practices. 	√		√		
II.	<p><i>Domestic Carcass Removal:</i></p> <ul style="list-style-type: none"> The disposal of animal carcasses is governed under the Codes of Agricultural Practice for Waste Management. Should be reviewed in consultation with a Registered Professional Biologist specializing in large carnivore behaviour. 	√		√		
	<ul style="list-style-type: none"> Provide fines and PWPOs for non-compliance, such as carcass buried at insufficient depth and other violations of standards outlined in the Agricultural Practices Code 	√		√		
	<ul style="list-style-type: none"> Support a rendering plant for domestic carcass removal, particularly cows & sheep. 	√			√	
	<ul style="list-style-type: none"> Reduce the fees for domestic carcasses at the Foothills landfill. 		√			√
	<ul style="list-style-type: none"> If on-site burial of carcasses is allowed, encourage carcasses are covered with lime or other agents to reduce the smell. 	√		√		
	<ul style="list-style-type: none"> Discourage throwing carcasses into retention patches and forested areas that surround or are on ranch property. 		√	√		
	<ul style="list-style-type: none"> Educate farmers on the potential problems associated with attracting bears to their farm, particularly the placement of carcasses close to their establishments. 	√		√		
III.	<p><i>Honeybee Colonies:</i></p> <ul style="list-style-type: none"> Encourage proper placement of honeybee colonies in open and away from green-spaces. 	√				√
	<ul style="list-style-type: none"> Encourage electric fencing of honeybee colonies. 	√				√
	<ul style="list-style-type: none"> Consider raising colonies on a platform. 		√			√
IV.	<p>Potential Pilot Projects & Workshops:</p> <p>(A) Workshops:</p>					

	<ul style="list-style-type: none"> Establish workshops for farmers that address farm layout and planning to deter predators, electric fencing for protection of wildlife, domestic animals for the protection of wildlife, etcetera.. 		√			√
	<p>(B) Carcass Redistribution Pilot Project:</p> <ul style="list-style-type: none"> Contemplate a “carcass redistribution program” where carcasses would be distributed in remote areas during ‘problem’ seasons/times, particularly spring and fall. 		√			√

ISSUE TWO: MANAGING HUMANS

Sec. No.	RECOMMENDATION	CATEGORY		IMPLEMENTATION		
		MAJOR	MINOR	1 ST Stage	2 nd Stage	3 rd Stage
3.1	Bear Smart Bylaw Development:					
I	<i>Residential Garbage Storage & Collection:</i> <ul style="list-style-type: none"> Implement a ‘bear smart’ bylaw addressing bear-resistant storage of residential garbage and allowable times for curbside placement. 	√		√		
	<ul style="list-style-type: none"> Provide a communal bear-resistant, locked bulk waste container area for new multi-family dwelling development projects. 	√		√		
	<ul style="list-style-type: none"> Enforce fines for violations. 	√		√		
II	<i>Commercial, Industrial and Institutional Garbage & Cooking Grease storage:</i> <ul style="list-style-type: none"> Implement a ‘bear friendly’ bylaw addressing the bear-resistant storage of commercial garbage and allowable times for bins latches to remain unlocked. 	√		√		
	<ul style="list-style-type: none"> Secure wastes within an enclosure or a metal bin equipped with a metal lid that locks/latches closed. Enforce that lids remain closed/down at all times. Enforce that lids are locked down when establishment is not in operation. 	√		√		
	<ul style="list-style-type: none"> Institute additional measures for establishments that remain to experience bear problems. 	√		√		
	<ul style="list-style-type: none"> Prohibit waste from overflowing or being placed outside of bear-resistant bins. 	√		√		
III	<i>Fruit trees:</i> <i>Implement a bylaw for the management of fruit trees:</i> <ul style="list-style-type: none"> Address maintenance of residential fruit trees as they pertain to wildlife in bylaw. 	√		√		
	<ul style="list-style-type: none"> Enforce the maintenance of fruit as it pertains to bears (picking, disposal, maintenance). 	√		√		
	<ul style="list-style-type: none"> Enforce that fallen fruit must be immediately removed from ground. 	√		√		
	<ul style="list-style-type: none"> Support the NBA fruit exchange program. 	√		√		
IV	<i>Bird Feeders:</i> <ul style="list-style-type: none"> Implement a bylaw pertaining to dates 	√		√		

	<p>when outside bird feeders are acceptable (preferred recommendation).</p> <ul style="list-style-type: none"> Implement a bylaw requiring bird feeders be properly secured from bears (alternate recommendation). 					
3.2	Enforcement:					
3.2 - I	<p><i>Bylaw Enforcement and Fines:</i> <i>Bylaws must be Enforced to be Effective!</i></p> <ul style="list-style-type: none"> Enforce bylaws with fines for violations: <ul style="list-style-type: none"> * Suggest \$100.00 fine, or * \$50 for first offence increasing by \$50 for each subsequent offence. 	√		√		
	<ul style="list-style-type: none"> Clearly state the agencies with power to enforce bylaws the wildlife attractant bylaw document. 	√		√		
	<ul style="list-style-type: none"> Use funds from bylaw infractions to further sanitize the City as well as education, outreach and research on Bear Smart initiatives. 	√		√		
	<ul style="list-style-type: none"> Allow the COS the power to enforce bylaws that relate to wildlife. 	√		√		
	<ul style="list-style-type: none"> Consider giving the problem wildlife specialist or contractor the power to enforce bear smart bylaws. 		√			√
3.2 - IA	<p><i>Hire a Bear Conflict Specialist (City, NBA and/or COS):</i></p> <ul style="list-style-type: none"> Hire a person responsible for proactive management of bears to aid the COS. Responsibilities include dissuading the development of problem bear behaviour & the management of ‘problem’ bears. Education of public regarding bears. Canvassing neighbourhoods with bear reports immediately as reports are received. Conducting or supporting research. Database management. Consider giving the problem wildlife specialist the power to enforce bear smart bylaws. 	√			√	
3.2 - II	<p><i>The Wildlife Act and Dangerous Wildlife Protection Orders :</i></p> <ul style="list-style-type: none"> Issue and enforce fines for violations whether the feeding of bear(s) was intentional or unintentional. 	√		√		
	<ul style="list-style-type: none"> Address the issue of “intentional” and “unintentional” attractants in the bear smart <i>bylaws</i> because the word “intentional” currently appears in the <i>Wildlife Act</i>. 	√		√		

	<ul style="list-style-type: none"> Consider removing the word “intentional” from Section 33.1 of the <i>Wildlife Act</i> (Federal or Provincial government responsibility). 					
	<ul style="list-style-type: none"> Support and encourage the COS to enforce bear smart management practices through the issuing of DWPOs. 	√		√		
	<ul style="list-style-type: none"> Provide COS with powers to enforce infractions to the ‘bear smart’ bylaw(s). Support and encourage the COS to be able to issue infractions to the bear smart bylaws. 	√		√		
	<ul style="list-style-type: none"> Support and encourage the COS to enforce more Problem Wildlife Protection Orders. 	√		√		
	<ul style="list-style-type: none"> Initiate legal actions for chronic offenders. 		√		√	
3.3	Education:					
I.	<p><i>Promote participation in delivering bear smart education messages between the City, District, Solid Waste Management, MOE, COS & MOF:</i></p> <ul style="list-style-type: none"> Provide funding for hiring NBA education specialists. Provide booths at events free of charge or pay for booths. Provide volunteers. 	√		√		
	<ul style="list-style-type: none"> Solid Waste Management: Provide funding directed at proper use and compliance for transfer stations & issues with bears in the District. 	√		√		
	<ul style="list-style-type: none"> City & District: Provide free message space in City and District guides, such as the Leisure services guide 	√		√		
	<p><i>Public Information Signs:</i></p> <ul style="list-style-type: none"> Place large public information signs on the highways leading into Prince George as well as within the City itself 	√		√		
	<ul style="list-style-type: none"> Post bear warning signs at all trail heads in neighbourhoods with moderate and high bear activity 	√		√		
	<ul style="list-style-type: none"> Provide a ‘bear facts’ article in visitor information pamphlets 	√		√		
	Support & continue the current Bear Complaints Map.	√		√		
	<p><i>Media Releases:</i></p> <ul style="list-style-type: none"> Provide a ‘bear facts’ article in the newspaper during bear active season 		√			√
	<ul style="list-style-type: none"> Provide a public information release 					

	when bear occurrence reports and/or destruction begin to escalate	√			√	
	• Air TV commercials during bear active season on PG TV	√				√

ISSUE THREE: GREENSPACE CONFIGURATION, CITY PLANS & DESIGN, PARKS & PROTECTED AREAS, NEW DEVELOPMENTS

Sec No.	RECOMMENDATION	CATEGORY		IMPLEMENTATION		
		MAJOR	MINOR	1 ST Stage	2 nd Stage	3 rd Stage
4.1	General City Design & Layout:					
I	<i>Configuration of Green-Spaces</i> <ul style="list-style-type: none"> Consider the layout and the amount of green space surrounding the City. 	√		√		
	<ul style="list-style-type: none"> Avoid placing schools and children’s play area in areas that back onto the periphery of the green-space. 	√		√		
	<ul style="list-style-type: none"> Remove the majority of vegetation and clear out underbrush surrounding children play areas. 	√		√		
II	<i>Trails & Corridors:</i> <ul style="list-style-type: none"> Remove, manage or reconfigure those trails that lead into chronic problem neighbourhoods. 	√		√		
	<ul style="list-style-type: none"> Sever green-spaces from travel corridors, especially off the 2 major rivers 	√		√		
	<ul style="list-style-type: none"> Remove and thin the majority of vegetation, particularly surrounding green-space trails heads & switchbacks. 	√		√		
	<ul style="list-style-type: none"> Trim vegetation along trails to increase lines of sight 	√		√		
	<ul style="list-style-type: none"> Assure bear warning signs are placed at all trail heads. 	√		√		
	<ul style="list-style-type: none"> Consult a Registered Professional Biologist specializing in large carnivores for trail network design & layout. 	√		√		
4.2	Parks & Protected Areas:					
	<ul style="list-style-type: none"> Sever green spaces that lead into City, particularly those along corridors. 	√		√		
	<ul style="list-style-type: none"> Consider closing portions of trails or areas of Parks if bears are noted. 		√		√	
	<ul style="list-style-type: none"> Remove the majority of vegetation and clear out underbrush surrounding children play areas. 	√		√		
	<ul style="list-style-type: none"> Consider fencing with high perimeter fence children’s play areas in parks where green spaces back onto the play area. 	√		√		
	<ul style="list-style-type: none"> Assure all garbage receptacles are approved bear-resistant, are properly maintained and managed. 	√		√		
	<ul style="list-style-type: none"> Evaluate sybertech garbage cans for bear-resistant status. 		√			√
4.3	New Developments on the Periphery of the City:					
I	<i>Preplan the Layout!!</i>					

<p><i>Bear-resistant measures should be required in development plans prior to approval.</i></p> <ul style="list-style-type: none"> • Implement and establish garbage storage rules and regulations at the onset: <i>**inform potential buyers of the bear smart management rules and regulations prior to purchase.</i> 	√		√		
<ul style="list-style-type: none"> • Provide a central communal bear resistant garbage collection system (refer to Section 2.2 – I A). • Enforce the use of communal garbage collection sites. 		√	√		
<ul style="list-style-type: none"> • Prohibit the planting of fruit bearing trees (use the non-fruit flowering variety instead). • Prohibit the planting fruit bearing shrubs attractive to bears. • Remove existing fruiting trees or shrubs attractive to bears. • Consider a bylaw to prohibit the planting of fruit bearing trees and shrubs attractive to bears. 	√		√		
<ul style="list-style-type: none"> • Provide pamphlets regarding bear smart education and messages left on the counter in the kitchen for new residents. 		√		√	
<ul style="list-style-type: none"> • Require mandatory fencing of backyards that back onto undeveloped green-spaces or land with a high (minimum 2 m) fence. 	√		√		
<ul style="list-style-type: none"> • Consider a strip (50-100 m) of zero brush along areas and backyards that back onto greenspaces. 	√		√		
<ul style="list-style-type: none"> • Plan any contained parks and green-spaces so they do not link to larger undeveloped areas. 	√		√		
<ul style="list-style-type: none"> • Do not place walking trails in riparian areas. 		√		√	
<ul style="list-style-type: none"> • Avoid splicing riparian areas into 2 or more parts. 	√		√		
<ul style="list-style-type: none"> • Account and allow for wildlife movement corridors to pass well around any developments that occur adjacent to the River or a creek/stream bed (e.g., Cowart Road development). 	√		√		
<ul style="list-style-type: none"> • Avoid retaining any heavy brush or treed areas within the development core. Remove the majority of underbrush and provide an open, park-like setting. 	√		√		
<ul style="list-style-type: none"> • Plan children’s playgrounds separated from green spaces. • Fence children’s play areas with a 2 m 	√		√		

	high chain link fence.					
	<ul style="list-style-type: none"> • If a trail links to a larger system (which is not recommended) heavily brush the shrub layer and increase all lines of sight. 	√		√		
	<ul style="list-style-type: none"> • Sign trails that may be used by bears with 'bear warning' signs. 	√		√		

ISSUE FOUR: SCHOOLS

Sec No.	RECOMMENDATION	CATEGORY		IMPLEMENTATION		
		MAJOR	MINOR	1 ST Stage	2 nd Stage	3 rd Stage
5.1	Elementary & High Schools Assessed:					
I.	<i>Children's Play Areas & Bear forage:</i>					
	<ul style="list-style-type: none"> Remove brush along fence-rows on both sides of fence. 	√		√		
	<ul style="list-style-type: none"> Clear a strip of zero brush along areas that back onto green-spaces. Clear a buffer strip free of all vegetation surrounding green-spaces & play areas of ≥100 m for schools rated as moderate to extreme. 	√		√		
	<ul style="list-style-type: none"> Remove all bear forage items from school grounds. This includes mountain ash trees! 	√		√		
	<ul style="list-style-type: none"> Consider clearing bear forage items from adjacent green-spaces. 		√			√
II.	<i>Line of Sight:</i>					
	<ul style="list-style-type: none"> Clear vegetation obstructing the line of sight between school and play area(s). 	√		√		
	<ul style="list-style-type: none"> Relocate all play areas where the vegetation is not being managed and if line of sight is obscured. 	√		√		
III.	<i>Garbage Containment:</i>					
	<ul style="list-style-type: none"> Remove all non-bear resistant garbage cans from school grounds. Where necessary replace with bear-resistant cans. 	√		√		
IV.	<i>Fencing:</i>					
	<ul style="list-style-type: none"> Raise the fence line on schools rated as high to extreme to ~2 meters. 	√			√	
	<ul style="list-style-type: none"> Assure the fencing covers the entire perimeter with no breaks. 	√		√		
	<ul style="list-style-type: none"> Consider "double fencing" in problem areas that back onto green-spaces (McCrory). 		√			√
V.	<i>Education:</i>					
	<ul style="list-style-type: none"> Encourage children to play in groups. 	√		√		
	<ul style="list-style-type: none"> Schools to solicit presentations by NBA and/or COS. 	√		√		
VI.	<i>Additional General Recommendations:</i>					
	<ul style="list-style-type: none"> Remove fruit trees & berry bushes from neighbourhood. 		√		√	
	<ul style="list-style-type: none"> Clean odourous garbage cans. 		√			√
	<ul style="list-style-type: none"> Place bear smart warning signs in neighbourhood. 		√			√
	<ul style="list-style-type: none"> Implement neighbourhood 'bear smart' clean up waste campaigns. 		√		√	

	<ul style="list-style-type: none"> Consider having a biologist visit schools with repeat bear occurrences to further develop site-specific recommendations. 		√			√
5.2	University of Northern BC					
	<ul style="list-style-type: none"> Remove all non-bear resistant garbage cans from school grounds. Where necessary replace with bear-resistant cans. 	√		√		
	<ul style="list-style-type: none"> Remove garbage bins located directly outside the daycare. 	√		√		
	<ul style="list-style-type: none"> Do not allow garbage to overflow or be placed outside of bins. 	√		√		
	<ul style="list-style-type: none"> Replace all large, commercial garbage containers with metal lids that are closed and latched at all times. 	√		√		
	<ul style="list-style-type: none"> Provide 'bear smart' education to students in residents at orientation sessions & pamphlets at the student centre. 	√		√		
	<ul style="list-style-type: none"> Enforce punishments including fines for students that promote problem bear behaviour. 		√		√	
	<ul style="list-style-type: none"> Provide a presentation on bears, the campus, the dangers and bears in the area open to all students. 	√		√		
	<ul style="list-style-type: none"> Electric fence, high fence, or relocate the compost facility. 		√			√
	<ul style="list-style-type: none"> Post warning signs regarding bears, particularly those backing onto green-space trails. 	√		√		

ISSUE FIVE: CRITERIA FOR BEARS IN THE CITY

Sec No.	RECOMMENDATION	CATEGORY		IMPLEMENTATION		
		MAJOR	MINOR	1 ST Stage	2 nd Stage	3 rd Stage
6.1	Defining a Problem Bear					
I	<p><i>Change from reacting to bear problems once bears have become a problem to proactively managing bears. If proactive management is not in the COS mandate then:</i></p> <ul style="list-style-type: none"> i. support the hiring of a bear conflict specialist (refer to 3.2 – 1A), and/or ii. support the hiring of an NBA education specialist. 	√		√		
II.	<ul style="list-style-type: none"> • Develop a consistent set of criteria used to manage ‘problem’ bears: 	√		√		
III.	<ul style="list-style-type: none"> • Preventing and Responding to Conflicts with Large Carnivores does not supply a definition for “food conditioned.” • Consistent province-wide set of criteria for levels of food conditioning and habituation to humans required. 	√		√		
III.	<ul style="list-style-type: none"> • Reevaluate in City and District whether all food conditioned bears should be destroyed. (e.g., is a bear feeding in a mismanaged apple tree the same as a bear on a porch?). 	√			√	
III.	<ul style="list-style-type: none"> • Develop a set of behavioural based criteria for problem bear management. 	√		√		
IV.	<ul style="list-style-type: none"> • Develop a set of criteria for the length of time traps remain set in an area. 	√		√		
IV.	<ul style="list-style-type: none"> • Evaluate ways to determine if the correct animal has been caught. 	√			√	
V	<p>For bears that are <u>not</u> deemed a threat to human safety:</p> <ul style="list-style-type: none"> • Consider capturing the bear, placing an identifiable ear tag and then releasing the bear within its likely home range 	√			√	
	<ul style="list-style-type: none"> • Release bears within good bear habitat for that time of season. 	√		√		
All	<ul style="list-style-type: none"> • Education and/or fines (DWPO and/or bylaw infractions) should be issued for all available non-natural attractants every time a bear call is responded to. 	√		√		

ISSUE SIX: SCIENTIFIC DATA GATHERING & FUTURE RESEARCH

Sec No.	RECOMMENDATION	CATEGORY		IMPLEMENTATION		
		MAJOR	MINOR	1 ST Stage	2 nd Stage	3 rd Stage
7.1	Conservation Officer Service - Bear Occurrence Reporting Database					
	<i>Promote the creation of a standardized, user-friendly database (e.g., Microsoft Excel or Access) that is designed to gather appropriate information for managing bears in the City and District.</i>	√		√		
	<ul style="list-style-type: none"> Promote the use of the database for all bear reports taken in Victoria clearly identifying those that make it to the local COS. 	√		√		
	<p>Data Recorded should include:</p> <ul style="list-style-type: none"> Activity of the bear should be recorded into a standardized category beginning with: <ol style="list-style-type: none"> Define the behaviour of the bear: <ul style="list-style-type: none"> Natural behaviour, or Non-natural behaviour. Record the type of natural or non-natural behaviour: <ul style="list-style-type: none"> Natural behaviours include: feeding on berries, feeding on vegetation, sighting or travelling. Non-natural attractants include: Domestic attractants and Agricultural Attractants: <ul style="list-style-type: none"> Domestic attractant types include: Garbage, BBQ, bird feeder, pet food, hunter killed carcass, cookhouse, freezers, and residential or city planted fruit bearing trees. Agricultural attractants include: carcasses, crops, apiaries and livestock. <i>There should be no “unknowns” or blanks in the database! Consistent & accurate recording is essential.</i> 	√		√		
	<ul style="list-style-type: none"> Input occurrence reports as received into the standardized database. 	√		√		
	<ul style="list-style-type: none"> Date and time and location of the bear. 	√		√		
	<ul style="list-style-type: none"> Location (UTM preferred, address okay) as specific as possible. 	√		√		

	• Name of the neighbourhood.	√		√		
	• Age class and gender (destroyed bears).	√		√		
	<i>Human-bear encounters:</i>					
	• Record all human-bear encounters.	√		√		
	• Determine the validity of each human-bear encounter.	√		√		
	• Define the behaviour of the bear: Offensive or Defensive behaviour.	√		√		
	• Estimate property damage.	√		√		
	• <i>Record the response of the COS:</i>					
	• No response, destruction, trap set bear caught or not caught, translocation, relocation, aversive conditioning, etc.	√		√		
	• Record the advice given (if applicable).	√		√		
	• Keep a record of the calls that get passed along to Prince George from Victoria.	√		√		
	• Add the gathering and recording of those data into the job description of the person taking the calls at the Call Centre in Victoria.	√		√		
	• The database should be able to be updated using a central system so that any actions taken by the COS are recorded in a consistent fashion along the same row of data as the original call.	√		√		
7.2	Future Research and Monitoring					
I	<i>Bear Smart Research Project:</i>					
	• Support the Urban Bear Smart Research program on radiocollared bears.	√			√	
	• Develop a GIS bear habitat map at ~1:5,000 – 1:10,000.		√			√
	• Develop a GIS bear corridor & travel route map at ~1:5,000 – 1:10,000.		√			√
	• Identify critical corridors & travel routes.		√			√
	• Identify habitats of seasonal importance.		√			√
	• Overlay the habitat map with a human use layer that identifies existing and proposed developments.		√			√
	• Use the results of the research project combined with the COS Occurrence Reports to monitor this plan.	√		√		

INTERAGENCY COOPERATION

Sec No.	RECOMMENDATION	CATEGORY		IMPLEMENTATION		
		MAJOR	MINOR	1 ST Stage	2 nd Stage	3 rd Stage
8.0	Interagency Cooperation					
	<i>The management of problem bears requires specialization in a number of disciplines. No one person, agency or non-governmental organization can implement all of the required 6 Bear Smart steps.</i>					
	<i>Bear Ecology and Behaviour:</i> <ul style="list-style-type: none"> • Specialist and Registered Professional Biologist. 	√		√		
	<i>City of Prince George:</i> <ul style="list-style-type: none"> • Director of Planning • Engineer Development Services, Representatives from: <ul style="list-style-type: none"> • Building Permits • Current Planning and Developments • Environmental Manager • Parks and Solid Waste Services 	√		√		
	• Education specialists – youth & adult	√		√		
	• Lawyer	√		√		
	• Northern Bear Awareness Society	√		√		
	• Ranching Association	√		√		
	<i>Regional District Fraser-Fort George:</i> <ul style="list-style-type: none"> • General Manager of Env. Services • Environmental Leader • Sustainable Development 	√		√		
	<i>Ministry of Environment:</i> <ul style="list-style-type: none"> • Large Carnivore Biologist <i>Environmental Protection:</i> <ul style="list-style-type: none"> • Conservation Officer Service 	√		√		
	<i>Ministry of Forests:</i> <ul style="list-style-type: none"> • Wildlife biologist 	√		√		
8.1	Additional Responsibility of the City					
	• Revise planning and decision-making documents to be consistent with this management plan (Required Bear Smart Step).	√		√		
	• Consult with “a liability expert”	√		√		

1.0 INTRODUCTION

1.1 Criteria for Phase II Management Plan and Bear Smart Status

The premise behind achieving Bear Smart status is to move from the **reactive management** of ‘problem’ bear behaviour to applying a **proactive approach**³. Proactive management techniques are used to deter the creation of ‘problem’ bears which requires forethought in order to dissuade and anticipate bear problems before they occur as opposed to reacting to an event(s) as it unfolds. Example proactive management options include securing garbage in a bear-resistant location regardless of whether or not the resident or commercial operation has experienced past bear problems and to properly design green-spaces and housing developments that occur in prime bear foraging and movement areas in an attempt to deter bears both spatially and with the use of bear-resistant structures before developments are constructed. Examples of reactive management include destroying, translocating, relocating or aversively conditioning bears that are in conflicts with humans or having to reconfigure green-spaces, fence designs or garbage storage and collection methods because they were not properly planned at the onset. If proactive management techniques are properly and consistently implemented they should reduce the need for reactive management and ultimately reduce the amount of funds spent on property damage inflicted by bears, Conservation Officer Service time in managing bear conflicts, and conflicts between bears and humans.

The following *Human-Bear Conflict Prevention Management Plan for Prince George, British Columbia: Application for Bear Smart Community Status Phase II* (hereafter Plan) suggests ways of managing the hazards and land-use conflicts available to bears that use the City of Prince George (hereafter City) and immediately surrounding Regional District of Fraser-Fort George (hereafter District). The recommendations contained within this Plan result directly from findings within the *Bear Hazard Assessment for Prince George, British Columbia: Application for Bear Smart Community Status Phase I* (Ciarniello 2008)⁴ which presents a problem analysis and rates the probability of selected areas for creating problem bears and/or human-bear conflicts. It is recommended that the reader view the Hazard Assessment in conjunction with this Plan.

On 29 June 2009 City Council passed a resolution for the City of Prince George to commit to achieving Provincial Bear Smart Status. This management plan fulfills the second phase of 6 steps required for Prince George to achieve Bear Smart status as determined by the Province of British Columbia (BC) Ministry of Environment (Davis et al. 2002) (Table 1):

³ Definitions for bold faced typed are provided in the “Glossary of Terms” section of this report.

⁴ Available from: <http://www.northernbearawareness.com/> (Bear Smart sidebar)

Table 1. Steps Required to Achieve Provincial Bear Smart Status

Steps	Description of Activity	Completed for Prince George
1	Prepare a Bear Hazard Assessment using criteria outlined in Davis et al. (2002).	✓
2	Prepare a Human-Bear Conflict Management Plan designed to address the bear hazards and land-use conflicts identified in the hazard assessment.	✓
3	¹ Revise planning and decision-making documents to be consistent with the human-bear conflict management plan.	
4	² Implement a continuing education program directed at all sectors of the community.	✓
5	¹ Develop and maintain a bear-proof municipal solid waste management system.	
6	¹ Implement " Bear Smart " bylaws prohibiting the provision of food to bears as a result of intent, neglect, or irresponsible management of attractants.	

¹Fulfillment of these objectives requires partnership between the Northern Bear Awareness Society, the Conservation Officer Service, the RDFFG, and the City of Prince George.

²The Northern Bear Awareness Society has fulfilled this objective since 1998.

This Plan focuses on achieving Bear Smart steps 5 and 6 by suggesting ways the City and District can alter the current solid waste management system to make it bear-resistant. In addition, example Bear Smart bylaws that have been implemented in other cities or communities have been provided with the intent that they may be used as a template for a similar bylaw(s) in Prince George. Fulfillment of steps 3, 5 and 6 will require partnership and interagency cooperation between the City of Prince George, the Regional District of Fraser-Fort George (hereafter RDFFG or District) the Conservation Officer Service, the Ministry of Environment, and the Northern Bear Awareness Society.

1.2 Report Goals and Objectives

Two primary objectives underlay the foundation of the Bear Smart recommendations contained within this human-bear conflict management:

- (1) To reduce the likelihood of human-bear **conflicts** within the City and District thereby increasing public safety; and,
- (2) To reduce the number of bears destroyed or **translocated** each year within the City and District.

The following principals underlay the stated objectives of this Plan:

- (1) Eliminate or significantly minimize **food conditioning** of bears;
- (2) Minimize the **habituation** of bears to humans;
- (3) Reduce the number of bears entering chronic problem neighbourhoods;

- (4) Maintain a viable population of bears in their natural habitats; and,
- (5) Encourage active, public involvement in the management of bears within the City and District.

Success of this Plan may be measured by a:

- (1) Reduction in the number of bears reported within the City;
- (2) Reduction in the number of bears destroyed or translocated each year;
- (3) Reduction in property damage caused by bears;
- (4) Reduction in COS time spent reacting to bear ‘problems’; and,
- (5) Increase in resident and visitor education of bears and bear behaviour.

This Plan was developed in accordance with the goals of the Omineca Bear Human Conflict Committee (OBHCC) and the Northern Bear Awareness Society (NBA). The primary goal of the NBA is to reduce conflict in neighbourhoods between people and bears through education, innovation and cooperation as outlined in their constitution⁵:

- A) To address issues relating to human-bear conflicts and the high number of bears destroyed in the City of Prince George and Regional District Fraser-Fort George;
- B) To increase public awareness of the potential for human-bear conflict by promoting conservation with a focus on preventative education and community involvement;
- C) To recognize that Prince George is located within bear habitat and as such to examine ways to allow bears to move around the City without becoming ‘problem’ animals;
- D) To foster a pragmatic understanding, appreciation and tolerance of bears;
- E) To make the City of Prince George and Regional District Fraser-Fort George bear resistant by minimizing unnatural attractants;
- F) To conduct research on bear habitat and behaviour in a community environment; and
- G) To achieve provincial Bear Smart status for the City of Prince George.

This Plan begins by restricting the availability of non-natural attractants to bears thereby promoting non-problem behaviours of bears. The plan also encourages the spatial separation of bears and humans as much as is feasible for a City placed within prime bear habitat and movement areas. Recommendations are aimed at discouraging bears from being within heavily populated areas of the City, for example by removing the non-natural attractants that tend to attract and hold bears around neighbourhoods and constructing barrier fences and visual breaks for new developments that back onto continuous bear habitat. Direct management techniques,

⁵ The Northern Bear Awareness Program under the direction of the Omineca Bear Human Conflict Committee was incorporated as the Northern Bear Awareness Society on July 11, 2008.

such as Bylaws for garbage storage and removal, the intentional feeding of wildlife, and enforcement of Problem Wildlife Protection Orders are recommended for residents or visitors that are unwilling to voluntarily comply with the removal of non-natural attractants. The aim of this Plan is to minimize and when need be to mitigate conflicts that may result from learned associations of bears towards people. Management options are best implemented before they encourage bears to develop “problem” behaviours but must also be implemented retroactively in areas currently experiencing bear ‘problems’. The Plan is structured in order of priority with major recommendations being obligatory to the overall success of the plan in reducing human-bear conflicts. The reader is encouraged to refer to the Executive Summary for a summary of recommendations and implementation stages.

2.0 ISSUE ONE: REMOVING THE NON-NATURAL ATTRACTANTS

A variety of residential, commercial and City sources of non-natural attractants were documented within the human-bear hazard assessment for Prince George (Ciarniello 2008). The first step in becoming a Bear Smart community is to manage and restrict bear access to non-natural attractants, particularly by restricting access by bears to garbage and discouraging the planting of fruit trees, while encouraging proper management of gardens, bird feeders, pet food composts, livestock claving areas, and livestock carcass removal.

2.1 RESIDENTIAL GARBAGE STORAGE: SECURING BEAR ACCESS TO GARBAGE

First Step:
Develop and maintain a bear-proof municipal solid waste system
This is a required Bear Smart step with a First Stage of Implementation

It is recommended that the City and District begin with Step 5 of the required steps to achieve Provincial Bear Smart Status: “Develop and maintain a **bear-proof municipal solid waste** management system.” To achieve this step the recommendations contained within the *2008 Regional Solid Waste Management Plan* (Section 6.13, pg. 25 of Gartner Ltd. 2008 report)⁶ that relate to bears must be implemented in combination with the additional recommendations contained within this section (Securing Garbage from Bears).

The 2008 Regional Solid Waste Management Plan for the Regional District of Fraser Fort George was released in September 2008 and approved by the Minister on July 7, 2009 (Gartner Lee Ltd. 2008). The Solid Waste Management Plan recognizes that the Regional District of Fraser Fort George “is home to a large population of bears that are integral to the local ecosystem. Developing and maintaining a solid waste management system that minimizes the potential for human-bear conflict will enhance public safety and prevent the unnecessary destruction of bears” (Gartner Lee 2008:25). Some key features of the plan as it relates to bears in the City and District are as follows:

⁶Available from: http://www.rdffg.bc.ca/Report_Library/RSWMP08.pdf (pg. 25; accessed August 4, 2009).

- RDFFG will **work with local Bear Aware groups** and the **Province to establish and fund** ongoing **awareness and education campaign** for waste generators that addresses “bear awareness” (pg. 25).
- Municipalities and the RDFFG will ensure that their **waste collection bylaws require containerization** of garbage and **enforced set out times** for curbside collection to minimize wildlife access opportunities (pg. 25).
- Backyard **composting education** materials will address how to compost in a manner that does not attract wildlife into residential areas (pg. 25).

Paragraph was bulleted and emphasis was added by author of this report (quoted from Gartner Lee Ltd. 2008:25).

Minister Barry Penner approved the RSFFG Solid Waste Management Plan subject to the submission of an annual Plan Implementation Progress Report to be submitted by March 31 of each year. Therefore, the recommendations contained within the Solid Waste Management Plan will require implementation within a timely period.

2.1-1 RESIDENTIAL AUTOMATED GARBAGE PROGRAM

Table 2. Summary of recommendations pertaining to restricting bear access to residential garbage.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.1 – I	<p>Residential automated garbage system <i>Purchasing new bins and/or installing bear-resistant latches on existing polycarts.</i></p> <ul style="list-style-type: none"> • Newly purchased receptacles should be of the bear-resistant variety: <ul style="list-style-type: none"> • Preferred Option: brands that remain locked at curbside and open only with compatible automated system, • Secondary option: brands that require the user to unlock when placed at curbside. • Old receptacles must be fitted with a bear-resistant approved locking mechanism. • If bears remain able to violate old polycarts with new latches installed, carts in that neighbourhood must be replaced with new bear-resistant varieties. • Priority of purchasing & replacing cans should follow: high to extreme areas, high areas, moderate areas, and low rated areas. • Priority within areas should start with periphery and households that back onto green-spaces and trails and work inwards towards neighbourhood core. • City: consider renting bear-resistant bins for a monthly user fee. • City: include bear smart educational material that contains the Northern Bear Awareness Society’s contact information each resident’s garbage collection schedule. • Consider having bear smart tips displayed on garbage cans or on a 	<p>City & Remuneration possible in residential taxes or user fees.</p>

	<p>leaflet attached to each garbage can.</p> <ul style="list-style-type: none"> • Ensure a statement is contained within the <i>Municipal Waste Collection Agreement</i> regarding the required emptying of bear resistant bins by chosen contractor. <p><i>City to provide sheds for garbage storage through the distribution of:</i></p> <ul style="list-style-type: none"> • Provide lockable storage sheds for garbage totes that could be rented or purchased from the City for a fee. Sheds must remain locked unless in use and until the day of pick up, or • Provide building plans for lockable storage sheds for garbage totes, or • Contract local building centres to provide lockable storage shed building kits for garbage totes at a possible reduced rate with a voucher from the City. • Garbage bylaw must be instituted and enforced. 	
3.1	Bylaws - required for non-compliance.	City & District

Bear’ feeding on garbage was the highest recorded non-natural attractant category as reported by the COS in Prince George (Ciarniello 2008). The current residential polycart bins are not bear resistant.

The most effective bear resistant measure would be to purchase new, bear-resistant bins for households in neighbourhoods with chronic bear problems; however, this recommendation is costly as it requires replacing the existing non-bear-resistant totes.

The preferred option is to purchase bear-resistant bins that remain locked/bear-resistant at all times and are opened only when emptied by a compatible automated system. If a garbage can must be unlatched by the user at curbside then it is not bear-resistant during the time it remains unlatched. It is recommended that the City purchase containers that have the ability to remain latched at all times. These containers would be opened by the automated system at the time the container is emptied. A less desirable option is to purchase bear-resistant bins that require the user to unlatch the tote once it is placed curbside. Bins that require the user to unlatch the locking mechanism at curbside must be coupled with a strictly enforced bylaw regarding the times totes are allowed to be placed at curbside.

A potential problem that must be addressed in the *municipal waste collection agreement* is the emptying of a bear resistant bin(s) by the chosen contractor. It has been noted in other communities that contractors have refused to pick-up bear-resistant bins especially if the bins are not the standard company bins and emptying of these bin types is not noted in their contract with the municipality. This may occur even if the truck is compatible with the automated bin design. The Municipal waste collection agreement must contain a statement(s) that addresses the required emptying of bear-resistant bins. This statement(s) also should occur in any contracts or agreements between the disposal company and the City.

A less expensive starting point may be to retro-fit the existing polycarts with latches that are *approved bear-resistant*. In areas or situations where new bins need to be purchased, or if bears remain to access garbage from bins that have been retrofitted with a latching system, then the City must at that time replace the current polycarts with an approved bear resistant bin.

Fit receptacles provided for the automated residential garbage collection program with bear-resistant approved securing latches. Be prepared to replace retrofitted bins with an approved bear-resistant variety if bears are able to continue to access garbage from the retrofitted bin.

It is possible that even once retrofitted with a bear-resistant latch the existing polycarts may not be structurally strong enough to withstand the pressure exerted by a bear(s) that is attempting to obtain garbage. Existing polycarts used by the City would likely require a significant amount of reinforcing to make them bear resistant during such attempts and it is also likely that the existing cans would not be useable after such attempts. Several companies listed in Appendix 1 have stated that they would welcome working with the City on ways to replace the existing polycarts with bear resistant ones in an economically feasible manner.

If retrofitted polycarts are not able to withstand the forces of a bear(s) it is recommended that bins in be replaced with bear-resistant varieties. To be economically feasible this may be phased in by problem neighbourhood.

All new bins purchased, particularly for developments that protrude into bear habitat must be approved bear-resistant and not retrofitted bins.

The City to purchase approved bear-resistant bins as replacement for old bins when necessary (i.e., as new stock needs to be purchased) or as funding permits. (This may be partially compensated for in residential taxes).

Implement and enforce a bylaw for non-compliance (refer to Bylaw Section).

For a receptacle to be termed “**bear-resistant**” it must pass a number of approval tests put forth by the Interagency Grizzly Bear Committee (IGBC) Bear Resistant Container Testing Program and Living with Wildlife Foundation⁷. Containers used for garbage storage must pass a visual inspection, impact test (conditional on type of container), penetrometer test (conditional on type of container), and a captive grizzly bear test. Once products are tested they receive a rating “based upon the length of time the products are able to withstand the forces exerted by the test bears” (IGBC 2008:13). Ratings are provided from 1 to 5; containers rated 1 withstand forces ranging from 30-45 minutes, 2 from 45-60 minutes, and 3-5 being ≥ 60 minutes. Containers with an approval rating of 4 are also “user friendly” and “low maintenance” as defined by the US Forest Service. Containers rated 5 also meet the definition of handicapped accessible as put forth by Americans with Disabilities. In the United States products “used on USFS, BLM and State Lands with food storage regulations must have a 4 or 5 star rating” (IGBC 2008:13).

It is recommended that only products approved by the IGBC be used in the City and District.

These products should have a minimum 4 star rating

⁷ <http://www.lwwf.org/Final%20Bear%20Resistant%20Container%20Testing%20Protocol%20May%202008.pdf>

A 4 star rating means the product is “user friendly” where the system must “open easily and to seal upon release of the latch mechanism without the need for tools or additional latching mechanisms such as bolts, knobs or pins” even under sever weather conditions.

Appendix 1 lists some of the manufactures that provide approved bear resistant residential garbage bins, storage areas for bins, compost bins, commercial bins, and similar bear-resistant products. A number of the bins state that they are or can be made to be compatible with automated systems. Note that the TyeDee Bin was tested by bears at the Northwood Zoo in Seagrave, Ontario and it is unclear whether it the criteria for testing was similar to the rigorous testing of products approved by the IGBC.

At the time of writing this Plan I was unable to locate a bear-resistant latch for the residential polycarts that would also be compatible with the automated garbage program. Some of the companies listed in Appendix 1 provide bins that may be compatible with the City’s automated garbage collection system but at this time none sold the latches separately. Bear-resistant latches for the types of polycarts used in the City are available for purchase but at this time they require the user to open the latch for emptying by the automated system; if the resident forgets to open the latch the driver would be required to exit the vehicle or the resident’s garbage would not be emptied. Therefore, if these latches are selected the responsibility is on the resident to unlatch the bin as close to pick-up as possible (would require a statement in the bylaw) and the bin would remain unlatched until it was emptied thereby not being bear-resistant. However, *Lock Systems Inc. states that they have developed a latching system that will be compatible with Prince George’s automated garbage system. The system developed by Lock Systems Inc. will have obtained IGBC bear resistant testing approval before being available for purchase which is anticipated to be by the end of summer 2009 (pers. comm., Appendix 1).*

Another possibility for the development of a latching system that is compatible with the automated garbage collection program is for the City to collaborate with organizations or individuals in Prince George to promote and/or sponsor a contest to design a locking mechanism for the automated garbage collection system. For example the development of a latch may be a course offered through the University of Northern BC or a City wide contest where a prize is offered to the winner. It is suggested that the prize be sponsored by individuals or businesses in the City and District, such as a trip or monetary reward, and be reported on from time to time in the media. *The caveat is that the latch must pass the definition of a Bear Resistant Container as defined by the Interagency Grizzly Bear Committee and Living with Wildlife Foundation.* The IGBC and Living with Wildlife Foundation offers product testing procedures and fees for private and commercially developed products. Product testing fees range from \$150-250 per product dependent upon whether a machine or bolting pad is required for testing (IGBC 2008:10) (for more on product testing see section on evaluating Sybertech bins for bear-resistance). This option would keep bear-smart initiatives in the public eye and could be used to promote educational information on bears and proper garbage storage methods. A delay in the implementation of installation of the latches is a potential negative of this option due to the time required to develop and test the product. Also, there is no guarantee that a bear-resistant product would be developed. If this suggestion is considered a time-line is required beginning with the finished product required before bears emerge from their dens in spring 2010. Development of a

product owned by the City should allow for production of the product at a significantly reduced cost.

(A) Phase In Plan for Bear-Resistant Changing of Residential Garbage Bins (if required economically)

The City and District have been shown to be within prime interior bear habitat containing denning, foraging and movement areas (Ciarniello 2008). This means that bears have the probability of being located anywhere in the City and therefore the most effective bear-resistant measure would be to replace all residential polycarts with bear-resistant varieties; however, since this may not be economically feasible a phase-in plan for replacing or retrofitting the bins may be required. The City is recommended to begin by focusing on those neighbourhoods that received the highest bear destructions and occurrence reports:

1. College Heights
2. Charella Gardens/Peden Hill
3. Hart Highlands upper and lower, particularly Hoferkamp road and Inverness Trailer Park
4. Foothills west and east of the Nechako River bridge

It is also possible that the economic situation may require this recommendation to be phased-in within a neighbourhood; if this is required it is recommended that the City begin with houses on the edge/periphery of the neighbourhood as well as those that back onto connected green-belts and trails and work inwards to the neighbourhood core (that is, those houses farthest from connected green-spaces and trails would be fitted last).

After bear resistant containers or latches have been installed in the 4 chronic problem human-bear areas listed above the City should focus on phasing-in bear-resistant latches or containers for the remainder of the City beginning with dwellings that occur on the remaining periphery of the City, those backing onto green-spaces, Parks and trails and then continue moving inwards towards the City core as funding permits. It is recommended to begin with any remaining areas rated as 'high' followed by moderate and then low rated areas. The City also should include bear smart educational material that contains the Northern Bear Awareness Society's contact information with the garbage collection schedule (Botten pers. comm.).

The phase- in plan to retrofit or replace residential garbage receptacles to bear resistant varieties should not take longer than 3-5 years and should begin in the winter/denning season 2009/10. By 2013-2014 the vast majority of residential bins in the City should be bear resistant.

As sanitization of the City occurs consistent and continuous monitoring of bear complaints in the City and District is critical to reducing the potential for human-bear conflicts. As access to non-natural attractants are restricted the spatial distribution of complaints are expected to shift. The Conservation Officer Service must work with the City and Northern Bear Awareness to keep the City and District updated as these shifts occur. Shifts would be determined by calls recorded in the Problem Wildlife Occurrence Database. Management priority areas must be adaptive to these shifts as they are occurring so bear-resistant measures may be immediately implemented in the new 'problem' area.

In chronic problem neighbourhoods curbside pick-up may need to be halted and replaced with centralized, communal waste system (refer to suggested Pilot Programs Section 2.2). In 1999 in Canmore, Alberta curbside pick-up was banned and switched to communal transfer station type collection system. This option is further addressed under Section 2.2.

2.1 - II TRAILER PARKS

Table 3. Summary of recommendations pertaining to restricting bear access to residential garbage at trailer parks.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.1 – II	<p>Trailer parks</p> <ul style="list-style-type: none"> • Require bear-resistant garbage bins for residential storage. • Bins must be kept in a bear-resistant enclosure: <ul style="list-style-type: none"> I. Provide a central, communal area with large transfer station bins where residents can take their garbage. The area would be enclosed within a chain-link or high fenced structure; or II. Provide a central bear-resistant garbage storage area such as a chain-link fenced enclosure for individual bins. • Newly purchased receptacles should be of the bear-resistant variety 	Trailer Park & City or District
3.1	Bylaws - required for non-compliance.	City & District

The problem of bears being attracted to trailer parks occurred regardless of neighbourhood because trailers tend to be smaller dwellings that typically lack enclosed car garages and the majority of residential garbage bins were kept outside the trailer. Each year a significant number of bear complaints and destructions occurred at trailer parks in College Heights and the Hart Highlands/Inverness. Trailer parks provide a consistent and predictable bear attractant for bears in the City and District due in large part to a lack of space for bear-resistant storage of residential garbage containers. Trailer parks represent a unique problem in that residents typically do not have a garage or similar structures to store their garbage until collection.

Residents of trailer parks should be provided with a central bear-resistant area to store garbage until pick-up.

Recommendations for all Trailer Parks:

Option 1 - Provide a centrally located communal area containing large bear-resistant transfer station type bins where residents take their garbage. The area should be fully enclosed within a chain-link or high fenced structure.

Option 2 - Provide a building, such as a garage or small building fitted with a self-closing metal door where residents could store their polycarts until collection. Doors should always open outward (that is, the user must pull open) rather than pushing inwards.

Both options require residents to take their garbage to the central, communal bear-resistant location.

Storage of garbage in locations that are not bear-resistant must be prohibited.

Garbage bylaws must be implemented and enforced.

Trailer Parks mentioned in the Hazard Assessment:

In addition to the above recommendations, site specific recommendations by visited trailer parks were as follows:

The Caledonia Trailer Park provides a central area for garbage collection but the bin did not have a lid and was allowed to overflow:

- Provide a metal lid for the bin at the Caledonia Trailer Park
- Ensure the lid has a secure locking mechanism and remains closed at all times
- Do not allow garbage to overflow
- Enclose the area in a high fence with self-latching gate

The Inverness and College Heights Trailer Parks both had consistent and continual bear reports and destructions:

- Require central bear-resistant areas
- The area selected should not back onto green-spaces
- Requires immediate implementation due to the large number of bears destroyed each year

The Miworth Trailer Park reported fewer bear problems since supplying a small bear-resistant bin resistant for residents but users mentioned that the lid often remained unlatched and the bin was not large enough for waste generated:

- Provide a larger bear-resistant bin
- Assure and enforce proper use and maintenance of the bin

Following compliance with a Dangerous Wildlife Protection Order from the COS, the Sintich Trailer Park, which now locks its bulk waste container every night, has reduced the number of bears destroyed from an average of 10 bears annually to no bears destroyed since 2001 (G. Van Spengen pers. comm.).

2.1 - III CURBSIDE PICK-UP FOR RURAL AREAS WITHIN THE CITY

Table 4. Summary of recommendations pertaining to garbage collection services for households & acreages on the periphery of the City.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.1 – III	<p>Curbside Pickup Rural Areas</p> <ul style="list-style-type: none"> • Discontinue curbside pick-up in rural acreage areas on the periphery of the City. • Require residents to take their waste to transfer station or landfill. • Require residential garbage to be stored in a bear-resistant structure. • If curbside pick-up remains for rural areas it is strongly recommended garbage totes be bear-resistant at all times. 	City
3.1	Bylaws - required for non-compliance.	City & District

It is strongly recommended to stop curbside collection in largely rural areas on the periphery of the City and require residents to take their garbage to transfer station.

Garbage totes for rural areas should be bear-resistant.

Residents that lived on larger rural acreages that fell on the periphery of the City (e.g., Haldi) reported bears targeting polycarts when they had been placed out on the road for collection. This was again reported in the Haldi area during spring 2009. Curbside pick-up should not occur in outlying areas of the City that are surrounded and/or connected by large tracts of green-space. It is believed that easy access to garbage in these areas contribute to the food conditioning of a number of bears that might otherwise not encounter these non-natural attractants and develop ‘problem’ behaviours. Some bears may become conditioned in these areas to such an extent that they eventually move closer to the City core. It is recommended that curbside garbage service not be provided in:

- Haldi/Blackwater
- Inglewood Road in Chief Lake
- West portion of the North Nechako Road

It is strongly suggested that garbage totes for rural areas within City limits be bear-resistant at all times. Residential waste must be stored in a bear-resistant manner at the household and if curbside pick-up remains then in a latched polycart at curbside. Preferably the garbage would be brought to the nearest transfer station or landfill by the resident.

2.1 - IV COMMERCIAL GARBAGE STORAGE

Table 5. Summary of recommendations pertaining to the storage of commercial garbage and restaurant wastes.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.1 – IV	<p>Commercial establishments</p> <ul style="list-style-type: none"> • Require food waste garbage be stored <u>at all times</u> in bear-resistant bins. • Prohibit the storage of grease and other food waste byproducts in non-bear resistant locations and barrels. • Replace plastic lids on metal bins with metal lids with a locking mechanism. • Require new bins for those that cannot be made bear-resistant. • Enforce that lids on bins remain closed at all times. • Implement times when bins are allowed to remain unlocked and require that although unlocked lids must remain closed (e.g., 9 am – 5 pm or during open hours). • Do not allow garbage to overflow or be strewn about the area. • Reduce odours - Bins should be regularly hosed down during bear active season. • Place bear smart and user compliance signs on containers and storage areas. <p><u>Additional Recommendations for Commercial Establishments that also back onto green-spaces:</u></p> <ul style="list-style-type: none"> • Keep bear-resistant food waste refuse containers within an area that is enclosed by a high fence. • The area should not back on to a green-space. • The door of the enclosure must be self-closing and locking. Doors should open outward (that is, the user must pull open from outside) rather than pushing inwards. • Doors must be kept closed at all times. 	Establishment & City
3.1	Bylaws - required for non-compliance. Enforce with fines.	City & District

Commercial operations must store food wastes, garbage contaminated with food wastes and/or restaurant grease in a bear-resistant bin(s). These bins should be contained within a bear-resistant area/structure for establishments that back onto green-spaces. Bins containing food waste and garbage with food residuals must be bear-resistant, contain metal lids, and remain closed at all times. Lids must remain closed at all times and be locked during the evening and when the establishment is closed. The site should remain clean and garbage must not be allowed to overflow or be strewn on the ground. Effort should be made to reduce the smell by frequent hosing/cleaning of the bins.

The College Heights Pub, The Pump House Pub, and any other establishments that frequently report or are known to have consistent bear problems should be the priority, particularly if they occur in neighbourhoods rated as high and/or extreme.

A few commercial establishments consistently noted problems with bears. The majority of these were pubs and restaurants that backed onto green-spaces, such as the College Heights pub. Issues with improper user compliance were noted for a number of these establishments and bears were reported to have accessed garbage even within enclosed containment areas. Garbage was noted strewn on the ground at a number of establishments and some bins contained foul odours. For establishments in neighbourhoods rated as high to extreme and that also have a record of bear problems strict user compliance rules must be enforced for employees. At all times, garbage must be placed in bear-resistant bins and the bin lids must remain closed. These bins would benefit from having self-latching mechanisms. For establishments that back onto green-spaces these bins should be contained within a high fence structure. If the enclosure is solid but with an open roof there should be a way to view the inside before entering to assure a bear is not within the structure. The door of this structure should open outwards (have to be pulled open by the user from the outside) and should be self locking (that is, spring to close automatically and immediately).

Most large commercial bins were metal and some contained metal lids. Bins with metal lids simply require the lid to remain closed at all times and also be locked down each evening, during all times when the establishment is closed, and as often as possible during daylight hours.

Most commonly the large metal bins had plastic lids. Bins with plastic lids must be retrofitted with metal lids to make them bear-resistant. Examples and manufacturer information for retrofits used successfully in Fernie, BC, are provided in Appendix 2. Bins were either retrofitted with metal lids that were locked down with a simple carabineer or had a “bear lock bar” installed. Retrofitting the lids of existing containers appears to be the most cost effective way of making the existing metal containers bear-resistant. If bins can not be retrofitted a number of the companies listed in Appendix 1 also provide bear-resistant commercial containers for purchase.

2.1 - V TRANSFER STATIONS

The 2008 Regional Solid Waste Management Plan for the Regional District of Fraser Fort George recognizes a problem with transfer stations as they relate to human-bear conflicts:

- Transfer station users frequently leave the garbage bin doors open, resulting in an increased risk of bear-human conflict (Gartner Lee Ltd.:37)

Table 6. Summary of recommendations for restricting bear access to refuse at Transfer Stations

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.1 – V	<p>Transfer Stations</p> <p><i>Restrict access to garbage by bears:</i></p> <ul style="list-style-type: none"> • Complete high perimeter fencing around transfer stations (if not completed). • Increase schedule to empty bins for transfer stations, particularly those that are not manned. • Place bins a minimum of 100 m away from trees and shrubs • Ensure bin lids remain properly latched (requires education, user compliance, and enforcement). • Consider having an attendant check transfer stations that are not manned during the active bear season. • Sign all bins with bear smart signs located close to the bin handle latching mechanism. • Provide a large sign at the transfer station entrance with bear smart information and facts, specifically requesting user compliance. Request that all lids remain closed to deter bears. • Manage transfer stations with interagency cooperation between municipality and District. 	District (& City)
3.1	Bylaws - required for non-compliance.	City & District

The main problems with transfer stations as noted by users and during assessments were the overflow of garbage and improper latching of lid containers. The overflow of garbage prior to pick-up enforces and causes misuse by the public. Solving these problems requires more frequent emptying of bins as well as education of users.

In Whistler, BC, it was recommended that transfer station bins be positioned 100 m wide from any adjacent tree or shrub cover (McCrorry 2004).

(A) Prioritizing Transfer Stations and Additional Site Specific Recommendations:

Begin with those stations rated as high to extreme followed by moderate to high, specifically Shelley and West Lake Transfer Stations followed by Cumming Road.

- Complete perimeter fencing (West Lake, Shelley, Cumming Road/Pine View, Buckhorn).
- Empty stations more frequently. Bins must not be allowed to overflow. This was noted as a particular problem at West Lake and Miworth.

- Implement an additional education campaign for the residents of Shelley (required for increased user compliance). Focus on the times the transfer station is closed, what to do with garbage when closed. This may also be considered for West Lake residents.

2.1 – VI FOOTHILLS BOULEVARD REGIONAL LANDFILL

The Foothills boulevard regional landfill receives waste from City sources as well as District operated transfer stations. Twenty-five percent of the waste received by the Foothills landfill is categorized as organic matter (Gartner Lee Ltd 2008). Bears have been noted at the landfill and a few have been destroyed. ‘Problem’ behaviours developed and/or enforced by bears using the landfill likely contribute to the high number of ‘problem’ bears reported and destroyed in the Hart Highlands. The 2008 Regional Solid Waste Management Plan for the Regional District of Fraser Fort George acknowledges bear use of the landfill and offers the following recommendation:

- Foothills Boulevard Regional Landfill - Uses alternative daily cover (tarps), with weekly soil cover applied. If bears are noticed in the area, daily soil cover is applied. The site is three-quarters fenced (Gartner Lee Ltd. 2008:19).

Covering of waste materials will help reduce smells associated with the landfill but is not considered proactive management because it does not restrict access to the non-natural food source.

Table 7. Summary of recommendations pertaining to the Foothills Boulevard Landfill

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.1 – VI	<p>Foothills landfill</p> <ul style="list-style-type: none"> • Complete the perimeter fencing. • Assure perimeter fencing is at a sufficient height as to deter bears, particularly in the gully area. • Suggested height for perimeter fence is a minimum of 2 meters at all points and may need to be higher on sloped ground. • Consider using an electric fence in any breach areas. • Monitor the fence perimeter on a regular basis by a reliable individual. • Immediately deal with any attempted breaches in a site-specific manner. • Apply daily soil cover when the main dumping area is close to the perimeter fence to reduce smell and deter breaches. • Consider cleaning garbage strewn in the forest surrounding the landfill. 	<p>District & City</p> <p>Although the Foothills Landfill is operated by the RDFFG it receives waste from the City of Prince George and bear management should be jointly shared between the City and District.</p>
3.1	Bylaws - required for non-compliance.	City & District

The portion of the Foothills landfill that backs onto largely undeveloped lands behind the Nechako bench must be fenced with an enclosed perimeter fence (Pictures 1 & 2). Fencing

should either be similar to the high chain link currently surrounding ~1/2 of the landfill or a bear-resistant electric fence. For Whistler, McCrory (2004) recommended a minimum height of 2 meters for perimeter fences surrounding schools. Once fully enclosed, the perimeter of the landfill should be regularly monitored by a reliable individual to determine if there are areas where bears may attempt to breach the fence. Any attempt at breaching the fence must be immediately dealt with according to the site/area and type of breach attempted (e.g., digging versus climbing). If the main disposal area occurs close to the perimeter fence daily soil cover should be applied to reduce the smell and deter breaches. Grizzly and black bear tracks have been noted at the landfill and garbage has been dragged by bears into the surrounding bushes.



Picture 1. View of the area requiring fencing to northwest. It is believed that the gully is used as the main access route by bears when accessing the landfill. A perimeter fence of sufficient height to deter bears is recommended (July 16, 2008).



Picture 2. Close-up of the portion of gully that is believed to provide the main access route used by bears to access the landfill (July 16, 2008).

2.1 – VII CITY MAINTAINED OPEN GARBAGE BINS

Table 8. Summary of recommendations pertaining to City maintained open garbage bins.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.1 – VII	<p>City managed bins (City and Parks)</p> <ul style="list-style-type: none"> • Remove bins that are unnecessary. • Replace non-bear resistant bins with bear resistant bins. • Begin with extreme and high neighbourhoods and areas that back onto parks and green-spaces. Move inwards towards the City core. • Empty bins regularly and before they overflow. • Clean bins with foul odours. • Consider cementing/securing bins to ground. • Sign bins for increased user compliance. • Assure all highway rest area bins are bear-resistant (District) <p>Sybertech Bins (City and Parks)</p> <ul style="list-style-type: none"> • Secure lids to base of bins. • Install latches where garbage is deposited. • Increase frequency bins are emptied, particularly in higher use areas. • Place lime or other smell reducing agent down bin if odours persist. • Sign receptacles for user compliance. • Submit bins for bear-resistant testing. 	<p>City Parks & District</p> <p>This is a joint responsibility depending on where the bin is located. It will require interagency cooperation.</p>
3.1	Bylaws - required for non-compliance.	City & District

During the hazard assessment a list of 100 non-bear resistant bins located throughout the City was developed. Most notably a number of bus stops and light posts had plastic bins with or without lids chained to the stop or post. These bins also were noted in neighbourhoods that were rated as high to extreme bear hazard. Some non-bear resistant bins were placed immediately outside of schools that also were rated as high to extreme human-bear conflict hazard, such as Heather Park Middle School and Kelly Road Secondary. The bin pictured in the hazard assessment in College Heights at the end of Bernard Street contained garbage, was in a chronic bear problem neighbourhood, and was near a greenbelt.

It is strongly recommended that the City and District remove unnecessary bins. Bins deemed as necessary should be replaced with bear resistant varieties. Some bins may simply require proper and secure lids. Other bins will require complete replacement. Consider cementing bins to the ground, particularly in neighbourhoods with chronic bear problems.

The Conservation Officer Service notes that human-bear conflict has been significantly reduced in the parks with bear resistant containers (G. Van Spengen pers. comm.). The majority of bins had been replaced within Parks with bear resistant varieties; however, a few bins remain and require immediate changing.

Change all remaining non-bear resistant bins in Parks to bear resistant varieties. Non-bear resistant bins noted include but are not limited to Fort George Park, particularly surrounding all Children's play areas and along the Fraser River bench, Cottonwood Park along Heritage Trail and Moore's Meadow.

All City, Park and District maintained bins require regular maintenance and frequent emptying. Hosing bins down will help to reduce the odour associated with the garbage. User compliance must be requested using signs on bins and education; however, Park employees or contractors should regularly clean up litter, empty and inspect all waste containers. Garbage must not be allowed to overflow from bins and regular checks and maintenance is required to assure bin lids remain secure and undamaged. Park layout and design are discussed further under the Park's section.

(A) Sybertech garbage bins:

The Sybertech garbage containment system has not been tested for its bear-resistant status by the Interagency Grizzly Bear Committee (Sowka pers comm.). During the time of the hazard assessment it appeared that this type of garbage collection system was fairly effective at restricting access to garbage by bears. The COS states that they have not received complaints of bears accessing garbage within the Sybertechs (G. Van Spengen). However, 3 main problems were noted with the sybertech garbage can system which would require alterations to make them bear-resistant: (1) the lids of the garbage container are easily removed and need to be secured to the base of the can otherwise bears can remove the lid and possibly access garbage (depending upon the depth of the garbage at the time of the incident); (2) the round hole where garbage is deposited does not have a secure latching mechanism and bears can reach into the can; and (3) improper use by the public, typically a result of the can being too full, resulted in garbage being deposited outside of the can (Refer to picture 13 in Hazard Assessment taken at Moore's Meadow Park).

Sybertech design bins should be submitted for bear resistant testing by the City or manufacturer. Testing and rating will allow the Sybertech system to be evaluated according to the determined criteria set out by IGBC and the testing procedure is reasonably priced:

For products that do not require placement by tractor and products that do not require bolting to a concrete pad will be \$150.00. The fee for products that must be hauled into the habitat by forklift, tractor, or other equipment, and products that must be mounted or bolted to a concrete pad inside of the habitat will be \$250.00. Products that do not last the minimum amount of time and are resubmitted will be assessed a reduced testing fee of \$100 or \$150 depending upon the type of product (IGBC 2008:10).

Sybertech canisters require regular visits by a reliable maintenance person to note bear sign and immediately correct potential issues with the can (e.g., more frequent emptying, cleaning to reduce smell), particularly because this design is not currently bear-resistant.

2.1 – VIII NEW DEVELOPMENTS ON THE PERIPHERY OF THE CITY (REFUSE STORAGE AND COLLECTION ONLY)

The following section deals only with the containment of waste for new developments. For recommendations on planning, layout and landscaping of shrubs and trees please refer to Issue Three, Section 4.4. Please note that the following are broad recommendations that may also apply to existing developments that are experiencing bear problems (e.g., Westgate).

Table 9. Summary of recommendations pertaining to the storage of residential garbage for new developments on the periphery of the City or District.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.1 – VIII	<p>New developments:</p> <ul style="list-style-type: none"> • Pre-plan bear-resistant residential garbage containment areas prior to development of the site. • Developer to hire a Registered Professional Biologist to aid in planning strategy (garbage containment methods and areas, general design layout) for new developments. • *City to require proper garbage containment areas and structures in development plans prior to approval of those plans. • All waste receptacles (residential and otherwise) must be approved bear-resistant. <p><i>Implement one or more of the following options in order of priority:</i></p> <ol style="list-style-type: none"> I. Provide a central, communal area with large transfer station bins where residents deposit their garbage. Consider enclosing the area within a minimum 2 meter high chain-link or similarly fenced perimeter enclosed structure; or II. Provide a central bear-resistant garbage storage building for individual bins; and/or III. Mandate that all waste bins be contained within an individuals’ self-owned bear resistant structure, such as their garage or privately purchased residential enclosure until the stated time allowed for curbside placement (examples of residential enclosure structures are provided in Appendix 1). <p>New Developments in the Regional District of Fraser-Fort George:</p> <ul style="list-style-type: none"> • Continue to require households in the RDFFG to use transfer stations. • Implement a campaign regarding proper household garbage storage. • Consider implementing bear-resistant tote restrictions for households with the RDFFG that use private collection services. 	<p>Developer & City</p> <p>(Plans need to be in place before residents arrive)</p>
3.1	Bylaws - required for non-compliance.	City & District

It is strongly recommended that all outlying areas, and new developments on the periphery of the City or the District, have proper garbage management strategies, such as transfer station type bins or locking garbage receptacles coupled with a bylaw(s) that requires household wastes remain in a bear-resistant location until the stated time the morning of collection.

Central, communal transfer station type areas should be considered for all neighbourhoods regardless of whether or not they are new developments if they are experiencing bear problems.

Residents of Canmore, Alberta have been required to bring their refuse to communal, bear-resistant bins since 1999. This effort has greatly reduced problems with bears, people and residential garbage. This recommendation is further discussed under Section 2.2 – 1 Pilot Projects).

2.1 – IX UNAUTHORIZED GARBAGE DISPOSAL SITES

Table 10. Summary of recommendations pertaining to unauthorized garbage disposal sites.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.1 – IX	<p>Unauthorized garbage disposal sites</p> <ul style="list-style-type: none"> • Clean up refuse at existing sites. • Implement stricter enforcement and more frequent monitoring of known dumping sites. • Issue fines for violations. • Consider Problem Wildlife Protection Orders in addition to other fines for violations. • Provide barriers that would make it difficult to lift large household items over. • Involve the public in clean-up. • Post signs with fines for violations at known dumping sites. • Post signs warning of the environmental hazard of illegal dumping. • Consider media messages on the effects of unauthorized sites on the environment. 	City
3.1	Bylaws - required for non-compliance.	City & District

Unauthorized sites where garbage and household appliances are thrown over embankments may contribute to the habituation and food conditioning of bears that use those areas. The current management of placing signs and a low barrier for the Hoferkamp Road site appeared to be largely ineffective. The enforcement of bylaws and implementation of fines for violations are strongly recommended.

2.2 POTENTIAL PILOT PROJECTS AND TESTING OF NEW, INNOVATIVE BEAR-RESISTANT MEASURES AS THEY RELATE TO REFUSE STORAGE & COLLECTION IN THE CITY AND DISTRICT

2.2 – I. POTENTIAL PILOT PROJECTS IN PROBLEM NEIGHBOURHOODS: SEPARATING FOOD WASTE FROM OTHER WASTES

(A) Communal Waste Collection Sites

Implementation of this Pilot Project is strongly recommended

Pilot projects using bear-resistant communal waste sites are recommended for new developments as well for neighbourhoods and trailer parks that are experiencing chronic problem bear behaviour.

Table 11. Pilot Project: Summary of recommendations pertaining to potential pilot projects, communal waste collection sites, separating food wastes, garborating food wastes.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.2 – IA	<p>Communal Waste Collection Sites</p> <p><u>Things to consider when selecting areas for bin placement:</u></p> <ul style="list-style-type: none"> • Selected areas for bin placement must be centrally located to increase user compliance; • Selected areas should be separated from green-spaces, trees and shrubs. The greater the distance between these features and the bin area the better; • Suggest enclosed perimeter fencing of bin areas (minimum 2-feet) with chain link or similar fencing (aesthetic designs can be accommodated as long as they also meet a few bear-resistant features, such as fully enclosed, height of at least 2 meters, & gates that pull outwards); • Bin areas should be self-locking or use automatic gates; • Gates should open outwards and not be able to be pushed inwards. 	<p>City & Developer</p> <p>(Plans need to be in place before residents arrive)</p>
2.2 – IB	<p>Separating Food Waste from other Wastes</p> <p><u>Things to consider:</u></p> <ul style="list-style-type: none"> • Bear resistant boxes/containers for proper storage of food waste are required. • Strict user compliance is required. The public must be diligent enough to separate food scrapes and place them in bins. • Bears are also attracted to packaging and other byproducts that contain the smell of food and non-food wastes, such as diapers and grease. These items would also need to be secured in bear-resistant containers to dissuade ‘problem’ bear behaviour. • Option: combine this pilot project with the Communal Waste Collection Sites. 	<p>City</p>

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.2 – IC	<p>Garburators for Food Waste</p> <p><u>Things to consider:</u></p> <ul style="list-style-type: none"> • Strict user compliance is required. • Bear resistant polycarts and proper storage are still required. Some food scrapes are unlikely to be able to be garbarated, for example, large bones. • Bears are not only attracted to food wastes but also packaging and other byproducts that contained and smell of food. These would need to be secured in containers to dissuade ‘problem’ bear behaviour. • An engineer is required to evaluate the ability of the waste treatments facilities and the environmental effects of this pilot project. 	City & Engineer
2.2 –IA-C	Bylaws - required for non-compliance.	City & District

Similar to Canmore, AB which instituted communal bear-resistant garbage deposit areas in 1999, in 2008 Ucluelet, BC, was “preparing to become the first municipality in the province to have bear-resistant communal garbage collection after council recently approved the pilot program” (Stewart 2008). The developer was proposing a 75 household (includes 3 guesthouse lots, and 15 Vacation Rental lots), 2 subdivision development that protruded into high quality bear habitat. At the urging of the Bear Smart BC Society (formerly Pacific Rim Bear Smart Society, McMillan pers. comm.) the developer agreed to provide 2 communal garbage collection areas with four-cubic-yard containers that would service approximately 40 single-family households (20 per area). The developer worked closely with the Bear Smart BC Society on communal bin placement, design and layout and each of the 2 cul-de-sac subdivisions has their own communal container (McMillan pers. comm.). In a report to council Director of Planning wrote:

"new developments are easier to implement this method because the residents are not present yet and will move into the neighbourhood knowing that communal garbage collection is the chosen method" (F. Mazzoni in Stewart 2008, Appendix 3).

The Ucluelet communal garbage program is set to run for three years, to allow time for the subdivision to be built and data collected on public use and support. For further details and recommendations regarding this pilot project refer to Section 4.3 New Development Plans for Developments on the Periphery of the City. Appendix 3 contains the District of Ucluelet’s report to Council as presented by F. Mazzoni, Director of Planning (courtesy of C. McMillan pers. comm.).

It is strongly recommended that this Pilot program be implemented in Prince George for all new developments on the periphery of the City as well as in neighbourhoods and trailer parks that are experiencing chronic bear problems. First phase suggested Pilot project areas include but are not limited to:

- (1) College Heights Trailer Park
- (2) Inverness Trailer Park
- (3) Current development for Malaspina Ridge to Cowart Road:

- **highly recommended Cowart River's Edge development**
****highly recommended Malaspina ridge new development**
- (4) Moore's meadow off Ospika Blvd. north and Otway Road

Things to consider when selecting areas for bin placement:

- (1) Selected areas for bin placement must be *centrally located* to increase user compliance;
- (2) Selected areas should be *separated from green-spaces, trees and shrubs*. The greater the distance between these features and the bin area the better;
- (3) Suggest enclosed perimeter fencing of bin areas (minimum 2-feet) with chain link or similar fencing (aesthetic designs can be accommodated as long as they also meet a few bear-resistant features, such as fully enclosed, height of at least 2 meters, & gates that pull outwards);
- (4) Bin areas should be self-locking or use automatic gates;
- (5) Gates should open outwards and not be able to be pushed inwards.

2.2 - I(B) Separate Lockable Containers for Food Wastes

In an effort to reduce the amount of food wastes at the landfill City staff has suggested examining the potential to remove garbage attractants by the introduction of a food waste only bin collection (B. Radloff pers. comm.). In this pilot project the food wastes would be separated from other wastes and placed in a separate bear-resistant lockable container. B. Radloff (pers. comm.) states that “the benefits would be using the collected food waste in waste to energy or composting efforts” with an additional benefit being the reduction or elimination of food waste at curbside for both wild and domestic animals.

This potential pilot project requires thought be given to the following factors as they relate to reducing bear problems and the development of problem bear behaviour:

- (1) Bear resistant boxes/containers for proper storage of food waste are required by household potentially making this option costly (See Appendix 1 for example manufacturers and containers).
- (2) Strict user compliance is required. The public must be diligent enough to separate food scrapes and place them in bins. The system would be compromised as far as reducing and dissuading the development of problem bear behaviour if a household(s) does not participate or improperly uses the bin.
- (3) Bears are not only attracted to food wastes but also packaging and other byproducts that contain the smell of food and non-food wastes, such as diapers and grease. These items would also need to be secured in bear-resistant containers to dissuade ‘problem’ bear behaviour.
- (4) The storage of these bear-resistant containers would likely be outside and although bears could not access food scrapes if properly placed within the bear resistant bins it is possible that the smell associated with the bins could continue to attract bears to the area in an attempt to access the wastes.

An option that could alleviate the cost associated with separate lockable containers at the household level would be to combine this pilot project with the Communal Waste Collection Sites. The communal site would contain recycling bins for paper, cans, and the like with bear resistant transfer stations bins containing a compartment for separated food wastes as well as a separate bear-resistant compartment for products that contain food waste residue but are not compostable food wastes. Strict user compliance is required for people to properly use the containers. The containers will be required to be frequently sprayed to keep smells at a minimum.

2.2 - I(C) Garbarator for Food Wastes

Another option the City was considering as a means of reducing the amount food wastes deposited at the landfill was the installation of garborators in households (B. Radloff pers. comm.). The garborator would shred food waste into small enough pieces to pass through the plumbing into the sewer system. The goal of this option would be to eliminate or significantly reduce the food waste present at curbside thereby reducing food wastes at the landfill; this also would result in a reduction or elimination of curbside bear attractants. The food waste would pass into the large digesters at the wastewater treatment plant which is set up to convert this food waste to energy (B. Radloff, pers. comm.).

In this pilot program the City would utilize the existing advanced infrastructure to process food wastes and capture methane for energy production. Before this pilot program is initiated the City likely with the aid of an engineer must determine whether the infrastructure can handle the amount and potentially the type of wastes deposited by users. For example, waste water treatment must be adequate to assure the extra waste is not detrimental to the environment and that chemicals are not present.

If this pilot project is initiated, the City will need to contract an Engineer to further explore this option from an environmental perspective as well as to determine the effectiveness of the Prince George plant at processing organic solids. The author of this report is commenting from a development of problem bear behaviour perspective only.

In relationship to reducing bear problems in neighbourhoods this option requires thought be given to the following potential factors:

- (1) Strict user compliance is required. The public must be diligent enough to separate and garbarate their food scrapes. All households in the neighbourhood must adhere to strict user compliance to reduce and dissuade the development of problem bear behaviour. If a few households do not participate and leave their garage curbside in non-bear resistant containers their actions could negate the positive results of the rest of the neighbourhood as far as the development of ‘problem’ bear behaviour.
- (2) Bear resistant polycarts and proper storage are still required. Some food scrapes are unlikely to be able to be garbarated, for example, large bones. Therefore, this option should remain to be coupled with bear-resistant carts and storage bylaws should non-compliance occur and also for food scrapes (e.g., bones) not be able to be garborated.

- (3) Bears are not only attracted to food wastes but also packaging and other byproducts that contained and smell of food. These would need to be secured in containers to dissuade ‘problem’ bear behaviour.

2.2 – II. CURBSIDE RECYCLING – BEAR SMART CONSIDERATIONS

Table 12. Things to consider regarding curbside recycling and the development of problem bear behaviour.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.2 – II	<p>Curbside Recycling <i>Recyclable materials that contained food, grease and/or oil based residues are potential bear attractants if they are not handled properly:</i></p> <ul style="list-style-type: none"> • Educational materials. • Mandatory cleaning/rinsing of recyclables and totes if odorous. • Purchase bear-resistant recycling boxes for chronic problem neighbourhoods. • Provide information on the City of Prince George and the Regional District of Fraser Fort George’s web pages 	City & Household
	Bylaw - required for non-compliance.	

The 2008 Regional Solid Waste Management Plan for the Regional District of Fraser Fort George recommends curbside recycling for the City:

“In Prince George, curbside recycling services will be provided to all homes currently receiving curbside garbage collection” (Gartner Lee Ltd. 2008:15)

Recyclable materials that contained food, grease and/or oil based residues are potential bear attractants if they are not handled properly. The following recommendations should be instituted when curbside recycling is initiated in Prince George:

- (1) Educational materials. Implement a strong educational component that focuses on bears and proper ways to recycle in bear country. The information should include pamphlets with the recycle totes coupled with media (newspaper and TV) at the onset of the program, each spring as bears emerge from their dens and during times when user compliance is an issue. The information contained within educational packages should be reviewed for its accuracy by a Registered Professional Biologist specializing in wildlife, particularly large carnivores.
- (2) Mandatory cleaning/rinsing of recyclables. Disallow any recyclable materials that contain food byproducts to reduce smell at curbside. Issue warnings and then fines for households that do not comply. Implement and enforce mandatory rinsing or washing of all containers that held food (e.g., rinsing soup cans, milk jugs, yogurt containers, etc.). Stress why reducing food residue is recommended in the bear smart educational material.

- (3) Purchase bear-resistant recycling boxes for chronic problem neighbourhoods. These could be additionally purchased bear-resistant polycarts and do not have to be specifically manufactured for recyclables.
- (4) Implement and enforce bylaws for times totes are allowed to be placed curbside and properly secured from curbside. In Kamloops, the “bear bylaw is in effect from April 1st to November 30th” and recyclable containers are not allowed to be placed curbside before 4 am. Residents are reminded not to put garbage on the curb before 4 am on collection day and to not accumulate or improperly store bear attractants. Violators are subject to a \$100 fine.”⁸

Squamish, BC, also has a curbside recycling program and is in the process of purchasing bear-resistant carts to dissuade the development of problem bear behaviour as it relates to curbside recycling: “Squamish is bear country and part of the mandate for the new bi-weekly pick up is to have all grey lid garbage totes bear-proofed by April 2009. Carney’s will be bear-proofing the totes between now and April 2009 at the curbside on garbage day. Once your bin has been bear-proofed, residents are required to undo the latches on the bear-proof tote on collection day.”⁹

- (5) Totes should be properly rinsed if they are odorous. Cleaning agents may periodically be required.
- (6) Information and bear smart messages should be available on the City of Prince George and the Regional District of Fraser Fort George’s web pages.

Combining bear-resistant recycling facilities with the suggested communal garbage collection pilot programs for chronic neighbourhoods remains the preferred option over curbside collection in chronic neighbourhoods. However, if smells can be eliminated and recyclables are properly managed at the household level, curbside recycling is believed to be able to be instituted in bear country without developing or reinforcing problem bear behaviour.

⁸Refer to: <http://www.kamloops.ca/garbage/recyclingprogram.shtml>

⁹ <http://www.businesssquamish.com/node/230>

2.3 FRUIT TREES, BIRD FEEDERS, & COMPOSTS

2.3 – I. FRUIT TREES

The management and removal of fruit bearing trees in the City and District is a major recommendation with a first stage of implementation. Fruit trees and garbage waste attractants are believed to significantly contribute to the number of ‘problem’ bears destroyed each fall and the development of problem bear behaviour.

Fruit trees planted within the City and in residential yards act to attract bears into these areas during the critical fall hyperphagia period and are therefore a public safety concern.

Table 13. Summary of recommendations pertaining to the management of fruit trees.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.3 – I	<p>Fruit trees</p> <ul style="list-style-type: none"> • <i>Prohibit planting of any new fruit trees by City or Regional District</i> <ol style="list-style-type: none"> I. City: should not plant fruit trees, especially in high to moderate identified areas. II. City: should remove fruit trees. III. City: ensure all fruit trees are properly managed. IV. City: promote awareness on proper fruit tree management. V. City: replace fruit trees with a non-fruit bearing tree or sterile tree. VI. City: ensure all fruit is picked before it is ripe. VII. City: to endorse a list of trees and shrubs attractive to bears and assure new employees are aware of the list. • <i>Encourage through active media messages (TV, radio, signs) for residents to pick their fruit early</i> <ol style="list-style-type: none"> I. Discourage rotting fruit II. Discourage attracting bears III. Support the fruit exchange program • Discourage the planting of fruit bearing trees by all residents. • Encourage planting of non-fruiting varieties (residential, City & Region). • Provide bear smart educational material at all outlet stores that sell fruit trees. Develop a list of alternate varieties for planting and have it available at all stores that sell fruit trees. • Suggest or mandate removal of fruiting trees in areas with chronic bear problems. • Provide guidelines for developers mandating that they are not to plant fruit trees or low lying berry bushes. • Enforce the removal of trees from those residences and/or neighbourhoods that are not managing trees/fruit(s). • Enforce and issue DWPO or other fines for non-compliance. • Support the NBA Fruit Exchange Program. 	<p>City</p> <p>District</p> <p>& Homeowner</p> <p>Fruit exchange program - NBA</p>

Section	Summary of Recommendations Pertaining to this Step	Responsibility
	<ul style="list-style-type: none"> Promote the use of electric fencing for fruit trees on orchards where management of fruit may be difficult or where residents want are willing to manage their trees. Enforce Problem Wildlife Protection Orders in addition to other fines for violations. 	
2.3 - IA	<ul style="list-style-type: none"> Consider a pilot project of enhancing the availability of native fruit bearing trees (mountain ash or cherries) in largely inaccessible parks or crown land that backs onto large tracks of green-spaces as a potential diversionary feeding for fall. Requires monitoring and research to assess effectiveness. 	City District Parks Volunteers
3.1	Bylaws - required for non-compliance.	City & COS

Bear occurrence reports and destructions are highest in the fall in the City and District when fruit on trees is ripe and the production of wild berries slows. The management of fruit trees is paramount to the sanitization of the City and District as it relates to reducing problem bear behaviour and the number of bears destroyed.

Fruit Trees include but are not limited to any of the following trees:

- Apple and Crab Apple Trees. (Genus: Malus)
- Plum Trees (Genus: Prunus)
- Pear
- Apricot
- Peach
- Cherry (Genus: Prunus)
- Mountain ash

Mountain ash trees are abundant around the City and frequently occur on residential lots as well as within some school yards. Cherry and mountain ash trees are known to be natural food sources used by northern bears (Ciarniello et al. 2003). Appendix 4 provides a list of trees and shrubs that have a medium to high potential of attracting bears into the city/neighbourhood as well as a list representing those trees and shrubs that have a low potential for attracting bears. It is recommended that the City and District only promote use of those species contained on the “low potential of attracting bears” list. The hazard assessment for the City provides a list of bear foods that commonly occur throughout the City and District and was used to develop Appendix 4 (refer to Ciarniello 2008, pg. 9, Table 1). The list provided in Appendix 4 is meant to be a starting point and should be modified and updated by a qualified individual(s). The list should be officially endorsed by the City and District and brought to the attention of new employees (Botten pers. comm.). In addition to those trees and shrubs listed in Appendix 4 bears also feed on a variety of gramminoids and forbs (e.g., dandelion and cow parsnip are major spring bear foods). Regular lawn mowing will help to reduce the attractiveness of gramminoids and forbs to bears.

Since 1999 Northern Bear Awareness has been encouraging the City to cease the planting fruit trees on City and Crown land and to remove unnecessary fruit trees as well as those in chronic

‘problem’ bear neighbourhoods. At the encouragement of NBA in July 2003, the city of Prince George proposed that they will no longer plant fruit bearing trees in the city when looking for decorative trees. However, in 2004 fruit bearing trees were still being planted and again the NBA approached the City requesting the implementation of a bylaw regarding the planting of fruit bearing trees. In an email dated November 25, 2004 the City stated that “some smaller fruit bearing ornamentals” should remain to be planted and their removal is against the City’s Integrated Pest Management mandate:

“The exclusion of all fruiting trees from our planting inventory is contrary to our Integrated Pest Management mandate. We require habitat for birds and insects alike to help control undesirable species in our urban forest. Berries provide food for these species and keep them in the urban forest year round. Through summer and winter they feed on insect larva, eggs and adult insects while feeding on the fruit. While I agree that we should look hard at eliminating the use of large fruit species, the smaller dry fruits from ornamental crab apples, pin cherries, mountain ash, hawthorn and various shrub species need to be used. I would like to keep the following species in our inventory” (Email from Slade to M. Fercho cc: NBA Nov 25, 2004).

On February 21, 2005 The City's Environmental Services Division re-evaluated the planting of fruit trees on City property again at the urging of NBA. The City was proposing to adopt the use of trees and shrub varieties that produce small to no fruits.

*It is highly recommended that **all fruit bearing** trees be removed from City property, parks that fall within the core of the city and all residential lots, particularly in neighbourhoods rated as moderate to extreme bear hazard. Allowing these trees to remain is felt to compromise the safety of the public, contribute to the development of problem bear behaviour, and contribute to the number of bears destroyed each year.*

If fruit bearing trees remain they need to be properly managed by a responsible individual(s). If the City aims to reduce the development of problem bear behaviour, reduce the number of bears destroyed and increase public safety, fruit trees should be removed and replaced with non-fruiting options.

Residents who are considering planting a fruit bearing tree for their aesthetic qualities should consider a non-fruit bearing tree such as Lilacs, Magnolias, Spireas, Maples, or other non-fruit bearing tree alternatives. *Some non-fruiting varieties of apple trees still produce an abundance of small fruits that are difficult to manage and are not recommended for planting.* Those residents who already have a fruit bearing tree should pick the ripe fruit as soon as it is ready and remove all fallen fruit from the ground. Residents who continue to mismanage fruit on their trees despite a warning should be issued fines to promote user compliance. For residents that manage their fruit trees and would like them to remain in their yards electric fencing has proved effective to deter bears from fruit bearing trees.¹⁰

The City should support and advertise the Northern Bear Awareness Society’s fruit exchange program¹¹. Residents who do not use their fruit should be encouraged to phone the Northern

¹⁰ Electric fencing information may be obtained from: <http://margosupplies.com/public/>

¹¹ http://www.northernbearawareness.com/index_files/Page878.htm

Bear Aware Fruit Exchange program, which connects people who want to receive fruit with people who want to give fruit. The program runs from April through to October and each year matches up people wanting fruit with people unable to manage their fruit trees.

2.3 – I(A) Diversionary Fruit & Berry Pilot Project: An option to consider that would address the City’s concern regarding integrated pest management:

Once the anthropogenic attractants have been removed and the City is sanitized a pilot program may be considered that would leave or enhancing the availability of fruit bearing trees on the outskirts of parks or crown land that backs onto large tracks of largely inaccessible green-spaces. The premise of this pilot project would be similar to the carcass redistribution program used in Montana to keep bears away from livestock during critical calving/spring season but rather than using carcasses it would use native fruit bearing trees. Selected green-spaces should not be connected to trails, power-lines, right-of-ways, and similar structures that lead into the City and that may be used by people for various recreational activities allowing for bears and humans to more easily come into increased conflict; the more remote the chosen areas, the better. The idea is to distribute native (mountain ash or cherries) fruit bearing trees in a random fashion throughout the landscape. Bears will eventually learn where the trees are located and are expected to frequent those areas in fall therefore it is important that the trees be dispersed and not concentrated. The central idea of this pilot project is that the trees act to hold bears in those chosen areas rather than bears being attracted into the City during the ‘problem’ fall period when natural foods become more scarce and bears enter hyperphagia. This option would also allow for the fruits to be present for pest management as identified as a concern for the City and combined with the other sanitization recommendations should keep some bears from entering the City, residential yards and neighbourhoods. The areas where these trees remain or are enhanced must be adequately and appropriately signed so the public would be aware that these areas are acting as “bear, birds and insects” attractant areas. A similar pilot program is happening in Whistler, BC, (June 2009) where the Get Bear Smart Society is planting 63 mountain ash trees in order to enhance the natural fall food supply for bears and in an attempt to keep bears out of residential areas. They are also removing trees and shrubs attractive to bears from residential areas (Dolson pers. comm.). If implemented in Prince George, this project would require monitoring to aid in determining if trees have been planted at the appropriate density and also distributed appropriately throughout the landscape. The use of native fruit bearing trees attractive to bears is recommended over non-native fruit trees.

2.3 – II. BIRD FEEDERS

The management and removal of bird feeders in the City and District is a major recommendation with a first stage of implementation. Bird feeders are a problem throughout all seasons and contribute to the development of problem bear behaviour..

Table 14. Summary of recommendations pertaining to the use and placement of bird feeders.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.3 – I	<p>Bird Feeders</p> <ul style="list-style-type: none"> • Discourage the use of bird feeders in bear active season (April 1 – Nov. 30). • Encourage alternate forms of bird feeders, such as hanging baskets for humming bird feeders. <p>If bird feeders are used:</p> <ul style="list-style-type: none"> • Bird feeders must be at least 3 meters (10 feet), and preferably 5.5 m (18 ft), above the ground <u>and</u> 1.5 m (5 ft) from the supporting structure. • Enforce the use of larger catch pans that extend past the feeder itself. • Clean spilled bird feed daily. • Consider bringing bird feeders in at night. • Limit the amount of seed placed in the feeder. • Store replacement bird seed in a bear-resistant structure (e.g., house). • Consider wrapping a smooth metal band around the girth of the supporting structure that is of sufficient width (1-2 meters wide) so that bears are unable to climb past the banding. • Enforce Problem Wildlife Protection Orders in addition to other fines for violations. 	<p>City</p> <p>District</p> <p>& Homeowner</p>
3.1	Bylaws - required for non-compliance.	City & COS

Improperly placed and maintained bird feeders provide an easily accessible meal for bears particularly during spring when natural forage is limiting. Bears are known to frequently acquire bird seed in the College Heights area throughout all seasons and particularly from households in trailer parks. It is likely that available bird seed is the beginning of the development of problem bear behaviour for some bears.

Use of bird feeders should be avoided during the active bear season which runs from April 1 through to November 30.

In Canmore, Alberta, bylaws are used making it unlawful to place or store birdfeed out of doors between April 1 and October 31 (Bylaw 09-2001, Section 9.1.25, Comeau 2003).

2.3 – III. COMPOSTS

The management of backyard composters in the City and District is a major recommendation with a second stage of implementation.

Table 15. Summary of recommendations pertaining to the use and placement of composters.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.3 – III	<p>Composts</p> <ul style="list-style-type: none"> • Accept non-cooked food waste compost at landfill and select transfer stations (could be pilot project). • Encourage indoor composting in neighbourhoods with chronic bear problems. • Discourage outdoor composting of food scrapes in chronic problem bear neighbourhoods. • Consider purchasing bear-resistant composts for neighbourhoods with chronic bear problems (e.g., Hart Highlands, Charella, College Heights). <p><i>If outdoor composting is promoted educational material should address:</i></p> <ul style="list-style-type: none"> • Placement of composts – avoid placing composts backing up to greenspaces or trails. Place in open with breaks around bin. • Encourage regular turning of composts. • Discourage meats, fish, eggs, dairy or similar foods in composts. • Promote the use of lime to reduce odour. • Educational material should accompany each compost and be reviewed by a qualified individual. 	<p>City</p> <p>District</p> <p>REAPS</p> <p>& Homeowner</p>

The 2008 Regional Solid Waste Management Plan for the Regional District of Fraser Fort George recommends a backyard composting promotion program:

“RDFFG will maintain a backyard composting promotion program to encourage residents to compost at home. **Educational materials** will now include how to compost in a manner that is “Bear Aware.” (Gartner Lee Ltd. 2008:15).

The Solid Waste Plan states that the RDFFG has subsidized and distributed ~5,000 backyard composters with an estimated future distribution of ~1,000 backyard composters every other year (Gartner Lee Ltd. 2008). Ideally, backyard composting of food wastes should not occur in bear country unless it is only for non-food waste compostable materials (e.g., grass clippings). In bear country composting of food wastes should instead focus on promoting indoor composting or the use of a bear-resistant communal compost facility, for example in combination with a perimeter fenced landfill or transfer station. Currently, transfer stations do not accept kitchen wastes into their composting program. The additional collection of food wastes in a central, bear-resistant facility such as select transfer stations should be considered. If outdoor composting of food wastes is promoted in the City and RDFFG then bear smart educational materials must be present with the distribution or purchase of composters. The bear

smart information should be reviewed by a qualified wildlife biologist prior to distribution. Placement of the compost away from green-spaces, trails and bushes should be encouraged. Ways to reduce odours, such as the use of lime and frequent turning, must be promoted.

2.4 DOMESTIC CARCASS REMOVAL & AGRICULTURAL ATTRACTANTS

Second Step
Domestic Carcass Removal & Agricultural Attractants

Table 16. Summary of recommendations pertaining to ‘bear smart’ ranching practices, and the management of apiaries and livestock carcasses.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
2.4 - I	<p>Ranching Practices (general):</p> <ul style="list-style-type: none"> • Create a central area for calving/birthing and neonatal care that is located well away from green-spaces or retention patches. • Assure grain and other attractants fed to domestic animals are secured within a bear-resistant structure (closed and latched barn, shed, old walk-in freezers, etc.). • Promote the use of properly trained recognized breeds of bear dogs (e.g., Great Pyrenees, Akbash or Anatolian Shepherd) for protection of livestock. • Investigate the use of a number of alternate deterrent techniques to dissuade bears from entering ranchlands, such as acoustic devices or visual/light deterrents. • Encourage a rural network of bear watch – communicate and let your neighbour know when a bear is in the area. • Bears that chronically kill domestic livestock on farms will likely need to be removed; however, the farmer should also implement bear smart ranching practices to assure another bear is not attracted to the operation. • Bears capitalizing on the production of grain crops (e.g., wheat) are not considered to pose the same threat as those killing livestock. Management of these animals should begin with the proper use of deterrents and farm planning. • Issue and enforce DWPO for improperly managed operations that will not voluntarily comply with Bear Smart practices. 	<p>City</p> <p>District</p> <p>COS</p> <p>BCCA</p> <p>IAF</p> <p>& Homeowner</p>
2.4 – II	<p>Domestic Livestock Carcasses:</p> <ul style="list-style-type: none"> • The disposal of animal carcasses is governed under the <i>Codes of Agricultural Practice for Waste Management</i>. • Suggest that a registered biologist specializing in large carnivores review the large animal disposal requirements under the various Acts (e.g., <i>Environmental Management Act</i>) with the intention of developing recommendations that dissuade dangerous wildlife from the carcasses. 	<p>City</p> <p>District</p> <p>COS</p> <p>BCCA</p> <p>IAF</p>

Section	Summary of Recommendations Pertaining to this Step	Responsibility
	<ul style="list-style-type: none"> • Support the development of a local rendering plant for domestic carcass removal, particularly cows & sheep. • Reduce the fees for domestic carcasses at the Foothills landfill. • Provide fines and DWPOs for non-compliance, such as carcass buried at insufficient depth and other violations of standards outlined in the <i>Agricultural Practices Code</i>. • If on-site burial of carcasses is allowed, encourage carcasses are covered with lime or other agents to reduce the smell. • If on-site burial of carcasses is allowed ensure they are buried to sufficient depth to reduce odours associated with decomposition. • Discourage throwing carcasses into retention patches and forested areas that surround or are on ranch property. • Educate farmers on the potential problems associated with attracting bears to their farm, particularly the placement of carcasses close to their establishments. 	& Homeowner Changes to any of the <i>Acts</i> would likely have to be made at the Federal level.
2.4 - III	Honeybee Colonies: <ul style="list-style-type: none"> • Locate apiaries in the open away from green-spaces and brush. • Consider the use of electric fences, particularly for mobile operations. • Consider raising the hives well above the reach of a bear on posts that are metal or wrapped with sheet metal to deter climbing. 	City District & Homeowner
2.4 – IV	Potential Pilot Projects & Workshops: <ul style="list-style-type: none"> • Establish workshops for farmers that address farm layout and planning to deter predators, electric fencing for protection of wildlife, domestic animals for the protection of wildlife, and the like. • Consider a “carcass redistribution program” where carcasses could be distributed in remote areas during ‘problem’ seasons/times, particularly spring and fall. 	

Farming practices in British Columbia are governed under a number of federally regulated Acts, such as the *Canada Agricultural Products Act*, *Canadian Environmental Assessment Act*, and the *Health of Animals Act*. The author of this management plan does not specialize in agricultural practices or Federal Acts. The following recommendations are from the development of ‘problem’ bear behaviour as it relates to general ranching practices and best management practices of livestock carcasses as it relates to attracting bears.

Livestock grazing/ranging and the production of grain often occur in highly rated foraging and movement habitat for bears. The comparatively low density of human settlements in agricultural areas and the availability of green-spaces/forested and retention patches are believed to contribute to increased conflicts between agricultural operations and bears. The spatial layout of farms and the production of grains (e.g., wheat), the disposal of livestock carcasses, and the

placement of smaller livestock, birthing and neonatal areas are the major attractants for bears to agricultural operations.

Defenders of Wildlife implements fully-developed programs in the United States to compensate ranchers for losses to wild predators and to assist ranchers to reduce the risk of predation¹². In Canada, Defenders of Wildlife has been an active contributor to the Oldman River Basin Carnivore Advisory Group, advising the Province of Alberta on carnivore-livestock issues (Pissot pers. comm.). To date the efforts of Defenders of Wildlife focus on wolves, however they also address livestock predation by grizzly bears. The organization has provided telemetry gear to ranchers and gathered information regarding operator efforts to protect cattle. Currently, Defenders is paying for the removal of carcasses to reduce attractants that can draw bears and wolves into areas where they are unwelcome. Defenders of Wildlife do not currently operate in BC and instead refers one to the BC Cattlemen's Association for livestock compensation (Pissot pers. comm.).

In August 2009, the Ministry of Agriculture and Lands announced \$1.55 million in funding to be distributed over three years by the Investment Agriculture Foundation of B.C. (IAF) to address livestock-predator issues and ranching practices. The funds will be used by the B.C. Wild Predator Loss Prevention Mitigation Pilot Program in order to protect B.C.'s commercial livestock from wildlife predators while also preserving natural predator-prey relationships. The pilot project address prevention, mitigation, and compensation for livestock losses and will be delivered through the B.C. Agriculture Research and Development Corporation with implementation being the responsibility of Ministry staff and a program advisory committee.¹³ The RDFFG should remain in contact with the IAF as this pilot project develops and to determine the applicability or contribution by the City of Prince George and District.

2.3 – I. General Ranching Practices

Farm design and layout can contribute to reducing problems with bears and predation by bears on livestock. One of the most prudent recommendations that ranchers can adopt is the placement of livestock birthing and neonatal areas. These areas should be well away from green-spaces and forested edges. Retention patches occurring in birthing and neonatal areas should be removed and replaced instead with built loafing shelters. To dissuade bears from approaching birthing and neonatal areas, they should be placed closer to dwellings and/or areas with active human-use on the ranch. Another example of planning/layout suggestion for farms that produce hay as well as contain livestock operations would be to place the haying operation as a lining on the outskirts of the farm and in areas that back onto green-spaces/forests. This would be followed by the placement of larger animals in groups that are better able to protect themselves. The most vulnerable animals, such as smaller livestock (e.g., sheep, pigs) and neonates should be contained the closest to the human-use core. The addition of a properly trained recognized breed(s) of bear dogs, such as the Great Pyrenees, Akbash or Anatolian Shepherd should be used for the additional protection of livestock. Llamas and donkeys have also been reported to protect livestock and may be an easy option to accompany livestock herds.

¹² See:

http://www.defenders.org/resources/publications/programs_and_policy/wildlife_conservation/solutions/list_of_proactive_carnivore_compensation_projects.pdf

¹³ The Ranching Taskforce: www.ranchingtaskforce.gov.bc.ca

Grain and other non-natural attractants fed to livestock should be secured in a bear-resistant structure at all times.

The Get Bear Smart Society (Dolson pers. comm.) offers a number of non-lethal deterrent products on their web site¹⁴ as does Margo Supplies Ltd. (see Product Contact Information). The author of this report recommends proper husbandry practices and farm layout combined with electric fencing and properly trained livestock protection dogs, llamas or donkeys as proactive management techniques for farms as well as for operations that are experiencing chronic bear problems. Additional acoustic, visual and spray release deterrents should also be assessed during on-site evaluations for farms experiencing or anticipating increased bear problems. If an operation is experiencing chronic bear problems it is recommended for the COS to work with a registered wildlife biologist that specializes in large carnivores to assess the site and develop site-specific recommendations for that operation as it relates to the types of bear problem(s) it is experiencing.

2.3 - II Domestic Carcass Removal

The improper disposal of domestic carcasses can attract and hold bears on ranchland areas. During the hazard assessment and from field sites assessed on the Parsnip Grizzly Bear Project it was revealed that a number of ranches/operations disposed of domestic animal carcasses in pits or carcass disposal areas on their property. The odour associated with decomposing carcasses can attract bears from large distances and bear sign was noted at a number of these disposal areas. The disposal of animal carcasses is governed under a number of Acts (e.g., *Codes of Agricultural Practice for Waste Management*). It would be prudent if these Acts were reviewed by a registered professional biologist that specializes in the ecology and biology of dangerous wildlife in combination with a litigator to assess best agricultural practices as they relate to the burial of carcasses and the attraction of dangerous wildlife in the District.

In Prince George and District there are no rendering plants to aid in the disposal of carcasses and moving livestock carcasses to the Foothills landfill requires lifts and truck for heavy carcasses (e.g., cows, horses) as well as a disposal fee. The City and District should investigate the development of a rendering plant for central BC. Another option is lowering the fees for such carcasses at the Foothills Landfill. In addition, if the on-site burial of carcasses is allowed there are management actions that can be taken to reduce the potential of the carcass to become a bear attractant, such as the depth at which the carcass is buried, the puncturing of the stomach for ruminants to aid in decomposition and avoid possible explosion, and the covering of the carcass with odour reducing agents such as lime. The placement of carcass disposal areas can also aid in or dissuade their attraction for wildlife. The majority of bears and other potentially dangerous predators tend to be wary to enter close to human use areas and across large, cleared breaks. Farmers should also be educated as to the potential problems associated with attracting bears to their farm. Once bears are attracted to an area and have been rewarded they likely return to that area to search for carcasses in the future. Farmers must be discouraged from improperly disposing of domestic animal carcasses.

¹⁴ <http://www.bearsmart.com/bearSmartCommunities/ProtectingLivestock&Crops/Livestock&Crops.html>

2.3 – III. Honeybee Colonies

Apiaries also would benefit from proper planning and placement of operations to dissuade bear problems. Apiary operations should be located away from forested edges and green-spaces. Portable electric fences are recommended for apiary operations occurring in bear country. Additionally apiaries could be placed on a platform raised off the ground. The rods supporting the platform structure could be made from metal or steel making it difficult for bears to climb. Alternatively if wood is used as the supporting structure it should be lined with a band of metal or steel that would deter bears from climbing. Bears can climb ladders so access to a raised platform design may need to be a structure that can be raised and lowered by the apiary operator.

2.3 – IV Potential Pilot Projects & Workshops for the Regional District of Fraser Fort George & Ranching

(A) Workshops

It is recommended that the District (in combination with the City) host a series of workshops on the best practices for ranching operations and avoiding attracting predators in bear country. The workshop should include sessions on:

- Farm design and layout – placement of birthing and neonatal areas, placement of grain production versus livestock versus hay, and the like to avoid predation on livestock;
- Options for dealing with livestock carcasses – the pros and cons of different disposal methods;
- Predator deterrent devices – what is available, how do they work, what is practical for what type of operation;
 - Electric fencing – what is required to deter predators, installation, maintenance, costs, risks and benefits;
 - Acoustic deterrent devices
 - Spray deterrent devices (pepper spray, water spray, etcetera)
- Current problems & recommended solutions experienced by farms in RDFFG;
- Current conflict mitigations techniques – what is working, what isn't working;
- Funding options for aid in becoming a 'predator deterrent' farming operation;
- Review of the B.C. Wild Predator Loss Prevention Mitigation Pilot Program.

(B) Carcass Redistribution Pilot Project

Supplementary feeding through the random placement of livestock carcasses has been used in the United States and Alberta to keep bears away from humans and their settlements by redistributing how bears use habitats in spring and in some areas also in fall. In Montana, farmers are encouraged to place their livestock carcasses in pre-selected isolated areas (e.g., in the backcountry in areas closed to human use). Bears are reported to search these areas in spring which keeps those bears away from livestock during calving and neonatal development (M. Madel *in* Ciarniello 1997). A spring and potentially fall carcass redistribution pilot program in the District should help to redistribute bear movements and habitat use for these seasons which has the potential to aid in dissuading bear problems and holding bears away from farm areas. It would also offer a way for ranchers to properly dispose of livestock and domestic animal carcasses. This pilot project should be discussed between the RDFFG, the IAF and the B.C. Wild Predator Loss Prevention Mitigation Pilot Program.

3.0 ISSUE TWO: MANAGING HUMANS

3.1 BEAR SMART BYLAW DEVELOPMENT AND IMPLEMENTATION FOR PRINCE GEORGE & DISTRICT

Table 17. Summary of recommendations pertaining to bylaw implementation and enforcement.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
General	<p><i>General Recommendations to Consider in Bylaw Development:</i></p> <ul style="list-style-type: none"> • Prohibit the “intentional” feeding of bears in bylaws. • Prohibit the “unintentional” feeding of bears in bylaws (may be largely covered in Section 3.1 bylaws). • Clearly outline the responsibilities of all agencies/organizations in the bylaw documentation. 	City (bylaw enforcement officer) & COS
3.1 – I	<p>Residential / Public¹</p> <p><i>Implement a bylaw pertaining to garbage storage:</i></p> <ul style="list-style-type: none"> • Store household waste & recycling in bear-resistant container or enclosure at all times. • Implement time allotments for curbside tote curbside placement. • Provide a communal bear-resistant, locked bulk waste container area for new multi-family dwelling development projects. • Issue and enforce fines for violations. 	City (bylaw enforcement officer) & COS, possibly RCMP
3.1 – II	<p>Commercial, Industrial & Institutional</p> <p><i>Implement a bylaw pertaining to commercial, industrial and institutional garbage storage:</i></p> <ul style="list-style-type: none"> • Secure wastes within an enclosure or a metal bin equipped with a metal lid that locks/latches closed. • Enforce that lids remain closed/down at all times. • Enforce that lids are locked down when establishment is not in operation. • Institute additional measures for establishments that remain to experience bear problems. • Prohibit waste from overflowing or being placed outside of bear-resistant bins. 	City & COS
3.1 – III	<p>Fruit trees</p> <p><i>Implement a bylaw for the management of fruit trees:</i></p> <ul style="list-style-type: none"> • Enforce the maintenance of fruit as it pertains to bears (picking, disposal, maintenance). • Enforce that fallen fruit must be immediately removed from ground. 	City & COS
3.1 - IV	<p>Bird Feeders</p> <ul style="list-style-type: none"> • Implement a bylaw pertaining to dates when outside bird feeders are acceptable (preferred recommendation). • Implement a bylaw requiring bird feeders be properly secured from bears (alternate recommendation). 	City & COS

¹Garbage and recycling containers for temporary special events (e.g., weddings) may be exempt from the bylaw as long as they are removed and secured at the end of the event (for example refer to Whistler #3, Storage & Disposal, Appendix 5-I).

This human-bear conflict management plan as well as the 2008 Solid Waste Management Plan for RDFFG (Gartner Lee Ltd. 2008) recommend implementation of a bylaw addressing storage and set out times for curbside garbage collection as it relates to human-bear conflict.

Develop and Enforce a 'Bear Smart' Garbage Storage and Placement Bylaw

This is a Major Recommendation with a First Stage of Implementation.

The sixth step necessary to achieve Provincial Bear Smart Status requires the implementation of **"Bear Smart" bylaws** prohibiting the provision of food to bears as a result of intent, neglect, or irresponsible management of attractants” (Davis et al. 2002). Cities attempting to obtain Bear Smart status must implement bylaws pertaining to all sources (residential, industrial, commercial, City & District) garbage storage and removal. Recommendations for the implementation of garbage storage bylaws are also present in the 2008 Regional Solid Waste Management Plan for the Regional District of Fraser Fort George (Gartner Lee Ltd. 2008). The Solid Waste Management Plan states that “developing and maintaining a solid waste management system that minimizes the potential for human-bear conflict will enhance public safety and prevent the unnecessary destruction of bears” (Gartner Lee Ltd. 2008:25).” The Solid Waste Plan further emphasizes that Municipalities and the RDFFG will ensure that their **waste collection bylaws require containerization** of garbage and **enforced set out times** for curbside collection to minimize wildlife access opportunities (Gartner Lee Ltd. 2008:25).

The Northern Bear Awareness Society has been urging the City to implement a bear smart garbage and attractant bylaws since 2002. In June 2004, NBA sent the City a letter stating that:

The Omineca Bear Human Conflict Committee (OBHCC) is requesting an opportunity to appear at a City Council meeting. The OBHCC is interested in implementing a garbage by-law in Prince George as a result of the extensive human-bear conflict with garbage in our city....The OBHCC is requesting a by-law that prohibits garbage to be left out overnight. Specifically, no garbage by the curb before 5:00 am the morning of pick up and back in from the curb by 8:00 pm the day of garbage collection. The purposed by-law should require that garbage bins must be secured in a shed or garage at all times when in from the curb.... It is OBHCC's expectation that a garbage by-law applied and enforced in the City of Prince George will create a safer and cleaner community due to the reduction of bear-human conflicts....(written by Amber O'Neill, NBA Coordinator/Media relations. Submitted to the City by S. Nahornoff, OBHCC Chair).

The main opposition from City Council was anticipated problems with accommodating shift workers and the fear of opposition from residents. *The City and District must take the lead in implementing bear smart measures regardless of public opposition if they aim to increase protection of the public and reduce the chance of a human-bear conflict.* For example, there are a number of successful and highly publicized campaigns against drinking and driving, yet some people continue to drive under the influence of alcohol; because of the danger to oneself and others these campaigns are coupled with strict enforcement and penalties for violations. Residents that continue to allow bears access to non-natural attractants are posing a risk not only to themselves but to the public at large. A number of other cities/communities throughout BC have implemented bear smart bylaws including but not limited to Whistler, Port Coquitlam,

Kamloops, Kaslo, Lions Bay, Squamish, Tofino, Ucluelet, Revelstoke, and Fernie. An excellent reference for how to develop bylaws (Canada) and ordinances (US) as well as a resource for downloading some of the current bylaws by city/community or town/county is located at:

<http://www.bearsmart.com/bearSmartCommunities/Bylaws/bylaws.html>

(Dolson pers. comm.)

This web page also contains the Ontario Ministry of Environment's toolkit for developing and enforcing municipal bylaws. The Bear Smart bylaws for Whistler (appendix 5-I) and Kamloops BC (appendix 5-II), and Canmore, Alberta (appendix 5-III), as well as an example amendment to the Waste Regulation Bylaw for Fernie, BC (appendix 5-IV) have been provided in Appendix 5. Whistler and Canmore have adopted excellent Bear Smart bylaws and their inclusion in this report is to aid the City to develop an effective Bear Smart bylaw specific to the problems and hazards present within Prince George¹⁵. The author of this report does not have a legal background nor specialize in bylaw development or wording. The following recommendations for the required Bear Smart Prince George bylaw are from the perspective of reducing the development of 'problem' bear behaviour.

This general bylaw statement quoted from the Whistler, BC, Garbage Disposal and Wildlife Attractants Bylaw No. 1861, is recommended to be included in Prince George's bylaw:

"No person shall dispose of or store domestic garbage, waste, or recyclable material except into a container that is a wildlife resistant container or is located in a wildlife proof enclosure."

Additional recommendations for inclusion in the Prince George bylaw include but are not limited to:

3.1-I RESIDENTIAL GARBAGE & RECYCLING STORAGE BYLAW:

- 1. That all potentially bear attracting household waste & recycling that contained bear-attracting waste (food byproducts, grease, oil) be stored in a bear resistant container or a place that is inaccessible to animals at all times except curbside collection days. Bear-resistant structures include but are not limited to an enclosed garage or carport, basement, bear-resistant outbuilding, purchased bear-resistant tote container and the like.**

Reducing bear access to garbage reduces their loitering around neighbourhoods. By keeping garbage stored in a location that is inaccessible to bears and other animals, residents will reduce the litter spread about by scavenging animals as well as reduce the risk of bears becoming food conditioned, problem bears.

- 2. That garbage & recycling must be contained within an approved bear-resistant tote. That no person shall leave garbage & recycling that contained bear-attracting waste outside a container.**

¹⁵ A number of the mentioned cities/towns have adopted excellent bear smart bylaws. The majority of those bylaws may be obtained from the author at the request of the City or District.

3. **That no household shall put out the bear-resistant garbage totes the night before curbside collection, or before ¹⁶5am on the day of collection.**
4. **That bear-resistant garbage totes must be secured back within their bear-resistant structure by 7 pm the evening of collection.**
5. **That bear-resistant totes and enclosures be maintained in a bear-resistant condition at all times.**

The majority of bears prefer to use the cover of darkness to move around humans and their activities, such as crossing roads or foraging in human dominated landscapes. Restricting the length of time garbage totes remain curbside reduces the opportunities that bears will have to access garbage.

6. **That all multiple family dwellings (trailer parks, apartment buildings) be switched to communal waste container collection.**
7. **That all new multi-family dwelling development projects be required to provide a communal bear-resistant, locked bulk waste container area.**

Following compliance with a Dangerous Wildlife Protection Order from the COS, the Sintich Trailer Park, which now locks its bulk waste container every night, has reduced the number of bears destroyed from an average of 10 bears annually to no bears destroyed since 2001 (G. Van Spengen pers. comm.).

3.1 – II IMPLEMENTING A BYLAW FOR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL GARBAGE & RECYCLING STORAGE AND REMOVAL

Implement and enforce a bylaw for commercial garbage storage.

This is a Major Recommendation with a First Stage of Implementation.

Bear-resistant bulk waste containers are only effective if the lids are securely closed and latched. Industrial bulk waste containers used on work sites specifically for non-bear attracting waste, often end up having bear attracting waste deposited in them by third parties (employees, neighboring businesses). It is important to ensure that alternate, secure means of disposal are available to third parties using the industrial bulk waste containers. Industrial bulk waste containers will attract and create problem bears if there is food waste deposited in them.

1. **That all commercial, institutional and industrial waste containers that contain potentially bear attracting waste & recyclable material are secured within an enclosure or a metal bin equipped with a metal lid that locks/latches closed.**

¹⁶ In the Kamloops bylaw totes are not allowed curbside until 6 am. The earlier hour for Prince George accounts for the schedule for shift workers.

2. **That the metal lids of all commercial, institutional and industrial waste containers that contain potentially bear attracting waste remain closed/down at all times.**
3. **That metal lids of all commercial, institutional and industrial waste containers that contain potentially bear attracting waste remain locked during all hours when the business is not operating (lids must be secured at the end of each business day).**
4. **That establishments that are experiencing bear problems further place their waste containers within a fully enclosed perimeter fenced enclosure that remains closed at all times. The door of these enclosures should open outward and not be pushed inwards.**
5. **That waste is not permitted to overflow and/or accumulate outside of commercial, industrial or institutional receptacles.**

Best Management Practices to Prevent Access to Cooking Grease by Bears:

No person will store clean or used cooking grease except in a bear resistant container:

6. **That bulk waste containers and grease drums be fitted with a steel lid that remains locked or latched closed at all times.**
7. **That bulk waste containers and grease drums be further contained within a bear-resistant structure at all times (e.g., shed or building).**
8. **That spills of cooking grease are immediately cleaned.**
9. **That cooking grease is emptied at regular intervals.**

3.1 – III. IMPLEMENTING A BYLAW FOR THE MANAGEMENT OF FRUIT TREES

The Kamloops bylaw includes fruit under the definition for “Bear Attractant” which is “any and all food wastes and accumulations of discarded fruit on public or private land, and includes offal”. The Kamloops bylaw uses a broad statement to refer to the dangers associated with bears feeding on human “bear attractants”

“No person or persons may accumulate, store or collect any bear attractants as defined in this by-law in such a manner as to promote an increase in bear activity, thereby creating a risk to the safety of the public in the neighbourhood or vicinity.” (refer to section 40-40 of Kamloops bylaw, Appendix 5-II):

It is recommended that Prince George implement a bylaw focused on the maintenance of fruit trees:

- 1. No person shall permit or allow fruit from a tree to accumulate on the tree or ground. A person shall prevent the attraction of bears into a neighbourhood by:**
 - (a) Picking fruit from the tree before or immediately as the fruit ripens;
 - (b) Disposing of unwanted fruit in a bear-resistant fashion; and,
 - (c) Preventing access to the fruit tree by bears.

- 2. No person will allow fruit from fruit trees to accumulate on the ground.**

3.1 – IV. IMPLEMENTING A BYLAW FOR THE MANAGEMENT OF BIRDFEEDERS

Canmore, AB, Lion’s Bay, Squamish, Tofino and Whistler have bylaws in place addressing the use and placement of bird feeders. The preferred recommendation is to prohibit bird feeders during the bear active season (April – Nov), which is in place in Canmore, AB. Other cities/towns (e.g., Lion’s Bay, Whistler) allow bird feeders but they must be suspended in such a manner that they are inaccessible to “dangerous wildlife”. Wildlife Attractant Bylaws, such as those used in Squamish make it easier to capture bird feeders and other attractants that may not be considered waste (McMillan pers. comm.).

Preferred Bylaw:

- 1. No person shall place or store birdfeeders outdoors between April 1 and November 15.**

Alternate Bylaw:

- 2. No person shall allow a bird feeder to be placed in such a manner as to allow access by bears.**

- 3. Bird feeders must be equipped with a catchment basin that is larger than the feeder itself.**

- 4. No person shall allow birdfeed to accumulate under or around the bird feeder.**

- 5. No person shall store bird seed in a non-bear resistant manner.**

3.2 MANAGING HUMAN ACTIVITIES WITH ENFORCEMENT

Table 18. Summary of Recommendations Pertaining to Bylaw Enforcement and Fines, Hiring a Bear Conflict Specialist, and the Wildlife Act.

Section	Summary of Recommendations Pertaining to this Step	Responsibility
3.2 - I	<p>Bylaw Enforcement & Fines</p> <ul style="list-style-type: none"> • Recommended to be a shared responsibility between the City, District and the Conservation Officer Service. • Clearly state the agencies with power to enforce bylaws the wildlife attractant bylaw document. • Enforce bylaws with fines for violations: <ul style="list-style-type: none"> * Suggest \$100.00 fine, or * \$50 for first offence increasing by \$50 for each subsequent offence. • Use funds from bylaw infractions to further sanitize the City as well as education, outreach and research on Bear Smart initiatives. • Allow the COS the power to enforce bylaws that relate to wildlife. • Consider giving the problem wildlife specialist the power to enforce bear smart bylaws. 	City, COS with aid from District
3.2 – 1A	<p>Hire a Bear Conflict Specialist</p> <ul style="list-style-type: none"> • Hire a person responsible for the proactive management of bears to aid the COS, NBA and bylaw officers. • This position should be within the MOE or City as an employee. • Responsibilities include dissuading the development of problem bear behaviour & the management of ‘problem’ bears: <ul style="list-style-type: none"> * Education of public regarding bears, * Canvassing neighbourhoods with bear reports immediately as reports are received, * Providing door-to-door solutions to bear attractant problems for neighbourhoods receiving complaints, * Gathering information on infractions to bear smart bylaws, * Managing ‘problem’ wildlife, * Conducting or supporting research, * Database management, and * Wildlife related media releases. • Consider giving the problem wildlife specialist the power to enforce bear smart bylaws. 	MOE City COS NBA District
3.2 – II.	<p>Implement a bylaw dissuading the intentional feeding of bears</p> <ul style="list-style-type: none"> • Prohibit the “intentional” feeding of bears in bylaws. • Prohibit the “unintentional” feeding of bears in bylaws (may be largely covered in Section 3.1 bylaws). 	City & COS
3.2 – II	<p>Dangerous Wildlife Protection Orders</p> <ul style="list-style-type: none"> • Enforce more Dangerous Wildlife Protection Orders. • Consider removing the word “intentional” from the Wildlife Act. • Issue more fines for violations. 	COS only

	<ul style="list-style-type: none"> • Initiate legal actions for chronic offenders. 	
3.2 – I.	<p>The Wildlife Act and Dangerous Wildlife Protection Orders:</p> <ul style="list-style-type: none"> • Issue and enforce fines for violations whether the feeding of bear(s) was intentional or unintentional. • Address the issue of “intentional” and “unintentional” attractants in the bear smart bylaws because the word “intentional” currently appears in the <i>Wildlife Act</i>. • Remove the word “intentional” from Section 33.1 of the <i>Wildlife Act</i>. • Support and encourage the COS to enforce bear smart management practices through the issuing of DWPOs. • Support and encourage the COS to be able to issue infractions to the bear smart bylaws. • Support and encourage the COS to enforce more Problem Wildlife Protection Orders. • Initiate legal actions for chronic offenders. 	City & COS

3.2 – I. ENFORCEMENT & SUGGESTED FINES FOR BYLAWS

The enforcement and related duties to assure compliance with bylaws should be a joint responsibility between the City, District and Conservation Officer Service. *Bylaws must be enforced with fines that are of sufficient amounts so as to act as a deterrent for future violations.*

Fines:

- 1. That there be a penalty of \$100 for attracting dangerous wildlife to any residential neighborhood, including for placing garbage totes out the night before pick up.**

An alternative to this fine is to initiate a \$50 fine for first time offenders and increase the fine by \$50 for each subsequent offence. The bylaw for Port Coquitlam (effective August 4, 2009) fines \$150 for households that do not secure their garbage or if the tote is placed curbside before 5:30 am and not re-secured by 7 pm. To be of sufficient deterrent commercial, industrial and institutional establishments could receive higher fines than households.

The funds from bylaw infractions should be used to further sanitize the City as well as education, outreach and research on Bear Smart initiatives. The Get Bear Smart Society recommends funds generated be used to “address human-bear conflicts, such as the purchase of additional bear-proof waste containers or education.” (Dolson pers. comm.). The funds could also be used to create the recommended problem wildlife specialist position.

It is recommended that the COS have enforcement powers for bylaws relating to bears because they are the agency most likely to respond to bear occurrences. It is recommended that the agencies with power to enforce bylaws be clearly stated within the wildlife attractant bylaw document.

Enforcement should be a joint responsibility between the Conservation Officer Service and bylaw enforcement officers.

(A) Hiring a Problem Wildlife Specialist

The City, COS and MOE with support from NBA should consider creating or supporting the hiring an individual dedicated to aid in wildlife bylaw enforcement, deliver educational programs related to wildlife, manage problem wildlife, databases, and wildlife related media releases. In Montana, the Montana Fish Wildlife and Parks hires *Grizzly Bear Management Specialists* that are dedicated to the management as well as aiding in and conducting research on grizzly bears. Currently, the CO Service does not appear to have enough time or person-power to deal proactively with ‘problem’ bears and as result a number of bears are destroyed. Further, the majority of the time the underlying attractant was not addressed at the time of the bears destruction thereby being available for the next bear to become conditioned to human food; this is how chronic problem neighbourhoods persist throughout the years, because bears are destroyed but some or all of the attractants remain in the neighbourhood to be available to the next bear.

A dedicated problem wildlife specialist would aid in tracking and monitoring ‘problem’ bears, be responsible for managing the problem wildlife database (Section 7.0), and also be responsible for enhancing public safety. Their primary purpose would be to deter the development of problem bear behaviour rather than simply not reacting until the bear has become a problem. *By being actively involved in the day-to-day issues regarding the development of problem bear behaviour in the City and District this person would also aid in identifying chronic ‘problem’ areas and applying the best adaptive management recommendations to this plan.* It is recommended that this position be a trained wildlife biologist specialist that specifically manages problem bear complaints hired through MOE or a dedicated officer within the COS. It is not recommended to be a ‘student’ filled position (as is the case with the NBA education specialist) but rather a dedicated government or City employee. The City should consider giving the problem wildlife specialist the power to enforce wildlife bylaws.

3.2-II. THE WILDLIFE ACT AND DANGEROUS WILDLIFE PROTECTION ORDERS

The Wildlife Act [RSBC 1996] chapter 488, Amendments Bill 63 – 1999 appears to largely focus on the “intentional” feeding of wildlife. In the majority of cases in Prince George the feeding of wildlife may be argued to be “unintentional” with garbage left unsecured at the curb, beside a household, and/or mismanagement of fallen fruit (G. Van Spengen pers. comm.). The inclusion of the word “intentional” within the Wildlife Act (Section 33.1) may limit the ability of the COS to issue and enforce the *Act* (G. Van Spengen pers. comm.). Food conditioning and/or habituation to humans results from bears feeding on human food regardless of whether the act of feeding the bear was intentional. Therefore, *bylaws addressing residential, commercial, industrial and institutional establishments are recommended to specifically address both the intentional and unintentional feeding of bears.*

Issue and enforce fines for violations whether the feeding of bear(s) was intentional or unintentional.

Address the “intentional” and “unintentional” feeding of wildlife in the bear smart bylaws.

Consider suggesting to the appropriate government agencies removing the word “intentional” from Section 33.1 of the Wildlife Act.

Allow COS the most power possible to enforce bear smart management practices and support their issuing of DWPOs.

COS to issue DWPOs for persistent offenders.

Dangerous Wildlife Protection Orders: Dangerous Wildlife Protection Orders (DWPO; under section 88.1 of the *Wildlife Act*) are limited in their scope because of the process and time required to properly issue an order (G. Van Spengen pers. comm.) and this appears to be limiting their use around the City and District. A Conservation Officer must issue the DWPO and then return to the resident/establishment on the date specified to ensure compliance with the order. If the attractant has not been removed by the date specified then the order has not been complied with and the CO may at that point issue a fine for failing to comply with the order (G. Van Spengen pers. comm.). If the order has been complied with then no additional steps are taken. A new DWPO must be issued for each violation; if the original DWPO was complied with but another attractant is found on the premises the process must begin over again and therefore does not stop the violator from starting a new non-natural attractant (G. Van Spengen pers. comm.).

DWPOs should consider addressing repeat offences and reducing the process required to issue an order. The time commitment currently required limits the COS time available for other duties and is limiting the issuing of these orders in the City and District. Although DWPOs are a reactive management technique if consistently issued and enforced then they can aid in stopping future violations for chronic offenders that refuse to voluntarily comply. The consistent issuing of DWPOs, particularly to establishments with repeat bear destructions and complaints, is strongly recommended. *One solution is to remove the word “intentional” from section 33.1* (G Van Spengen pers. comm.). COs should also have the ability to raise the fine with each subsequent offence. Bears do not respect political boundaries, back yards or other defined areas and a bear problem in one yard often becomes a bear problem for the neighbourhood. People who leave their garbage in a non-bear resistant manner or do not manage fruit on their tree should be subject to a fine regardless of their intentions because their actions affect the safety of the public as a whole.

3.3 BEAR SMART EDUCATION

Table 19. Summary of recommendations pertaining to Bear Smart education

Section	Summary of Recommendations Pertaining to this Step	Responsibility
3.3 – I.	<p><u>Delivering Bear Smart Educational Messages</u></p> <p><i>Promote participation in delivering bear smart education messages by participation between the City, District, Solid Waste Management, MOE, COS & MOF:</i></p> <ul style="list-style-type: none"> • Provide funding for hiring NBA education specialists • Provide booths at events free of charge or pay for booths • Provide volunteers <ul style="list-style-type: none"> • City & District: contribute to funding for the education program. • Solid Waste Management: Provide funding directed at proper use and compliance for transfer stations & issues with bears in the District. • Evaluate interagency cooperation in supporting additional student trainees to further promote the educational program. • City, District & Solid Waste: Contribute to the funding for NBA to update and print their bear smart brochure. • City: provide bear smart educational material that contains NBA bear smart and contact information with the garbage collection schedule. • Consider including bear smart information with posted utility bills during April-November bills. • City & District: Provide free message space in City and District guides, such as the Leisure services guide. • All agencies: Support the Door-to-Door campaign for areas that are experiencing bear problems as identified by continual communication between the COS and NBA. • City: Support NBA in conducting their garbage patrols, on the night before garbage collection. Note that these patrols also would aid the bylaw enforcement officers. • City to partner with Regional District to educate the public in rural areas with respect to garbage. • Nurseries (e.g., Art Knapps) to provide bear smart information to buyers of fruit bearing trees and non-fruiting alternatives. • City: Broadcast garbage bylaws (when in effect) on the radio similar to city watering regulations. • Continue the NBA school programs and booths and public events. • Examine additional ways to reach adults, for example, Prince George recreation club meetings, clean-air meetings, and the like. • Continue radio ads as a means of an effective way of reaching people during the active bear season. • Broadcast a TV commercial each spring (den emergence, bear out bear smart messages) and fall (fruit trees, garbage messages). City and District should help with funding these commercials. 	<p>NBA</p> <p><i>Strongly recommended aid from:</i></p> <p>City District Solid Waste Mngt COS MOE MOF</p>

Section	Summary of Recommendations Pertaining to this Step	Responsibility
	<ul style="list-style-type: none"> • City & District: Provide NBA information and a link to the NBA website on the City (and RDFFG) website. • Promote biological presentations regarding bears to teach people why bears are attracted to human-use areas by sponsoring and organizing public presentations regarding bears. • Place large public information signs on the highways leading into Prince George as well as within the City itself. • Post bear warning signs at all trail heads in neighbourhoods with moderate and high bear activity. • Provide a ‘bear facts’ article in visitor information pamphlets. • All bear smart educational material developed and disseminated by NBA, the City or otherwise should be reviewed for its accuracy by a registered professional biologist specializing in bear behaviour. • Support & continue the current Bear Complaints Map. <p><i>Media Releases:</i></p> <ul style="list-style-type: none"> • Provide ‘bear facts’ article in the newspaper during bear active season focusing identified bear problems specific to spring, summer and fall seasons. • Provide a public information release when bear occurrence reports and/or destruction begin to escalate. • Air TV commercials during bear active season on PG TV. 	

3.1 – I. DELIVERING BEAR SMART EDUCATIONAL MESSAGES

Bear Smart Step #4 requires the implementation of “a continuing education program directed at all sectors of the community”. Bear Smart states that the primary objectives of the education program are to:

1. “develop a greater understanding of bear ecology and behaviour,
2. facilitate support from local residents for bear-proofing the community. This can include identifying methods and options for eliminating bears’ access to non-natural foods and attractants.
3. develop guidelines for human activities in bear habitat to reduce the likelihood of human-bear conflict,
4. recommend actions to take during a bear encounter, and
5. encourage tolerance towards the presence and natural behaviours of bears in reasonable numbers in or near the community” (Davis et al. 2002:39-40)

‘Problem’ bears are not born ‘problem’ animals; they are created by the carelessness of people and the availability of anthropogenic attractants. ‘Problem’ bears are the result of a management problem of people and their attractants. Therefore effective, proactive management requires changing those human behaviours. Education of residents is extremely important to obtain increased voluntary user compliance. The more people understand that they live in bear country, what it means to live in country, and the behaviour of bears, the more likely that user compliance will follow and the need for enforcement will be reduced. Education throughout the City and

District should take various forms such as ‘bear smart’ signs, pamphlets contained within new garbage totes or mailed out with utility bills (O’Neill pers. comm.), TV commercials, media releases, radio interviews, public events, school and public presentations.

Since 1998, the education component of the Provincial Bear Smart Program has been fulfilled by Northern Bear Awareness (NBA). NBA is a group of committed volunteer members that each year submits various funding applications to organizations such as the BC Conservation Corp, Habitat Conservation Trust Fund and similar potential funding agencies to obtain funding for an education delivery specialist(s). In 2009, NBA did not receive any funding from the BC Conservation Corporation’s Bear Aware Program, the current primary granting agency for funding the Bear Smart education component throughout the Province. As such, NBA was required to raise all of their own funding to assure booths were present at large public events such as Fort George Park at Canada Day and the PG Exhibition. In order for the education component to properly address the objectives as outlined in the Bear Smart report (Davis et al. 2002) NBA would benefit from receiving ***additional support for the education component by the City, the District, and the local branch of the Ministry of Environment and Ministry of Forests.*** All of these agencies have mandates for bears and as such should be supporting the efforts of the NBA to reduce the creation of problem bears, reduce the number of problem bears destroyed each year, and increase protection of the public in the City and District as it relates to bears. Support should be in the form of supplying funding, providing bear smart signs for trails, parks and neighbourhoods, providing free of charge venues for presentations, printing and disseminating educational material such as the NBA bear smart brochure and the like. Additional employees or volunteers to disseminate information as wide-ranging as possible are required, particularly for the door-to-door and garbage control campaigns.

The solid waste management plan recommended under the Solid Waste management System Costs (Regional District and Municipal Expenditures) a \$2,000 operating cost each year from 2009 through 2019 (total \$22,000.⁰⁰; Gartner Lee Ltd. 2008) *specifically earmarked for the education of the public regarding waste management as it relates to bears.* These funds may be put to use by increasing media releases regarding proper storage and use of residential wastes and/or aiding NBA to hire staff to disseminate bear smart educational messages. It is recommended that the Solid Waste Management Branch work closely with NBA and the COS to determine how best to deliver bear smart messages as they relate to garbage and proper use of bear-resistant transfer stations.

City, Solid Waste Management Section, District, MOE and MOF to support and contribute to the continued & consistent bear smart educational messages for delivery to residents of all ages.

This is a Major Recommendation with a First Stage Implementation

It is strongly recommended that the door-to-door campaign be fully supported and reinstated because it offers a proactive management technique that is not currently possible by the COS.

It is strongly recommended that the door-to-door campaign be fully supported and reinstated. In the door-to-door campaign NBA employees or volunteers canvas areas that are currently

experiencing bear problems as determined by frequent contact between the COS and NBA education specialist. The COS provides NBA with daily (preferred) updates on where bear sightings are occurring within the City and District. The NBA employees go to that neighbourhood, determine the bear hazards, and then door-to-door canvas, particularly those households with obvious bear attractions. Continuation of this program is extremely important because it is a proactive management technique and if the attractants are subsequently managed by the resident the program could act to deter the development of problem bear behaviour rather than simply reacting only once the bear has become a problem. Currently the COS only responds to bear calls where the bear is deemed food conditioned and likely will be destroyed. Door-to-door canvassing of current problem bear neighbourhoods offers residents ways to reduce the problem by, for example, locking away their garbage receptacles, providing bear smart information on bird feeders and proper placement and maintenance of feeders, fruit trees and similar problem bear causes. *The door-to-door campaign and the nightly garbage patrols can also aid in identifying which residents have been repeatedly warned about their attracting bears and therefore could aid in issuing Problem Wildlife Protection Orders and enforcing bylaw fines.* For protection, a minimum of 2 people should be present during door-to-door canvassing and garbage patrols.

Due to a lack of funding for a full-time education specialist in 2009 NBA had to focus the bear smart educational outreach largely on classroom presentations, although they also were present at a number of large public events. In the past when funding was available the NBA education specialist gave a number (in some cases weekly) radio interviews and one year even aired a TV commercial. The TV commercial and radio interviews are an excellent way to further inform the public regarding bears, living in bear country and bear smart management practices. It is strongly recommended that the City and District support a spring aired TV commercial regarding bears emerging from their den sites (time to lock up garbage and secure bird feeders) as well as a commercial that airs in the fall season (August onwards).

The educational messages provided by NBA are geared towards children and there is a need for more support and funding to add a number of adult-oriented presentations, for example at the outdoors clubs or in a neighborhood hall. The City should also post bear smart information with links and contacts to NBA in their leisure guide, at the tourist information stop, and similar venues. It is also recommended that the City support Bear Smart presentations in chronic neighbourhoods each spring as bears emerge from their dens and late August beginning of September (fall) when bear problems are known to peak in the City. For example, the City could supply the venue for the presentation free of charge and/or pay the presenter fees.

4.0 ISSUE THREE: GREENSPACE CONFIGURATION, CITY PLANS & DESIGN, PARKS & PROTECTED AREAS, NEW DEVELOPMENTS

Table 20. Summary of Recommendations pertaining to the management of green-spaces, parks and new developments

Section	Summary of Recommendations Pertaining to this Step	Responsibility
4.1 – I	<p>General City Design & Layout <i>Configuration of Green-Spaces</i></p> <ul style="list-style-type: none"> • Consider the layout and the amount of green space surrounding the City. • Avoid placing schools and children’s play area in areas that back onto the periphery of the green-space. • Remove the majority of vegetation and clear out underbrush surrounding children play areas. 	City (& residents)
4.1 – II	<p><i>Trails & Corridors</i></p> <ul style="list-style-type: none"> • Remove, manage or reconfigure those that lead into chronic problem neighbourhoods. • Sever green-spaces from travel corridors, especially off the 2 major rivers. • Remove and thin the majority of vegetation, particularly surrounding green-space trails heads & on trail switch-backs. • Trim vegetation along trails to increase lines of sight. • Assure bear warning signs are placed at all trail heads. • Hire and/or consult with a biologist that specializes in bears and bear behaviour for city trails and networks. 	City
4.2	<p>Parks & Protected Areas</p> <ul style="list-style-type: none"> • Sever green spaces that lead into City, particularly those along corridors. • Consider closing portions of trails or areas of Parks if bears are noted. • Remove the majority of vegetation and clear out underbrush surrounding children play areas. • Consider fencing with high perimeter fence children’s play areas in parks where green spaces back onto the play area. • Assure all garbage receptacles are approved bear-resistant, are properly maintained and managed. • Evaluate sybertech garbage cans for bear-resistant status. 	Parks, City & District
4.3	<p>New Developments on the periphery of the City <i>Pre-plan the layout!!</i></p> <ul style="list-style-type: none"> • Bear-resistant measures should be required in development plans prior to approval. • Implement and establish garbage storage rules and regulations at the onset: <ul style="list-style-type: none"> * <i>inform potential buyers of the bear smart management rules and regulations prior to purchase.</i> • Provide a central communal bear resistant garbage collection system 	Developer City COS NBA RP Biologist (refer to Section 2.2 – I A).

Section	Summary of Recommendations Pertaining to this Step	Responsibility
	<ul style="list-style-type: none"> • Enforce the use of communal garbage collection sites. • Prohibit the planting of fruit bearing trees (use the non-fruit flowering variety instead). • Prohibit the planting fruit bearing shrubs attractive to bears. • Remove existing fruiting trees or shrubs attractive to bears. • Provide pamphlets regarding bear smart education and messages left on the counter in the kitchen for new residents. • Require mandatory fencing of backyards that back onto undeveloped green-spaces or land with a high (minimum 2 m) fence. • Clear a minimum of 50-100 m from houses and yard/play areas. • Plan any contained parks and greens paces so they do not link to larger undeveloped areas. • Do not place walking trails in riparian areas. • Avoid splicing riparian areas into 2 or more parts. • Account and allow for wildlife movement corridors to pass well around any developments that occur adjacent to the River or a creek/stream bed (e.g., Cowart Road development). • Avoid retaining any heavy brush or treed areas within the development core. Remove the majority of underbrush and provide an open, park-like setting. • Plan children’s playgrounds separated from green spaces. • Fence children’s play areas with a 2 m high chain link fence. • If a trail links to a larger system (which is not recommended) heavily brush the shrub layer and increase all lines of sight. • Sign trails that may be used by bears with ‘bear warning’ signs. • Advertise being a bear-friendly community in brochures or websites. • Consider a bylaw to prohibit the planting of fruit bearing trees and shrubs attractive to bears. 	

4.1 GENERAL CITY DESIGN AND LAYOUT

4.1-I. CONFIGURATION OF GREEN-SPACES

Prince George is within habitat rated as high interior BC bear habitat. Bears will be attracted to the City simply because movement corridors filter them into the City and there is a high availability of naturally occurring seasonal bear foods. Cities can be planned/ designed to dissuade bears from entering or alternatively to encourage bears to enter. Currently, the configuration and retention of a number of green-spaces that connect to large tracks of forested and largely undeveloped habitat have been maintained and lead from RDFFG agricultural and farmlands into the City. These bands of green-spaces and trail networks act to filter wildlife into current chronic problem bear neighbourhoods. *A noticeable attribute of the identified chronic bear neighbourhoods is the maintenance of bands of forested areas that follow creek beds; most*

of which serve as biking or walking trails for people. For example, Varsity trail in College Heights connects to the Fraser River and one can travel from Westgate using the connected green-space trails to the Fraser River having to cross only a few open areas or roads; Otway and Forests for the World link to both Charella Gardens to the south and Moore's meadow to the East; and the Hart Highlands at Hoferkamp Road contains very large tracks of forested land with the concentration of main housing units not occurring until one reaches the upper Hart Highlands. *Currently, bears are not being dissuaded to enter the City and high hazards exist where these types of City development complexes join productive foraging areas and seasonal food concentrations.* This situation appears to be similar to Whistler where McCrory states:

Subdivision planning and development appears to have not taken into account the degree to which the community design has created a "bear friendly" environment throughout RMOW by leaving native forest, cover and native bear foods in peopled areas. (McCrory 2004:17).

Bear habitat values need to be accounted for in management decisions (Ciarniello 1997) and the City and District should consult with a Registered Professional Wildlife Biologist regarding best placement for trail designs and best bear smart management practices for future developments.

The primary recommendation is to avoid further development in areas that protrude into high quality bear foraging and critical linkage habitat. Instead, focus on developing those areas that would make the City less attractive to bears. For example, place future developments in less desirable bear habitat, remove tree and shrub cover, and develop from the core of the City outwards being careful to minimize the amount of connected green-space that leads into neighbourhoods thereby further dissuading bears to enter.

Further development should focus on moving from the core of the City outwards. For example, in this strategy one would develop the land that currently exists between Hoferkamp road and the upper Hart Highlands rather than further expanding or blocking prime bear travel corridors along the Rivers. Developing the area between the lower and upper Hart Highlands would remove the connecting forested lands from the larger surrounding matrix and concentrate development rather than dispersing it throughout the landbase and interspersing it with retained forested patches that bears favour. The idea of planning towns to dissuade bears from entering is occurring in Banff, Canmore and Whistler:

In the Canmore and Banff areas, town planners are now avoiding creating cul-de-sacs that jut out into bear habitat. They are creating a more uniformly defined circular edge where subdivisions border on bear habitats (McCrory 2004:18).

4.1 – II. TRAILS AND CORRIDORS

The placement and connectivity of trails and corridors to the larger surrounding matrix needs to be reconsidered and evaluated from the perspective of facilitating or dissuading animal movements for all City neighbourhoods. Currently, the trail network acts to filter bears into the City and it is believed that some bears may simply get caught in chronic problem neighbourhoods after following the trail network (e.g., College Heights and Upper Hart Highlands). Once in these neighbourhoods the availability of non-natural, anthropogenic attractants acts to hold bears and 'problem' bear behaviour tends to develop.

It is strongly recommended that the City focus on identifying critical linkages for bear movement and based on those results reconfigure trail networks to either allow for movement between identified critical habitat patches by maintaining or enhancing connectivity or dissuade movement by making the trail networks less attractive to bears.

Maintaining connectivity, underbrush and forested landscapes is believed to promote the use of trails and corridors by bears while severing trail networks from attached green-spaces and clearing out underbrush to remove bear foods, minimize securing cover, and increase the line of sight are recommended ways to dissuade bears from using these trails. *Dissuading bear movement should only be done in areas where movement is not critical to their accessing important seasonal habitat types.* If movement between habitat patches is critical then it is likely that bears will continue to attempt to use these areas despite best bear smart management practices. Therefore, it is prudent to identify the critical linkages and work to maintain them for bear movement while removing or restructuring around the City or community those trails, corridors and areas that are not identified as critical. Properly identifying critical linkages requires research on bear movements and habitat use and the City should support such research efforts (refer to Section 7.2); it will be more difficult to manipulate bear movements and habitat use if management goes against biology rather than working with the species biology.

Trails that lead into chronic problem bear neighbourhoods should be removed, managed or reconfigured. All non-critical trails should be severed from adjoining green spaces by an open, non-forested gap that is as large as possible, especially off the 2 major rivers. Increasing the line of sight by removing the underbrush that bears can use for security cover as well as removing forage items should aid in dissuading bears from entering trails that lead into neighbourhoods. Focus should be placed on the trail heads as well as switch backs which tend to limit visibility. Bear warning signs should occur at both trail heads and along the trail. It is recommended that research and field reconnaissance be used to identify green-spaces and trails that have the potential to be brushed throughout the city, especially those in College Heights, Charella Gardens, and Hart Highlands. Priority areas should focus on the following:

- Schools connected to trails and green-spaces as identified in the hazard assessment,
- Walking/biking trails accessing chronic problem residential areas,
- Greenbelt trails within the city,
- Park trails and recreation areas.

4.2 PARKS AND PROTECTED AREAS

City parks and protected areas should be managed according to their placement in the City or District. Parks can be used to aid in filtering bears around the City (e.g., Cottonwood Park) or to hold bears away from the City core (e.g., implementing a fruit tree redistribution program in an outlying park/wilderness area). Improperly managed Parks and Protected areas currently act to attract bears into the City (e.g., Hudson Bay Slough). Regardless of the type of park, all parks and wilderness areas should have bear-resistant garbage receptacles that are regularly maintained by a responsible contractor or Park employee. Garbage must not be allowed to overflow for the receptacle, receptacles should be maintained to minimize odours and frequent checks of latches and other potential deficiencies should occur. Further, the majority of the vegetation and underbrush should be removed from all areas surrounding children play areas. In parks where

green spaces back onto the play area it is recommended that the play area be fenced with a high (~2 m) perimeter fence.

Parks and protected areas that fall on the periphery of the City should have different mandates than residential dwellings and inner City parks. It is recommended that inner City parks and parks in busy populated neighbourhoods (e.g. Hart Highlands and College Heights) should be further severed from green spaces; there should be no connectivity between the park and larger green-spaces. The following management techniques may be used to dissuade bears from entering inner city parks: assure they are not connected to larger green-spaces by a forested trail network; clear out the underbrush to increase line of sight and decrease security cover for hiding; and maintain these parks in a “park like setting” with open grass areas, dispersed large trees, little underbrush and no fruit or berry producing shrubs.

Bear use of wilderness parks and protected/wilderness areas such as Forest for the World should be accepted in bear country. These parks should occur on the outskirts/boundaries of the City and/or follow the major Rivers to allow for and encourage the use of these areas for movement between critical habitat patches. These Parks should be maintained in a more natural setting where the undergrowth is not consistently managed and bear foods are encouraged in an attempt to hold bears out of residential areas. Forested walking and biking trails that lead off these Parks should be encouraged in those areas that connect to larger green spaces but discouraged in areas that lead towards the City core. Bears require large connected landscapes in order to fulfill their life requisites and to remain out of trouble with people; the large spatial requirement of bears means management and preservation of habitat will be required on both publicly and privately owned lands.

For wilderness parks it is recommended that portions of trails or areas of the Park be closed if bears are noted, particularly females with offspring.

4.3 NEW DEVELOPMENTS ON THE PERIPHERY OF PRINCE GEORGE

Pre-plan new developments that occur on the periphery of the City in consultation with a Registered Professional Biologist that specializes in bear behaviour and representative(s) from the Northern Bear Awareness Society.

The idea of ‘Bear Friendly’ guidelines and policies for new subdivisions and municipal developments is occurring in Banff and Canmore, AB, and Ucluelet and Squamish, BC. *The purpose is for the developer to work closely with the local Bear Smart organization and as recommended here, a Registered Professional large carnivore biologist, to determine ways to dissuade bears from entering new developments. This should be done during the development of the plans and prior to the construction phase.* Example mitigation techniques include such measures as pre-planning the placement of the development to avoid or completely develop (i.e., remove) critical habitat patches, prohibit the planting of trees and shrubs attractive to bears, fence dwellings that back onto green-spaces with a ‘no climb’ high fence, provide bear smart education to homeowners of newly purchased dwellings, and provide bear smart mitigation techniques such as a communal garbage collection program.

There is a need in Prince George for municipal planning to require bear-resistant measures in development plans prior to their approval. These development plans should be in place for all new subdivisions, housing units, road building and expansion, commercial developments, and biking, hiking and walking trails. If bear smart rules and regulations are included during the construction and initial implementation phases they have the added advantage of being in place prior to use by the resident/public. The Director of Planning for Ucluelet, BC (Felice Mazzo), states that user compliance is more readily accepted when bear smart guidelines are implemented prior to purchase or use because potential users are aware in advance of the rules and regulations.

The first step should be to pre-plan the layout of a development as it occurs on the landbase.

Properly planned green-spaces, trails, avoidance or inclusion of critical habitats and similar measures allow for planners to attempt to filter the movement of bears around the development and exclude bears from areas within the development. General efforts for encouraging or dissuading use by bears are discussed under Section 4.1; however, *it strongly recommended that the City require further site specific recommendations for each development in question at the time of the application.* For example, to dissuade use by bears developments should avoid fragmenting critical habitats, such as riparian areas into two or more pieces. On-site evaluations should focus on mapping critical habitats and developing site-specific recommendations regarding the management of critical habitats.

The second step should be to plan and regulate those bear smart measures that require user compliance, focusing on removing anthropogenic attractants.

For all developments it is paramount that garbage storage rules and regulations be implemented and established at the onset. It is strongly recommended that bear-resistant communal garbage storage areas accompany all new subdivisions and that potential buyers be informed of the rules and regulations regarding garbage storage and removal prior to purchase (McMillan pers. comm.). In Ucluelet, BC, the developer worked closely with the Bear Smart BC Society on communal bin placement, design and layout (formerly Pacific Rim Bear Smart Society, McMillan pers. comm.). The Bear Smart BC Society secured a portion of the funding for the communal garbage bin pilot project. The project was designed to be in place when residents moved into the new subdivisions and continue as a pilot project for a minimum of 3 years. The City's Planning Department "will measure community support for the communal garbage collection methods..." during the pilot project (Appendix 3). The District of Ucluelet report to Mayor and Council as presented by F. Mazzoni, Director of Planning, is provided in Appendix 3 courtesy of C. McMillan, Bear Smart BC Society. Use of bear-resistant communal garbage collection sites for new developments is strongly recommended for Prince George.

In subdivisions where communal garbage collection is not deemed the most appropriate bear-resistant method then other bear resistant methods garbage collection and storage methods must be implemented. In Squamish, BC, the Squamish District's local Bear Aware program co-coordinator worked with the developer for the upscale University Heights development in Squamish to retrofit garbage bins:

“Mr. Day [the developer] has agreed to retrofit each home's garbage tote with a lock, practice Bear Smart landscaping by using plant species that won't attract bears, and ensure that each resident gets an information package on living in bear country. As well, all parks and green spaces will have bear-proof garbage receptacles installed” (Atkinson 2007).

Bear-resistant measures are required in development plans for developments that occur on the periphery of the City or anywhere in critical bear habitat such as movement corridors, prior to approval of the development.

Other recommendations used to dissuade bears from entering areas include removing the security cover (shrubs) and fencing those establishments or yards that back onto green-spaces with a 2 m high, no climb fence. In areas where persistent problems occur (such as the College Heights pub) the use of a top strand of electric fence strung around the perimeter should be strongly considered. In addition, McCrory (2004:17) “suggest[s] clearing to at least 50-100 m from houses and yard/play areas” as well as erecting fences for children’s play areas that are adjacent to green spaces such as riparian zones or abundant berry patches.

It is strongly recommended that backyards adjacent to green-spaces require mandatory fencing preferably with a 2 m, no-climb fence. Bear foods listed in Appendix 4 should be removed.

Educational efforts include providing NBA bear smart brochure on each resident’s kitchen counter (Botten pers. comm.). Bylaws for garbage storage and removal, prohibiting the planting of fruit bearing trees and shrubs attractive to bears, and bird feeders should be in place prior to household purchase or rental and for all commercial operations.

5.0 ISSUE FOUR: SCHOOLS

5.1 ELEMENTARY & HIGH SCHOOLS ASSESSED

Dissuading Bears from Entering School Grounds is a Major Recommendation with a First Stage of Implementation.

***First Step for Schools Rated Moderate to Extreme.
Second step for schools rated low.***

Table 21. Summary of recommendations for managing school grounds with bears reported on or near the property and the University of Northern British Columbia

Section	Summary of Recommendations Pertaining to this Step	Responsibility
5.1 - I	<p><i>Managing Existing Schools: Children’s Play Areas</i></p> <ul style="list-style-type: none"> • Remove vegetation that has overgrown the fence-line on school property as well as adjacent property. • Clear a buffer strip free of all vegetation surrounding green-spaces & play areas of ≥ 100 m for schools rated as moderate to extreme. • Focus attention on treed/shrub play areas then on the remainder of school perimeter. • Remove all bear forage items from school grounds. This includes mountain ash trees! • Consider clearing bear forage items from adjacent green-spaces. 	School & City & District
5.1 - II	<p><i>Line of Sight</i></p> <ul style="list-style-type: none"> • Clear vegetation obstructing the line of sight between school and play area(s). • If play area still remains obscured consider relocating play area in open in an area away from green-spaces. • Relocate all play areas where the vegetation is not being managed and if line of sight is obscured. 	
5.1 – III	<p><i>Garbage containment</i></p> <ul style="list-style-type: none"> • Remove unnecessary cans. • Replace all remaining cans with bear-resistant varieties. 	
5.1 – IV	<p><i>Fencing</i></p> <ul style="list-style-type: none"> • Raise the fence line on schools rated as high to extreme to ~2 meters. • Assure the fencing covers the entire perimeter with no breaks. • Consider “double fencing” in problem areas that back onto green-spaces (McCrory). 	
5.1 - V	<p><i>Education:</i></p> <ul style="list-style-type: none"> • Encourage children to play in groups. 	School & NBA (possibly COS)

Section	Summary of Recommendations Pertaining to this Step	Responsibility
5.1 - VI	<ul style="list-style-type: none"> • Invite education presentation by NBA and request they focus on how to dissuade bears and what to do if a bear is sighted on school property. <p><i>Additional General Recommendations:</i></p> <ul style="list-style-type: none"> • Remove fruit trees & berry bushes from school property. • Remove fruit trees from residential properties & crown land surrounding schools. • Clean odours from a number of garbage cans (particularly Carnie Hill Elementary and Kelly Roads Secondary). • Place bear smart warning signs along fence lines and in areas that back onto green-spaces. • Remove non-bear resistant garbage cans from areas surrounding the school (e.g., Heather Park Middle School has a municipal can attached to the bus stop in front of the school). • Implement ‘bear smart’ education campaigns and neighbourhood clean up waste campaigns surrounding schools. • Consider having a biologist visit schools with repeat bear occurrences to further develop site-specific recommendations. 	School, City or District and residents
5.1 - VII	<p><i>New Schools</i></p> <ul style="list-style-type: none"> • Place new schools well away from connected green-spaces, undeveloped land and trails. • Avoid locating new schools on the periphery of the community, rather centrally locate them away from undeveloped land. 	
5.2	<p>The University of Northern BC</p> <ul style="list-style-type: none"> • Remove all unnecessary garbage cans. • Remove garbage bins located directly outside the daycare. • Replace all remaining cans with bear-resistant varieties. • Do not allow garbage to overflow or be placed outside of bins. • Replace all large, commercial garbage containers with metal lids that are closed and latched at all times. • Provide ‘bear smart’ education to students in residents at orientation sessions. • Enforce punishments including fines for students that promote problem bear behaviour. • Provide ‘bear smart’ education material at student services centre. • Provide a presentation on bears, the campus, the dangers and bears in the area open to all students. • Post warning signs regarding bears, particularly those backing onto green-space trails. • Electric fence or relocate the compost facility. 	<p>University,</p> <p>NBA education component,</p> <p>Visit by COS to dorm orientation sessions recommended.</p>

Managing Existing Schools

5.5 – I. & II. Children’s Play Areas & Line of Sight

The top priority for the schools assessed is to begin by managing the surrounding vegetation that has overgrown the fence-line with particular attention to any treed/shrub play areas. Overgrown vegetation along fence lines should be removed to limit the security/hiding cover that could enable a bear to approach a child at a dangerously close distance as well as to increase the line of sight for attendants. Schools rated as moderate through to extreme bear hazard should have the vegetation on both the school property as well as that surrounding the fence on the adjacent property cleared. The objective is to provide a break between green-spaces and the school’s fence to deter bears from having to come out into the open to cross the break. In Whistler, breaks surrounding children’s play areas for schools and parks were recommended to be 50 m wide (McCrorry 2004). The break should be at least 50 and preferably 100 m wide and should surround all green-spaces.

Attendants should be able to view all areas of the school grounds without obstruction from patches of trees or shrubs. Vegetation obstructing the line of sight from the school to play areas should be cleared and if portions of the play area remain obscured then the play area should be relocated to an area where attendants are able to view the play area in its entirety. Any bear forage items (see Appendix 4) should be removed from the property as well as the immediately surrounding vegetation.

5.5 – III. Garbage Containment

All schools assessed had open garbage bins associated with the school as well as large commercial bins with non-bear resistant lids. Some schools had 9 non-bear resistant bins on school property. Begin by removing all unnecessary garbage cans and then replace the remaining cans with bear-resistant bins. The large commercial dumpsters associated with each school must also be fitted with metal lids that lock/latch down. Large commercial bins should be locked down each evening and the lids on bins should remain down at all times. Children should be educated on issues associated with wildlife and garbage and general ‘do not litter’ campaigns.

5.5 – IV. Fencing

I was unable to locate a peer-reviewed reference for how tall a fence should be to deter bear(s) from climbing. Bears are very agile climbers and are known to climb ladders and other structures. In the human-bear management plan for Whistler, BC, it was recommended that:

“As a top priority, based on the risk of a possible predaceous attack, bear-proof the higher risk children’s play areas, including play sets in 7 municipal parks and playgrounds at 2 schools, by installing bear-proof fencing or relocating some play set areas away from close proximity to bear habitats/dense cover....playgrounds be bear-proofed with fencing or moved to the middle of large open areas that are 50+ metres from the nearest green space bear habitat... chain-link fences 2 m high are now being installed at Canmore school playing fields....”(McCrorry 2004:15 & 19).

It is recommended that fencing surrounding schools rated as high or extreme be raised to ~2 meters. In schools with chronic bear problems they may consider “double fencing” in problem

areas that back onto green-spaces (McCrorry). The fence should fully enclose the perimeter of the area and should not have any breaks.

5.5 – V. Education Campaign

The 17 schools listed in the hazard assessment (see Ciarniello 2008, Table 12, pg. 58-59) should contact the Northern Bear Awareness Society each spring and fall to present bear smart education messages to students. These presentations should also include a component of what to do if a bear is sighted, proper garbage management both at home and on the school grounds, and the advantage of playing in groups. The COS also may be an effective means of delivering educational messages to school children.

5.5 – VI. Additional General Recommendations for Existing Schools

After implementation of the above broad recommendations, additional site-specific recommendations by school may be required for those schools, particularly those rated as high or extreme bear hazard. Table 12 (pg. 56) of the bear hazard assessment provides comments specific to each school assessed. For example, the residential area surrounding Heather Park Middle School and Kelly Roads Secondary School requires a campaign to clean up garbage strewn throughout the neighbourhood as well as within the green-spaces surrounding the schools. Kelly Roads Secondary school should have a garbage campaign clean up day where students clean up garbage strewn around school property as well as in the gully that leads to the school. A residential “bear smart” campaign is required for this neighbourhood.

5.5 – VII. New Schools

Where schools are located in relationship to the surrounding matrix of forests, undeveloped land, trails and green-spaces should be considered when planning a new school. The likelihood of a bear entering school grounds would be reduced if schools were placed towards the core of the neighbourhood and did not back onto undeveloped land/green-spaces or connected trails. The greater the separation between connected green-spaces and schools the less likely a bear(s) is to enter school grounds.

5.2 UNIVERSITY OF NORTHERN BRITISH COLUMBIA

The University of BC represents a unique situation because it backs onto large tracks of green-spaces and trails with abundant bear foods. Bears are going to be a part of the University setting simply because of the surrounding habitat matrix. To dissuade the development of problem bear behaviour and discourage human-bear conflicts the University must remove all sources of non-natural attractants, particularly accessible garbage as well as educate dorm residents and the student body in general. Keeping the campus clean and sanitary requires removing unnecessary bins (parking lots, outside door ways, etc.) as well as replacing the remaining bins with bear-resistant varieties. The large commercial bins can be made bear resistant by changing the lids to metal and latching/securing them closed at all times. Bins also require frequent emptying and garbage must not be allowed to overflow the bin.

Once the non-natural attractants have been removed education and enforcement for infractions must be implemented. The NBA along with the COS should be invited to resident orientation sessions and asked to provide information on proper ways to conduct oneself in bear country.

Bear smart pamphlets should be located at student services and inside each residence. Presentations on bear behaviour and what to do if a bear is encountered around the University grounds or trails should be provided to students and staff.

The compost facility at the University was not believed to be what attracted bears to the University; it was the position of the University in relationship to the surrounding matrix and the availability of non-natural attractants, particularly garbage. The compost facility was well managed for odours and non-natural attractants at the time of the site assessment but was placed close to the green-space and residents rather in an area that would further dissuade bears from entering. Effective means of composting in bear country exist and include: (1) relocating the facility towards the inner university core or placing it on a roof top (i.e., placing it in an area that is difficult for a bear to access); (2) Electric fencing the perimeter; (3) High, chain link perimeter fence with consideration of a single top strand of electric fence; or (4) composting yard waste only (no food wastes). Regardless of the option chosen all bear foods, such as raspberries should be removed from within the compost facility.

6.0 ISSUE FIVE: CRITERIA FOR BEARS IN THE CITY

First Step:

First Stage Recommendation:

Implement proactive ways to manage bears in order to deter ‘problem’ bear behaviour from developing or to keep the ‘problem’ behaviour minimized thereby not allowing unwanted behaviours to fully develop. This is done by immediately determining the problems in an occurrence neighbourhood as they are reported and using on-site evaluations to manage those problems and behaviours before they develop into the need to destroy the animal.

Second Step:

Reevaluate the current management of problem bears and the terminology used in the Ministry of Environment’s Conservation Officer Service, Chapter 6 (Complaints and Occurrences), Section 10 (Problem Wildlife Management), Subsection 03 (Preventing Conflicts with Large Carnivores). Suggest changes and/or clarification to the document “Preventing and responding to conflicts with Large Carnivores (Chapter 6, Section 10, Subsection 03).”

Table 22. Summary of recommendations pertaining to the management of “problem” bears within the City and District

Section	Summary of Recommendations Pertaining to this Step	Responsibility
6.1 - I	<p><i>Change from reacting to bear problems once bears have become a problem to proactively managing bears. If proactive management is not in the COS mandate then:</i></p> <ul style="list-style-type: none"> i. support the hiring of a bear conflict specialist (refer to 3.2 – 1A) ii. support the hiring of an NBA education specialist <ul style="list-style-type: none"> • Specialists would keep in continual contact with the COS and would immediately ground visit calls as they are received and where the COS would not respond. • General duties of the Bear Management Specialist are to implement pro-active bear management techniques: <ul style="list-style-type: none"> i. Ground visit neighbourhoods and conduct bear smart patrols. ii. Canvas door-to-door and request and suggest ways noted attractants be managed. iii. Record violations and report them to COS and/or bylaw enforcement officers if compliance is not voluntary. 	COS City District MOE NBA
6.1 – II through V	<ul style="list-style-type: none"> • Develop a consistent set of criteria used to manage ‘problem’ bears that also is consistent with human safety being the primary goal: <ul style="list-style-type: none"> i. Preventing and Responding to Conflicts with Large Carnivores does not supply a definition for “food conditioned.” ii. Reevaluate in City and District whether all food conditioned bears should be destroyed. (e.g., is a bear feeding in a mismanaged apple tree the same as a bear on a porch?). 	Prov. Govt (MOE) City COS

	<ul style="list-style-type: none"> iii. Develop a set of behavioural based criteria for problem bear management. iv. Develop a set of criteria for the length of time traps remain set in an area. v. Evaluate ways to determine if the correct animal has been caught. <p>For bears that are not deemed a threat to human safety:</p> <ul style="list-style-type: none"> vi. Consider capturing the bear, placing an identifiable ear tag and then releasing the bear within its likely home range. 	
	<ul style="list-style-type: none"> • Education and/or fines (DWPO and/or bylaw infractions) should be issued for all available non-natural attractants every time a bear call is responded to. 	<p>COS Bylaw officer</p>

6.1 DETERMINING THE PROBLEM AND DEFINING A PROBLEM BEAR

The procedure that governs the Conservation Officer Service preventing and responding to conflicts with large carnivores is Chapter 6 (Complaints and Occurrences), Section 10 (Problem Wildlife Management), Subsection 03 (Preventing Conflicts with Large Carnivores). The following recommendations are with respect to the limitations of this Procedure as it applies to the COS instituting and maintaining best Bear Smart practices. In order to move from reactive to proactive management as required by Bear Smart it is recommended that further thought be given to the criteria used to define the problem and determine the appropriate management action.

6.1 – I An Opportunity to Move from Reactive to Proactive Management: *The current reactive management of bears does not deter the development of problem behaviour. Rather, it allows the animal to fully developed ‘problem’ behaviour before actions (other than over the phone advice) are taken:*

The COS does not normally respond to calls that are sightings of bears in neighbourhoods or bears feeding naturally on berry producing shrubs and the like; Prince George is bear country and the COS expect bears in certain parts of the City and District. Further, if the bear is not acting aggressively then the COS may not respond to initial calls of a bear in garbage or a bird feeder; rather they educate the caller over the phone and ask them to remove the non-natural attract(s). *Not responding to initial calls regarding the sightings of bears in neighbourhoods misses an opportunity to educate the public, to enforce bear smart management techniques, and to dissuade bears from developing (or further developing) problem behaviours.* If these types of calls are responded to as they are received then the non-natural attractants can be immediately and appropriately managed which will dissuade the further development of problem bear behaviour, and break the cycle of creating and destroying ‘problem’ animals. This is especially important for those animals that are not necessarily ‘problem animals’ but may simply have followed a retained greenbelt into the heart of a neighbourhood. Preventing and Responding to Conflicts with Large Carnivores states that:

“1.1.1 The emphasis of ministry efforts will be to prevent or reduce conflicts with dangerous wildlife and will include encouraging and promoting agricultural standards of good husbandry, management of non-natural attractants, community planning, and the delivery of public education” (pg. 5).

It is recognized that the COS may not have the person-power or mandate to perform the potentially time consuming tasks required for proactive management. If proactive management is not in the COS mandate then the COS, City and MOE should support the hiring of a problem wildlife specialist (refer to Section 3.2 – IA) and potentially an “education specialist.” The education specialist would be employed through NBA and their job would focus primarily on regular contact with the COS in order to canvas neighbourhoods as complaints are reported and follow up to assure the attractants have been removed. Proactive management will increase human safety.

6.1 – II. The Need for a Consistent Set of Criteria: *Develop a consistent set of criteria used to manage problem bears:*

There appears to be a lack of consistency between the management of bears in different Cities/communities in BC. It appears the management of problem bears is dependent upon the amount of other work responsibilities and duties of the COS at the time of a complaint as well as the types of organizations/societies/charities present in the community. For example, Whistler, BC, strongly supports the non-lethal management of bears (Dolson pers. comm.) and bears are not normally destroyed until they enter a household or similar dwelling and they have an active aversive conditioning program. In Prince George, if bear complaints are responded to by the COS than in the majority of cases the bear(s) is destroyed. In Glacier National Park in the US bears are not destroyed unless they are conditioned to human food and habituated to humans to the extent that their behaviour poses a threat to human safety. It is recommended that bears that purposefully approach humans in a non-defensive situation and/or break into houses and other establishments be removed but should the bear that is in an apple tree or bird feeder hung from a tree also be removed? ***Human safety is the primary goal of this plan and bears must not be allowed to pose a threat to human safety; however, forethought should also be given to the type of situation a bear has found itself in and its behaviour once in that situation.*** The scope of these questions are too in-depth for this management plan to adequately address but there appears to be need to develop a consistent set of criteria used between Officers on proactive ways to manage ‘problem’ bears. Those criteria should be in the form of an official document and remain in the office for each new employee.

It is strongly recommended that a consistent set of criteria be developed and used to manage problem bears. These criteria should present ways to evaluate the level of food conditioning and habituation of humans by individual animal. The Provincial Government in Victoria should develop the criteria and it should be used to guide the COS regarding bear management throughout the Province.

6.1 – III. A Consideration for Food Conditioned Bears:

Preventing and responding to conflicts with large carnivores is Chapter 6 (Complaints and Occurrences), Section 10 (Problem Wildlife Management), Subsection 03 (Preventing Conflicts with Large Carnivores) does not provide a definition for “food conditioned”. There is a need to reevaluate whether all “food conditioned” bear as defined by the Prince George COS should be destroyed.

Bear management in Prince George is currently very reactive; if the bear is determined to be a problem through occurrence reports, and if also believed by the COS to be ‘food conditioned’

the animal most often is destroyed. Food conditioning is defined by the Prince George COS as bears feeding on garbage, feed left in bird feeders, or fruit on trees and is determined based on the types of complaints in the area and at the discretion of the Conservation Officer (G. Van Spengen pers. comm.). The criteria used to destroy a bear in Prince George as stated by the Conservation Officer Service are:

- the bear must be in an area where previous complaints have been reported; and,
- the bear must be considered food conditioned as defined above (G. Van Spengen pers. comm.).

Preventing Conflicts with Large Carnivores does not provide a definition of food conditioning and does not address levels of habituation to humans or food conditioning behaviour. In regards to ‘problem’ bears Preventing Conflicts with Large Carnivores states that a large carnivore may be destroyed if “there is reason to conclude that the animal has gone through the food-conditioning process and would attempt to return to human activity areas” (pg. 10). However, there is no definition of what the “food conditioning process” involves and there is no mention of behavioural levels of conditioning or habituation. Certainly, one may expect a bear to return to an area if it has received a food reward because bears are known to be quick learners which is a survival tactic. It is recommended that the reasons to destroy a bear be reevaluated according to the behaviour and level of food conditioning of the animal. For example, if a bear gets caught in a greenbelt where an apple tree hangs over the backyard trail (as was noted in the Hart Highlands and College Heights assessments) and the bear feeds on the apples should that bear be labeled food conditioned and destroyed? Further, neighbourhoods with chronic bear problems also are likely to be used by more than one animal; was the bear in the apple tree the same bear as the one that was feeding on garbage and generating the majority of calls to the COS for that neighbourhood or was it simply in the wrong place when the COS arrived? A suggestion may be to capture the bear, place an identifiable ear tag and then release the bear within its likely home range. With each problem bear responded to there should be corresponding education and/or fines issued for non-compliance. Non-compliant homeowners and all repeat offenders should be issued a DWPO with follow-up to assure compliance. Bear problems are expected to decrease once the City and District are sanitized, greenbelts are managed, and repeat offenders have been removed from the population.

6.1 - IV. A Consideration when Trapping ‘Problem’ Bears: *There should be a set of criteria used to determine if the bear caught in a trap is indeed the offending bear.*

Traps are set in areas with problem bear complaints and if a bear is not caught the trap may remain in the area for >2 weeks. The large range requirements of bears and the fact that bears are not territorial animals means that more than one bear may be use a site and a bear caught weeks after a trap is set may not be the offending bear.

6.1 –V. Within Home Range Relocations: *Consider the use of Within Home Range Relocations for animals that are not deemed a threat to humans.*

There is a need for criteria to be developed regarding the types of incidents that requires the destruction of the bear versus those that may benefit from other techniques such as “within-home range” relocations. Bears feeding on fruit that have not otherwise been determined to be a problem may benefit from such techniques as within home relocation. For example, if one approaches the bear and it moves further up the tree or attempts to run away, and the public does

not report any threatening behaviour by the bear, then these animals may be candidates for management techniques other than destruction. New proactive management techniques used in the United States examine the type of problem that are occurring with the bear, determine its level of habituation, and then determine whether such things as within home relocations will help to elevate the problem. *The premise behind within home relocations is the knowledge that the animal may indeed return but that the time given to do so would be sufficient to remove the root cause of the problem (e.g., removing fruit on a tree).* Within home relocations offer one way to begin switching from reactive to proactive management of bears. For example, if a bear is healthy, feeding on fruit in a tree and has otherwise not been determined to be a problem then it is primary candidate for within home relocations. The bear would be captured; ideally it would be tagged for identification, and then moved to an area determined to have good forage quality for the time of year. Corresponding with the relocation of the bear the fruit on the tree or ground would be removed and the property owner educated or fined. If the bear was to return to the site of the incident the fruit would no longer be available and the bear should have no reason to remain (given all other attractants were also managed). Sometimes within home relocations are coupled with aversive conditioning techniques forming what is termed the “hard release” of the animal. This negative conditioning (rubber bullets, chased by bear dogs) attempts to deter this future behaviour in the bear. Hard releases are not recommended until the City reaches an acceptable sanitization level.

Consider using within home range relocations for bears that have not displayed aggressive offensive behaviour towards humans. This management technique may buy the bear the time required to manage or remove the non-natural attractant.

7.0 ISSUE SIX: SCIENTIFIC DATA GATHERING & FUTURE RESEARCH

Major Recommendation with a First Stage of Implementation:
Develop a standardized database that is designed to gather appropriate information on bear occurrence reports!

The database should be able to be updated using a central system so that any actions taken by the COS are recorded in a consistent fashion along the same row of data as the original call taken in Victoria.

Table 23. Recommendations for scientific data gathering and future research: applying an adaptive management approach to this Plan

Section	Summary of Recommendations Pertaining to this Step	Responsibility
7.1	<p><i>Promote the creation of a standardized, user-friendly database (e.g., Microsoft Excel or Access) that is designed to gather appropriate information for managing bears in the City and District:</i></p> <ul style="list-style-type: none"> • Develop a standardized form for recording bear occurrence reports. • Hire a consultant to develop a database that records pertinent information to aid in management decisions regarding bears. • Promote the use of the database for all bear reports taken in Victoria clearly identifying those that make it to the local COS. • Input occurrence reports as received into the standardized database. <p><i>Data Recorded should include:</i></p> <ul style="list-style-type: none"> • Activity of the bear should be recorded into a standardized category beginning with: <ol style="list-style-type: none"> i. Define the behaviour of the bear: <ul style="list-style-type: none"> • Natural behaviour, or • Non-natural behaviour. ii. Record the type of natural or non-natural behaviour: <ul style="list-style-type: none"> • Natural behaviours include: feeding on berries, feeding on vegetation, sighting or travelling. • Non-natural attractants include: Domestic attractants and Agricultural Attractants: <ul style="list-style-type: none"> ○ Domestic attractant types include: Garbage, BBQ, bird feeder, hunter killed carcass, cookhouse, freezers, and residential or city planted fruit bearing trees. ○ Agricultural attractants include: carcasses, crops, apiaries and livestock. <p><i>There should be no “unknowns” or blanks in the database! Consistent & accurate recording is essential.</i></p> <ul style="list-style-type: none"> • Date and time and location of the bear. • Location (UTM preferred, address okay) as specific as possible. • Name of the neighbourhood. 	<p>COS MOE Victoria</p> <p>MOE Victoria Consultant Administrative Assistant or CO Consultant to determine appropriate data and pull down menu categories</p>

Section	Summary of Recommendations Pertaining to this Step	Responsibility
	<ul style="list-style-type: none"> • Age class and gender (destroyed bears). <p><i>Human-bear sightings or conflicts:</i></p> <ul style="list-style-type: none"> • Determine the validity of each human-bear sighting or conflict. • All human-bear conflicts must be recorded: <ul style="list-style-type: none"> i. Define the behaviour of the bear: <ul style="list-style-type: none"> • Offensive behaviour, or • Defensive behaviour. • Estimate any property damage. • Record the response of the COS: <ul style="list-style-type: none"> • No response, destruction, trap set bear caught or not caught, translocation, relocation, aversive conditioning, and the like. • Record the advice given (if applicable). • Keep a record of the calls that get passed along to Prince George from Victoria. • Add the gathering and recording of those data into the job description of the person taking the calls at the Call Centre in Victoria. • The database should be able to be updated using a central system so that any actions taken by the COS are recorded in a consistent fashion along the same row of data as the original call. 	
7.2	Future Research and Monitoring	
	<p><i>Bear Smart Research Project:</i></p> <ul style="list-style-type: none"> • Support the Urban Bear Smart Research program on radiocollared bears. <ul style="list-style-type: none"> • This should be a joint responsibility between a number of agencies and should also include support from commercial operations and developer as well as the City & District. 	City District Solid Waste COS Victoria COS City MOE Victoria MOE City
	<ul style="list-style-type: none"> • Develop a GIS bear habitat map at a fine scale (e.g., ~1:5,000 – 1:10,000). • Develop a GIS bear corridor & travel route map at a fine scale. • Identify critical corridors & travel routes. • Identify habitats of seasonal importance. • Overlay the habitat map with a human use layer that identifies existing and proposed developments. • Use the results of the research project combined with the COS Occurrence Reports to monitor this plan. 	

7.1 CONSERVATION OFFICER SERVICE – BEAR OCCURRENCE REPORTING DATABASE

The Bear Occurrence Reporting database is being used to identify problem neighbourhoods and the source of the problem(s) within the City and District; therefore the information contained within the database is extremely important to the management of problem bears and must be recorded in a consistent and standardized format. The number of bear occurrence reports, the location of reports, the season, the type of human-bear conflict or sighting, and the number of bears destroyed also allow for adaptive management techniques by identifying and prioritizing areas that require immediate attention. In addition, occurrence reports are currently the primary measure of success available to evaluate whether the Northern Bear Awareness's education program is being understood by the public. To date, the NBA society has hired students to sort through paper filing cabinets and enter those data into a database using MS Excel. In the hazard assessment results were used to determine cluster areas of occurrence reports and destructions and have been used in this report to identify chronic bear 'problem' neighbourhoods and formulate and prioritize management recommendations.

In the hazard assessment a number of problems were encountered with information contained within the Bear Occurrence reports. For example, there was a discrepancy between the COS criteria used to destroy a bear and results from summaries of the database, which suggest a problem with the way Bear Occurrence Reports are currently being recorded. The majority of bears destroyed were recorded as 'sightings' in the database whereas the COS states that a bear is not destroyed unless it is determined to be food conditioned or posing an immediate threat to human safety. In 2007, 52% of the calls to the centre did not contain information on an attractant type or if the bear was sighted. A large proportion of the not recorded occurrences as well as those recorded as "sightings" were believed by the COS to be wrongly recorded and may actually have been related to bears being attracted to available garbage (G. Van Spengen pers. comm.).

This database is extremely important to the management of bears by identifying cluster areas of reports and destructions, seasons when bear reports are highest, and directing where management efforts should be focused (e.g., garbage versus fruit trees versus trails). Once properly operational this database should serve as the required Bear Smart Human-Bear Conflict Monitoring System. It is recommended that the monitoring system be developed by a contractor specializing in problem bears and be maintained as a joint venture between the Provincial Call Centre in Victoria, the local COS and NBA.

The MOE in Victoria with support from the COS should provide funding for a contract to standardize the Bear Occurrence Reporting system. This will support the wealth of information that may be gained through consistent and structured use of such a system and aid in the development of a human-bear conflict monitoring system which is required under Bear Smart.

7.2 THE PRINCE GEORGE URBAN BEAR SMART RESEARCH PROJECT

The Prince George Urban Bear Smart Research began its year 1 pilot phase in 2009 and is proposed to run through 2013. In 2009, the Project was supported by a small grant from the Shell Environmental Fund submitted by NBA. The Project is a joint effort between NBA, the BC Ministry of Environment, and the Conservation Officer Service. Results of the research will

be used to further identify ways to reduce the number of bears destroyed and the potential for human-bear conflicts. The project aims to radiocollaring up to 20 bears with Global Positioning Collars (GPS) that have been caught in chronic problem bear neighbourhoods and are not deemed a threat to human safety. In 2009, 2 female black bears were radiocollared. The objectives of the project are to quantify the following factors and their influences on the development of ‘problem’ bear behaviour by:

- (1) Identifying movement and travel corridors around urban areas with focus on identifying ‘critical’ linkages;
- (2) Identifying movement in relationship to new developments in bear habitat;
- (3) Quantifying reproductive parameters; and,
- (4) Examining age specific mortality, particularly ‘problem’ bear mortality.

At this time, mapping bear habitat values is beyond the scope of the hazard assessment and this management Plan. The Urban Research Project will use data gathered on radiocollared bears to identify and map bear habitat and aims to:

1. Develop a GIS bear habitat map at a fine scale (e.g., ~1:5,000 – 1:10,000)
2. Develop a GIS bear corridor & travel route map at a fine scale
3. Identify critical corridors & travel routes.
4. Identify road crossings.
5. Identify habitats of seasonal importance.
6. Overlay the habitat map with a human use layer that identifies existing and proposed developments.

Developing an understanding of how bears move around and live adjacent to the City will be crucial to the development of sound land management practices consistent with bear conservation and the BC Bear Smart program. This is of particular importance as new developments expand further into bear habitat and current recommendations contained within this management plan are implemented. Therefore, in addition to the identification of critical habitats this research project also aims to provide an opportunity for adaptive management through the evaluation of implemented management recommendations and examination of the expected shifts in bear use of areas as the City and District become sanitized. For example, if breaks are made at trail heads that lead from larger green-spaces into chronic problem neighbourhoods the monitoring of radiocollared bears in those areas will allow for evaluation of the management technique employed. Success of the research project will be measured by the further development of reasonable, sound recommendations that will reduce the number of bears destroyed.

Continuation of the Prince George Urban Bear Smart Research is dependent upon funding and to date funding has not been secured for 2010 or beyond. If funding can be secured the project aims to deploy up to 20 GPS collars in 5 chronic bear ‘problem’ neighbourhoods beginning in 2010. The project will not continue if funding cannot be secured. The results of this project will benefit a number of agencies from Solid Waste Management, the Conservation Officer Service, as well establishments experiencing bear problems. As such, support for this project should come from a number of sources including the City and District.

8.0 INTERAGENCY COOPERATION

The management of problem bears requires education of the public to increase voluntary compliance, development and enforcement of bylaws and fines for those that do not voluntarily comply, issues of planning for developments that protrude into habitat with high bear values and also for landscape level planning regarding the maintenance of green-spaces and trail networks, through to research and monitoring. Therefore, a number of different disciplines and expertise are required to successfully carryout the Bear Smart program.

Since 1998, the Bear Smart initiatives in Prince George have been the result of urging by the Northern Bear Awareness Society (NBA). With aid from NBA the City installed bear-resistant garbage containers in 21 parks and green-spaces (38 Haul-Alls and 26 Sybertechs – not yet tested for bear resistant status). NBA also runs a yearly fruit exchange program and continuous extensive public outreach programs. NBA’s program is currently run by volunteers most of whom are also members of the Omineca Bear-Human Conflicts Committee (OBHCC). Although representatives from the City sit on the Omineca Bear-Human Conflicts board funding and support from the City and other local government agencies are largely lacking. With the exception of the Conservation Officer Service, Environmental Protection Division, there are no members from the Ministry of Environment (MOE) or Ministry of Forests (MOF) on the NBA Board or committee. Rather, funding for the continuation of the program has been secured since 1998 through grants written by a few of the OBHCC volunteers.

The Ministry of Forests in Prince George currently does not aid in the management of ‘problem’ bears or education of the public (G. Van Spagen pers. comm.). The Ministry of Environment’s Fish and Wildlife Department is only involved in cases where grizzly bears are being relocated primarily pertaining to selecting appropriate areas for realease (G. Van Spengen pers comm.). For the most part, MOE biologists do not play a role in black bear destructions, relocations or education of the public.

The success of the Bear Smart program and this management plan are dependent upon a number of agencies and organizations working together and forming alliances.

The management of problem bears requires specialization in a number of disciplines from City, development and park planning to the ecology and biology of bears; no one person, agency or non-governmental organization can implement all of the required 6 Bear Smart steps.

The following agencies, positions, and non-governmental organizations/individuals are recommended to work together to achieve Bear Smart status:

Bear Ecology and Behaviour: Specialist and Registered Professional Biologist.

City of Prince George: Director of Planning.
Development Services, Representatives from:
Building Permits
Current Planning and Developments
Environmental Manager
Parks and Solid Waste Services

	Engineer - evaluate select pilot projects in this document.
Education specialists:	√ School presentations and adult oriented messages.
Lawyer:	Bylaw development Issues related to due diligence and public safety Federal or Provincial Acts.
Northern Bear Awareness Society:	√ Board members
Ranching Association:	Representative for agricultural issues.
Regional District FFG:	General Manager of Environmental Services Environmental Leader Sustainable Development Representative.
Ministry of Environment:	Large Carnivore Biologist √ Conservation Officers
Ministry of Forests:	Wildlife biologist

Support may range from increased in-kind support to NBA, monetary support for the implementation of stated Bear Smart initiatives, and Board member or committee support for the NBA program. For example, an agency could lend an employee to aid with the dissemination of bear information, school presentations or to person the display booth at an event.

8.1 ADDITIONAL RESPONSIBILITIES OF THE CITY OF PRINCE GEORGE

On 29 June 2009, Mayor and Council passed a resolution for the City of Prince George to commit to achieving Provincial Bear Smart Status as put forward by B. Gaal, Superintendent of Operations, on behalf of NBA (Appendix 6). The resolution to achieve provincial Bear Smart status requires a commitment on the part of the City of Prince George where the City must lead by example, by taking such initiatives as implementing a bear-resistant municipal waste system, instituting bylaws, and ensuring continuous public education.

The 3rd step required to achieve Provincial Bear Smart Status (see Table 1) requires that the City “Revise planning and decision-making documents to be consistent with the human-bear conflict management plan.”

Only the City can achieve this step and all appropriate documents should be revised. Some of the documents will be required to be revised prior-to the implementation of the bear smart measure while others may occur concurrently with implementation of the management recommendations. For example, the *municipal waste collection agreement* and any other contracts/agreements must state prior to the signed contract that the waste collection contractor is required to empty bear resistant totes regardless of whether or not they are their standard company bins. Future development and planning documents must also be revised to include the recommended bear smart measures. It is recommended that the City consult with “a liability

expert” (McCrorry 2004) as these documents are being updated and recommendations are being implemented.

9.0 DISCUSSION

Prince George is situated within habitat rated as high for interior bears. Subdivisions and commercial developments are rapidly expanding into surrounding green-spaces. Green spaces, parks, and undeveloped tracts of land surround the City, provide food and cover for bears, and connect to a number of the human-use trail networks which allows animals that use these ‘natural’ areas to be filtered into residential neighbourhoods. Once in these neighbourhoods the abundance and variation of easily accessible non-natural anthropogenic food sources can hold bears in residential neighbourhoods, promote bears to return, and encourage the development of “problem” bear behaviour. The goals of this plan are to maintain in as natural a state as possible the natural population dynamics of bears, to promote and encourage ‘natural’ bear behaviour, and to dissuade non-natural behaviours that result from bears conditioned to human food and habituated to humans.

This human-bear conflict management plan focuses on bear smart steps 5 (Develop and maintain a bear-proof municipal solid waste management system) and 6 (Implement "Bear Smart" bylaws prohibiting the provision of food to bears as a result of intent, neglect, or irresponsible management of attractants). As such, it has been structured around four main themes: (1) restricting the availability of non-natural anthropogenic attractants to bears which requires education and enforcement; (2) managing and where applicable restructuring green-spaces, trail networks and existing developments to dissuade bears from entering; (3) pre-planning new developments; and, (4) monitoring for adaptive management. The most effective starting point for managing human-bear interactions is to restrict bear access to non-natural anthropogenic attractants from all sources (residential, commercial, industrial, institutional, etc.) within the City and RDFFG. Restricting access by bears to non-natural attractants requires people to change the way they manage bear attractants and therefore the City and District should lead by example.

Successful management of bear problems requires the management of people and their activities, particularly in regards to restricting the availability of anthropogenic attractants.

This Plan will be most effective if a number of the major recommendations from more than one section are implemented simultaneously. For example, changing public attitudes towards the management of attractants and ensuring compliance remains at a level to effectively reduce the creation of ‘problem’ bears requires education while the implementation and enforcement of bylaws are required to effectively deal with issues of non-compliance. The large tracks of green-spaces surrounding the City and the natural movements and dispersal of bears mean that bears will continue to utilize the City and District even when the best Bear Smart management practices are in place. Consistent monitoring is required to determine the most effective management recommendations and to continue to properly prioritize areas as sanitization of the City occurs. It is anticipated to take up to 5 years for the full implementation of this plan.

Reconfiguring green-spaces will encourage the spatial separation of bears and humans as much as is feasible for a City placed within prime bear habitat and movement areas. The NBA

promotes the tolerance of bears in natural areas within Prince George as long as those bears shy away from and avoid human contact and do not act aggressively towards people. The current lack of Bear Smart initiatives within the municipal solid waste system and development plans augment conflicts between humans and bears by promoting problem bear behaviour through the access to food wastes. Current developments, such as the Cowart-Malaspina Ridge developments fragment formerly contiguous habitat and the lack of consideration for bears within development plans means that once operational these subdivisions can anticipate a number of bear ‘problems’.

As sanitization of the City occurs some bears heavily conditioned to human food may need to be removed because it is possible that these bears may become bolder in their attempts to obtain non-natural attractants. This may result in a slight peak in the destruction of ‘problem’ animals which is acceptable as long as sanitization measures continue to occur. If non-natural attractants are not controlled continuing to remove ‘problem’ bears without addressing the source of the problem will simply continue to perpetuate the cycle of creating and destroying ‘problem’ animals.

As access to non-natural attractants are restricted and sanitization of the City occurs the spatial distribution of bear reports are expected to shift. Consistent and continuous monitoring of bear reports in the City and District is critical to minimize the potential for a human-bear conflict(s) and to reassess priority areas. The Conservation Officer Service must work with the City and Northern Bear Awareness to keep the City and District updated as these shifts occur. Management priority areas must be adaptive to these shifts so bear-resistant measures may be immediately implemented in the new ‘problem’ area.

This plan should receive periodic review and update as required.

This human-bear management plan should be viewed as a dynamic management tool that is subject to periodic review and updating as new situations arise. Successful implementation of this management plan requires a commitment by a number of stakeholders. The author of this plan specializes in bear ecology and behaviour; the City and/or Regional District should further consult with an engineer to evaluate recommendations as required. Further, a lawyer should be consulted for bylaw development and in regards to issues of appropriate public knowledge and due diligence. Recommendations within this Plan are aimed at reducing the development of problem bear behaviour, reducing the number of bears destroyed each year, and dissuading human-bear conflict. Proper and consistent implementations of these Bear Smart recommendations should reduce the need for reactive management of bears as well as reduce the amount of funds spent on property damage inflicted by bears, the Conservation Officer Service time in managing bear conflicts, and conflicts between humans and bears.

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10.1 PERSONAL COMMUNICATIONS

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Dolson, Sylvia. Executive Director of the Get Bear Smart Society. Whistler, BC. Web: <http://www.bearsmart.com>

Honeyman, Jay. Karelian Bear Shepherding Institute and UnBearAble Bins Cofounder. Bragg Creek, Alberta. Email: kbsic@telus.net.

McCrary, Wayne. McCrary Wildlife Services Ltd. New Denver, BC. Email: waynem@vws.org

McMillan, Crystal. Executive Director, Bear Smart BC Society. Phone: 250-266-(BEAR)-2327. Email: bearsmartbc@telus.net

Nahornoff, Sandra. Chair. of the Northern Bear Awareness Society, 1998-2009. Email: friend@northernbc.com

O'Neill, Amber BEd, BSc. Education Delivery Specialist for Northern Bear Awareness 2003-2005. Treasurer for 2009 Northern Bear Awareness Society, 2009.

Pissot, Jim. Defenders of Wildlife, Canada Field Office Representative. Email: jpissot@defenders.org

Radloff, Bob. General Manager, Development Services, City of Prince George. Phone: 250-561-7616. Email: BRadloff@city.pg.bc.ca. Personal Communications June 12, 2008.

Sowka, Patti. Testing program administrator and executive director of the Living with Wildlife Foundation. Interagency Grizzly Bear Committee Bear Resistant Container Testing Program.

10.2 PRODUCT INFORMATION

Bear Resistant Garbage, Compost Storage and Garbage Can Storage Option Containers:

BEAR-RESISTANT TESTING:

Interagency Grizzly Bear Committee. Various contacts are provided in the manual dependent upon area and type of product tested. Refer to: Bear resistant container testing program. USDA Forest Service, Intermountain Region. Ogden, UT. Montana, USA. Available from (December 22, 2008) <http://www.igbconline.org/html/container.html>

PRODUCTS (IN ALPHABETICAL ORDER):

Bear Necessities Waste and Food Storage Inc. Contact: Lori Hogarth, President. 210 Lady MacDonald Dr. Canmore, Alberta, Canada T1W 1H3. 403-678-6304; 403-451-1465 (fax); Email: info@bearbins.com Web: <http://www.bearbins.com/index.htm>

Bear Necessities has a polycart that is compatible with automated systems. They also would be "happy to discuss your special waste container needs."

Bear Saver: Bear Saver North American Sales. Phone: 800-851-3877. Fax: 909-605-7780. Web: <http://www.bearsaver.com/index.htm>

Haul-All Equipment Systems 1(888)428-5255 (USA & Canada); Fax 403-328-9956. Email: solutions@haulall.com; Web: <http://www.haulall.com/index.htm>

Lock Systems Inc: Critter Guard. Contact: Russ Roy, owner/operator. Email: rrenterprises@shaw.ca

Contact Lock Systems Inc. for up to date information on a latching system compatible with the automated garbage collection program

Margo Supplies Ltd. Electric fencing and other bear deterrent supplies. Phone: 403-652-1932. Fax: 403-652-3511. Email: infor@margosupplies.com <http://margosupplies.com/public/>

Sybertech Waste Reduction Ltd. 13698 Coldicutt Avenue. White Rock, British Columbia, Canada. V4B 3A9. Rob Mitchell, President. Phone: (604) 536-0624. Fax: (604) 536-0614. Cellular: (604) 808-4084. Toll Free: 1-888-888-7975. Email: rmitchell@swrl.com

TyeDee Bin TDB Industries. 126 Pratt Crescent, Gravenhurst, Onatrio P1P 1P5. Phone: 705-687-3835. Toll Free: 866-505-6460. Fax: 705-687-3183. E-mail: info@tyedeebin.com

UnBearAble Bins Inc. Box 1313, Bragg Creek, Alberta, TOL 0K0. Phone: 403-609-2242. Fax: 403-609-2280. Email: ubbins@telus.net

COMMERCIAL DUMPSTERS RETROFITS:

Bear Lock Bars: South East Disposal. Contact: Hal Anderson, owner/operator. Phone: 1-800-662-5744, email: hal@southeastdisposal.com

Signs for bear resistant containers:

Chromato label in Edmonton, Alberta. Contact: for discussions regarding the Fernie, BC, sign template Shawna D'haene <shawnad@chromato-label.com>.

11.0 APPENDICES:

Appendix 1. Example Bear Resistant Waste Containment Products & Latches

11-1. Critter Guard by Lock Systems Inc.

CRITTER GUARD



LOCK SYSTEMS INC.

Raccoons	BEARS	COYOTES
DOGS	CROWS	SEAGULLS

The Critter Guard Lock System has been proven "Bear Resistant" by bears!

When a Bear gets Garbage conditioned they will keep returning leaving a mess each time to clean up and increases the chances of a Human / Bear encounter

FACT: A lot of BEARS are killed each year because of Human Garbage

\$91.43 INSTALLED
including tax and at home service

Critter Guard Lock System
Keeping garbage IN and wildlife OUT!

APPROVED by the **B.C. Conservation Office** and The **LOCAL Bylaw Services**

To Order Please Call
604-892-7579

ENDORSED BY



Automated Latch System

Anticipated to be completed by the end of summer 2009, Lock Systems Inc. has developed a latching system that will be compatible with Prince George's automated garbage system.

The latch system will be adaptable to the current Critter Guard system or can be purchased separately.

Anticipated Cost of Automatic System:
The cost is expected to be comparable to the present system at approximately \$90.62

**Prices are flexible for bulk orders.*

The automatic latching system will be tested and obtain Bear Resistant approval in Canada and the US prior to being available for purchase.

Critter Guard provides a retrofit to the existing bins and does not provide the bin itself.

Personal Communications, Jan 12 & 15, 2008.

Appendix 1. Example Bear Resistant Waste Containment Products

11-II. Polycarts by BearSaver

BearSaver does not provide retrofits to existing bins. Costs are in US dollars and do not include shipping and handling.



909-605-1697
BEARSAVER.COM

**BEAR RESISTANT 32, 65
AND 95 GALLON ROLL-
OUT CARTS WITH THREE
LEVELS OF PROTECTION!**

The Grizzly Model - A fully secured cart offering the maximum level of protection. Bear-resistant latch, steel reinforced side rails, lid, back corners, back stiffener and handle.

The Black Bear Model - A tough bear-resistant cart offering a medium level of protection. Bear-Resistant latch, steel reinforced side rails and lid.

The Varmint Model - The economy version of our rolling cart family. Great protection from raccoons, squirrels, coyotes and all other small animals. A bear-resistant latch and steel reinforced lid offers "lock down" protection at an affordable price.



THE LATEST INNOVATION FROM BEARSAVER

-BEAR-RESISTANT RESIDENTIAL CARTS-

THE NEW 32, 65 AND 95 GALLON REFUSE CARTS FROM BEARSAVER HAVE FINALLY ARRIVED! AS THE LARGEST SUPPLIER OF BEAR-RESISTANT ENCLOSURES IN NORTH AMERICA, WE HAVE TAKEN THE NEXT STEP TO ADDRESS RESIDENTIAL BEAR ISSUES USING OUR YEARS OF EXPERIENCE DEALING WITH THESE LARGE HUNGRY ANIMALS.

DESIGNED SPECIFICALLY FOR MANUAL AND SEMI-AUTOMATED COLLECTION SYSTEMS, THESE CARTS WILL KEEP YOUR REFUSE SAFE AND SECURE IN ANY ENVIRONMENT AND CAN BE EASILY ADAPTED FOR AUTOMATED USE. WITH OUR UNIQUE PUSH-TO-CLOSE LATCHING SYSTEM, A FEATURE FOUND ON ALL BEARSAVER PRODUCTS, WE DON'T LEAVE IT UP TO THE HOMEOWNER TO REMEMBER TO RELATCH THE CONTAINER.

OUR 95 GALLON "GRIZZLY MODEL" PASSED AS "GRIZZLY BEAR RESISTANT" UNDER THE INTERAGENCY GRIZZLY BEAR COMMITTEE TESTING PROGRAM

- AVAILABLE IN 32, 65 AND 95 GALLON SIZES
- AVAILABLE IN THREE LEVELS OF PROTECTION
- SIMPLE UNLATCHING
- SNAP SHUT LID, NO MANUAL RELATCHING
- REINFORCED CART BODY
- DURABLE INJECTION MOLDED CONSTRUCTION
- EQUALLY SUITED FOR TRASH AND RECYCLING



BEARSAVER
1390 S. MILLIKEN AVENUE
ONTARIO, CALIFORNIA 91761
PHONE (909) 605-1697 FAX (909) 605-7780
WWW.BEARSAVER.COM SALES@BEARSAVER.COM

Tested by the Living With Wildlife Foundation at The Grizzly & Wolf Discovery Center, West Yellowstone, Montana

Appendix 1. Example Bear Resistant Waste Containment Products

11-III Residential Garbage Can Storage Options by BearSaver

Residential Solutions



BEARIER RCE SERIES RESIDENTIAL ENCLOSURES

Bearier RCE132F



Introducing The Bearier RCE Series

Our selection of bear-resistant residential can enclosures keeps with the BearSaver tradition of producing tough, long lasting outdoor equipment. The Bearier CE Series enclosures are manufactured to the same material and finish specifications as our other widely used and field tested commercial outdoor enclosures to provide years of trouble-free service...and they are economically priced.

Available in the following sizes:

- **Bearier RCE130F** Holds (1) 30-gallon Rubbermaid® can (included with purchase). This model has a slim profile and can be easily bolted side-by-side for added capacity.
- **Bearier RCE230F** Holds (2) 30-gallon Rubbermaid cans (included with purchase) and has a large top-loading lid.
- **Bearier RCE132F** Holds (1) standard 32-gallon can (not included) and can be bolted side-by-side for added capacity.
- **Bearier RCE168 and RCE195** Holds (1) 68-gallon and (1) 95-gallon poly cart respectively. Keeps a standard poly cart secure from bears.

All models have provisions to either bolt down to a slab or use the BearSaver pole mount installation method. See website for details.

Bearier RCE230F



Bearier RCE195



Bearier RCE130F



1390 S. Milliken Avenue
Ontario, California 91761
Phone (909) 605-1697 Fax (909) 605-7780
www.bearsaver.com sales@bearsaver.com

Appendix 1. Example Bear Resistant Waste Containment Products

11-IV. Residential Bear Resistant Garbage Can Storage Options by Bear Necessities Waste & Food Storage Inc

“We have not investigated interfacing with Heil. If the City is interested, and they would like to provide a contact name, we would be happy to either send a test unit to Heil or the City. They would have to either create an attachment that would go onto the arm which would engage our lock release OR send us the arm specs and let us do that work. The fact is, with the exception of a couple systems, we can make anything work to satisfy the customer.” (L. Hogarth, president).





- Certified Bear/Animal Resistant
- Light weight
- Economical
- Quality guarantee
- Patent pending self locking latch mechanism
- Interior Emergency Release
- 100% Compatible with Semi Automated Waste Transfer Vehicles
- 100% Canadian Product
(designed, fabricated & assembled in Canada/no imported parts or fees)

Product Specifications for THE Bin 120

HEIGHT	38" / 96.52 cm	LOAD	QUANTITY
CIRCUMFERENCE (TOP)	24" / 61 cm	LTL	8 units/ skid
(BOTTOM)	21" / 53 cm		
WEIGHT	30 lbs / 14.5 kg	Full Load	224 units / 28 skids
VOLUME	32 gallons / 120 liters		

Appendix 1. Example Bear Resistant Waste Containment Products

11-IV Residential Bear Resistant Garbage Can Storage Options by Unbearable Bins Inc

UnBearAble Bins

Residential bear-resistant garbage and food storage systems



-  Safely secures garbage, livestock and pet food from bears and other wildlife
-  Designed for residential homes, farms, and acreages
-  Perfect for homeowners without the storage capability for safely securing feed and garbage
-  A cost effective method for communities looking to bear-proof their Waste Management Programs
-  Easily rolled to different locations or curbside for pickup
-  Compatible with automated pickup systems (lid must be unlocked)
-  Tested on grizzly and black bears in Montana and Canada Passes the rigorous I.G.B.C. testing protocol



Prevent bears from being attracted to your home!

Owned and operated by staff working directly in the field of bear management in Canada and the U.S. for over 25 years!



Constructed of HDPE (Heavy-Duty Polyethylene) with steel reinforced locking lid and protected hinge

"Unsecured attractants are the single biggest factor for bears coming into conflict with humans"
 -Tim Manley, Grizzly Bear Management Specialist, Montana Fish, Wildlife, & Parks

Available in two sizes:
64 gallon ~ \$ 219.00*
 suitable for black bears
95 gallon ~ \$249.00*
 suitable for grizzly bears
 * Prices in Canadian Dollars



Why Bear-proof?

"There is a clear relationship between human injury and both black bears and grizzly bears that have become accustomed to foraging for people's food."
 -Dr. Stephen Herrera, Bear Biologist, author "Bear Attacks: Their Causes and Avoidance"



UnBearable Bins Inc.
 Box 1313, Bragg Creek
 Alberta, Canada T0L 0K0
 Ph. 403.609.2242-Fax 403.609.2280
 e-mail-ubbins@telus.net
www.unbearablebins.com

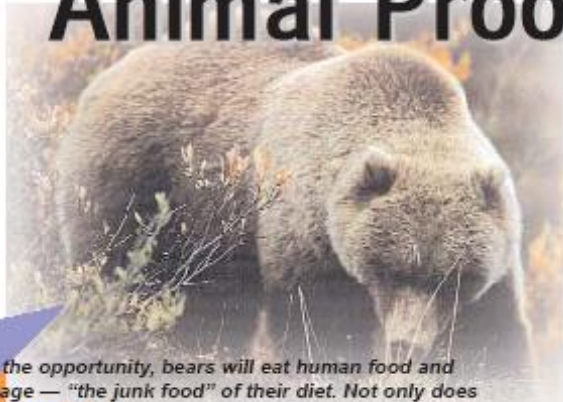
Help stop problem bears before they start!
 A portion of the proceeds of sales from UnBearAble Bins goes directly to supporting programs which minimize human-bear conflict

Appendix 1. Example Bear Resistant Waste Containment Products

11-VI Bear Resistant Garbage Can Storage Options by HaulAll

Animal Proof,

the Environmental Solution



Given the opportunity, bears will eat human food and garbage — “the junk food” of their diet. Not only does this disrupt the bears’ natural way of life, it also affects their health and our shared ecology.

At Haul-All, we recognize the importance of using animal proof waste management equipment in shared wilderness locations. We manufacture stand-alone and semi-automated containers that are proven to keep all animals out, thanks to our bear-proof latch and sturdy construction.

Haul-All manufactures the only animal proof containers with over 15 years of proven service in national, state and provincial parks as well as wilderness resorts and remote locations, with residential, commercial and industrial applications.

By managing our food and garbage, everyone benefits, including the bears.



Making communities, parks and wilderness locations safe for people and bears



Cost Efficient and Wildlife Friendly

Savings...

- Eliminates costs associated with managing wildlife related issues.
- Saves time by eliminating incident investigations and relocations.
- Saves money through cost efficient collection and by eliminating property damage.
- Saves lives of people and bears.

Durable...

- All of our animal proof containers are constructed using galvanized steel panels and stainless steel hinges to provide the most durable, rust resistant container on the market.

Aesthetic...

- Design compliments natural areas and allows placement in high profile locations.

Options...

- Containers range in size from 32 gallons (120 L) to 6 cubic yds (4.5 cu m).
- Food Storage lockers and recycling containers are also available.



Double Compartment Hid-A-Bag



Eliminates heavy lifting

- Servicing the Hid-A-Bag is easy. The slide-out design eliminates heavy lifting.
- Hid-A-Bags are securely mounted to a concrete base.



Services 6 cu yds in less than three minutes

- The self tipping Hyd-A-Way container allows collection of up to 6 cu yds (4.5 cu m) in less than three minutes.
- The container looks new after years of service thanks to a "no contact collection" method using hydraulic power from the collection vehicle.



Hid-A-Can

- Secure storage of two 36 gallon, (136 L) cans.
- Service door allows easy handling of bagged material.

Grizzly Bear photo by B.M. Wolitski,
Courtesy of Friends of Kananaskis Country
<http://www.kananaskis.org>



Distributor

Printed in Canada

Haul-All reaches you through a network of selected distributors whose integrity and product knowledge qualify them to assist you in the selection and planning of your solid waste and recycling equipment needs. HAUL-ALL, HID-A-BAG, HID-A-WAY and HID-A-CAN are registered trademarks.



Phone 888-428-5255
Fax (403) 328-9956

E-mail: sales@haulall.com
www.haulall.com

Hid-A-Can



Keeps animals out, garbage and odours in

The *Hid-A-Can* is the perfect solution for storing your garbage without the worry of attracting animals. By animal proofing our garbage, everyone benefits, including the wildlife.



CONSTRUCTION FEATURES

- Sturdy construction and bear proof latch eliminate animal access.
- 12 gauge, Galvanneal steel panels for strength and unmatched rust resistance.
- Powder paint provides unbeatable impact resistance.
- The finished size of 48 x 23 x 38 inches is perfect even in tight locations.
- An optional concrete mounting pad prevents the container from being tipped or moved.

OPERATIONAL FEATURES

- Secure storage of two 36 gallon, (136 L) barrels.
- Service door allows easy handling of bagged material.



- Available in a variety of colours to blend with neighbourhood aesthetics.

Making communities, parks and wilderness locations safe for people and bears.

Haul-All reaches you through a network of selected distributors whose integrity and product knowledge qualify them to assist you in the selection and planning of your solid waste and recycling equipment needs. HAUL-ALL and HID-A-CAN are registered trademarks.

Grizzly Bear photo by B.M. Wolbaki,
Courtesy of Friends of Kananaskis Country
<http://www.kananaskis.org>



Phone 888-428-6255
Fax (403) 328-9956

E-mail: sales@haulall.com
www.haulall.com



APPENDIX 2: COMMERCIAL GARBAGE CONTAINMENT

LIDS

The following commercial garbage bins have been retrofitted with metal lids and/or bear lock bars. Retrofitting the lids of existing containers appears to be the most cost effective way of making existing metal containers bear-resistant. BearSaver and Haul-All companies provide new bear-resistant commercial container if required.

I. CHAIN AND CRIMPED CARABINEER

This commercial garbage container is used in Fernie, BC. Bear-resistant features include a closed metal lid that is locked and secured with a carabineer. A “Be Bear Aware” sign also has been placed on the dumpster for increased user compliance (photo courtesy of K. Murray).



II. BEAR LOCK BAR

This commercial garbage container is used in Fernie, BC. The Bear Lock Bar holds the closed, metal lid in place so a bear can not open the container. The Bear Lock Bar is available from South East Disposal (photo courtesy of K. Murray).



APPENDIX 2: COMMERCIAL GARBAGE CONTAINMENT

III. SIGNS - Example Sign for Commercial Garbage Containment

Following is an example sign for bear-resistant garbage containers used in Fernie, BC. Signs were made by Chromato label in Edmonton, Alberta (sign courtesy of K. Murray). Bear Aware™ is the registered trademark of the BC Conservation Foundation. Similar signs could be developed using BC's Bear Smart program logo and/or Northern Bear Awareness logo and modified for Prince George.



APPENDIX 3: District of Ucluelet, Council Report
Communal Garbage Pilot Program Partnership

DISTRICT OF UCLUELET

COUNCIL REPORT

To: Mayor and Council

File No:

From: Felice Mazzoni, Director of Planning

Date: January 9th, 2008

Communal Garbage Pilot Program Partnership

▪ **Recommendations:**

1. That Council make a resolution to support the Pilot Program; and
2. That Council direct staff to pursue the necessary steps to make the proposed Pilot Program operable within existing municipal regulations.

▪ **Purpose:**

To enable a Communal Garbage Collection Pilot Project to take place in Ucluelet.

▪ **CAO Comments:**

I support the recommendation.

▪ **Background:**

Throughout 2007 the Pacific Rim Bear Smart Committee (PRBSC), along with the District Planning Department and developer Charles Smith of Weyerhaeuser, have looked at the opportunity of designing new subdivisions to be BearSmart.

The District of Ucluelet is currently working towards achieving BearSmart status from the Province by implementing changes to local bylaws and accepting recommendations presented in a recent Human-Bear Conflict Management Plan. It should be noted that this Pilot Project is greatly supported by the Ministry of Environment and will make Ucluelet the first municipality in BC to implement communal garbage collection to achieve an innovative solution for waste management, wildlife protection and public safety.

Communal garbage collection is currently being operated in the Town of Canmore, Alberta and can act as an excellent source of information as Ucluelet proceeds with exploring this opportunity. The "Canmore Experience" has implemented communal garbage collection into new developments and is currently assessing various neighbourhoods to gauge the possibility of transitioning from curbside collection to communal garbage collection. New developments are easier to implement this new method, because the residents are not present yet and will move into the

neighbourhood knowing that communal garbage collection is the chosen method. It should be noted that through discussion with Charles Smith and Judy Gray of Re-max, several prospective buyers for the OceanWest lots surrounding the two cul-de-sacs (see Schedule "A") have identified that they are very supportive of the idea of communal, bear-proof garbage management.

Details of Pilot Project:

The OceanWest pilot project area, as shown in Schedule "A", consists of two cul-de-sacs, each having one communal container located on the street as opposed to curbside residential garbage collection. It is planned that each 4 cubic yard communal container will service approximately 20 single-family households. Pacific Rim Bear Smart is pursuing various design features for the bins in order for them to be user friendly; while at the same time, making them aesthetically pleasing in order for them to fit within the surrounding landscape. It is likely that they will be similar in design to the smaller receptacles that District uses on Peninsula Road and at District Parks. The planning department envisions more single-family developments will also want to investigate the opportunity to pursue this innovative alternative and as a result, collectively lower the amount of human-bear conflicts and the number of bears being conditioned to human food waste and ultimately being destroyed.

Much of the work has already been completed to initiate this pilot. Pacific Rim Bear Smart Society, has secured \$10,000 from the Ministry of Environment, of which a portion of this money is to purchase two BearSaver containers for the OceanWest Development (refer to Schedule "B" for further details). Through negotiations between staff and the developer, an area has been designed into Weyerhaeuser's proposed subdivision plan to reserve a space for the container and complete preliminary site preparation for the first cul-de-sac (Road A & Road C on Schedule "A").

It is estimated that the pilot project will continue for a minimum of 3 years, unless specified otherwise. The Planning Department will measure community support for the communal garbage collection method during the OCP review, and therefore will be able to provide further information in the Fall 2008 regarding the level of acceptance from the community, as well as new residents of the subdivision. The PRBSC, in conjunction with District Bylaw Enforcement, will monitor the successes and challenges resulting from the pilot project and will give Council periodical updates. As for now, the Planning Department will continue to work with developers and PRBSC, to assess future subdivisions and identify any further developments that might be eligible to participate in the pilot program.

Felice Mazzoni, M.C.I.P.
Director of Planning

SUBDIVISION PLAN OF:
 LOT C, DISTRICT LOT 283,
 CLAYQUOT DISTRICT, PLAN VIP _____

BCGS 92C093
 SCALE 1:500
 All distances are in metres and decimals thereof.



PLAN VIP _____

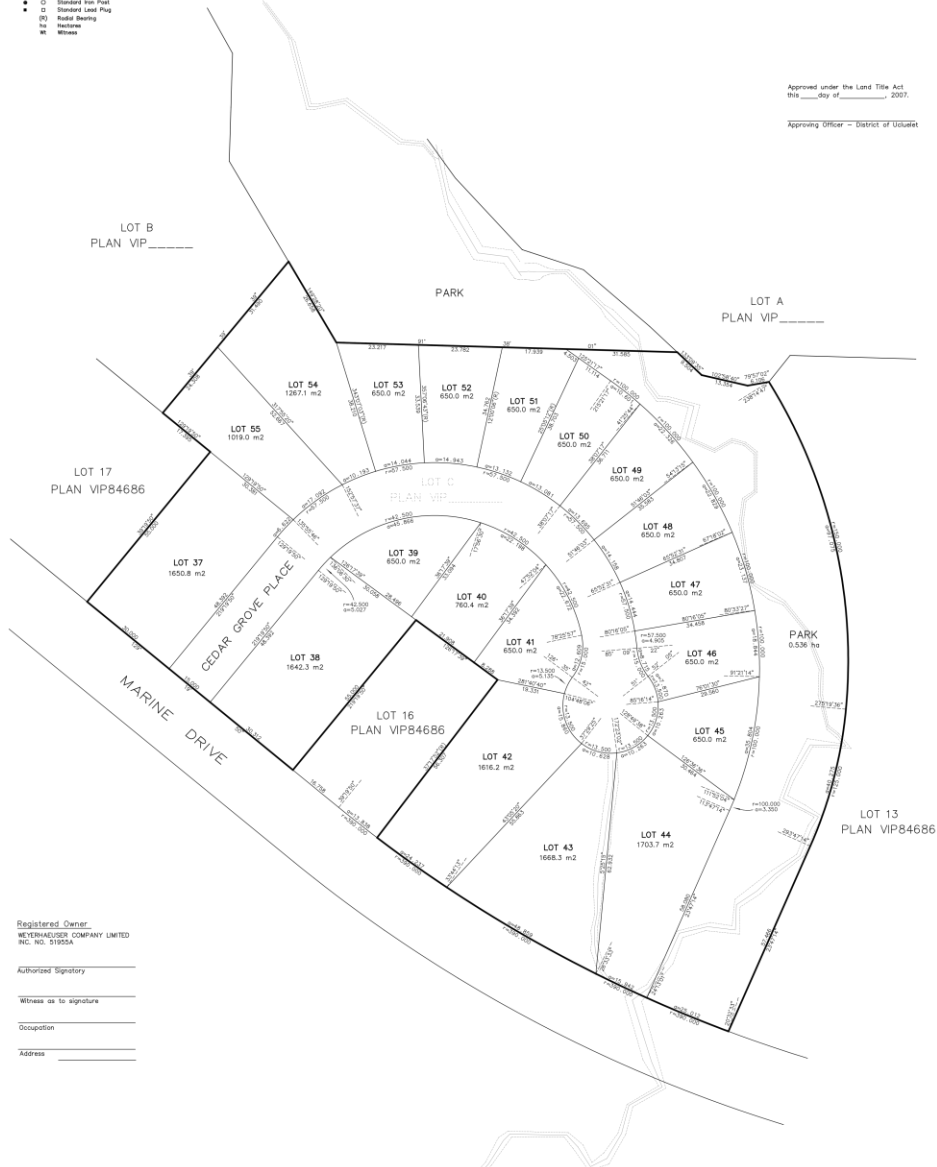
Deposited in the Land Title Office of Victoria,
 B.C., this _____ day of _____, 2008.

Registrar

LEGEND
 Grid bearings are derived from VPS4686
 Found Set Details
 ● Standard Iron Post
 ○ Standard Lead Plug
 (S) Sidel Bearing
 Hs Inclined
 Hs Offsets

Approved under the Land Title Act
 B.C., this _____ day of _____, 2007.

Approving Officer - District of Ucluelet



Registered Owner
 WEYERHAEUSER COMPANY LIMITED
 INC. NO. 51955A

Authorized Signatory _____

Witness as to signature _____

Occupation _____

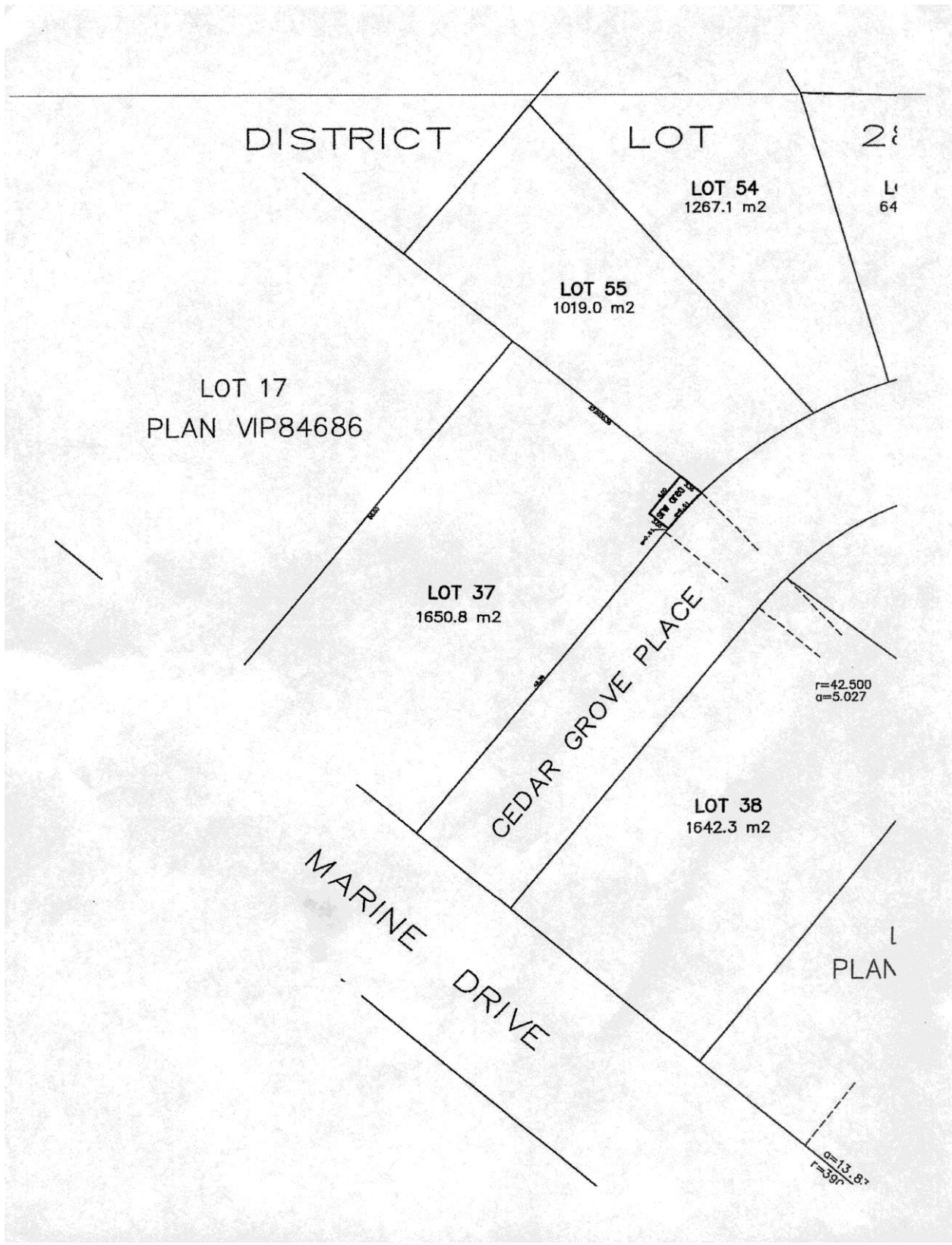
Address _____

File: 10025-CLAY
 POWELL & ASSOCIATES
 B.C. Land Surveyors
 250-2950 Douglas Street
 Victoria BC V8T 4M4
 phone (250) 382-8855

This plan lies within the
 Alberni-Clayoquot District

I, James Worton, a British Columbia Land Surveyor, of
 Victoria, in British Columbia, certify that I was present
 at and personally supervised the survey represented by
 this plan, and that the survey and plan are correct. The
 field survey was completed on the _____ day of _____, 2008.
 The plan was completed and checked, and the drawing
 filed under # _____ on the _____ day of _____, 2008.

James Worton, B.C.L.S.



**APPENDIX 4: TREES AND SHRUBS THAT HAVE A MODERATE TO HIGH & LOW
POTENTIAL OF ATTRACTING BEARS INTO THE CITY/NEIGHBOURHOODS**

The following lists were originally compiled by Laurie Bare, NBA Education Assistant, in August 2002, and submitted to the City of Prince George. They have been modified where necessary based on the author's knowledge and in personal communications with D. Wellwood. They are meant to be reviewed and updated as monitoring reveals.

3-I. Trees & Shrubs that have a moderate to high potential of attracting bears into the City, neighbourhood, park or green-space. These species are known to produce fruits or nuts attractive to bears.

<i>Latin Name</i>	<i>Common Names & some Cultivar Names</i>	<i>Comments</i>
<i>Aesculus glabra</i>	Ohio Buckeye	Requires monitoring to determine level of attractiveness to bears.
<i>Amelanchier alnifolia</i>	Saskatoon Berry	
<i>Arctostaphylos uva-ursi</i>	Kinnikinnik	
<i>Aronia melanocarpa</i>	Black Chokecherry Autum Magic Viking	
<i>Cornus alba 'sibirica'</i>	Siberian Dogwood Bud's Yellow Elegantissima Gouchaultii Ivory Halo Kesselringii Siberian Pearl Siberica Silver Variegated	<i>Dogwood is a major food item for northern bears and should not be planted within the City or District.</i>
<i>Cornus stolonifera</i>	Red-Osier Dogwood Cardinal Flaviramea Isanti Kelsayi Siver and Gold	
<i>Corylus cornuta</i>	Beaked Hazlenut	
<i>Cotoneaster integerrimus</i>	Cotoneaster	Requires monitoring to determine level of attractiveness to bears.
<i>Cotoneaster lucida</i>	Hedge Cotoneaster	Requires monitoring to determine level of attractiveness to bears.
<i>Crataegus douglasii</i>	Black Hawthorne	
<i>Crataegus mordensis</i>	Snowbird	Requires monitoring to determine level of attractiveness to bears.

	Toba	
<i>Elaeagnus angustifolia</i>	Russian Olive	
<i>Elaeagnus commutata</i>	Wolf Willow	
<i>Gaultheria procumbens</i>	Wintergreen	Requires monitoring to determine level of attractiveness to bears.
<i>Hippophae rhamnoides</i>	Sea Buckthorn	Requires monitoring to determine level of attractiveness to bears.
<i>Juglans cinerea</i>	Butternut	Requires monitoring to determine level of attractiveness to bears.
<i>Lonicera caerulea edulis</i>	Sweetberry Honeysuckle	
<i>Lonicera involucrata</i>	Black Twinberry	
<i>Lonicera maximowiczii</i>	Sakhalin Honeysuckle	
	Alberta Regal	
<i>Lonicera spinosa</i>	Honeysuckle	
<i>Lonicera tatarica</i>	Tatarian Honeysuckle	
	Arnolds Pink	
	Hack's Red	
<i>Lonicera x xylosteoides</i>	Clavey's Dwarf	
	Miniglobe	
<i>Mahonia aquifolium</i>	Oregon Grape	Requires monitoring to determine level of attractiveness to bears.
<i>Malus</i>	Siberian Crabapple	<i>Crabapples are major bear attractants. Even the ornamental varieties produce sizable fruits and should be avoided.</i>
	Dolgo	
	Pyramidalis	
	Rosthern	
<i>Malus x hybrid</i>	Ornamental Crabapple	
	Fuchsia Girl	
	Jan Kuperus	
	Makamik	
	Pink Spire	
	Radiant	
	Rosy Glo weeping	
	Royalty	
	Rudolph	
	Selkirk	
	Snowcap	
	Strathmore	
	Thunderchild	
<i>Oploplanax horridus</i>	Devil's club	
<i>Physocarpus opulifolius</i>	Nine Bark	Requires monitoring to determine the level of attractiveness to bears.
	Diabolo	
	Dart's Gold	

	Snowfall
<i>Prinsepia sinensis</i>	Cherry prinsepia
<i>Prunus</i> spp.	
<i>Prunus besseyi</i>	Sand Cherry
<i>Prunus x cistena</i>	Purple Leaf Sand Cherry
<i>Prunus maackii</i>	Amur Cherry
<i>Prunus nigra</i>	Princess Kay
<i>Prunus nigrella</i>	Muckle Plum
<i>Prunus padus commutata</i>	Mayday Tree
	Bronze
<i>Prunus pennsylvanica</i>	Pin Cherry
<i>Prunus tenella</i>	Russian Almond
<i>Prunus tomentosa</i>	Nanking Cherry
<i>Prunus triloba 'Multiplex'</i>	Double Flowering Plum
<i>Prunus virginiana</i>	Chokecherry
	Schubert
<i>Quercus macrocarpa</i>	Bur Oak
<i>Ribes alpinum</i>	Alpine Current
<i>Ribes lacustre</i>	Wild Black Current
<i>Rosa acicularis</i>	Prickly rose
<i>Rubus idaeus</i>	Wild red raspberry
<i>Rubus parviflorus</i>	Thimbleberry
<i>Sambucus caerulea</i>	Blue Elderberry
<i>Sambucus racemosa</i>	Elderberry
<i>Shepherdia argentea</i>	Silver Buffalo Berry
<i>Shepherdia canadensis</i>	Russet Buffalo Berry
<i>Sorbus americana</i>	American Mtn Ash
<i>Sorbus aucuparia</i>	European Mtn Ash
	Rossica
<i>Sorbus decora</i>	Showy Mountain Ash
<i>Sorbus reducta</i>	Dwarf Mountain Ash
<i>Sorbus scupulina</i>	Rocky Mountain Ash
<i>Sorbus sitchensis</i>	Sitka Mountain Ash
<i>Symphoricarpus albus</i>	Snowberry
<i>Symphoricarpus occidentalis</i>	Buckbrush
<i>Symphoricarpus orbiculatis</i>	Coralberry
<i>Vaccinium</i> spp.	
<i>Vaccinium alaskense</i>	Alaska Blueberry

All cherries are attractive to bears and it is possible some have been accidentally excluded from this list.

Bears fed on hips in fall, particularly after first frost.

Elderberry is a major food item for bears in the area and should not be planted.

Buffalo berry is a major food item for bears in the area and should not be planted.

Mountain ash trees are being planted in a diversionary feeding pilot program in Whistler because they provide a predictable fall bear fruit.

All Vacciniums are highly rated bear foods! They occur naturally in the City and District.

<i>Vaccinium caespitosum</i>	Dwarf blueberry
<i>Vaccinium membranaceum</i>	Black Huckleberry
<i>Vaccinium myrtilloides</i>	Canada Blueberry
<i>Vaccinium ovafolium</i>	Oval-leaved blueberry
<i>Vaccinium uliginosum</i>	Bog Blueberry
<i>Vaccinium vitis-idaea minor</i>	Dwarf Lingonberry
<i>Viburnum</i> spp.	
<i>Viburnum dentatum</i>	Arrowwood
<i>Viburnum edule</i>	Wild Cranberry
<i>Viburnum lantana</i>	Wayfaring Tree
	Mohican
<i>Viburnum lentago</i>	Nannyberry
<i>Viburnum opulus</i>	Compactum
	Nanum
<i>Viburnum opulus</i>	Roseum
	Snowball
<i>Viburnum trilobum</i>	American Cranberry
	Alfredo
	Bailey's Compact
	Wentworth

Fruit and Nut Trees

Species

Malus baccata
 Malus – Crabapple

Variety

Siberian Crabapple
 Columbia
 Dolgo
 Florence
 Osman
 Transcendent
 Virginia

Malus – Apple-crab

Kerr
 Renown
 Rescue
 Robin
 Rosilda
 Rosybrook
 Trailman

Malus – Apple

Battelford
 Goodland
 Haralson
 Harcourt

	Heyer #12
	McIntosh
	Norcue
	Norland
	Norlove
	Norson
	Patterson
	September Ruby
	Yellow Transparent
Prunus - Cherry	Evans
	Meteor
	Motmorency
Prunus - Cherry	Nanking
	Sandcherry
Prunus – Plum	Artic
	Assiniboine
	Brooked
	Fiebing
	Pembina
	Tecumseh
	Underwood
Prunus – Cherry-Plum	Dura
	Opata
Prunus – pincherry	P.pennsylvanica
Pyrus – Pear	Fedorovsk
	Golden Spice
	Petrovsk
	Pioneer
	Tate Dropomore
	Ure

3-II. Trees & Shrubs that have a Low Potential of Attracting Bears into the City, neighbourhood, park or green-space.

Trees and shrubs that have a lower potential for attracting bears generally do not bear fruits or nuts. The reader is cautioned that some of the foods on the low list are known bear food. For example, in spring black bears are known to climb aspen trees and feed on the emergent buds; however, these trees are still considered low bear attractants for residential neighbourhoods. This list is meant to be reviewed and updated as monitoring reveals.

<i>Latin Name</i>	<i>Common Names & some Cultivar Names</i>	<i>Comments</i>
<i>Abies balsamea</i>	Balsam Fir	
<i>Abies lasiocarpa</i>	Sub-Alpine Fir	
<i>Acer ginnala</i>	Amur Maple	
<i>Acer glabrum</i>	Douglas Maple	
<i>Acer negundo</i>	Manitoba Maple	
	Sensation	
<i>Acer platanoides</i>	Norway Maple	
<i>Acer tartaricum</i>	Tartarian Maple	
<i>Alnus viridis</i>	Green Alder	
<i>Betula glandulosa</i>	Dwarf Birch	<i>Bears are known to feed on emergent new leaf shoots in spring but overall use should be low.</i>
<i>Betula nana</i>	Arctic Birch	
<i>Betula papyrifera</i>	Paper Birch	
<i>Betula pendula</i>	European White Birch	
	Lacinata (leaf cut)	
	Purple Rain	
	Tristis	
	Trost's Dwarf	
	Youngii	
<i>Caragana arborescens</i>	Common Caragana	
	Fernleaf	
	Pendula	
<i>Caragana frutex</i>	Globe caragana	
<i>Caragana pygmaea</i>	Pygmy Peashrub	
	Western Virgin's Bower	
<i>Clematis ligusticifolia</i>	(vine)	
	Russian Virgin's Bower	
<i>Clematis tangutica</i>	(vine)	
	Virgins' Bower	
<i>Clematis vitalba</i>	(vine)	
	Prairie Travelers Joy	
<i>Clematis x vitalba</i>	(vine)	
<i>Cornus canadensis</i>	Bunchberry	
<i>Elaeagnus umbellata</i>	Autumn Olive	

<i>Euonymus alata</i>	Burninbush		
<i>Euonymus nanus</i>	Turkerstan dwarf		
<i>Fraxinus pennsylvanica</i>	Green Ash		
	Patmore		
<i>Halimodendron halodendren</i>	Salt Brush		
<i>Humulus lupulus</i>	Hops (vine)		
	Aureus (vine)		
<i>Hydrangea paniculata</i>	Pink Diamond		
<i>Juniperus communis</i>	Berkshire	<i>Bears have been recorded to eat Juniper berries but the potential for use is likely low.</i>	
	Compressa		
	Effusa		
	Hibernica		
	Prostrata		
	Repanda		
	Sentinel		
	Andorra		
	Bar Harbour		
	Blue Chip		
<i>Juniperus horizontalis</i>	Blue Rug (Wilton)	Requires monitoring to determine if bears would enter residential areas in spring to access this food source.	
	Douglasii		
	Emerald Spreader		
	Hughes		
	Icee Blue		
	Prince of Wales		
	Yukon Belle		
	<i>Juniperus sabina</i>		Savin Juniper
			Arcadia
			Blue Danube
Broadmoor			
Buffalo			
Calgary Carpet			
Moor-Dense			
New Blue Tam			
Skandia			
Tamarix (Tam)			
<i>Juniperus scopulorum</i>	Variegata		
	Rocky Mountain Juinper		
	Blue Heaven		
	Cologreen		
<i>Juniperus scopulorum</i>	Gray Gleam		
	Medora		
	Moonglow		

	Table Top
	Wichita Blue
<i>Larix deciduas</i>	European Larch
<i>Larix laricina</i>	Tamarack
<i>Larix sibirica</i>	Siberian Larch
<i>Microbiota decussata</i>	Russian Cypress
<i>Myrica gale</i>	Sweet Gale
<i>Paxistima canbyi</i>	Cliff Green
<i>Philadelphus x</i>	Mock Orange
	Galahad
<i>Philadelphus lewisii</i>	Waterton
<i>Philadelphus x</i>	
<i>virginialis</i>	Minnesota Snowflake
<i>Picea abies</i>	Norway Spruce
	Little Jems
	Nidiformis
	Ohlendorffi
<i>Picea engelmannii</i>	Engelman Spruce
<i>Picea glauca</i>	White Spruce
<i>Picea glauca conica</i>	Dwarf Alberta Spruce
<i>Picea glauca densata</i>	Dwarf Blue Spruce
<i>Picea pungens</i>	Colorado Blue Spruce
<i>Picea pungens f. glauca</i>	Colorado Blue Spruce
	Bakersii
	Globosa
	Hoopsii
	Koster
	Moorheimii
	Pendula
	Select Blue
<i>Pinus cembra</i>	Swiss Stone Pine
<i>Pinus contorta latifolia</i>	Lodgepole pine
<i>Pinus mugo</i>	Mugho Pine
<i>Pinus mugo mugus</i>	Dwarf Mugho Pine
	Pumilio
<i>Pinus mugo rostrata</i>	Mountain Pine
<i>Pinus ponderosa</i>	Ponderosa Pine
<i>Pinus pumila</i>	Dwarf Siberian Pine
<i>Pinus sibirica</i>	Siberian Pine
<i>Pinus sylverstris</i>	Scots pine
	Arctic
	Fastigiata

Populus spp.

Bears are known to feed on emergent new

<i>Populus x</i>	Assiniboine Brooks No. 6 Griffin	<i>leaf shoots in spring but overall use should be low.</i>
<i>Populus x acuminata</i>	Lanceleaf Poplar	
<i>Populus alba</i>	Raket	Requires monitoring to determine if bears would enter residential areas in spring to access this food source.
<i>Populus angustifolia</i>	Narrowleaf Poplar	
<i>Populus balsamifera</i>	Balsam Poplar	
<i>Populus canescens</i>	Tower	
<i>Populus x canadensis</i>	Prairie Sky	
<i>Populus x jackii</i>	Northwest	
<i>Populus nigra</i>	Italica (Lombardy)	
<i>Populus tremula</i> 'Erecta'	Swedish Columnar Aspen	
<i>Populus tremuloides</i>	Trembling Aspen	
<i>Populus trichocarpa</i>	Aspen	
<i>Potentilla fruticosa</i>	Abbotswoods Coronation Triumph Floppy Disk Gold Drop Goldfinger Gold Star Jackman Katherine Dykes Mango Tango Moonlight Orange Whisper Pink Beauty Red Ace Red Robin Snowbird Yellow Gem	
<i>Pseudotsuga menziesii</i>	Douglas Fir	
Rhododendron hybrids		
Northern Lights		
Azaleas:	Golden Lights Lemon Lights Mardarin Lights Northern Hi-Lights Orchid Lights Pink Lights	
Northern Lights		
Azaleas:	Rosy Lights Spicy White Lights	

<i>Salix</i> spp.		
<i>Salix alba vitellina</i>	Golden Willow	<i>Bears are known to feed on the catkins of willow species but overall their use is considered low.</i>
<i>Salix elaeagnos v. ros.</i>	Rosemary Willow	

“wildlife attractant” means any substance that could be reasonably expected to attract dangerous wildlife including but not limited to food products, domestic garbage, pet food, seed, restaurant grease, game meat, or glass or metal ware or other item having contained food.”

Additionally, the requirement to have wildlife attractants stored in a wildlife proof enclosure or wildlife resistant container has been removed, thereby eliminating the concern that the bylaw would place many Whistlerites in non-compliance but not be enforced.

Council identified that the bylaw clauses related to ticketing and fines required clarification. The order of the clauses has been changed to reflect the sequence of events that would take place. Clause 24 states that the bylaw may be enforced by means of a municipal ticket. The Municipal Ticket Information System fines range from \$200 to \$500, and can be delivered for every day of non-compliance with the Bylaw. Clause 25 states that each day that a violation continues is a separate offence. Clause 26 contains the provision that if a person continues to violate the Bylaw, Bylaw Services may take the case to a provincial court where, upon summary conviction, the person will be subject to a fine not less than \$2,000 and not more than \$10,000.00, or a term of imprisonment not exceeding three months, or both.

To accommodate this Bylaw, it is necessary to update the Municipal Ticket Information System schedules describing specific bylaw infractions to match the new garbage disposal bylaw regulations. This is done through Municipal Ticket Information System Implementation Bylaw No. 1883, 2008 that is attached to this report and describes the designated enforcement officers, new offences and fines (Appendix 2).

A third point was raised by Council regarding the \$500 fine for feeding dangerous wildlife. Council wondered if this fine was too low and asked staff to investigate the possibility of raising it. This particular clause is concurrent with the BC Wildlife Act which also specifies a \$500 for the same offence. It is staff's opinion that the RMOW Bylaw fine amount should not be higher than the provincial fine. Additionally, there is some discretion around setting fine amounts, and generally, Bylaw Services strives to set fines that send a strong deterrent message, but will still be paid.

The composter facility will begin operations later this year, and in anticipation of that, the proposed tipping fees for clean wood waste, organics and biosolids are included in the Solid Waste/Recycling Rate table, attached to this report as Schedule B. The tipping fees are based on information contained in the composter business plan. Comparisons were made to Kelowna, Vancouver and Nanaimo to assist in determining appropriate rates for the Whistler composter facility. Note that the organics tipping fee of \$75 per tonne is considerably less than the garbage tipping fee of \$120 per tonne, and acts as an encouragement to dispose of organics at the composter facility. A more detailed tipping fee report will come forward to Council in the future.

WHISTLER 2020 ANALYSIS

W2020 Strategy	TOWARD Descriptions of success that resolution moves us toward	Comments
Materials & Solid Waste	The resort community is clean and well maintained.	The revised Bylaw provides more tools to Bylaw Officers to proactively clean up garbage disposal problems, and to respond to garbage complaints.
Finance	Whistler lives within its financial means.	This initiative does not require capital or operational spending, and will likely reduce maintenance costs as human/bear conflicts at disposal sites decline.

W2020 Strategy	AWAY FROM Descriptions of success that resolution moves away from	Mitigation Strategies and Comments
	Resolution does not move away from any Descriptions of Success.	

OTHER POLICY CONSIDERATIONS

The RMOW is committed to achieving the Ministry of Environment’s Bear Smart Community status. One of the program’s six criteria is “implement "Bear Smart" bylaws prohibiting the provision of food to bears as a result of intent, neglect, or irresponsible management of attractants.” The revised Bylaw 1861, 2008, fulfills this requirement and moves the RMOW one step closer to becoming a Bear Smart community.

ENVIRONMENTAL IMPLICATIONS

The Bylaw will play a role in the overall program to reduce human/bear conflicts delivered in conjunction with the Whistler Bear Working Group. Other components of the program for which the RMOW is responsible include co-funding the Bear Response Officer, funding a Bear Aware Program Delivery Specialist to provide public education and support of the Bear Aversion Research Team.

BUDGET CONSIDERATIONS

There are no budget implications to this bylaw. Bylaw Services will continue its current level of service toward garbage management. The tipping fee schedule contains information that will be presented to Council in more detail before the composter begins operations later this year.

COMMUNITY ENGAGEMENT AND CONSULTATION

The RMOW continues to work with the Whistler Bear Working Group to stay current on human/bear conflict, waste management and other issues related to bears in the Whistler Valley. Since this is an incremental change to an existing bylaw, ads will be placed in the local newspapers articulating the new regulations particularly in regard to wildlife attractants.

SUMMARY

Council raised issues at the August 18, 2008 meeting that staff feel have been addressed in this iteration of the Bylaw in ways that enhance the Bylaw and meet the goal of providing Bylaw Services with a tool that will help reduce human/bear conflict in Whistler.

Respectfully submitted,

A handwritten signature in cursive script that reads "Hberesford".

Heather Beresford, Environmental Stewardship Manager
for
Brian Barnett
GENERAL MANAGER OF ENVIRONMENTAL SERVICES

RESORT MUNICIPALITY OF WHISTLER

GARBAGE DISPOSAL AND WILDLIFE ATTRACTANTS BYLAW NO. 1861, 2008

A BYLAW TO PROVIDE FOR THE DISPOSAL AND STORAGE OF GARBAGE AND CONTROL OF WILDLIFE ATTRACTANTS

The Council of the Resort Municipality of Whistler, in open meeting assembled, ENACTS AS FOLLOWS:

CITATION

1. This Bylaw may be cited as “Garbage Disposal and Wildlife Attractants Bylaw No. 1861, 2008”.

DEFINITIONS

2. In this Bylaw:

“agent” means a person authorized to act on behalf of an owner of a parcel in respect to the parcel;

“commercial garbage container” means a wildlife resistant container that is emptied by a garbage contractor and used to dispose of domestic garbage or waste or both;

“commercial recycling container” means a wildlife resistant container that is emptied by a garbage contractor and used to dispose of recyclable materials;

“dangerous wildlife” means bear, cougar, coyote or wolf, or a species of wildlife that is prescribed as dangerous under the *BC Wildlife Act*;

“domestic garbage” means all discarded matter resulting from residential activity, but does not include hazardous waste or waste from construction, utility, commercial or other non-residential activities;

“dwelling unit” means a self-contained set of habitable rooms in a building, including not more than one set of cooking facilities;

“garbage compactor” means a metal receptacle operated by or on behalf of the Municipality for the depositing and compacting of domestic garbage;

“garbage contractor” means a person that collects and disposes of garbage and carries out related duties;

“hazardous waste” means hazardous waste as defined in the British Columbia Hazardous Waste Regulations, B. C. Reg. 63/88, O.C. 268/88, as amended from time to time;

“highway” means every highway, road, street, lane or right of way designed or intended for or used by the general public for the passage of vehicles; and every private place or passageway to which the public, for the purpose of the parking or servicing of vehicles, has access or is invited;

“occupant” means a tenant or guest of or an invitee to premises in or on a parcel;

“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;

“recycling facility” means a municipal recycling facility, or a Municipal Waste Transfer Station;

“recyclable material” includes, but is not limited to, glass jars and bottles, tin and aluminium cans, plastic bottles, rigid plastic containers, plastic grocery bags, newsprint, mixed paper, and corrugated cardboard;

“waste” means garbage other than domestic garbage and hazardous waste, including that from utility, commercial, industrial or other non domestic activities, that could or does act as a wildlife attractant;

“wildlife attractant” means any substance that could be reasonably expected to attract dangerous wildlife including but not limited to food products, domestic garbage, pet food, seed, restaurant grease, game meat, or glass or metal ware or other item having contained food;

“wildlife resistant container” means a fully enclosed container with a sealed lid and a self-latching mechanism of sufficient design and strength to prevent access by dangerous wildlife, that is securely affixed to the ground or to an immovable object or fixture, and that is described in Schedule A;

“wildlife proof enclosure” means a structure which has enclosed sides, a roof, doors and a self-latching mechanism of sufficient design and strength to prevent access by dangerous wildlife, that is designed and constructed in accordance with the standards and specifications set out in RMOW Garbage Enclosure Guidelines.

STORAGE AND DISPOSAL

3. No person shall dispose of or store domestic garbage, waste, or recyclable material except into a container that is a wildlife resistant container or is located in a wildlife proof enclosure.
4. Garbage and recycling containers required for temporary special events, such as weekend ball tournaments, weddings, outdoor conventions, Mayor’s Picnic and Canada Day are exempt from the requirement under section 3 if emptied and removed from public access before 10:00 p.m.

5. No person shall dispose of domestic garbage or recyclable materials except into:
 - (a) a wildlife resistant container;
 - (b) a container in a wildlife proof enclosure;
 - (c) a garbage compactor; or
 - (d) subject to section 6, a recycling facility.
6. No person shall deposit anything but domestic garbage into a garbage compactor.
7. No person shall dispose of waste except to the Municipal Waste Transfer Station.
8. No person shall throw, place or pile, or cause to be thrown, placed or piled on a highway, or parcel, domestic garbage, waste, hazardous waste, recyclable materials or wildlife attractants.
9. No owner or occupier of a parcel shall place or have placed a wildlife resistant container or wildlife proof enclosure on or outside the boundary of their parcel.
10. No owner or occupier of a single family or duplex parcel shall place or have placed a commercial garbage container on the parcel unless approved in writing by the Resort Municipality of Whistler. The RMOW will consider such aspects as, but not be limited to, the siting of the bin in relation to parking and snowclearing, and visual effects from street and neighbouring properties.

RECYCLABLE MATERIALS

11. No owner, occupant or agent of an owner of a parcel that contains a commercial recycling container shall dispose of recyclable materials except in:
 - (a) the commercial recycling container; or
 - (b) at a recycling facility.
12. Every person must dispose of recyclable materials in accordance with this Bylaw and, without limitation, separately from domestic garbage, waste or hazardous waste.
13. No person shall deposit recyclable materials in a garbage compactor.

WILDLIFE PROOF CONTAINERS AND ENCLOSURES

14. Every person who owns, uses or possesses a wildlife resistant container or wildlife proof enclosure must keep it closed and secure, except at the time of deposit of permitted substances, and must maintain a wildlife resistant container in wildlife resistant condition at all times, and must maintain a wildlife proof enclosure in wildlife proof condition at all times.

15. No person shall leave garbage, waste, recyclable materials or other attractants outside a container or enclosure.
16. Every owner or occupier of a commercial, industrial, institutional and tourist accommodation building shall provide a garbage storage site located inside a building or within a wildlife proof enclosure. Single family and multiple family residential development having twelve or more dwelling units shall provide a garbage storage site located inside a building or within a wildlife proof enclosure or within a wildlife resistant container.

WILDLIFE ATTRACTANTS

17. No person shall store, handle or dispose of wildlife attractants in such a way that they are accessible to dangerous wildlife.
18. No person shall feed or attempt to feed dangerous wildlife, or deposit wildlife attractants in a place or manner that attracts dangerous wildlife.
19. No person shall place or allow a bird feeder on a parcel so that the bird feeder is accessible to dangerous wildlife. Every person who occupies a parcel must keep the area below a feeder free of the accumulation of seed and debris from the feeder at all times.
20. No owner or occupier of a parcel shall permit or allow fruit from a tree or bush on a parcel to accumulate on the tree, bush or ground such that it attracts or is likely to attract dangerous wildlife.
21. No person shall fail to take remedial action to avoid contact or conflict with dangerous wildlife after being advised by a designated bylaw enforcement officer that such action is necessary.

GARBAGE CONTRACTOR

22. The Municipality may recover the costs incurred for contracting with a garbage contractor for the collection and disposal of garbage from charges and tipping fee revenues received under this Bylaw.

FEES

23. Every person who delivers domestic garbage or waste to the Municipal Waste Transfer Station will be charged tipping fees as prescribed in Schedule B.

OFFENCE AND PENALTY

24. This Bylaw may be enforced by means of a municipal ticket in the form prescribed for the purpose of section 264 of the *Community Charter*.

25. Each day during which any violation, contravention or breach of this Bylaw continues shall be deemed a separate offence.
26. Every person who continues to violate any provision of this Bylaw, or who continues to permit, suffer or allow any act to be done in violation of any provision of this Bylaw, or who continues to neglect to do anything required to be done by any provision of this Bylaw, may have the case moved by Bylaw Services to a provincial court. Upon summary conviction by the court, the person is subject to a fine not less than \$2,000 and not more than \$10,000.00, or a term of imprisonment not exceeding three months, or both.
27. Pursuant to section 264(1)(b) of the *Community Charter*, Bylaw Enforcement Officers are designated to enforce this Bylaw.
28. Pursuant to section 264(1)(c) and section 265(1)(a) of the *Community Charter*, Bylaw 1883, 2008, Municipal Ticket Information System Implementation Bylaw Schedule B8 designates the offence committed, Bylaw section number and fine amount.
29. Council hereby delegates to Bylaw Enforcement Officers the authority to refer any disputed ticket informations, under this or any other bylaw, to the Provincial Court.

SEVERABILITY

30. If any section or lesser portion of this Bylaw is held to be invalid by a Court, the invalid portion shall be severed without affecting the validity of the remaining portions of this Bylaw.

REPEAL

31. The Resort Municipality of Whistler “Garbage Disposal Bylaw No. 1445, 1999”, as amended, is repealed.

GIVEN FIRST READING this ____ day of _____, 200_.

GIVEN SECOND READING this ____ day of _____, 200_.

GIVEN THIRD READING this ____ day of _____, 200_.

Approved by the Ministry of Environment on the _____ day of _____, 2008.

ADOPTED this ____ day of _____, 200_.

Ken Melamed, Mayor

Shannon Story, Corporate Officer

I HEREBY CERTIFY that this is a true copy of "Garbage Disposal and Wildlife Attractants Bylaw No. 1861, 2008"

Shannon Story, Corporate Officer

SCHEDULE A

APPROVED WILDLIFE RESISTANT CONTAINERS

RECOMMENDED PRODUCTS:

VENDOR	CONTACT INFORMATION	PRODUCTS
Bear Saver Crystal McMillan, BC Sales Rep	www.bearsaver.com Bearawareucluelet@ukeecable.net	<ul style="list-style-type: none"> • BearSaver RCE Series Refuse Enclosures • BearSaver CE Series Trash /Recycling Container • Commercial Containers • Animal Resistant Roll-Out Cart • BearSaver HA Series Trash/Recycling Container
Rollins Machinery Limited	www.rollinsmachinery.ca Langley, BC 604-533-0048 1-800-665-9060	<ul style="list-style-type: none"> • Haul-All Products for residential and commercial applications

Or alternative product that meets requirements of this bylaw.

SCHEDULE B

BYLAW NO. 1872, 2008

SOLID WASTE/RECYCLING RATES AMENDMENT

TYPE OF VEHICLE AND LOAD	TIPPING FEE
COMMERCIAL AND CONSTRUCTION VEHICLES with garbage, rubbish or refuse; plant and grass clippings; commercial waste; demolition and construction wastes; wood waste; discarded or abandoned vehicles or parts thereof; septage screenings; discarded home and industrial appliances.	\$ 120 per tonne
GYPSON BOARD drywall, must be kept separate from all other materials	\$ 200 per tonne
APPLIANCES including fridges, stoves, A/C units, hot water tanks, washers, dryers and freezers	\$ 15.00 per unit
TIRES	\$30.00 per m ³ \$ 7.50 for a commercial truck tire or \$ 3.50 for a car or pick-up truck tire \$ 3.50 surcharge for each tire with a rim
CARDBOARD PENALTY – This penalty applies to any load of waste containing more than 10% cardboard content	50% surcharge
RECYCLABLE MATERIALS – glass, tin, paper, etc. into bins at Transfer Station	FREE
CLEAN WOOD WASTE - Branches over 2" diameter; clean logs free of rocks; wood without nails, screws, glue, stain or chemical treatment; chipped tree trimmings; clean sawdust, shavings, chips or hogfuel	To be determined by RMOW General Manager Environmental Services based on current market rates.
BIOSOLIDS – solid waste from municipal wastewater treatment plants	\$110 per tonne
ORGANICS – food waste, yard waste, organics, etc	\$75 per tonne

RESORT MUNICIPALITY OF WHISTLER
MUNICIPAL TICKET INFORMATION SYSTEM IMPLEMENTATION
BYLAW No.1883, 2008

A BYLAW TO AMEND MUNICIPAL TICKET INFORMATION
SYSTEM IMPLEMENTATION BYLAW No 1719, 2005

WHEREAS Section 260 (1) of the *Community Charter* authorizes the Council of the Resort Municipality of Whistler to make bylaws for the purposes of enforcing the bylaws of the municipality;

AND WHEREAS Section 264 (1)(a) of the *Community Charter* authorizes the Council of the Resort Municipality of Whistler to designate a bylaw for the purposes of Part 8 Division 3 of the Community Charter;

AND WHEREAS the Council of the Resort Municipality of Whistler deems it expedient to authorize the use of Municipal Ticket Information for the enforcement of certain bylaws, to designate certain bylaw offenses and set certain fine amounts;

NOW THEREFORE the Council of the Resort Municipality of Whistler, in an open meeting assembled, **ENACTS AS FOLLOWS:**

- 1) This bylaw may be cited for all purposes as the "Municipal Ticket Information System Amendment Bylaw No.1883, 2008".
- 2) The Schedules to Municipal Ticket Information System Implementation Bylaw shall be amended as follows :
 - A. Schedule "A" is deleted and replaced with Schedule "A" attached to and forming part of this Bylaw.
 - B. Schedule "B8" is deleted and replaced with Schedule "B8" attached to and forming part of this Bylaw.

GIVEN FIRST, SECOND, AND THIRD READINGS this th day of , 2008.
ADOPTED by Council this day of 2008.

Ken Melamed
Mayor

Shannon Story
Corporate Officer

I HEREBY CERTIFY that this is
A true copy of the “Municipal Ticket Information System Implementation
Amendment Bylaw No. 1883, 2008”

Shannon Story
Corporate Officer

SCHEDULE A – ENFORCEMENT OFFICERS

Municipal Ticket Information System Bylaw No. 1719, 2005

COLUMN 1 Designated Bylaws	COLUMN 2 Designated Bylaw Enforcement Officer
“Building and Plumbing Regulation Bylaw No. 1617, 2002” as amended	Building Inspector Senior Building Inspector Plumbing Inspector Supervisor of Bylaw Services Bylaw Enforcement Officer
“Whistler Animal Control Bylaw No. 1555, 2001” as amended	Animal Control Officer Supervisor of Bylaw Services Bylaw Enforcement Officer Bear Response Officer
“Business License Bylaw No. 567, 1987” as amended	Supervisor of Bylaw Services Bylaw Enforcement Officer Business License Inspector
“Sign Bylaw No. 588, 1987” as amended	Bylaw Enforcement Officer Supervisor of Bylaw Services
“Noise Control Bylaw No. 1660, 2004” as amended	Supervisor of Bylaw Services Bylaw Enforcement Officer Royal Canadian Mounted Police Officer
“Fire Protection and Fireworks Bylaw No. 1595, 2004” as amended	Fire Chief Supervisor of Bylaw Services Assistant Fire Chief Fire Fighter/Inspector Bylaw Enforcement Officer
“Parks Bylaw No. 1526, 2002” as amended	Supervisor of Bylaw Services Bylaw Enforcement Officer Animal Control Officer Royal Canadian Mounted Police Officer
“Garbage Disposal and Wildlife Attractants Bylaw No., 1861, 2008”	Supervisor of Bylaw Services Bylaw Enforcement Officer Bear Response Officer Royal Canadian Mounted Police
“Property Maintenance Bylaw No. 810, 1990” as amended	Supervisor of Bylaw Services Bylaw Enforcement Officer
“Water Use Regulation Bylaw No. 1538, 2001” as amended	Supervisor of Bylaw Services Bylaw Enforcement Officer
“Skateboard and Bicycle Bylaw No. 933, 1992” as amended	Supervisor of Bylaw Services Bylaw Enforcement Officer Royal Canadian Mounted Police Officer
“Business Regulation Bylaw No. 739, 1989” as amended	Supervisor of Bylaw Services Bylaw Enforcement Officer
“Nuisance Bylaw No. 305, 1983” as amended	Supervisor of Bylaw Services Bylaw Enforcement Officer Royal Canadian Mounted Police Officer

SCHEDULE B8

Garbage Disposal Bylaw and Wildlife Attractants Bylaw No. 1861, 2008

DESIGNATED EXPRESSION	SECTION	FINE
Failure to properly dispose of or store domestic garbage, waste, recyclable material or wildlife attractant	3	\$200
Failure to remove non bear proof bins from event.	4	\$200
Deposit waste other than domestic garbage in compactor	6	\$200
Failure to dispose of waste at the Municipal Waste Transfer Station	7	\$200
Cause domestic garbage, waste, hazardous waste, recyclables or wildlife attractants to be on highway	8	\$200
Place wildlife resistant container or wildlife proof enclosure in unauthorized area	9	\$200
Commercial garbage container without approval	10	\$200
Failure to dispose of recyclable materials separately from domestic garbage, waste or hazardous waste	12	\$200
Deposit recyclable material in garbage compactor	13	\$200
Failure to keep wildlife resistant containers and enclosures secure and in good repair	14	\$200
Leave garbage, waste, recyclable material or attractant outside container or enclosure	15	\$200
Failure to provide wildlife resistant enclosure	16	\$500
Failure to properly store, handle and dispose of wildlife attractant	17	\$200
Feed dangerous wildlife	18	\$500
Allow fruit to accumulate	20	\$200

APPENDIX 5: BYLAWS

5-II. Garbage Disposal and Wildlife Attractant Bylaw for Kamloops, BC.

This is a consolidated by-law prepared by the City of Kamloops for convenience only. The City does not warrant that the information contained in this consolidation is current. It is the responsibility of the person using this consolidation to ensure that it accurately reflects current by-law provisions.

CITY OF KAMLOOPS BY-LAW NO. 40-7

AS AMENDED

A By-law of the City of Kamloops Relating to the Collection and Disposal of Garbage and Refuse

The Council of the City of Kamloops, in open meeting assembled, enacts as follows:

1. By-Law No. 40-1 and amendments thereto are hereby repealed;
2. Metric units are used for all measurements in this By-law. The approximate equivalent of those units in currently used units of Canada measure (feet, inches, etc.) are shown in brackets following each metric measurement and such bracketed figures are included for convenience only and do not form part of this By-law.
3. In this By-Law, unless the context otherwise requires:
 - (40-40) (a) **"Bear Attractants"** means any and all food wastes and accumulations of discarded fruit on public or private land, and includes offal.
 - (b) **"City"** means the City of Kamloops;
 - (40-41) (c) **"Designated Area"** means those areas identified, from time to time, by the Ministry of Environment, Lands and Parks and identified as Schedule "D" attached to this by-law, as areas common to bear sightings.
 - (d) **"Garbage Collection Area"** means the area shown on the drawing attached to this By-Law as Schedule 'A';
 - (e) **"Residential Dwelling Premise"** means the individual dwelling units within single family dwellings, duplexes, triplexes, fourplexes, and individually serviced units or apartments in condominiums.
 - (f) **"Residential, Multiple Family Dwelling Premises"** Residential, Multiple Family means a development where the building or buildings on a lot each are used for more than four (4) dwellings which are not individually serviced units.
 - (g) **"Commercial Premises"** means a building or self-contained part thereof, occupied and used for other than a dwelling, including but not restricted to warehouses, stores, eating places, wholesale or (40-10) retail business places and office blocks, packing houses, canneries, processing plants or manufacturing plants, hospitals, schools, institutions and churches.

- (40-16)
(40-18)
(40-31) (h) "Assistant Administrator/City Engineer" means the person appointed as such by the Council of the City and any person delegated to assist him in carrying out his duties under this by-law.
- (40-16) (i) "Garbage" means and includes any and all trade waste, ashes, household waste, discarded matter, rejected, abandoned or discarded waste or vegetable or animal food, floor sweepings, crockery, glass or metal ware having contained food, but does not include special waste or offal.
- (40-32) (j) "Rubbish" means garden refuse or rubbish if tied in suitable bundles weighing not more than 22.7 kg (50 lbs.) and includes grass, if placed in a standard or special container, and newspapers, reading material and magazines, if tied securely in bundles of not more than 22.7 kg (50 lbs.) but does not include waste or rubbish from renovating, remodelling or rebuilding, gases, liquids, slop, swill or manure, or petroleum products.
- (k) "Garbage Disposal" means the collection of garbage under the provisions of this By-Law;
- (l) "Inspector" means the Medical Health Officer or Health Inspector or any official appointed for the purpose of enforcing the provisions of this By-law;
- (m) "Owner" means the registered owner of any lands and premises situated within the garbage collection area and shall, where applicable, include the agent, heir, executor or administrator of such owner or the lessee or occupier of the premises;
- (40-32) (n) "Standard Garbage Container" (hereinafter referred to as "standard containers") means non-corrosive, durable receptacles fitted with secure handles and a water-tight cover, which receptacles shall be of a capacity of not more than 100 L (about 3.5 cu. ft.) and must not weigh more than 22.7 kg (50 lbs.) when full;
- "Plastic Garbage Containers" (hereinafter referred to as "approved plastic bags") shall be constructed of 1.5 mil. polyethylene, and shall have dimensions of 66 cm (about 26 inches) in diameter by 91 cm (about 36 inches) in height.
- (40-31) (o) "Special Containers" shall mean a specially designed receptacle of from 1900 L (about 2.5 cu. yds.) to 2700 L (about 3.5 cu. yds.) fitted with equipment that will allow the said receptacle to be dumped mechanically by a garbage truck. The design of these special containers must be approved by the Assistant Administrator/City Engineer. Such containers shall be stored on a hard surfaced pad acceptable to the City.

- (40-16) (p) "Special Pick-ups or Call-backs" are pick-ups or call-backs made in response to individual requests:
- (i) Garden refuse will be picked up at designated times of the year for a flat fee.
 - (ii) Special pick-ups or call-backs will be charged at regular rates.
 - (iii) A special service will be charged at actual cost.
- (40-16) (q) "Special Waste" means hazardous, inflammable, radioactive and toxic materials including all products not described in Section 3, Subsection (g) or as defined in the Waste Management Act S.B.C. 1982.
- (i) Special waste will not be deposited in a landfill without first notifying the City forty-eight (48) hours in advance. The City may require written documentation of the chemical composition or properties of the material. The dumper shall pay all costs associated with the disposal of special waste products and the City reserves the right to refuse any or all classes of special waste.
- (40-20) (r) "Universal Container" means a specially designed cart of not more than 500 L (0.6 cu. yds.) which is equipped with wheels and is suitable for such semi or fully mechanized lift systems in use by the City of Kamloops. The design of the cart must be approved by the Assistant Administrator/City Engineer.
- (40-31)
- (40-32) (s) "Garbage Tag" means a tag which must be placed on all standard containers, plastic bags or universal containers which exceed the quantity limits for garbage removal outlined in this by-law, with such tags being made available by the City of Kamloops for the fee set out in Schedule "B" attached to this by-law."
- (40-16) 4. (a) The City is authorized to establish, maintain and operate a system of garbage collection, removal and disposal, within the City, either by contract or by use of City-owned equipment and City labour, and such service shall be under the control and inspection of the Assistant Administrator/City Engineer.
- (40-18)
- (40-31)
- (b) The City is authorized to establish billing and collection systems under the control and inspection of the Director of Finance of the City.
- (c) The City is authorized to approve billing and collection systems employed by contractors, and such systems shall be inspected and approved by the Director of Finance.
- (40-15) (d) A charge shall be and is hereby imposed for the removal of garbage under the terms of this by-law and the rates therefor shall be those stated in Schedule "B" attached to and forming part of this by-law.
5. No person within the garbage collection area shall dispose of garbage, except in accordance with the provisions of this By-Law.

- (40-31) 6. (a) Every owner or occupier of premises within the garbage collection area shall provide and maintain in sanitary condition and in good order and repair, either standard, special, or universal containers or approved plastic bags sufficient in number at all times to contain all garbage. The City or its contractors shall not be responsible for the replacement of any standard, special or universal containers or lids damaged or lost for any reason whatsoever.
- (40-20) (aa) Notwithstanding the provisions of this by-law universal containers shall not be lifted, collected or emptied by the City of Kamloops in those areas of the City outlined in Schedule 'C' attached to and forming part of this by-law.
- (b) Such containers shall at all times be kept on the premises and shall at no time be kept or put or encroach upon or project over any street, lane or public place except when placed on such street or lane for the purpose of collection under this By-law;
- (40-40) No person or persons may accumulate, store or collect any bear attractants as defined in this by-law in such a manner as to promote an increase in bear activity, thereby creating a risk to the safety of the public in the neighbourhood or vicinity.
- (c) All standard containers shall be kept on the ground level or on a platform not more than 0.75 m (2.46 ft.) in height above ground and shall be readily accessible from the street, or lane abutting the premises;
- (40-20) (d) Standard, universal or special containers shall be kept and maintained at, and readily accessible for emptying between the hours of 7:00 A.M. and 7:00 P.M. on the day of collection;
- (40-41) No person in the designated area, shown outlined in Schedule "D" attached to this by-law, shall place any container containing bear attractants on any city street or boulevard prior to 6:00 a.m. of the collection day.
- (40-16) (e) For collection purposes, all containers must be placed next to the lane, on
(40-18) the boulevard or at a place designated by the Assistant Administrator/City
(40-31) Engineer.
- (f) If standard containers are enclosed in a structure, it shall be built with doors opening upon the pickup side so that the said containers may be readily removed.
- (g) Where arrangements have been made for on-site pickup, a passageway and ready means of access to standard or special containers on premises to which no lane has access shall, at all reasonable times be provided from the street, and such passageway means of access shall be unobstructed and of sufficient size and kind to enable any employee or contractor of the City to have access thereto.

- (40-32) (h) i) Residential dwelling premises shall be permitted to place out for collection a maximum weekly volume of garbage of 300 L (approx. 0.39 cu. yd.), being the equivalent of three standard containers or approved plastic bags. Each standard container or approved plastic bag must not weigh in excess of 22.7 kg (approximately 50 lb.) when full. Each universal container must not weigh in excess of 68 kg (approximately 150 lb.) when full.
- ii) Additional standard containers or approved plastic bags in excess of the quantity limits set out in clause (i) may be collected providing a garbage tag issued by the City is attached to each additional piece.
- (40-37) iii) Notwithstanding the quantity limits set out in clause (i), on the first collection only following December 25 of each year, residential dwelling premises shall be permitted to place out for collection an additional three standard containers or approved plastic bags."
- i) Multiple dwelling premises or commercial premises requiring removal of 1000 L (1.0 m³) (1.31 cu. yds.) or more of refuse per week must use special containers of approved design.
- (j) Hot ashes from incinerators or burning barrels, any liquid wastes, bulk chemical composition waste, animal cuttings or waste or dead animals will not be picked up.
- (k) Tree branches placed in approved universal containers must not be longer than two-thirds of the depth of the container.
- (l) Grass clippings, cold ashes and sawdust placed in universal containers must be bagged prior to being placed in the container.
- (40-19) 7. All standard, universal and special containers for garbage and any structure used as a cover for such containers shall, at all times, be kept in good repair, clean and accessible for inspection at all reasonable hours. When any standard or universal container has been condemned by the City, such container shall be removed by the owner of the premises who shall provide a suitable container in its place.
- (40-20)
- (40-20) 8. No liquids shall be put in or be allowed to accumulate in any standard, universal or special container and all containers shall be kept covered with watertight lids.
- (40-20) 9. All table and kitchen garbage and all wet garbage shall be enclosed in plastic bags before being placed within any standard, universal or special container.
- (40-20) 10. All solids, which might adhere to any standard, universal or special container, shall be separately wrapped or disposed of within individual disposable wrappings before being placed within the containers.

11. Ashes shall be placed in non-combustible standard or special containers and separate from other garbage or inflammable material.
12. No person shall place or mix, with any material for removal as garbage any explosive, volatile, corrosive materials, dangerous chemicals or any other material dangerous to the health and/or safety of the garbage collection personnel.
- (40-16) 13. The City reserves the right to require commercial premises, notwithstanding the
(40-31) amount of refuse, to use special containers if the garbage or refuse is determined by the Assistant Administrator/City Engineer to be a hazard or nuisance.
- (40-18) 14. The City reserves the right to refuse to remove all waste material which is not garbage, or refuse, as defined by this By-Law.
- (40-16) 15. Notwithstanding anything herein contained, all buildings, other than residential dwelling
(40-31) premises may use special containers and shall place them in such locations as approved by the Assistant Administrator/City Engineer.
- (40-18) 16. No garbage collector shall enter any building for the purpose of carrying out or
(40-20) returning thereto any standard, universal or special container, nor shall he demand or receive any gratuity, gift, payment or consideration for services rendered in connection with garbage collection beyond his regular remuneration.
17. a) The City reserves the right to control the type and nature of garbage and waste which is dumped at City Disposal sites.
- b) Commercial type waste materials shall not be deposited at the Bamhartvale Landfill.
- (40-22) c) No person shall remove or salvage any materials from the landfills at Mission Flats and Bamhartvale except by written permit authorized by the City of Kamloops and the person who has been issued a permit shall abide by all of the conditions of the permit.
- (40-25) d) No person shall deposit or discharge or allow or cause to be deposited or discharged any waste oil filters into the Mission Flats or Bamhartvale landfills.
- (40-19) 18. The City must suspend collection service or order collection service suspended from
(40-20) properties where the standard, universal or special containers or location or design or accessibility of pickup facilities are contrary to the provisions of this By-Law, but such suspension shall not waive any requirement, or abate or waive any charges or rates under the provisions of this By-Law.
- (40-10) 19. The applicant for commercial collection service shall be the registered owner of the property or the lessee, occupier or renter thereof.

20. Any person who violates any of the provisions of this By-Law, or who suffers or permits any act or thing to be done in contravention of any of the provisions of the By-Law, or who neglects to do or refrains from doing anything required to be done by any of the provisions of this By-law, shall be deemed to be guilty of an infraction hereof and liable to the penalties hereby imposed.
- (40-40) 21. Every person guilty of an infraction of this by-law shall be liable to a minimum penalty of One Hundred Dollars (\$100.00) and a maximum of Five Hundred Dollars (\$500.00), or upon summary conviction a maximum of Two Thousand Dollars (\$2,000.00) or six (6) months in jail, or both.

Original By-law No. 40-7	Adopted 1978 February 28
Amended by By-law No. 40-10	Adopted 1981 May 26
Amended by By-law No. 40-11	Adopted 1982 January 19
Amended by By-law No. 40-12	Adopted 1982 November 30
Amended by By-law No. 40-13	Adopted 1984 January 24
Amended by By-law No. 40-15	Adopted 1984 December 18
Amended by By-law No. 40-16	Adopted 1985 February 12
Amended by By-law No. 40-17	Adopted 1986 February 18
Amended by By-law No. 40-18	Adopted 1987 April 28
Amended by By-law No. 40-19	Adopted 1988 August 23
Amended by By-law No. 40-20	Adopted 1989 January 3
Amended by By-law No. 40-21	Adopted 1990 January 30
Amended by By-law No. 40-22	Adopted 1991 July 2
Amended by By-law No. 40-23	Adopted 1991 December 17
Amended by By-law No. 40-24	Adopted 1991 December 17
Amended by By-law No. 40-25	Adopted 1992 December 1
Amended by By-law No. 40-26	Adopted 1992 December 22
Amended by By-law No. 40-27	Adopted 1993 January 5
Amended by By-law No. 40-28	Adopted 1993 December 21
Amended by By-law No. 40-29	Adopted 1993 December 21
Amended by By-law No. 40-30	Adopted 1994 March 1
Amended by By-law No. 40-31	Adopted 1994 June 21
Amended by By-law No. 40-32	Adopted 1994 July 12
Amended by By-law No. 40-34	Adopted 1995 July 19
Amended by By-law No. 40-35	Adopted 1995 December 19 (effective 1996 January 2)
Amended by By-law No. 40-36	Adopted 1995 December 19 (effective 1996 February 1)
Amended by By-law No. 40-37	Adopted 1996 October 8
Amended by By-law No. 40-38	Adopted 1998 February 3
Amended by By-law No. 40-39	Adopted 1999 March 23
Amended by By-law No. 40-40	Adopted 2000 April 25
Amended by By-law No. 40-41	Adopted 2000 September 26
Amended by By-law No. 40-42	Adopted 2002 February 26 (effective 2002 April 1)

SCHEDULE 'B'

The following rates and penalties shall be paid for the removal of garbage under the terms of this By-Law 40-7 as amended from time to time:

	1. <u>A. Residential Premises</u>	
(40-37)	i) garbage or refuse (up to a maximum of three standard pieces or one universal container with the exception of the first collection day only after December 25 up to a maximum of six standard pieces or two universal containers" after the words "universal container)	no charge
	ii) garbage or refuse (over three standard pieces)	\$1.00 per tag per piece
	iii) garbage or refuse (additional universal containers)	3 x \$1.00 tags per universal container
	iv) garden refuse	\$45.00 per hour*
(40-35)	<u>B. Multiple Dwelling Premises</u>	
	i) 3-1/2 cu. yd. special container rental	\$20.20 per month
	ii) 3-1/2 cu. yd. once a week collection	no charge
	iii) 3-1/2 cu. yd. additional collection	\$8.00 per lift
	iv) 6 cu. yd. special container rental	\$26.80 per month
	v) 6 cu. yd. once a week collection	no charge
	vi) 6 cu. yd. additional collection	\$11.20 per lift*
(40-23)	<u>C. Commercial Premises</u>	
(40-35)	i) <u>Special Container</u>	
	- Special container rental, 3 ½ cu. yd.	\$28.40 per month
	- Plus lift charge, 3 ½ cu. yd	\$11.30 per lift
	- Special container rental, 6 cu. yd.	\$37.60 per month

SCHEDULE 'B' (CONTINUED)

- C. Commercial Premises (Continued)
- i) Special Container (Continued)
- Plus lift charge, 6 cu. yd. \$15.60 per lift*
- ii) Commercial Loose
- Collection Charge \$2.55 per minute
- (40-34) D. Landfill Disposal
- (40-36) i) Residential Users: \$5.00 per trip
- (40-38) ii) Commercial Solid Waste (effective 1996 February 1) \$33.00 per tonne
- (40-42) iii) Minimum Commercial Dump Charge \$2.00
- (40-30) E. Landfill Hours of Operation
- a) Mission Flats Landfill
- Summer Hours - April 1 to September 30
0800 hours to 2000 hours; and
- Winter Hours - October 1 to March 31
0800 hours to 1700 hours.
- b) Bamhartvale Landfill - Four Days per Week,
Friday to Monday inclusive
- Summer Hours - April 1 to September 30
0800 hours to 2000 hours; and
- Winter Hours - October 1 to March 31
0800 hours to 1700 hours.
- F. Sale of Compost
- The following payment schedule will apply to the purchase of compost from the Cinnamon Ridge Yard Waste Compost Facility:
- a) Loaded by the facility operator - \$20.00 per m³
- b) Standard garbage receptacle (can) approximately 100 L loaded by the purchaser - \$2.00.

SCHEDULE 'B' (CONTINUED)

2.
 - A. Any payment received shall be applied firstly to arrears, then to current charges.
 - B. All garbage collection recorded and invoiced with the quarterly billing for water and sewer shall be payable on or before the due dates of March 31, June 30, September 30 and December 31.
 - C. Current quarter rates paid on or before the due dates shall qualify for a discount equal to ten percent (10%) of the current quarter amount due.
 - D. Payments are first applied to the oldest balance. Any current quarter balance remaining unpaid shall result in loss of the discount.
 - E. Non-receipt of a quarterly billing does not relieve the customer from payment for the services received.
 - F. All charges created by a lessee/occupier/renter which are self-creating against the business and/or person and not attributable to the registered owner and/or property shall be recorded and invoiced through the Accounts Receivable system of the City.

Accounts paid within thirty (30) days from invoice date shall qualify for a ten percent (10%) discount. Payments received after this time period shall disqualify the customer from receiving a discount.

Charges imposed and unpaid, in this section, after forty-five (45) days from invoice date will result in discontinued service without due notice being rendered.

In this section, any charges unpaid after sixty (60) days shall be a debt due to the City recoverable by action in any Court of competent jurisdiction.

APPENDIX 5: BYLAWS

5-III. Garbage Disposal and Wildlife Attractant Bylaw for Canmore, Alberta

TOWN OF CANMORE

BYLAW 09-2001

PROVINCE OF ALBERTA

BEING A BYLAW TO REGULATE THE COLLECTION AND DISPOSAL OF WASTE WITHIN THE TOWN OF CANMORE, IN THE PROVINCE OF ALBERTA

- WHEREAS** Under the authority of Section 7 of the *Municipal Government Act*, being Chapter M-26.1 of the Statutes of Alberta 1994 as amended, a Council may pass Bylaws to establish and maintain a system for the collection, removal, and disposal of Waste throughout the municipality;
- WHEREAS** The Municipal Council for the Town of Canmore recognizes the importance of and encourages an animal proof waste handling system, waste reduction and recycling while also supporting the concept of a user-pay system for waste disposal;
- WHEREAS** The Municipal Council for the Town of Canmore repeals the Waste Control Bylaw 12-97;
- NOW THEREFORE** The Municipal Council for the Town of Canmore in the Province of Alberta, duly assembled, hereby enacts as follows:

Part 1: Title and Application

- 1.1 This Bylaw shall be known as the "Waste Control Bylaw" for the Town of Canmore.
- 1.2 The system for collection, removal and disposal of Ashes, Waste, Commercial Waste, Construction, Renovation and Demolition Waste, Dangerous Goods and Recyclable Material generated within the corporate limits of the Town of Canmore shall be operated in the manner herein set forth.
- 1.3 The Town shall own and have sole right to collect and dispose or to contract the collection and disposal of all Waste collected from Residential Dwelling Units and Multi-Residential Dwelling Units in the Town pursuant to provisions of this Bylaw.

Part 2: Definitions

In this Bylaw, unless the context otherwise requires;

- 2.1 "Animal Attractant" means foodstuff or bait of any kind excluding Birdseed but including suet balls for the purposes of feeding any and all species of animal.
- 2.2 "Animal Proof Waste Container" means a receptacle for disposing of residential Waste or Commercial Waste constructed of metal and designed to be collected by automated means, and which meets the specifications for an animal proof waste container as outlined in Schedule 'B' hereto.
- 2.3 "Approved Storage Location" means a location within a Residential Unit, or a Multi-Residential Dwelling Unit, or a Commercial Premise, or any accessory structure that is deemed to be animal proof by the Engineering Design Standards or Director.
- 2.4 "Ashes" means the residue and cinders from any combustible material used for fuel.

- 2.5 **"Birdseed"** means a mixture of seed for the purpose of attracting and feeding birds.
- 2.6 **"Cardboard"** means a three layer corrugated fibre packaging. Examples include moving and shoe boxes.
- 2.7 **"Commercial Premises"** means a building, structure or premises used for the conduct of some profession, business, manufacturing process or other undertaking, and which includes; any institutional, industrial, commercial, restaurant and retail premises, a Residential Dwelling Unit or units if attached and includes areas designated as a Mobile Home Park in accordance with the Land Use Bylaw.
- 2.8 **"Commercial Unit"** means one self-contained working space having any or all of the following amenities; a separate entrance, office space, bay / work area, receiving and shipping area, washroom, kitchen and common area in a Commercial Premise or complex.
- 2.9 **"Commercial Waste"** means Waste that would normally be generated and discarded from a Commercial Premises or Residential Dwelling Unit located above or attached to a Commercial Premises, or any other place of business, and which is not acceptable for disposal at a Dry Waste Landfill Site.
- 2.10 **"Commission"** means the Bow Valley Waste Management Commission.
- 2.11 **"Composter"** means a plastic, metal or wooden structure for the purpose of composting organic material such as but not limited to Kitchen Organic Waste or Leaf and Yard Waste.
- 2.12 **"Construction, Renovation And Demolition Waste"** means all waste produced in the process of constructing, altering, renovating, repairing, or demolishing a building; including earth, vegetation, and rock displaced during the process of building, all of which is acceptable for disposal at a Dry Waste Landfill Site.
- 2.13 **"Dangerous Goods"** mean Dangerous Goods as defined in the Transportation of Dangerous Goods Act and its regulations.
- 2.14 **"Director"** means the Director of Environmental Services for the Town of Canmore or their designate.
- 2.15 **"Dry Waste Landfill Site"** means a Class III Landfill Site, maintained and operated by the Commission in accordance with applicable provincial legislation, for the disposal and burial of Construction, Renovation and Demolition Waste and other acceptable materials as defined by the Commission and the province.
- 2.16 **"Engineering Design Standards"** means the Town of Canmore's Engineering Design Standard as amended from time to time.
- 2.17 **"Kitchen Organic Waste"** means organic food waste generated in the kitchen of a Residential Unit, Multi-Residential Unit or Commercial Premises and includes but is not limited to fruit and vegetable peelings, table scraps, coffee grounds, egg shells, meat bones, etc.
- 2.18 **"Land Use Bylaw"** means the Town of Canmore's Land Use Bylaw as amended from time to time.
- 2.19 **"Multi-Residential Dwelling Unit"** means an apartment building, townhouse or condominium complex which contains five or more self contained Residential Dwelling Units each

having sleeping, cooking and bathroom facilities.

- 2.20 “**Occupancy Certificate**” means a certificate issued by the Town that certifies that the property/building/development is ready to be occupied, and complies with the necessary provisions of the Safety Codes Act, and the Land Use Bylaw.
- 2.21 “**Occupant**” means any Person occupying a Residential Unit, Multi-Residential Dwelling Unit or Commercial Unit whether they are in fact the Owner, renter, tenant or lessee of the dwelling unit.
- 2.22 “**Owner**” means any Person holding title to a property and includes the Person managing or receiving the rent for a property on behalf of the property Owner.
- 2.23 “**Peace Officer**” means:
- 2.23.1 A Bylaw Enforcement Officer appointed by the Town pursuant to the *Municipal Government Act*,
 - 2.23.2 A Special Constable appointed pursuant to the Police Act,
 - 2.23.3 A Provincial Fish and Wildlife Officer,
 - 2.23.4 A member of the Royal Canadian Mounted Police.
- 2.24 “**Pedestrian Waste Container**” means a receptacle for the disposal of Pedestrian Waste constructed of metal and designed to be serviced by manual means, and which meets the specifications for an Animal Proof Waste Container as outlined in Schedule ‘B’ attached hereto.
- 2.25 “**Pedestrian Waste / Returnable Container**” means a receptacle with a partition separating sections for Pedestrian Waste and refundable containers as defined by the Alberta Bottle Depot Association and constructed of metal and designed to be serviced by manual means, and which meets the specifications for an Animal Proof Waste Container as outlined in Schedule ‘B’ hereto.
- 2.26 “**Pedestrian Waste**” means waste that is generated by pedestrian traffic on streets, walkways, parks and trails and includes but is not limited food wrappers, fruit cores, peels, and domestic animal waste, etc.
- 2.27 “**Person**” means any individual, Occupant, firm, partnership, association, corporation, company or organization of any kind.
- 2.28 “**Prohibited Waste**” means all Waste listed in Part 8: Prohibited Waste and herein defined.
- 2.29 “**Recycling Container**” means a container for the exclusive use and collection of Recyclable Material.
- 2.30 “**Recyclable Material**” means materials that are acceptable for recycling in the Town as set out in Schedule ‘C’ hereto.
- 2.31 “**Residential Dwelling Unit**” means a single detached dwelling unit and a self-contained dwelling unit in a duplex, triplex, or four-plex.
- 2.32 “**Street**” means public thoroughfares within the Town and includes; the sidewalks and borders of the Street and all portions thereof appearing in any registered plan pursuant to the Land Titles Act, or any private roadway on any bareland condominium site.

- 2.33 **“Summons”** means a Summons pursuant to Part 2 of the Provincial Offenses Procedure Act.
- 2.34 **“Town”** means the Municipal Corporation of the Town of Canmore, or the area contained within the boundaries thereof, as the context requires.
- 2.35 **“Toxic Round Up”** means a Town sponsored event for the collection of Dangerous Goods from Residential Dwelling Units and / or Commercial Premises.
- 2.36 **“Waste”** means the solid waste stream that would normally be generated and discarded as refuse from a Residential Dwelling Unit, or a Multi-Residential Dwelling Unit, and which includes; Kitchen Organic Waste, paper, plastics, Ashes, Yard Waste, broken dishes, edible food goods and other such material, but excludes; Construction, Renovation and Demolition Waste, Commercial Waste, and Dangerous Goods.
- 2.37 **“Waste Collectors”** means a public or private organization contracted to collect, transfer and dispose of Waste, Commercial Waste and Recyclable Material.
- 2.38 **“Waste Transfer Station”** means an enclosed building designed and constructed as per applicable legislation to transfer Waste and Commercial Waste to an approved Waste disposal site.
- 2.39 **“Yard Waste”** means the organic matter formed as a result of gardening or horticultural pursuits, and includes but is not limited to grass clippings, leaves, tree and hedge cuttings.

Part 3: Storage And Disposal Of Waste From Residential Dwelling Units

- 3.1 Occupants of Residential Dwelling Units shall deposit Waste into the Animal Proof Waste Container provided for that purpose.
- 3.2 Occupants of Residential Dwelling Units shall ensure Waste is stored in an Approved Storage Location at all times other than when the Waste is being transferred to an Animal Proof Waste Container.
- 3.3 Animal Proof Waste Containers shall be emptied by the Town or their designate on an as required basis.
- 3.4 Occupants of Residential Units are liable for service fees as identified in Schedule 'A' from the date of issuance of an Occupancy Certificate.
- 3.5 Waste deposited in an Animal Proof Waste Container, shall be sufficiently contained within a plastic bag so as to prevent the Waste from being scattered loosely into the container.

Part 4: Storage And Disposal Of Waste From Multi-Residential Dwelling Units

- 4.1 Occupants of Multi-Residential Dwelling Units shall deposit Waste into the Animal Proof Waste Container or approved alternative provided for that purpose.
- 4.2 Occupants of Multi-Residential Dwelling Units shall ensure Waste is stored in an Approved Storage Location at all times other than when the Waste is being transferred to the Animal Proof Waste Container or approved alternative.

- 4.3 Animal Proof Waste Containers shall be emptied by the Town or their designate on an as required basis.
- 4.4 Occupants of Multi-Residential Units are liable for service fees as identified in Schedule 'A' from the date of issuance of an Occupancy Certificate.
- 4.5 Waste deposited in an Animal Proof Waste Container, shall be sufficiently contained within a plastic bag so as to prevent the Waste from being scattered loosely into the container.
- 4.6 The coordination for removal and costs associated with the disposal of Waste or Prohibited Waste deposited inside and / or outside an Animal Proof Waste Container or approved alternative located at a Multi-Residential Unit complex shall be the responsibility of the association representing the Multi-Residential Dwelling Units.
- 4.7 A minimum distance of four (4) metres in front and three (3) metres on both sides of the Animal Proof Waste Containers or approved alternative, shall be kept free of all obstructions and liabilities including but limited not to vehicles, lawn care equipment, snow and ice.

Part 5: Storage And Disposal Of Commercial Waste From Commercial Premises

- 5.1 Owners of Commercial Premises are responsible for contracting with private firms or individuals for removal of Commercial Waste from their premises.
- 5.2 Owners of Commercial Premises are responsible for all maintenance and upkeep of Animal Proof Waste Containers, Recycling Containers and Commercial Waste containers located in an Approved Storage Location on their premises.
- 5.3 Occupants of Commercial Premises shall deposit Commercial Waste into an Animal Proof Waste Container or Commercial Waste container located in an Approved Storage Location provided for that purpose.
- 5.4 Occupants, Owners and worker(s) of Commercial Premises shall ensure Commercial Waste is stored in an Approved Storage Location at all times other than when the Commercial Waste is being transferred to the Animal Proof Waste Container or Commercial Waste container located in an Approved Storage Location.
- 5.5 Owners of Commercial Premises shall ensure the schedule for removal of Commercial Waste shall be of an appropriate frequency such that said material does not overflow or accumulate beside the Animal Proof Waste Container or Commercial Waste container located in an Approved Storage Location.
- 5.6 Owners of Commercial Premises shall ensure the schedule for removal of Recyclable Materials shall be of an appropriate frequency such that said material does not overflow or accumulate beside the Recycling Container provided for that purposes.
- 5.7 Owners of Commercial Premises are responsible for clean up and removal of litter or debris from their property that may have spilled out of an Animal Proof Waste Container, Commercial Waste container located in an Approved Storage Location or a Recycling Container during the filling or emptying process.

Part 6: Pedestrian Waste Collection

- 6.1 Pedestrian Waste Containers shall be for the sole purpose of Pedestrian Waste disposal only.
- 6.2 Pedestrian Waste Container service shall be completed by the Town or their designate on an as required basis.
- 6.3 Pedestrian Waste / Returnable Containers shall be for the sole purpose of Pedestrian Waste and returnable beverage containers in their respective designated partition.

Part 7: Special Waste Handling, Disposal and Preparation for Special Wastes for Collection

- 7.1 The following items shall be prepared as described prior to being placed in an Animal Proof Waste Container:
 - 7.1.1 Ashes – shall be thoroughly quenched, secured and contained within a plastic bag;
 - 7.1.2 Damaged fluorescent lighting or gasfield electric discharge tubes – shall be completely crushed and encased in a container so that no portion of the tube may puncture the material in which it is encased;
 - 7.1.3 Hypodermic needles – shall be broken at the hub, and be encased in a stout cardboard box, metal or plastic container or other such container that cannot be broken or punctured by the needle;
 - 7.1.4 Tree and shrub clippings – shall be compactly and securely tied in bundles not exceeding one metre in length or twenty-five (25) kilograms in weight.
- 7.2 Animal carcasses – contact a veterinary clinic, an applicable provincial body or Peace Officer for appropriate disposal requirements.
- 7.3 Dangerous Goods from a Residential Dwelling Unit or Commercial Premises shall be disposed of at a Toxic Round Up or other approved method in accordance with provincial legislation.

Part 8: Prohibited Waste

- 8.1 Unless special arrangements for collection are made with the Director, any material other than Waste is not acceptable for disposal in an Animal Proof Waste Container. This includes but is not limited to:
 - 8.1.1 Cardboard;
 - 8.1.2 Construction, Renovation and Demolition Waste;
 - 8.1.3 Commercial Waste;
 - 8.1.4 Dangerous Goods;
 - 8.1.5 Animal carcasses;
 - 8.1.6 Discarded furniture, household equipment and appliances;

- 8.1.7 Discarded automobile parts, including tires and other vehicles parts;
- 8.1.8 Tree limbs, whole shrubs, stumps or bushes, or portions of hedges;
- 8.1.9 Fences, gates and other permanent and semi-permanent fixtures from a Residential Dwelling Unit or Multi-Residential Dwelling Unit;
- 8.1.10 Discarded machinery;
- 8.1.11 Discarded household chattel, material or equipment which has an overall length of more than one metre or an overall weight of more than twenty-five (25) kilograms;
- 8.1.12 Heavy or bulky wrapping, packaging or crating materials or cases of greater length than one metre or of greater weight than twenty-five (25) kilograms;
- 8.1.13 Liquids or fluids of any kind.

Part 9: Prohibitions and Enforcement

- 9.1 No Person shall:
 - 9.1.1 Dispose of Waste or Commercial Waste in any manner, which contravenes any provisions of this Bylaw;
 - 9.1.2 Burn or bury Waste or Commercial Waste in any area of the Town unless prior approval has been received from the Director;
 - 9.1.3 Allow Waste or Commercial Waste to accumulate outside any building; on any land or other premises; or inside any building or portion thereof to which the public has access or anywhere in any manner which contravenes any provisions of this Bylaw;
 - 9.1.4 Fill any Animal Proof Waste Container in such a manner that the cover cannot be fitted properly thereon; or the contents thereof cannot be easily removed there from;
 - 9.1.5 Place or keep, an Animal Proof Waste Container upon any portion of a Street unless specifically authorized by the Director;
 - 9.1.6 Place Waste or Commercial Waste at the Street for collection;
 - 9.1.7 Dispose of Dangerous Goods by placing said material into any Animal Proof Waste Container, Commercial Waste container located in an Approved Storage Location or a Recycling Container;
 - 9.1.8 Allow any deceased domesticated animal to remain undisposed of on any Street, highway or public property;
 - 9.1.9 Store Construction, Renovation and Demolition Waste on any portion of any Street at any time;
 - 9.1.10 Convey through the Streets any Waste or Commercial Waste whatsoever, except in properly covered metal receptacles, or otherwise in vehicles which are covered with canvas or tarpaulins so constructed and arranged to prevent the contents or any portion of the contents from falling on the Streets;

- 9.1.11 Pick, sort over, rummage through, upset, overturn, remove or otherwise interfere with an Animal Proof Waste Container, Recycling Container or a Commercial Waste container located in an Approved Storage Location or with any material placed for collection in or near one of these receptacles;
- 9.1.12 Dispose of Dangerous Goods other than in accordance with the appropriate provincial legislation;
- 9.1.13 Dispose of Waste or Pedestrian Waste on any Street, highway or public property;
- 9.1.14 Dispose of or deposit Waste or Commercial Waste on any Street or in any public park, place or watercourse;
- 9.1.15 Dispose of or deposit Waste or Commercial Waste on private property except in a manner which is in compliance with this Bylaw;
- 9.1.16 Obstruct, interfere, mislead or fail to cooperate with a Peace Officer in the execution of their duty;
- 9.1.17 Store Waste outside unless the Waste is Yard Waste contained in a clear plastic bag;
- 9.1.18 Paint, colour, tape paper or like material, mark, alter, damage, dent and / or scrape any residential Animal Proof Waste Container and Pedestrian Waste Container;
- 9.1.19 Place Waste on top of, or beside an Animal Proof Waste Container;
- 9.1.20 Place Waste or Commercial Waste on top of or beside a Pedestrian Waste Container;
- 9.1.21 Place Pedestrian Waste on top of or beside a Pedestrian Waste Container;
- 9.1.22 Store food destined for human or animal consumption in a location other than an Approved Storage Location;
- 9.1.23 Operate or maintain an outdoor Kitchen Organic Waste Composter;
- 9.1.24 Place or store Animal Attractants out of doors;
- 9.1.25 Place or store Birdfeed out of doors between April 1 and October 31 in each year.

Part 10: Recycling

- 10.1 The Town shall operate recycling depots for the collection and disposal of Recyclable Material as listed in Schedule 'C' hereto. Such depots shall accept Recyclable Material from Residential, Multi-Residential, and Commercial Premises.
- 10.2 Occupants of Residential Dwelling Units, Multi-Residential Dwelling Units and Commercial Premises are liable for service fees as identified in Schedule 'A' from the date of issuance of an Occupancy Certificate for said unit or premises.
- 10.3 Recyclable Materials shall be prepared for recycling as outlined in Schedule 'C'.
- 10.4 The Town reserves the right to add or remove items from the list of acceptable Recyclable Materials as identified in Schedule 'C'.

- 10.5 Loads of Recyclable Material contaminated with unacceptable materials as defined in Schedule 'C' hereto shall be removed of and disposed of appropriately at the hauler's expense.

Part 11: Duties and Responsibilities

11.1 Director

It shall be the responsibility of the Director to oversee the provisions of this Bylaw. The Director or their designate shall be the final authority on the following:

- 11.1.1 Supervision of the collection, removal and disposal of Waste;
- 11.1.2 The amount and types of Waste which the Town is obligated to remove from any premises;
- 11.1.3 The days and times that collections shall be made from different areas of the Town;
- 11.1.4 Any private arrangements made for the disposal of Waste;
- 11.1.5 The location of Animal Proof Waste Containers on a site, for access for Collectors;
- 11.1.6 Disposal of Dangerous Goods in the Town;
- 11.1.7 The hiring and designation of Waste Collectors;
- 11.1.8 The location and construction of enclosures for Commercial Waste;
- 11.1.9 Direction over the Peace Officer or Legal Council to enforce the provisions of this Bylaw as required;
- 11.1.10 Direction over approving origin of Waste for transfer at Waste Transfer Station;
- 11.1.11 Direction over users of the Waste Transfer Station.

The Director and any employee authorized by the Director may summarily remove Waste from any building, structure, development or from any lot.

- 11.2 Construction, placement and screening of Animal Proof Waste Containers shall conform to the provisions of the Engineering Design Standards.

11.3 Waste Collectors

- 11.3.1 It shall be the responsibility of the Waste Collectors to:
- (a) be as careful as is reasonably possible not to damage or misuse Animal Proof Waste Containers;
 - (b) ensure that all Waste placed inside and outside a residential Animal Proof Waste Container is disposed of in an approved Class II or Class III Landfill Site in accordance with applicable provincial legislation.
- 11.3.2 No Waste Collector shall leave Waste on the ground, which the collector has spilled, from the Animal Proof Waste Container, or the collection vehicle.

- 11.3.3 No Waste Collector shall pick, sort over, or remove any Waste or discarded material from the collection vehicle or an Animal Proof Waste Container, except as directed by the Director.

Part 12: Convictions and Penalties

- 12.1 Where a Peace Officer has reasonable grounds to believe that a Person or Occupant has contravened any provision of this Bylaw, the Peace Officer may serve upon such Person, a Summons as outlined in this Bylaw.
- 12.2 A Person or Occupant who contravenes any provision of this Bylaw by:
- 12.2.1 doing something that is prohibited in this Bylaw;
 - 12.2.2 failing to do something that is required in this Bylaw; or
 - 12.2.3 doing something in a manner different from that which is required or permitted in this Bylaw;
- is guilty of an offense and liable upon summary conviction to a fine as set out in Schedule 'A' and not more than twenty-five hundred dollars (\$2,500.00); and in default of payment is liable to imprisonment for a time of not less than seven (7) days and not exceeding six (6) months.
- 12.3 Any Person or Occupant served with a Summons pursuant to Section 12.2 of this Bylaw may, where a Specified Penalty is indicated on the Summons, avoid prosecution by remitting payment of the Specified Penalty as noted on the Summons on or before the appearance date noted on the Summons. The Specified Penalty shall be the amount the Town will accept in lieu of prosecution.
- 12.4 Any Person or Occupant who does not pay the Specified Penalty on or before the appearance date noted on the Summons is liable to a fine as set out in Schedule 'A' hereto.
- 12.5 Where a Specified Penalty is not noted in the Summons, the Person served with the Summons is liable to a fine as set out in Schedule 'A' hereto.
- 12.6 Where a contravention of this Bylaw is of a continuing nature, further Summons, with the appropriate Specified Penalties, may be issued provided that no more than one Summons shall be issued for each calendar day that the contravention continues.
- 12.7 Nothing in this Bylaw shall prevent a Peace Officer from issuing a Summons for the mandatory court appearance of any Person who contravenes any provision of this Bylaw.

Part 13: General

- 13.1 A Peace Officer, witnessing a contravention of this Bylaw, may cause the contravention to be remedied.
- 13.2 When expenses are incurred by the Town for any work performed as a result of a direction by the Peace Officer under section 13.1, the Town may serve a statement of the expenses, together with a demand for payment to the Person responsible for the contravention, including all legal costs on a solicitor and their own client basis.

- 13.3 If the Person responsible for the contravention fails to pay the amount set out in the statement within 30 days, the Town may cause the amount to be paid to be levied against the land from which the contravention was remedied, in the same manner as municipal taxes.
- 13.4 Whenever, in this Bylaw, it is directed that an Owner or Occupant of any building or premises shall do any matter or thing, then in default of its being done, either the Owner or Occupant, or both, or if there are several Owners or Occupants, any or all such Owners or Occupants shall be liable to prosecution; and it shall be no defense for any Owner or Occupant so prosecuted to allege that any other Person is responsible for such default.
- 13.5 In the event that any portion of this Bylaw is found to be invalid, then the same shall be severed and the remainder of this Bylaw shall remain in force and effect.
- 13.6 Bylaw 12-97, Waste Control Bylaw, is hereby repealed.
- 13.7 This Bylaw shall come into effect upon the date of third and final reading thereof.

FIRST READING: May 1, 2001
SECOND READING: May 15, 2001
THIRD READING: May 15, 2001

ORIGINAL SIGNED
MAYOR

ORIGINAL SIGNED
DESIGNATED OFFICER

APPENDIX 5: BYLAWS

5-IV. Amendment to the City of Fernie, BC, Waste Regulation Bylaw to include a wildlife attractant bylaw.

**THE CORPORATION OF THE CITY OF FERNIE
BYLAW NO. 2059**

A bylaw to amend the City of Fernie Waste Regulation Bylaw No 1845

WHEREAS Council has adopted “*Waste Regulation Bylaw*”, Bylaw No. 1845;

AND WHEREAS it is deemed desirable to amend Bylaw No. 1845;

NOW THEREFORE, the Municipal Council of the Corporation of the City of Fernie, in open meeting assembled **ENACTS AS FOLLOWS:**

1. CITATION

This Bylaw may be cited as the “*Waste Regulation Bylaw Amendment Bylaw No. 5.*”

2. DEFINITIONS

Section 2, Definitions, of Bylaw No. 1845 is hereby amended by inserting the following definitions in alphabetical order:

“*commercial waste container*” means a loading type of commercial bin or receptacle

“*wildlife*” means a bear, cougar, coyote, deer, elk, moose or wolf

“*wildlife attractant*” means antifreeze, paint, petroleum products, food products, food waste, decaying matter and other accessible edible products or waste that attracts wildlife

3. REGULATIONS

Section 3, Regulations, of Bylaw No. 1845 is hereby amended by adding the following sections:

3.8 No person or persons may accumulate, place, store or collect any wildlife attractants as defined in this bylaw in such a manner as to attract wildlife, thereby creating a risk to the safety of any person in the neighborhood or vicinity or to the safety of any wildlife.

4. WASTE CONTAINERS

Section 4, Waste Containers, of Bylaw No. 1845 is hereby amended by adding the following sections:

4.6 No person shall place any wildlife attractant on any city highway in a residential area before 5:00 a.m. on the day designated by the City of Fernie as the garbage collection day for the said highway.

4.7 Commercial Waste Containers:

Commercial waste containers containing any wildlife attractants must be kept closed at all times and closed and secured at the end of the business day in such a manner so as to prevent access to the wildlife attractants by wildlife.

5. **GENERAL**

5.1 If any section, subsection or clause of this Bylaw is for any reason held to be invalid by the decision of a court of competent jurisdiction, such decision will not affect the validity of the remaining portions of this Bylaw.

5.2 This Bylaw shall come into full force and effect upon adoption except that businesses or individuals responsible for commercial waste containers have until March 31, 2008 to replace or modify them so that they may be closed and secured at the end of each business day in such a manner so as to prevent access by wildlife to any wildlife attractants contained therein.

Read a first time the ____ day of _____, 2007.

Read a second and third time the ____ day of _____, 2007.

Finally passed and adopted on the ____ day of _____, 2007.

MAYOR

DIRECTOR OF CORPORATE
ADMINISTRATION SERVICES

I certify the foregoing to be the original
Bylaw No. 2059.

APPENDIX 6: Bear Smart Resolution passed by the City of Prince George

Taken from the Minutes of the Regular Meeting of Council held June 29, 2009
Only those pages (#1 and #10) of relevance have been included. Refer to C13.

REGULAR COUNCIL MEETING

Minutes of the Regular Meeting of Council of the City of Prince George, held in the Council Chambers of City Hall, 1100 Patricia Boulevard, Prince George, BC, on Monday, June 29, 2009, at 7:00 p.m.

PRESENT:

His Worship Mayor Dan Rogers – Chairperson
< 7:00 – 8:20 pm / 8:22 – 10:08 pm >

His Worship Acting Mayor Don Bassermann – Chairperson
< 8:20 – 8:22 pm >

Councillor Bassermann < 7:00 – 8:20 pm / 8:22 – 10:08 pm >
Councillor Frizzell
Councillor Green
Councillor Krause
Councillor Munoz
Councillor Skakun < 7:00 - 8:29 pm / 8:30 – 10:08 pm >
Councillor Stolz
Councillor Wilbur

IN ATTENDANCE:

Ms. Soltis, Acting City Manager; Mr. Radloff, General Manager of Development and Operations; Whitwham, Director of Administrative Services; Milburn, Manager of Long Range Planning; and Babicz, Corporate Officer; and Ms. Van Mook, Acting Director of Community Services; and Dery, Legislative Support Clerk.

A. ADOPTION OF AGENDA

Moved by Councillor Skakun, seconded by Councillor Wilbur, that the Agenda for the Regular Council Meeting of June 29, 2009, BE
ADOPTED.

Carried Unanimously

B. DELEGATIONS

B1. Railway and Forestry Museum, regarding Update on Museum Activities

Kirk Gable, Chair, Central British Columbia Museum Board; Ranjit Gill, General Manager; and James Tirrul-Jones, Curator, Railway and Forestry Museum were in

Moved by Councillor Bassermann, seconded by Councillor Krause, that the proposed service enhancements to the Prince George Transit conventional system to take effect September 1, 2009, BE APPROVED.

Carried Unanimously

- C12. Report dated June 12, 2009, from Dan Milburn, Manger of Long Range Planning, regarding Prince George Cycle Network

The Superintendent of Operations came to Centre Table and responded to questions from Council.

Moved by Councillor Munoz, seconded by Councillor Green, that the report regarding Prince George Cycle Network, BE RECEIVED.

Carried Unanimously

- C13. Report dated June 3, 2009, from Bill Gaal, Superintendent of Operations, regarding Achieving Bear Smart Status for the City of Prince George

Moved by Councillor Bassermann, seconded by Councillor Frizzell, that the report regarding Achieving Bear Smart Status for the City of Prince George, the Bear Hazard Assessment Report Executive Summary and the Human Conflict Prevention Management Plan – Draft Package, BE RECEIVED.

Carried Unanimously

The Superintendent of Operations came to Centre Table and responded to questions from Council.

Moved by Councillor Bassermann, seconded by Councillor Krause, that Administration BE DIRECTED to prepare a proposed plan and budget to achieve British Columbia Bear Smart status for Council consideration.

Carried Unanimously

- C14. Report dated May 29, 2009, from Pam Hext, Supervisor of Current Planning, regarding Bylaw No. 8215, 2009 to amend City of Prince George Sign Bylaw No. 7202, 2001

Moved by Councillor Bassermann, seconded by Councillor Krause, that Bylaw No. 8215 to amend City of Prince George Sign Bylaw No.