

South Okanagan-Similkameen Bear Smart Project:

Conflict Management Plan



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The intent of this document is to provide a framework to assist communities in developing their own solutions for human-bear conflict management. This plan identifies a range of options and some suggestions about how these options might be applied. Options are not applicable in all circumstances and some may not be suitable for application in certain communities or locations. Implementation of all or parts of this plan will be at the discretion of communities and regional districts working with the SOS Bear Smart Project and other partners.

Table of Contents

Acknowledgements	ii
Table of Contents.....	iii
1. Executive Summary	1
2. Introduction	1
3. Vision Statement.....	2
4. Mission Statement	2
5. Goals and Objectives	2
6. Roles and Responsibilities	3
..... 6.1 Land and Community Management and Regulation.....	3
..... 6.2 <i>Waste Management System</i>	4
..... 6.3 Human-Bear Conflict Monitoring	4
..... 6.4 <i>Bear Management</i>	5
..... 6.5 <i>Wildlife and Habitat Conservation</i>	5
..... 6.6 <i>Bear Education</i>	5
..... 6.7 <i>Bear Smart Project Funding</i>	5
..... 6.7.1 <i>Bear Smart</i>	5
..... 6.7.2 <i>Bear Aware</i>	5
..... 6.7.3 <i>Other existing partnerships and organizations</i>	5
..... 6.7.4 <i>Options for new funding, partnerships, donations</i>	6
7. Building a foundation for conflict management from Hazard Assessment Findings	7
8. Strategies to address conflict.....	9
..... 8.1 Education Program.....	9
..... 8.1.1 <i>Summary of Education Recommendations</i>	9
..... 8.2 <i>Waste Management System</i>	10
..... 8.2.1 <i>Bear proof Landfills</i>	10
..... 8.2.2 <i>Waste Management Bylaws</i>	10
..... 8.2.3 <i>Waste Management Actions</i>	12
..... 8.2.4 <i>Summary of Waste Management Recommendations</i>	12
..... 8.3 <i>Green Space Management</i>	13
..... 8.4 <i>Community Planning Strategies</i>	13
..... 8.5 <i>Management of Fruit Attractants</i>	14
..... 8.6 <i>Monitoring</i>	14
..... 8.7 <i>Further Research Required</i>	15
9. Implementation Plan, Budgets and Priorities.....	16
Bibliography.....	17
Appendix One: Websites providing information to support education programs.....	19
Appendix Two: Bear Smart Bylaws: Some examples and websites for further information	21

List of Figures

Figure One: Map of Study Area	4
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South Okanagan-Similkameen Human-Bear Conflict Management Plan

1.0 Executive Summary

This Conflict Management Plan describes the roles and responsibilities of various agencies associated with the management of Human-Bear conflicts. The framework for land management, waste management, conflict monitoring, bear populations management and conservation, education and funding are described. Strategies to address Human-bear conflict are provided in detail and organized according to various categories including: education, waste management, green space management, community planning, monitoring and research. These strategies are linked to those presented in the Hazard Assessment Report completed earlier in 2007. A plan is presented for the implementation of the recommended conflict management strategies. Estimated budgets are included.

Key recommendations are provided in this document under Section 7.0:

2.0 Introduction

The South Okanagan Similkameen Bear Smart Project began in 2005. This project was launched with the support of the following partners: the Regional District of Okanagan-Similkameen (RDOS), South Okanagan Similkameen Conservation Program Partners - SOS Stewardship/The Land Conservancy of BC (TLC), Okanagan Similkameen Conservation Alliance (OSCA), BC Ministry of Environment (MOE), Malaspina University College, and the City of Penticton. Until March 2007, The Land Conservancy administered the project funding and the initial role of coordinator to launch the project. Since then, RDOS has filled the role of administering project funding.

This project is modeled on the provincial Bear Smart Community Program¹ initiated to support local communities in their efforts to address the root causes of human-bear conflicts and therefore diminish the rate and intensity of human-bear conflicts, increase public safety and reduce the number of bears killed every year. Criteria for the Bear Smart program include preparation and implementation of both a hazard assessment (recently completed) and a human-bear conflict management plan (this document). The conflict management plan directs the revision of planning and decision-making documents, implementation of a continuing education program, development/maintenance of a bear proof solid waste management system and implementation of bylaw to manage/limit bear attractants.

The South Okanagan-Similkameen Human-Bear Conflict Management Plan describes a landscape approach to human-bear conflicts in the South Okanagan-Similkameen. Departing from the typical community based model used in a

¹ Provincial Bear Smart Program was designed by Ministry of Environment (MOE) and its partners, British Columbia Conservation Foundation (BCCF) and the Union of BC Municipalities (UBCM).

number of provincial communities, this approach supports ongoing local efforts to coordinate conservation-based planning. The plan provides direction for areas within the South Okanagan Similkameen Conservation Program² planning boundary and can be expanded to include all interested areas within the RDOS boundary. This will include up to 5 municipalities and all or parts of 9 electoral areas.

The Conflict Management Plan is being developed with the assistance and input of local communities and experts using the 2006 Preliminary Hazard Assessment³ and 2007 Bear Hazard Assessment as the foundation for strategic planning to address conflicts.

3.0 Vision Statement

The SOSCP Bear Smart Project's vision is a well established, cost-efficient and effective framework for addressing human-bear conflicts. Successful planning and implementation of the project will result in reduced risk to people and property, reduced numbers of conflicts as well as a reduced numbers of bears being destroyed or relocated.

4.0 Mission Statement

The SOS Bear Smart Project is a partnership of interested communities, districts and agencies working to achieve the mutual goals described in the Bear Hazard Assessment Report (2007)⁴. The organization exists both because of local advocacy for ongoing sustainable management of bears and because of local commitment to safe well-managed communities. The project helps provide a liaison role between the Provincial Bear Smart Program, the Bear Aware Program and communities within the SOS Study area. The project acts to inform communities within the project area of opportunities for achieving Bear Smart goals and objectives through education, establishment of new bylaws, waste management, green space management, community planning and human-bear conflict monitoring. The members of the project team help to coordinate the efforts of various communities/agencies, act as liaisons between communities, provide technical advice and advocate for community actions that can help with the achievement of the stated goals. When shared goals exist together, the SOS Bear Smart Project can help to initiate action, document milestones, monitor progress toward successful implementation and opportunities for improvement.

5.0 Goals and Objectives

The SOS Bear Smart Project seeks to achieve the following goals (consistent with the provincial Bear Smart Program):

1. address the root causes of human-bear conflicts;
2. reduce the rate and intensity of conflicts;

² South Okanagan Similkameen Conservation Program is a partnership of non-governmental, government, and First Nations organizations working together to conserve biodiversity.

³ Summarized in the *South Okanagan-Similkameen Bear Smart Project Progress Report 2005-2006*.

⁴ SOS Bear Smart Project Goals are described in greater detail in section 5.0

3. reduce the number of bears that must be relocated or destroyed; and,
4. increase public safety.

The Conflict Management Plan will address the following objectives in order to achieve these goals:

- A. Select key points from the hazard assessment report to build a comprehensive strategy for managing and reducing local human-bear conflict issues;
- B. Identify community-based opportunities to address human-bear conflict issues and achieve hazard assessment goals through education, bylaws establishment, waste management, green space management, community planning and human-bear conflict monitoring;
- C. Identify community-specific priorities for action to address identified conflict issues;
- D. Identify the agencies, groups, or individuals to accept responsibility and a timetable for addressing conflict issues;
- E. Provide a cost estimate for proposed management actions; and,
- F. Provide a framework for monitoring and feedback to enhance management actions. This framework will assess the achievement of both conflict management and hazard assessment goals.

6.0 Roles and Responsibilities

6.1 Land and Community Management and Regulation

The SOS is a complex area with multiple management jurisdictions including: areas managed by local communities (Town of Oliver, Town of Osoyoos, City of Penticton, District of Summerland, Village of Keremeos, Town of Princeton) and areas managed by the Regional District of Okanagan-Similkameen or RDOS (includes small unincorporated communities like Cawston, Okanagan Falls, Kaleden, Olalla, Naramata, Falder, Coalmont, Tulameen, Hedley and others). The regional district also includes various rural areas. The boundaries of the SOS Bear Smart Project are shown in figure 1. Together, incorporated towns/villages and the regional district have the authority to manage land and communities. They conduct and manage community planning, enact bylaws, educate residents and manage green space. Those that find common interests and goals with the Bear Smart project may choose to become partners in delivering the Human-Bear Conflict Management Plan.

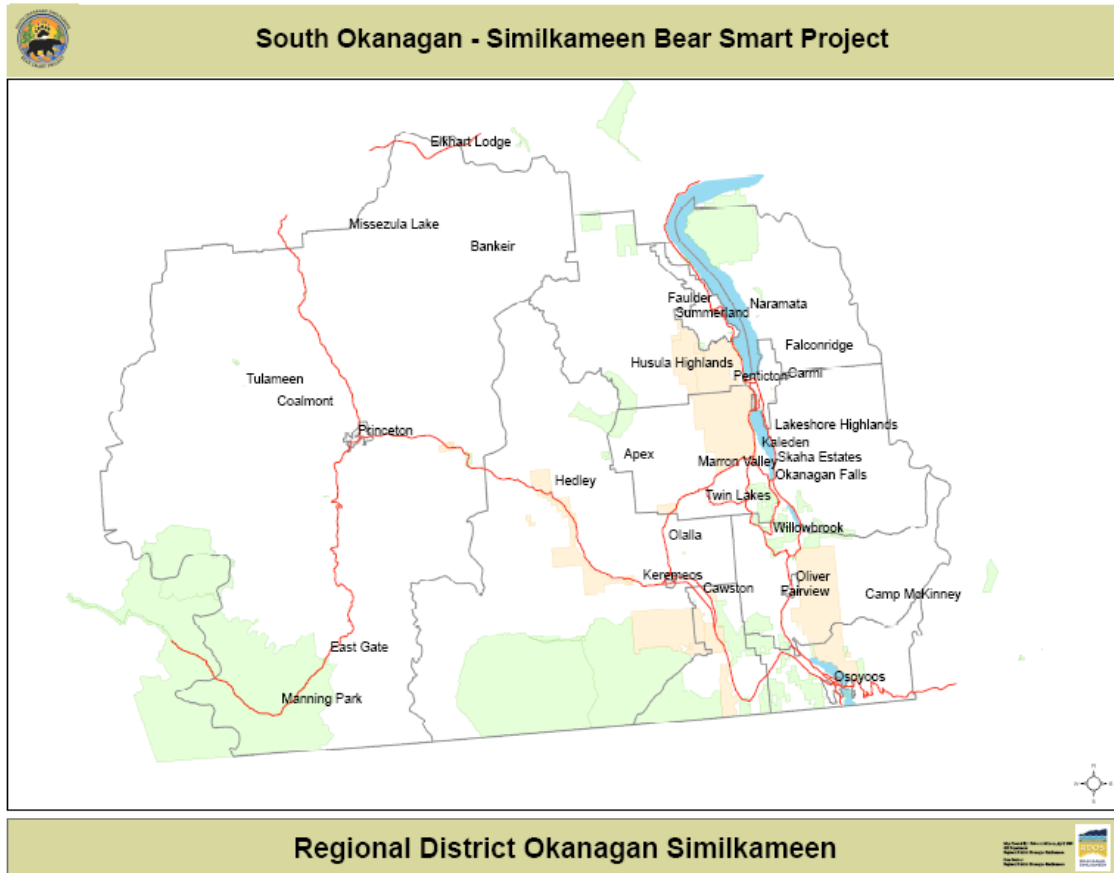


Figure 1: Study Area

6.2 Waste Management Systems

Waste Management is primarily regulated and managed by RDOS. Regional District of Okanagan-Similkameen (RDOS), Solid Waste Management Division manages and operates the Campbell Mountain, Okanagan Falls, Oliver Landfills and the Keremeos Waste Transfer Station. The District of Summerland, the Town of Princeton and the Town of Osoyoos operate their own landfills. The Campbell Mountain landfill has electrified fencing to exclude bears. The other facilities are not bear proof. RDOS and the three towns operating landfills are potential partners in implementing Waste Management strategies to address Human-Bear conflicts including: education initiatives, waste management bylaws, fencing of landfills to exclude bears and other actions.

6.3 Bear Conflict Monitoring

The data used to develop a better understanding of human-bear conflicts came from the BC Conservation Officer Service (COS). Local records of bear sightings come from a provincial database that the COS adds to whenever concerned local residents call about a bear seen in their neighborhood. Records include time, date and year of calls, information about possible attractants, as well as name and address of the caller. Local conservation officers also retain yearly records

about bears destroyed or relocated. These records are available for use in the SOSCP Bear Smart Project and can contribute to ongoing monitoring efforts⁵.

Since other agencies like the RCMP, BC Ministry of Environment (Regional Operations Branch, Penticton) and BC Ministry of Transportation: highway maintenance contractors⁶ may also receive information about problem bears and may act to address human-bear conflicts, there are opportunities for enhancing current information by working in partnership with these agencies.

6.4 Bear Management

The BC Ministry of Environment has primary responsibility for management of wildlife, including bears, in British Columbia. Regional Operations Staff (Environmental Stewardship Division) are responsible for population management, setting hunting seasons, conducting compulsory inspections and other activities related to bear management. Much of the funding for this project comes from the ministry which supports initiatives to address human-bear conflict through two programs: Bear Aware and Bear Smart Community Program.

6.5 Wildlife and Habitat Conservation

In addition to provincial government lead land conservation efforts there are a number of organizations active in bear conservation in BC.

There are also various organizations active in conservation and sustainability within the South Okanagan. Many of these organizations cooperate under the umbrella of SOSCP. For further details about partners in this organization and their conservation efforts, see <http://www.soscp.org/about.html>.

6.6 Bear Education

Education is a tool available to all groups and agencies to help local residents understand issues associated with human-bear conflicts and to encourage changes in behavior. Education is a shared, long-term responsibility. A key part of a conflict-reduction strategy particularly in the early stages of its delivery, education is also required in the long term to remind people of conflict issues and actions required to reduce risks. Because bears are not active year round, reminders before the start of “bear season” are particularly important to re-activate bear smart approaches to manage attractants.

Local education programs have been delivered by the Bear Aware Coordinator, a seasonal position funded by the Ministry of Environment Bear Aware program. Education work has included: community outreach, monitoring of yearly human-bear conflicts, development and delivery of education and information products about the causes and remedies for human-bear conflicts.

⁵ These records up to 2005 and for some information March 2007 are summarized in the 2007 Bear Hazard Assessment Report.

⁶ Current contractor is: Argo Road Maintenance (South Okanagan) Inc

Appendix 1 lists a number of websites with education information related to bears and human-bear conflicts. These websites provide a resource for future education initiatives and indicate what has been useful in other locations. A local website with information focused on the South Okanagan would be a useful addition to the current local education initiatives.

6.7 Funding History and Future Opportunities

6.7.1 Bear Smart

The **Bear Smart** program (including funding decisions) is a BC Ministry of Environment program. It is managed in Victoria, by the Environmental Stewardship Division. Normally, funding is limited to individual communities (\$5,000 for starting the program and preparing plans) however, this region is taking a unique multi-community approach and enhanced funding has been provided to help explore options for more efficient program delivery using a landscape level approach.

Options for future support of the Bear Smart objectives are being considered. Eventually, the program must become self-supporting. Options for future funding are addressed in section 6.7.4.

6.7.2 Bear Aware

Bear Aware is an educational program designed to prevent and reduce conflicts between people and bears in our communities. The program is designed and operated by the BC Conservation Foundation with the BC Ministry of Environment. Communities may identify financial and in-kind contributions and apply to have a student do outreach and education. To date, the region has had two successful years of this position being filled.

6.7.3 Other existing partnerships and organizations

The organizations listed below have provided funding or in-kind donations to the South Okanagan Similkameen Bear Smart Project in previous years:

- Regional District of Okanagan Similkameen
- City of Penticton
- District of Summerland
- The Land Conservancy of BC
- Okanagan Similkameen Conservation Alliance
- Malaspina University-College
- BC Ministry of Agriculture and Lands
- BC Ministry of Environment, Conservation Officer Service
- BC Conservation Foundation/BC Conservation Corp

6.7.4 Options for new funding, and partnerships

One option for fund raising is directly soliciting corporate or personal donations. Sometimes this is done together with sales of bear aware related merchandise

(e.g. education products, bear proof garbage cans etc.) using a local bear aware website. Direct solicitation of donations is used by several BC communities (e.g. Revelstoke and Whistler). Where donations are not possible, in kind donations and volunteer assistance may also be of use.

Another approach could include soliciting new sources for funding support including charitable organizations e.g. The Samuel and Saidye Bronfman Family Foundation (<http://www.bronfmanfoundation.org/urban/English/introduction.htm>), Vancouver Foundation (<http://www.vancouverfoundation.bc.ca/GrantInformation/AnimalWelfare.shtml>), The Brainerd Foundation (<http://www.brainerd.org/>), Toronto Dominion Friends of the Environment Foundation (<http://www.td.com/fef/project.jsp>), Catherine Donnelly Foundation (<http://www.catherinedonnellyfoundation.org/fundenviron.html>), and The Bullitt Foundation (<http://www.bullitt.org/grants/grantseeking>).

A user pay model could also be implemented. For example, a small “environmental” levy (tipping fee) could be charged for vehicles bringing household garbage to local landfills. This fee could be used to support construction of landfill fencing, reduce the costs of providing bearproof containers in problem areas, and develop/distribute education material to reduce attractants.

Development of partnerships is particularly important to this project which crosses multiple jurisdictions. In addition to working with the regional district; incorporated communities; conservation organizations like Parks Canada, SOSCP and its partner organizations; and various provincial government agencies, this project would benefit from an enhanced relationship with local first nations including Okanagan Nation Alliance, Penticton Indian Band, Osoyoos Indian Band, Upper Similkameen Indian Band, and Lower Similkameen Indian Band.

7.0 Strategies to address Human-Bear Conflict

7.1 Human-Bear Conflict Education Program

7.1.1 Education Coordinator

The Bear Smart coordinator will continue to be critical in delivery of the education program. In a number of communities where the Bear Smart program is well established, the coordinator role is filled consistently, from year to year, by the same person, often a professional biologist. This is an approach worth considering for future years. Although hiring a professional would likely require additional funding, a trained coordinator could contribute to project continuity, operate with greater autonomy, complete data analysis, interpret findings, adjust approaches and plan for the future.

7.1.2 Education Materials

While some aspects of conflict management education require designs specific to the community and its specific interests, others can benefit from a coordinated

approach. Generally, coordinated approaches are recommended for development of education materials and delivery of education related to causes of conflicts and approaches to avoid conflicts. While there may be some community specific priorities and approaches for delivery of education, much of the basic information on safety, management of attractants, history of conflict etc. can be delivered in a coordinated fashion resulting in cost savings and efficient program administration.

Priority themes for education materials include: seasonal variation in attractiveness to bears of fruit, garbage and other attractants, issues associated with residential fruit attractants and options for management of conflicts, issues associated with commercial fruit attractants and options for management of conflicts,

7.1.3 Summary of Education Recommendations

Recommendation: High Priority- Encourage change in local residents approach to management of fruit, garbage and other attractants by developing educational materials that address priority themes.

Other strategies related to education may be discussed in later sections as well where they are applicable to specific actions such as waste management. Detailed strategies are provided in the monitoring plan.

7.2 Waste Management

7.2.1. Bear Proof Landfills

The regional district includes a variety of communities with different approaches to garbage and different priority issues. RDOS and some local communities participate in a regional waste management committee, but not all local jurisdictions are represented.

At present, there is very limited history of bears visiting landfills in the southern most parts of the region (i.e. Osoyoos and Oliver). These areas are at present lower priority for fencing, but should be monitored for developing issues with bears. Other areas like Summerland and Okanagan Falls have a history of bear use. The Okanagan Falls landfill no longer receives household garbage and thus is already managing bear attractants, but the Summerland landfill continues to be visited by bears. The location of this landfill in proximity to a bear movement corridor and commercial fruit attractants may be playing a roll in the current incidence of bear-human conflicts in Summerland (apparently the highest in the RDOS). Summerland landfill is a high priority for bear-proof fencing which could significantly reduce human-bear conflicts over time.

Bear-proof fencing for the Keremeos and Princeton landfills is also recommended to reduce bear-human conflicts, as well as associated concerns with other wildlife

species (e.g. deer, other predators, etc.). To achieve this goal, the Bear Smart project could help this become a priority by facilitating development of a strategy for bear-proof fencing. Other options for managing attractants could also be considered. One example of a creative solution to avoid fencing another landfill is the approach taken in Okanagan Falls where household garbage attractants are now being directed to a fenced landfill at another location.

7.2.2 Waste Management Bylaws

A binder was prepared with copies of various waste management bylaws enacted in BC and Alberta communities. Each of these example bylaws contains provisions to address problem wildlife interactions. Appendix 2 lists excerpts from these bylaws listing them by category including:

1. Wildlife-bear or animal attractants,
2. Wildlife-Proof storage restrictions and containers,
3. Curbside restrictions,
4. Wildlife feeding restrictions,
5. Special event exemptions,
6. Bird Feeder restrictions,
7. Fruit/Fruit tree restrictions and
8. Other related restrictions.

This appendix also lists the communities with applicable proposed or enacted bylaws and provides contact information (web addresses and/or telephone numbers).

Bylaws are most effective where there is also available staff to ensure compliance. Nevertheless, bylaws provide a proactive baseline requirement to address attractants and they can be very effective tools in reducing Human-bear conflicts. Based on the current distribution of bear call data, we would like to see bylaws including curbside restrictions considered by the Regional District, Penticton, Princeton and Summerland.

For effectiveness, bylaws are generally implemented after a concentrated effort to educate local homeowners and businesses about the reasons for bylaws and other actions that can help make bears and people safer. As a follow-up, additional communication efforts are frequently required. For example in 2006, volunteers in various BC communities conducted “midnight raids” to place stickers on garbage cans found at curbside in contravention of curbside bylaws. The results were a 50% reduction in curbside garbage cans found outside at night when a second raid was conducted (Gore, 2004).

7.2.3 Bear proof containers

Because of the complex jurisdictions within the plan area, further discussion with appropriate managers is required. It is likely that different tools will be used for different areas. In some parts of the district (smaller communities), where compliance staff are unavailable or where problems are very localized, bear proof

garbage containers may be more effective than curbside restrictions and could be considered instead of curbside restrictions. Communities like Olalla and Eastgate would be good candidates for this type of approach. An initial investment in bear proof containers by subsidizing the cost of purchase or other means would help get residents in priority areas familiar with these containers and their usefulness in reducing bear-human conflicts.

7.2.4 Composting, Recycling and restaurant grease barrels

At present, bear-human conflicts associated with composting, recycling and restaurant grease barrels represent a minor fraction of the bear call data as compared to calls associated with fruit and garbage. Nevertheless, there are localized issues with these attractants and these can increase, particularly when other higher priority attractants have been effectively managed.

Some smaller communities do not have curbside pick up of recycling, others have just begun to implement curbside pick up for recycling products (e.g. Summerland), while larger communities like Penticton have had curbside pick up for a number of years.

To reduce waste coming to landfills, composting has been encouraged in larger centres like Penticton, with subsidies available to provide compost barrels to interested residents. Compost does create difficulties in neighbourhoods frequented by bears. Ideally, compost areas would be bearproof, typically by enclosing these in electrified fences. Worm bin type composting has also been used successfully in some areas but this approach requires some skill and maintenance. Since establishing bearproof fencing around a compost area can be challenging and expensive for backyard applications, bearproof neighbourhood compost areas are sometimes established where local bear populations make this the only viable option for composting.

There are very few documented local issues with restaurant grease barrels. Where these are documented locally, they have generally been associated with isolated rural restaurants located in bear habitat. These areas can be addressed by bear-proof storage of grease barrels. To ensure compliance, conservation officers can issue Dangerous Wildlife Protection Orders (DWPO).

Given the current extent of issues associated with recycling and composting, the most efficient approach to take locally may be monitoring conflicts associated with these attractants, and assisting in the development of site specific solutions where necessary. If monitoring indicates there is a large increase in conflicts associated with compost and recycling, options to address these attractants could be developed and implemented. Approaches designed to avoid creating new problems with these attractants are also recommended. This includes including requirements for management of these attractants where new development is proposed. These can be implemented through bylaws,

development permits, official community plans or other similar planning approaches.

7.2.5 Summary of Waste Management Recommendations

Recommended first steps for waste management include the following:

Recommendation: High Priority- Evaluate current waste management approaches in local communities/RDOS areas and opportunities for improved attractant management.

Recommendation: High Priority- Where appropriate, implement bylaws to manage garbage and other attractants.

Recommendation: High Priority- To reduce human bear conflicts associated with garbage, implement a program to make bear proof containers available to local residents. Focus on interface areas.

Recommendation: Moderate Priority- In consultation with regional district, local communities, local experts and regional waste management committee, review current bear issues associated with existing landfills and define on priority basis measures required to make landfills bear proof.

Recommendation: Moderate Priority- Where appropriate, implement planning requirements for new development to prevent development of bear human conflicts associated with garbage and other waste attractants.

Detailed strategies are provided in the monitoring plan [under development].

7.3 Green Space Management Strategies

7.3.1 Parks and Bear Movement Corridors

While there may also be opportunities to build Bear Smart practices into planning approaches for future parks or standard operating/maintenance procedures for existing parks, there are two major types of local priority areas for green space management: gathering areas with a significant history of human-bear conflict and bear movement corridors. Using the maps generated in the Hazard assessment report, particularly the call concentration areas and the conservation officer priority areas, these gathering areas/movement corridors can be identified. Management for these areas is designed to reduce the likelihood of Human-bear conflicts. **Possible actions include:** removal of all garbage containers that are not bear-proof and replacement (where appropriate with bear proof containers, removal of forest and brush near school fencing and public parks to remove bear security cover and allow people to see any bears close to the green space, installation of lighting in appropriate areas to help people see bears that might be in the area, and signs to notify tourists and newcomers that bears frequent the

area such as have been developed for Whistler⁷. This type of approach could be integrated into fire management and pine beetle management approaches that potentially have overlapping objectives.

Further work is needed to better identify bear movement corridors and consider them in development planning and management of attractants, as well as park/greenspace planning. Priority locations adjacent to bear movement corridors have been identified by conservation officers (priority areas). These areas could be the focus for pilot projects, with similar projects completed once bear movement corridors are fully mapped and as time and budgets allow. After monitoring the success of pilot projects, these actions (if successful and adjusted based on monitoring) could be implemented more broadly, including areas of new development.

7.3.2 Summary of Green Space Management Recommendations

Recommendation: Moderate Priority- Work with interested local governments, owners, park users and other interested partners to develop and implement bear smart approaches to the management of existing greenspaces (parks and public gathering places adjacent to areas frequented by bears).

Recommendation: Moderate Priority- Where appropriate, implement planning requirements for new greenspace areas to prevent development of bear human conflicts.

7.4 Community Planning Strategies

7.4.1 Rural Area Planning

Small communities surrounded by suitable undeveloped habitat (areas like Olalla for example) are likely to be visited occasionally by bears. Although interface areas⁸ are not specifically mapped, properties on the edge of bear habitat can influence bear behaviour. As the first point of contact, rural properties may have the potential to either promote or reduce the likelihood of bears moving into more populated neighbourhoods. For example, there are a number of bear calls associated with the campground and properties at the north-west corner of Skaha Lake. Local conservation officers have identified that management of these areas to address garbage, fruit and other attractants is a priority. It may be that managing issues in these areas will reduce the likelihood of local bears moving from campgrounds to more developed urban areas like Summerland, Penticton and Princeton.

While such issues might be handled by bylaws in a developed urban area, different strategies are likely preferred for smaller communities. In rural areas, planning to address conflicts and manage attractants should emphasize flexibility and practical approaches. Planning is likely to be more effective if it involves local

⁷ Liability considerations should be integrated into actions taken to address public safety.

⁸ Interface areas are rural or developed areas at the edge of suitable habitat for bears.

stakeholders. After consultation and education, priority rural areas could be addressed based on conservation officer identified priorities. Consideration for adding content to applicable plans, bylaws, development permits or other planning instruments could be used to further encourage recommendations to be followed, recognizing that enforcement may be limited.

7.4.2 Coordinated Planning

Although urban areas are addressed in greater detail in planning documents like official community plans (OCP), both urban and rural areas are addressed in planning documents such as the regional growth strategy (RGS) and other mechanisms such as bylaws (discussed in a section 7.2.2). Opportunities exist to use these to implement management of attractants both to reduce the chance that problems will develop in new developments and to solve existing problems in established areas. Mechanisms to implement bearsmart planning include development permits, and planning related bylaws for specific areas. This could include recognizing the potential for creation of bear attractants and bear-human conflicts (associated with a community) and establishing the objective to consider this as part of planning. Specific actions would be addressed under various categories such as: waste management, green space management etc., but priority for planning to consider attractants and conflicts would be a planning objective. The conflict management plan together with landscape development plans (e.g. Regional Growth Strategy and Official Community Plans for Penticton, Summerland, etc.) and expert input at workshops suggest priority areas for addressing conflicts would be Summerland, Olalla and Penticton Upper Carmi/Columbia (re waste management), Oliver and Summerland re (Commercial Agriculture Attractants) and Apex, re (Development Permit Areas) for example. Partnerships with non-government could also play a role both in urban and rural settings.

7.4.3 Summary of Community Planning Recommendations

Recommendation: Moderate Priority- Provide opportunities for community input in setting Bear smart program priorities and provide flexibility to adapt approaches to the needs and preferences of local communities⁹.

Recommendation: High Priority- Draft protocols for new development for regional district and other interested local governments. These protocols would integrate the requirements for Bear smart practices into development permits and other tools. These protocols would focus particularly on interface areas with a

⁹ This is a monitoring objective to be considered relative to implementation of other recommendations. Thus, the plan recommends the use of bearproof containers in some situations. Where these were proposed, the approach could incorporate community input related to changes to garbage management to reduce attractants.

history of human-bear conflict. Protocols would address attractant management¹⁰.

Recommendation: Moderate Priority- Encourage leadership in Bear Smart practices by regional district and interested local governments by developing and encouraging the adoption of protocols for management of attractants on city property (e.g. management of fruit trees and fruit, bearproof garbage containers etc.).

Recommendation: Moderate Priority- Review options to integrate bear smart concepts into OCP, Okanagan-Shuswap LRMP, and other community planning initiatives (smart growth, interface management for MPB, fire, park plans, neighbourhood/site level plans, Regional District strategies, planning for Indian Reserves etc.)¹¹.

¹⁰ This recommendation also links to strategies for implementing garbage attractant management, green space management etc. The intent is to define what planning vehicles to use and priority areas where these should be applied.

¹¹ Again this is a monitoring recommendation to be considered relative to implementation of other objectives. For example, implementing management of garbage attractants associated with new developments.

7.5 Strategies to address Fruit and Honey Attractants

7.5.1 Fruit attractants

Although Bear Aware and Bear Smart programs provide advice on how to address fruit attractants, there are no other BC communities or regions with equivalent concentrations of commercial fruit and fruit trees. While fruit trees are grown in residential areas and parks elsewhere in the province, the scope of the issue is greatly reduced. Areas like California may have similar problems and some research has been completed looking at problem wildlife interactions with fruit orchards/vineyards, but bears are not one of the major problem species discussed. Given the extent of development in proximity to farming elsewhere, black bears may not be common as they are here.

Thus, at this point, there is a data gap and many of the priorities focus on data gathering to better understand the problem. This need is reinforced by the existing bear call data on which the hazard assessment report was based. Calls about bear conflicts are being addressed outside the community and operators are being directed to provide those with commercial fruit conflicts (property damage/bears on private property etc.) information on methods of managing fruit attractants (e.g. pick up windfall fruit or install electrified fence). In absence of a substantial risk to people, conservation officers are not attending these calls. This in turn may lead to fewer calls over time, with calls not accurately reflecting the extent of conflicts. Further, the extent to which existing research documents pre fencing and post fencing losses to bears is unclear. Nor is it clear what the current costs for installed fencing may be. There appears to be substantial options for improving this information and facilitating its transfer to people who need it.

Anecdotal evidence is contradictory. Some orchardists have no problem, but some do reference serious concerns including: the need to remove agricultural workers from area until bear leaves, damage to trees (especially dwarf stock), crop reductions or damage etc.

Strategies to address fruit attractants can be borrowed from other areas. For example, other plans have suggested using fruit gleaners or volunteers to pick unwanted fruit or address windfalls fruit. This may be a strategy to address local issues and some situations in residential areas. For some years, the Sterile Insect Release (SIR) program has offered to pay for local residents willing to remove fruit trees and replace them with trees that do not support codling moth. This program could perhaps be broadened to embrace bear smart approaches through some type of voluntary partnership.

We have also heard that some orchardists and vineyard owners work with local hunters to address problem bears. This approach brings a hunter with a bear tag together with an orchardist who has a problem bear. A similar but larger scale program (The landowner incentive program) is being developed in BC to facilitate

hunting on private land to provide benefits to private land owners and hunters alike.

7.5.2 Beehive and Honey Attractants

Anecdotal evidence indicates that there are a few local attractants that are all but irresistible to bears. Although plum/plum trees and nut trees are mentioned, bee hives and honey are locally more common. Bear that encounter these attractants appear very motivated to consume honey, if they can find a way to do that.

The main approach to addressing this attractant is to enclose hives in electric fencing although making this bearproof can be a particular challenge, especially when hives are being moved from place to place to facilitate pollination. It is likely common for owners to risk manage hives and accept losses to bears, when they occur, but particular bears can be very enterprising and cause significant, repeated financial losses, increasing the risk that the bear or people will be harmed. Several problem sites have been identified as a priority for addressing by the conservation officers. Bee keepers would benefit from assistance with fencing design and help to access funding subsidies for fencing (where available).

One reference suggests that aversive conditioning may be used as an alternative to bearproof fencing. This approach makes use of a “dummy” hive that gives bears negative feedback to approach hives in future. This option could be explored further.

Options to enhance planning for new developments are also available. For example, where bee keeping is permitted in a residential area, planning documents/bylaws could require bearproof fencing.

7.5.3 Summary of Fruit and Honey Attractants Recommendations

Recommendation: Moderate Priority- Explore opportunities for partnerships and if possible implement Bear Smart management approaches through Sterile Insect Release (SIR) program, local hunting clubs, organizations that support commercial fruit growers/vineyards/bee-keepers and other potential partners to be identified later. Priorities locations for action should be developed based on Human-bear conflict history and proximity to interface areas as well as other factors discussed in the Hazard Assessment report.

Recommendation: Moderate Priority- Work with local representatives of commercial fruit growers/vineyards to better define Human-bear conflict locations associated with commercial orchards.

Recommendation: Moderate Priority- Work with regional and provincial Ministry of Environment staff and local hunters/hunter organizations to review and as necessary revise current programs to encourage hunting of problem bears/bears

in problem areas. Consider opportunities to integrate Landowner Incentive Program (Jeff Morgan co-ordinator) into Bear Smart program.

Recommendation: Moderate Priority- Pilot development of commercial fruit tree/ orchard/ vineyard fencing as part of approaches to address grower issues with human-bear conflicts. Explore option to partner with Hawthorne Mtn, Paradise Valley Ranch and Summerland Agriculture Research Station to establish pre and post economic losses and cost/benefit associated with fencing. Request assistance from UBCO (Tom Sullivan) for data collection.

Recommendation: Moderate Priority- Explore options for funding support for bear-proof commercial fencing with agencies like Ministry of Agriculture and Lands, Federal Ministry of Agriculture, and BC Agriculture Council as well as the Environmental Farm Program.

Recommendation: Moderate Priority- Implement site specific recommendations to address bees/honey attractants provided to address Conservation Officer priority areas (see table 2 in Hazard Assessment).

7.6 Monitoring and marketing

7.6.1 Monitoring plan implementation

The monitoring plan is developed as an excel spreadsheet which is a separate file that includes all the recommendations made in this report as well as anything outstanding from the hazard assessment report. This plan helps to set objectives each year for the project and provides a mechanism to track what has been completed. The monitoring approach specifically defines (briefly) the strategies recommended to achieve the stated recommendations. This is considered to be an evolving document which will change as results are achieved, new information is available and resources permit.

7.6.2 Effectiveness monitoring

Effectiveness monitoring is also part of the monitoring plan. There are often a number of ways to monitor effectiveness, some more intensive and expensive than others. One important distinction in data collection is the difference between monitoring people's perceptions of a problem versus research to directly monitor the problem itself. The later tends to be much more challenging to do properly and expensive while the former is almost certainly more accurate. Almost all the effectiveness monitoring completed relative to human-wildlife conflicts focuses on public or stakeholder perceptions rather than directly establishing the extent of damage or other impacts.

Effectiveness monitoring for this work will focus on monitoring indirect factors such as perceptions of human-bear conflicts. Thus, periodic updating of bear call data, tracking bears destroyed or relocated and informal data gathering about

attitudes and understanding of bear-human conflicts will be the focus. In the first year of the plan, this approach will be further discussed with local government staff, RDOS specialists, researchers and other partners to further refine the monitoring plan.

7.6.3 Monitoring and Marketing Recommendations

Recommendation: High Priority- Work with monitoring experts (For-ex; UBCO; Parks Canada), stakeholders and interested local governments to establish long term monitoring protocols. Monitoring would include: human-bear conflict tracking (bears trapped or destroyed), periodic detailed updates of conflict reports from COS (5 year intervals), annual reports of actions and results by education coordinator, annual tracking of progress related to HA and CM recommendations, periodic (5 year interval) review and revision of HA and CM reports, and other items as recommended by monitoring experts.

7.7 Strategies to address research

7.7.1 Research

This section captures ideas that were initiated in the hazard assessment plan but eventually transferred to the conflict management plan so that all ongoing recommendations were found in the conflict management plan. The intent is to remember that these recommendations may be appropriate at some time in the future but they are not currently a high priority. They will be tracked in the monitoring plan but action is not a current priority.

7.7.2. Research Recommendations

Recommendation: Low Priority: Seek opportunities to improve data on bear destructions/relocations. Consider gathering additional annual data from local RCMP, Ministry of Environment, Ministry of Highways (maintenance contractors) and other applicable sources.

Recommendation: Low Priority- Update bear habitat modeling when TEM mapping for missing parts of study area is available. Consider how attractants in developed areas could be incorporated into the habitat model.

Recommendation: Low Priority: As new scientific data on climate change, Mountain Pine Beetle and other landscape disturbances becomes available, consider the implications and incorporate appropriate changes into the management approach to bears.

Recommendation: Low Priority- Review options with MOE, Conservation Officer Service, Ministry of Highways and other interested stakeholders (local hunting clubs/BCWF) to coordinate and enhance collection of information about bear populations to support the bear smart project. This could include: enhanced mortality information, approaches to integrate data collection, standardize approaches to collection of kill/dead animal locations.

Recommendation: Low Priority: Maintain linkage with the current review of the Wildlife Act and encourage changes that support local Bear Smart Project.

9.0 Implementation Plan, Budget and Priorities

This is addressed in the monitoring plan.

Recommendation: High Priority: Develop a five year plan for funding the project. Cultivate a small subcommittee to develop strategy, determine priorities groups for funding requests, and write/administer grant applications. Ideally the subcommittee would include members with experience in profitable fund-raising (perhaps recently retired government employees with good track record writing successful grant applications).

Recommendation: High Priority- Review education coordinator role and assess options to obtain ongoing secure funding and consistency of approach for that role in support of implementation and monitoring initiatives.

Recommendation: High Priority- Establish a committee to implement the Bear Smart project. Committee membership should include representation from the following groups: local government, CO Service, technical experts in waste management, stakeholders (commercial fruit growers/vineyard managers), provincial government (MOE, MAL), conservation organizations (SOSCP), partner organizations as needed and others. Consider establishment of subcommittees to address Waste management, Commercial fruit and education initiatives as needed.

Recommendation: Moderate Priority- Address capacity to achieve moderate monitoring objectives (i.e. periodic updates of hazard assessment data such as bear relocations or destructions each year, and total yearly bear calls and changes in knowledge, awareness, skills, and behavior in the public sector (see table 1 and appendix 2); occasional map updates with several recent years of bear call data might also be useful (perhaps 2 years every 10 years).

10.0 Summary of Recommendations:

High Priority

1. **Recommendation:** Encourage change in local residents approach to management of fruit, garbage and other attractants by developing educational materials that address priority themes.
2. **Recommendation:** Evaluate current waste management approaches in local communities/RDOS areas and opportunities for improved attractant management.
3. **Recommendation:** Where appropriate, implement bylaws to manage garbage and other attractants

4. **Recommendation:** To reduce human bear conflicts associated with garbage, implement a program to make bear proof containers available to local residents. Focus on interface areas.
5. **Recommendation:** Draft protocols for new development for regional district and other interested local governments. These protocols would integrate the requirements for Bear smart practices into development permits and other tools. These protocols would focus particularly on interface areas with a history of human-bear conflict. Protocols would address attractant management¹².
6. **Recommendation:** Work with monitoring experts (For-ex; UBCO; Parks Canada), stakeholders and interested local governments to establish long term monitoring protocols. Monitoring would include: human-bear conflict tracking (bears trapped or destroyed), periodic detailed updates of conflict reports from COS (5 year intervals), annual reports of actions and results by education coordinator, annual tracking of progress related to HA and CM recommendations, periodic (5 year interval) review and revision of HA and CM reports, and other items as recommended by monitoring experts.
7. **Recommendation:** Develop a five year plan for funding the project. Cultivate a small subcommittee to develop strategy, determine priorities groups for funding requests, and write/administer grant applications. Ideally the subcommittee would include members with experience in profitable fund-raising (perhaps recently retired government employees with good track record writing successful grant applications).
8. **Recommendation:** Review education coordinator role and assess options to obtain ongoing secure funding and consistency of approach for that role in support of implementation and monitoring initiatives.
9. **Recommendation:** Establish a committee to implement the Bear Smart project. Committee membership should include representation from the following groups: local government, CO Service, technical experts in waste management, stakeholders (commercial fruit growers/vineyard managers), provincial government (MOE, MAL), conservation organizations (SOSCP), partner organizations as needed and others. Consider establishment of subcommittees to address Waste management, Commercial fruit and education initiatives as needed.

Moderate Priority

¹² This recommendation also links to strategies for implementing garbage attractant management, green space management etc. The intent is to define what planning vehicles to use and priority areas where these should be applied.

1. **Recommendation:** Develop a website to support the education program and delivery of education materials.
2. **Recommendation:** In consultation with regional district, local communities, local experts and regional waste management committee, review current bear issues associated with existing landfills and define on priority basis measures required to make landfills bear proof.
3. **Recommendation:** Where appropriate, implement planning requirements for new development to prevent development of bear human conflicts associated with garbage and other waste attractants.
4. **Recommendation:** Work with interested local governments, owners, park users and other interested partners to develop and implement bear smart approaches to the management of existing greenspaces (parks and public gathering places adjacent to areas frequented by bears)
5. **Recommendation:** Where appropriate, implement planning requirements for new greenspace areas to prevent development of bear human conflicts.
6. **Recommendation:** Provide opportunities for community input in setting Bear Smart program priorities and provide flexibility to adapt approaches to the needs and preferences of local communities¹³.
7. **Recommendation:** Encourage leadership in Bear Smart practices by regional district and interested local governments by developing and encouraging the adoption of protocols for management of attractants on city property (e.g. management of fruit trees and fruit, bearproof garbage containers etc.).
8. **Recommendation:** Review options to integrate bear smart concepts into OCP, Okanagan-Shuswap LRMP, and other community planning initiatives (smart growth, interface management for MPB, fire, park plans, neighbourhood/site level plans, Regional District strategies, planning for Indian Reserves etc.)¹⁴.
9. **Recommendation:** Explore opportunities for partnerships and if possible implement Bear Smart management approaches through Sterile Insect

¹³ This is a monitoring objective to be considered relative to implementation of other recommendations. Thus, the plan recommends the use of bearproof containers in some situations. Where these were proposed, the approach could incorporate community input related to changes to garbage management to reduce attractants.

¹⁴ Again this is a monitoring recommendation to be considered relative to implementation of other objectives. For example, implementing management of garbage attractants associated with new developments.

Release (SIR) program, local hunting clubs, organizations that support commercial fruit growers/vineyards/bee-keepers and other potential partners to be identified later. Priorities locations for action should be developed based on Human-bear conflict history and proximity to interface areas as well as other factors discussed in the Hazard Assessment report.

10. **Recommendation:** Work with local representatives of commercial fruit growers/vineyards to better define Human-bear conflict locations associated with commercial orchards.
11. **Recommendation:** Work with regional and provincial Ministry of Environment staff and local hunters/hunter organizations to review and as necessary revise current programs to encourage hunting of problem bears/bears in problem areas. Consider opportunities to integrate Landowner Incentive Program (Jeff Morgan co-ordinator) into Bear Smart program.
12. **Recommendation:** Pilot development of commercial fruit tree/ orchard/ vineyard fencing as part of approaches to address grower issues with human-bear conflicts. Explore option to partner with Hawthorne Mtn, Paradise Valley Ranch and Summerland Agriculture Research Station to establish pre and post economic losses and cost/benefit associated with fencing. Request assistance from UBCO (Tom Sullivan) for data collection.
13. **Recommendation:** Explore options for funding support for bear-proof commercial fencing with agencies like Ministry of Agriculture and Lands, Federal Ministry of Agriculture, and BC Agriculture Council as well as the Environmental Farm Program.
14. **Recommendation:** Implement site specific recommendations to address bees/honey attractants provided to address Conservation Officer priority areas (see table 2 in Hazard Assessment).
15. **Recommendation:** Address capacity to achieve moderate monitoring objectives (i.e. periodic updates of hazard assessment data such as bear relocations or destructions each year, and total yearly bear calls and changes in knowledge, awareness, skills, and behavior in the public sector (see table 1 and appendix 2); occasional map updates with several recent years of bear call data might also be useful (perhaps 2 years every 10 years).

Low Priority

1. **Recommendation:** Seek opportunities to improve data on bear destructions/relocations. Consider gathering additional annual data from local RCMP, Ministry of Environment, Ministry of Highways (maintenance contractors) and other applicable sources.
2. **Recommendation:** Update bear habitat modeling when TEM mapping for missing parts of study area is available. Consider how attractants in developed areas could be incorporated into the habitat model.
3. **Recommendation:** As new scientific data on climate change, Mountain Pine Beetle and other landscape disturbances becomes available, consider the implications and incorporate appropriate changes into the management approach to bears.
4. **Recommendation:** Review options with MOE, Conservation Officer Service, Ministry of Highways and other interested stakeholders (local hunting clubs/BCWF) to coordinate and enhance collection of information about bear populations to support the bear smart project. This could include: enhanced mortality information, approaches to integrate data collection, standardize approaches to collection of kill/dead animal locations.
5. **Recommendation:** Maintain linkage with the current review of the Wildlife Act and encourage changes that support local Bear Smart Project.

Bibliography¹⁵

Gore, Meredith. 2004. Comparison of Intervention Programs designed to Reduce Human-Bear Conflict. Cornell Human Dimensions Research Unit (HDRU) Series 04-4. 32pp.

¹⁵ Appendix One also provides a list of websites for information referenced in that appendix.

Appendix One: Websites providing information to support education programs

1. <http://www.bearsmart.com/bearSmartCommunities/Assessment.html>
This is Whistler, BC's website for its bear smart program. This website provides a range of helpful information related to bears including: information on recreation in bear habitat, recommendations for management of attractants, advise for managers and policy makers as well as information on local programs and fund-raising. An electronic copy of the black bear management plan is also available from this website.
2. http://www.rosslandbearaware.org/About_Us.html This is Rossland, BC's website for its bear aware/bear smart programs. This website provides general educational information, annual reports, proposed bylaws and stats for human-bear conflicts.
3. <http://www.tofino.ca/siteengine/ActivePage.asp?PageID=81> This is the Pacific Rim (includes Tofino/Ucelet), BC's website for its bear aware program. This website provides educational information on bears, bear safety for visitors and local residents.
4. <http://www.albertabearsmart.ca/mybearsmart/home.html> This is Alberta's website for its bear smart program. This website provides simple educational messages for travellers and local residents in bear country. Links to several bear smart communities (bow valley/crowsnest) are provided. Opportunities for participation and supporting the program are provided through links on this website.
5. <http://www.bearaware.bc.ca/links.htm> This is the BC website for bear aware which is sponsored by the BC Conservation Foundation (part of BC Wildlife Federation). This links to the education materials developed for the program, information on local bear smart communities, local programs, and various useful links and resources from the US and Canada.
6. http://www.biology.ualberta.ca/facilities/safety/uploads/PDF/bear_people_conflict_plan.pdf This is an electronic copy of the 2002 Bear-People Conflict Prevention Plan produced for BC Parks and Protected Areas.
7. <http://www.cmiae.org/pdf/BearSmart2005Summary.pdf> This is an electronic copy of the proceedings of the Columbia Mountains Institute Conference *Creating Bear Smart Communities* (2005).
8. <http://www.cmiae.org/bearaware.htm> This is an electronic copy of the proceedings of the Columbia Mountains Institute Conference *Creating Bear Aware Communities* (2001).
9. <http://www.cmiae.org/conferences-past.htm#Managing%20for%20Bears>
This is an electronic copy of the proceedings of the Columbia Mountains Institute Conference *Managing for Bears in Forested Environments* (2000). This includes techniques for bear proofing your community, monitoring conflicts and education approaches.

10. <http://www.scwa.bc.ca/Bearaware/index.html> This is Prince George, BC's website for its bear aware program. It provides educational resources, local bear statistics, bear photos and local programs for conflict management.
11. http://www.env.gov.bc.ca/cos/info/wildlife_human_interaction/strategy.pdf This is an electronic copy of BC Ministry of Environment's (then MWLAP) *Wildlife-Human conflict prevention strategy* (2003).
12. <http://www.revelstokebearaware.org/> This is Revelstoke, BC's website for its bear aware program. It provides educational resources, a mechanism to report local sightings, safety information on advise on managing human-bear conflicts.
13. <http://www.dnv.org/article.asp?a=3333&c=869> This website provides limited information on North Vancouver, BC's program for managing bears including information on their bear hazard assessment study.
14. <http://www.charityvillage.com/cv/nonpr/nonpr17.asp> This website details various charitable organizations that fund non-profit work.
15. <http://www.jasper-alberta.com/modules.php?name=Content&pa=showpage&pid=203> This website from Jasper, Alta provides some simple information related to local composing.
16. http://www.dawginc.com/critter-can/bear_container.php Information on bear-proof garbage containers.
17. <http://www.bearinfo.org/tips.htm> Information on bear smart programs and grizzly management in the North Cascades area of Washington State including educational information and links to information on bear-proof containers.

Appendix Two: Bear Smart Bylaws: Some examples and websites for further information

Bear Smart Bylaws: Some Examples¹⁶

1. Wildlife-Bear or Animal Attractants

- a. No domestic garbage and no food waste or other edible waste that could attract dangerous wildlife (bears, cougars, coyotes, and wolves) shall be stored outdoors, including patios, balconies, and decks. *(part of Whistler Garbage Disposal Bylaw No. 1445)*
- b. All domestic garbage and no food waste or other edible waste that could attract domestic animals or dangerous wildlife shall be stored outdoors, in an enclosed building, shed or storage facility and shall not be left in any area accessible to domestic animals or wildlife, including any patio, balcony, and deck. *(part of District of Ucluelet Garbage Bylaw No. 960)*
- c. If dangerous wildlife is attracted then "Smart Practices" are observed. These include the following:
 - i. Feeding dangerous wildlife is prohibited.
 - ii. Birdfeeders must be inaccessible to dangerous wildlife.
 - iii. Beehives must be protected by an electric fence.
 - iv. Outdoor fridges and freezers must be inaccessible to dangerous wildlife.
 - v. No meat by-products or waste can be put into compost piles. *(part of New Denver Waste Collection Bylaw No. 341)*
- d. No person shall allow the accumulation of any putrescible or other wastes, or residues on or in waste bins or containers, which cause odours or which attract insects, rodents or other animals, or which generally create a nuisance to neighbours or the public. *(Part of Oliver Waste Removal Bylaw No. 817)*
- e. Every commercial container shall: if it contains food waste, discarded fruit or vegetables or offal, be securely covered between April 1 and October 31 of every year in such a manner that bears cannot access its contents. *(Part of Prince George Garbage Collection Bylaw No. 7661)*
- f. No person shall fail to take remedial action to avoid contact or conflict with wildlife after being advised by the Bylaw Enforcement Officer that such action is necessary. Remedial action may include, but is not limited to securing, in a wildlife resistant enclosure, all garbage containers, removal of cooking grills, pet food, bird feeders or any other attractants. *(part of District of Ucluelet Garbage Bylaw No. 960)*

¹⁶ These bylaws have been condensed. Copies of the full bylaws (except New Denver) have been printed and are available in a project file as part of this project.

- g. No person may accumulate, store, or collect any bear attractants in a manner that poses or may pose a risk to the safety of any person. (Attractants defined as: any and all food wastes, offal, and accumulations of discarded fruit, whether on public or private land. (*part of City of Kamloops Solid Waste Bylaw No. 40-50*))
- h. All waste receptacles and bags shall be kept within the confines of an occupier's property. It is the responsibility of the occupant to ensure that waste receptacles and bags are kept, at all times before collection, in a fashion that keeps same inaccessible to animals and impervious to weather. (*part of Village of Fruitvale Solid Waste Bylaw No. 712*)
- i. All garbage containers shall at all times be kept clean and in a sanitary condition, and protected against the weather or disturbance by domestic or wild animals. (*part of City of North Vancouver Solid Waste Bylaw No. 6920*)
- j. No Person shall Place or store Animal Attractants out of doors .(*part of Town of Canmore Waste Bylaw No. 09-2001*)
- k. All composting must be done in a manner that minimizes the generation of odours and the attraction of animals. (*part of City of Chilliwack Waste Bylaw No. 2976*)

2. **Wildlife-Proof Containers and storage restrictions:**

- a. Every outdoor container or receptacle used for depositing or storing food waste or other edible waste that could attract dangerous wildlife must be a wildlife-resistant container. (*part of Whistler Garbage Disposal Bylaw No. 1445*)
- b. Every commercial, industrial, institutional, and tourist-accommodation building, and every multiple family residential development having three or more dwelling units, must be provided with a garbage storage site located inside a building or within a wildlife-resistant enclosure. (*part of Whistler Garbage Disposal Bylaw No. 1445*)
- c. Wildlife-resistant containers and wildlife-resistant enclosures must be kept closed and secure when waste is not being deposited and, if damaged, must be repaired in a timely fashion. (*part of Whistler Garbage Disposal Bylaw No. 1445*)
- d. No person shall store any refuse that is a wildlife attractant in such a manner that it is accessible to wildlife. (*part of Squamish Wildlife Attractants Bylaw No. 1876*)
- e. Any person storing refuse in a container that is a wildlife attractant shall use a wildlife-resistant container or store such container in a wildlife resistant enclosure. (*part of Squamish Wildlife Attractants Bylaw No. 1876*)
- f. Every outdoor garbage receptacle containing waste that could attract wildlife must be in a wildlife-resistant container or stored in a

- place inaccessible to wildlife. (*part of New Denver Waste Collection Bylaw No. 341*)
- g. Every commercial, tourist, and multiple family residential development is provided with a garbage storage site in a building or within a wildlife-resistant enclosure. (*part of New Denver Waste Collection Bylaw No. 341*)
 - h. Wildlife-resistant containers and wildlife-resistant enclosures must be closed, secured, and kept in repair. (*part of New Denver Waste Collection Bylaw No. 341*)
 - i. After January 1, 2005, all Commercial Garbage Receptacles must be wildlife resistant. (*part of District of Ucluelet Garbage Bylaw No. 960*)
 - j. All construction sites must have a designated container that receives refuse. The container must:
 - a. be emptied at the end of each day and stored in a building or trailer; or,
 - b. be stored in a wildlife resistant enclosure; or,
 - c. be a wildlife resistant container. (*part of District of Ucluelet Garbage Bylaw No. 960*)
 - k. Every outdoor container or receptacle used for depositing or storing food waste or other edible waste that could attract dangerous wildlife shall be a wildlife resistant container, or stored in a place that cannot be accessed by dangerous wildlife. (*part of Village of Lions Bay Waste Collection Bylaw No. 346*)
 - l. Every commercial, industrial, institutional and tourist accommodation building, and every multiple family residential development having three or more dwelling units, shall be provided with a garbage storage site located inside a building or within a wildlife resistant enclosure. (*part of Village of Lions Bay Waste Collection Bylaw No. 346*)
 - m. Wildlife resistant containers and wildlife resistant enclosures must be kept closed and secure when waste is not being deposited and if damaged, must be repaired in a timely fashion. (*part of Village of Lions Bay Waste Collection Bylaw No. 346*)
 - n. Occupants of Residential Dwelling Units¹⁷ shall deposit Waste into the Animal Proof Waste Container provided for that purpose. 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“Animal Proof Waste Container” means a receptacle for disposing of residential Waste or Commercial Waste constructed of metal and

¹⁷ Similar provisions for commercial or multi-family dwellings

designed to be collected by automated means, and which meets the specifications for an animal proof waste container as outlined in Schedule 'B' hereto. *(part of Town of Canmore Waste Bylaw No. 09-2001)*

- o. All Standard Containers and Special Containers must be kept lidded or closed and at all times secured against disturbance by animal *(part of Maple Ridge Unsightly premises bylaw)*

3. Curb-side restrictions

- a. Curbside restrictions are in place from 5:00 a.m. to 7:00 p.m. on the day of garbage collection. *(part of Squamish Wildlife Attractants Bylaw No. 1876)*
- b. Except as otherwise directed by the Operations Manager, bins shall be made available for collection and standard containers shall be placed on the streets or lanes only between the hours of 6:00 a.m. and 7:00 p.m. on the day of collection. *(part of Revelstoke Garbage Bylaw No. 1359)*
- c. No person shall fail to remove any garbage container from any highway or lane on which it was placed for collection, by 7:00 pm on the collection day.
- d. Where the collection service is provided to their premises from a highway, the occupier shall place the collection carts adjacent to the boulevard, curb or shoulder of the highway, prior to 8 am on the collection day specified from time to time by the Director but not earlier than 9 pm on the previous day. In the case of premises adjacent to a lane from which the collection service is provided, the collection carts must be placed on the occupiers land at a location adjacent to the lane and not separated from it by any fence, gate or other structure, prior to 8 am on the collection day specified from time to time by the Director but not earlier than 9 pm on the previous day. *(part of Prince George Garbage Collection Bylaw No. 7661)*
- e. Prior to 7:30 a.m. on each collection day solid waste containers shall be placed on the highway fronting the property of the occupant or, if the collection service is provided from a lane, on the lane adjacent to the rear of the property. All solid waste containers shall be removed from the edge of the highway and stored within the property no later than 9:00 p.m. on collection day. *(part of District of West Vancouver Solid Waste Bylaw No. 4118)*
- f. The Owner or Occupier of a Premises shall locate any Garbage Container, for purposes of the Collection Service, on or adjacent to the boulevard, curb or shoulder of the Street or Lane where the Collection Service for the Premises occurs and to which the Premises has direct access, prior to 9:00 a.m. on the day specified for Collection Service but no earlier than 6:00 a.m. on the day specified for Collection Service. The Owner or Occupier of the

Premises shall ensure that empty Garbage Containers are removed from any Street on the day Collection Services have occurred. (*part of District of Wells Garbage Collection Bylaw No. 65*)

- g. The owner of each residential premises shall place or cause to be placed on the scheduled collection day in a location hereinafter defined all receptacles and parcels of household refuse no earlier than 5:00 P.M. on the day before the collection date and no later than 7:00 a.m. on the collection date. When the receptacles have been emptied by the City, the owner shall return them to his own property no later than the expiry of the collection date. (*part of City of Oliver Refuse Collection Bylaw No. 3148*)
- h. No owner/occupier shall place a garbage receptacle out before 5:00 a.m. on the morning of scheduled garbage collection. Every owner or occupier of property serviced by the residential garbage collection system of the District shall be required to: place all receptacles for collection in full view of and beside the traveled portion of the roadway servicing the property no earlier than 5:00 a.m. and no later than 8:00 a.m. on the regularly scheduled day for collection. (*part of District of Ucluelet Garbage Bylaw No. 960*)
- i. All garbage and recycling receptacles shall be placed by the householder within 10 feet of the road boundary in front of the householder's premises not earlier than 5:00 a.m. on the day the garbage is scheduled for removal. (*part of Village of Lions Bay Waste Collection Bylaw No. 346*)
- j. An owner must ensure that waste from his residential dwelling is set out for collection no earlier than 5:00 a.m. on the day of collection and no later than 9:30 a.m. on the day of collection (*part of City of Kimberley Waste Bylaw No. 2109*)
- k. Between April 1 and November 30, no person shall place any solid waste out for pickup by the curbside collection service prior to 4:00 a.m. of the collection day. 416. All containers must be removed from the lane, roadway, or other collection place designated by the Public Works and Utilities Director by, 7:00 p.m. on collection day and stored on private property in a safe manner. (*part of City of Kamloops Solid Waste Bylaw No. 40-50*)
- l. All Garbage, Recyclables, and *Yard Trimmings* which an Owner or Occupier chooses to have collected and disposed of by the City under this Bylaw shall be placed at curbside for collection before 7:00 a.m. on the designated Collection Day *unless otherwise notified in writing*. Garbage, Recyclables and *Yard Trimmings* shall not be placed at the curb any earlier than 6:00 p.m. the day prior to the designated Collection Day. All emptied Containers shall be removed from the curb within 18 hours of collection. (*part of City of Chilliwack Waste Bylaw No. 2976*)

- m. Except as otherwise directed by the Operations Manager, bins shall be made available for collection and standard containers shall be placed on the streets or lanes only between the hours of 6:00 a.m. and 7:00 p.m. on the day of collection. (*part of City of Revelstoke Garbage Bylaw No. 1759*)

4. Wildlife Feeding Restrictions

- a. Feeding dangerous wildlife and depositing or storing domestic garbage, food waste, or other edible waste that could attract dangerous wildlife is prohibited. (*part of Whistler Garbage Disposal Bylaw No. 1445*)
- b. No person shall knowingly or willingly feed wildlife, or provide in any manner access to garbage, food or other attractants to wildlife. (*part of District of Ucluelet Garbage Bylaw No. 960*)
- c. If dangerous wildlife are attracted by any of the following, then these smart practices shall apply: Feeding dangerous wildlife and depositing or storing any domestic garbage, pet food, food waste, or other edible waste that could attract dangerous wildlife is prohibited. (*part of Village of Lions Bay Waste Collection Bylaw No. 346*)

5. Special Event Exemptions

- a. A person is exempt from restrictions for weddings, sports tournaments, outdoor conventions, Canada Day, and other temporary special events if refuse containers required for the special event are emptied into an appropriate container by midnight each day (*part of Squamish Wildlife Attractants Bylaw No. 1876*)
- b. Garbage containers for special events are exempt from requirements as long as they are emptied by 10:00 p.m. each day (*part of Whistler Garbage Disposal Bylaw No. 1445*)
- c. If emptied before 10:00 p.m., containers used for temporary social events are exempt. (*part of New Denver Waste Collection Bylaw No. 341*)
- d. Garbage and recycling containers required for temporary special events, such as weekend sports tournaments, weddings, Fire Department Picnic, Hallowe'en and Canada Day are exempt from this requirement if emptied before 10:00 p.m. (*part of Village of Lions Bay Waste Collection Bylaw No. 346*)

6. Bird Feeder Restrictions

- a. Bird feeders are required to be inaccessible by dangerous wildlife. (*part of Whistler Garbage Disposal Bylaw No. 1445*)
- b. Bird feeders containing bird feed must be suspended on a cable or other device in such a manner that makes them inaccessible to wildlife. Outdoor fridges or freezers containing food products must be stored in such a manner that makes them inaccessible to wildlife. (*part of Squamish Wildlife Attractants Bylaw No. 1876*)

- c. Bird feeders are allowed but must be inaccessible to wild animals. (*part of District of Ucluelet Garbage Bylaw No. 960*)
- d. If dangerous wildlife are attracted by any of the following, then these smart practices shall apply:Bird feeders must be suspended on a cable or other device so that they are inaccessible by dangerous wildlife. (*part of Village of Lions Bay Waste Collection Bylaw No. 346*)

7. Fruit Tree Restrictions

- a. Fruit fallen from a tree or bush is to be removed at least every three days when fruit is on the ground. (*part of Squamish Wildlife Attractants Bylaw No. 1876*)

8. Other

- a. Antifreeze and paint must be stored in such a manner that makes them inaccessible to wildlife. (*part of Squamish Wildlife Attractants Bylaw No. 1876*)
- b. If dangerous wildlife are attracted by any of the following, then these smart practices shall apply:Bee hives must be protected by an electric fence or otherwise be made inaccessible to dangerous wildlife; Outdoor fridges or freezers must be inaccessible to dangerous wildlife; No meat by-products or waste shall be put in compost piles. (*part of Village of Lions Bay Waste Collection Bylaw No. 346*)

Bylaw Information Sources:

Town of Smithers
 Phone: Tel: (250) 847-1600
 Website: general@town.smithers.bc.ca

District of Maple Ridge
 Phone: 604-463-5221
 Website: <http://www.mapleridge.org>

Revelstoke
 Abby Pond Phone: (250) 837-5507
 Website: <http://www.revelstokebearaware.org/constitution.htm#Bylaws>

Canmore Waste Bylaw No. 09-2001
 Phone: 403-678-1500
 Website: <http://www.canmore.ca/>

Castlegar Draft Bylaw No. 973
 Website: <http://www.castlegar.ca/>

Chilliwack Waste Bylaw No. 2976
Phone: 604-792-9311
Website: <http://www.chilliwack.com/main/>

Fruitvale Solid Waste Bylaw No. 712
Phone:(250) 367-7551
Website: <http://village.fruitvale.bc.ca/>

Kamloops Solid Waste Bylaw No. 40-50
Phone: (250) 828 3311
Website: <http://www.kamloops.ca/index.shtml>

Kimberley Waste Bylaw No. 2109
Phone: (250) 427-5311 (Press "0" for Reception)
Website: <http://www.city.kimberley.bc.ca/siteengine/activepage.asp>

Lions Bay Waste Collection Bylaw No. 346
Phone: 604-921-9333
Website: <http://www.lionsbay.citymax.com/page/page/479914.htm>

New Denver Waste Collection Bylaw No. 341
Phone: 250-358-2316.
Village of New Denver email: office@newdenver.ca

North Vancouver Solid Waste Bylaw No. 6920
Phone: 604-985-7761
Website: <http://www.cnv.org/>

Oliver Waste Removal Bylaw No. 817
Phone (250) 485-6200
See Website: <http://www.oliver.ca>

Prince George Garbage Collection Bylaw No. 7661
Bill Gaal (Parks and Solid Waste Manager)
Email: servicecentre@city.pg.bc.ca

Rossland draft Bear Attractant Bylaw No. 2230
See website: <http://www.rossland.ca>

Squamish Wildlife Attractants Bylaw No. 1876
See website: www.district.squamish.bc.ca/cityhall/bylaws_policies/

Ucluelet Garbage Bylaw No. 96
Website: <http://www.ucluelet.ca>

Vernon Refuse Collection Bylaw No. 3148

Website: <http://www.vernon.ca/>

Phone: 250-545-1361

Wells Garbage Collection Bylaw No. 6

Website: <http://district.wells.bc.ca/>

West Vancouver Solid Waste Bylaw 4118

Phone (604) 925 7176

Website: <http://www.westvancouver.ca/>

Whistler Garbage Disposal Bylaw No. 1445

Sandra Smith Phone: 604-935-8280

Website: <http://www.whistler.ca/content/view/131/165/>

Appendix Three: Plan for local Website hosted by RDOS and Links on other websites

1. Use Revelstoke Website as a possible Model
2. Info to be covered by website
 - a. Contact people (COS PEP emergency line); other?
 - b. Education materials
 - i. Garbage:
 - info on managing garbage attractants (materials for curbside/materials for other situations like personally transport to landfill etc.), key times of year, key locations to address e.g. interface areas)
 - info on bear proof garbage storage containers (where available; what they look like etc.)
 - ii. Fruit
 - info on managing commercial and residential attractants (bear proof fencing; harvest fruit/replace trees)
 - info on SIR/gleaners if applicable partnerships can be built
 - iii. Other Attractants
 - beehive attractant management
 - compost
 - other as needed
 - iv. Safety
 - c. Hazard Assessment Plan including fruit and garbage maps; highlighting goals/objectives
 - d. Conflict Management Plan including recommendations
 - e. Monitoring reports: e.g. graph of bear calls by year; bear destructions and relocations by year
 - f. Mission statement
 - g. Volunteers and what they do
 - h. Funding: info on legacy fund, tipping fee, membership?
 - i. Highlighting results:
 - i. Changes to park management
 - ii. Bylaws development
 - iii. Fencing landfills
3. Links:
 - a. To Bear Aware website and possibly other community websites with their own materials (e.g. Revelstoke)
 - b. OSCA
 - c. AEPI
 - d. Province of BC
 - e. Suppliers for fencing/bear proof containers etc.
4. Other websites to link to ours:
 - a. OSCA

- b. AEPI
- c. Bear Aware
- d. Local communities