

WildSafeBC Annual Report 2017

Squamish

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Executive Summary

This report provides context, highlights key program activities and provides suggestions for 2018. The 2017 year was characterized by a cold and very wet spring that delayed the production of black bear foods. Wildlife conflict began early with several reports of a wolf stalking residents while walking their dogs in Brackendale. This was followed by a black bear attack in the Garibaldi Highlands. Within the District of Squamish (DOS), four people have been injured by black bears during a high conflict fall of 2016 and spring of 2017. Coyote conflicts also increased in July and one dog was killed in Brackendale. Cougar reports occurred sporadically from spring to fall and were generated from Paradise Valley to Alice Lake Provincial Park to the Garibaldi Highlands. A total of eight Wildlife Alerts were issued to inform the public regarding specific wildlife activity and increased risk.

Highlights of the year included the Junior Ranger Program (524 students), the second annual BC Goes Wild weekend, 15 community events, 14 public presentations, increased compliance after bin tagging, increased social media reach and several new initiatives. These new initiatives consisted of:

- Bear Conflict Management Plan update and draft
- Electric fence demonstrations and outreach
- New signage for campgrounds and the Squamish Estuary
- Commercial dumpster stickers and Business Pledge
- Increased distribution of brochures

Recommendations for 2017 to 2018 include the continuation and further development of these new initiatives. The highest priority lies in completing the Bear Conflict Management Plan and engaging stakeholders.

Local Environmental Factors

Spring precipitation was above normal with Squamish receiving 482 mm of rain in March and 233 mm in April (Appendix I). This was followed by the third consecutive dry summer with only 3 mm of rain in August. Weather affects the production of food for bears including protein-rich spring grasses and forbs followed by high-sugar berry productions. According to anecdotal information and direct observation, the cool and wet spring possibly led to a delay in plant and berry production by two to four weeks in the Sea to Sky Corridor. However, a deeper snowpack likely lead to a better mid-elevation berry crop than 2016. Despite this, midsummer berry production was inconsistent and dependent on soil moisture, slope aspect and elevation (Steve Rochetta, per. comm.).

The pink salmon return was modest and occurred in August and September. On September 6, pink salmon were observed pooling in the lower Stawamus and at the river entrance as low water levels impeded their upstream migration.

Wildlife Data Results

A total of 577 calls regarding wildlife were made to the Conservation Officer Service through the Report All Polluters and Poachers (RAPP) line from 1 January to 30 October 2017. Black bears were the most reported species (82%) followed by cougars (8%), coyotes (3%) and deer (2%) (Figure 1).

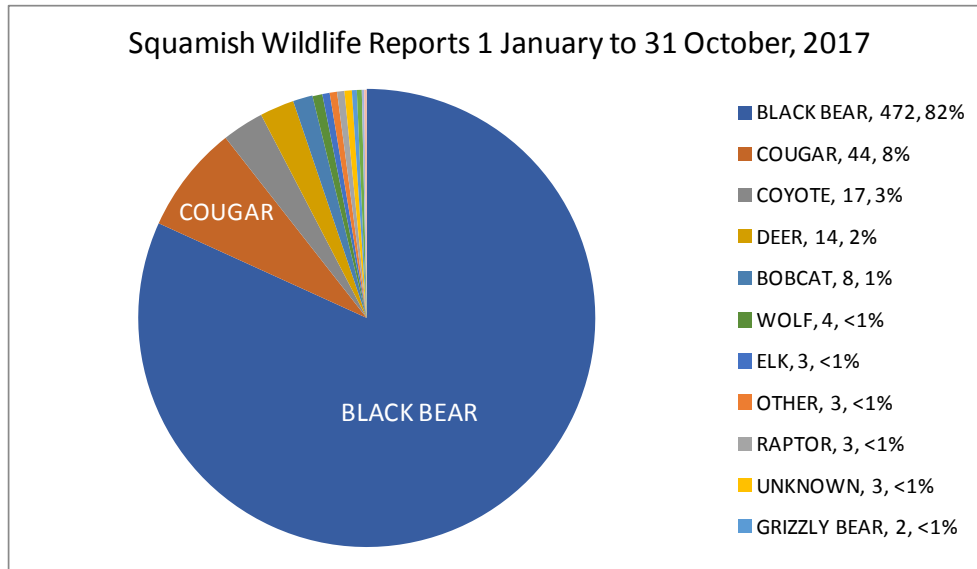


Figure 1. Wildlife reports to the COS and RAPP line in Squamish 2017

Provincial black bear reports in the spring of 2017 were higher than average in the southern half of the Province and Squamish mirrored this trend (Figure 2). May was especially active with 109 black bear reports compared to a 2014 to 2016 average of 35 reports. Factors that may have lead to this increased activity could include the lack of natural foods and the return of food-conditioned bears from the previous season. A fair crop of berries, the pink salmon return and the removal of conflict bears may have lead to a decreased number of reports in the fall.

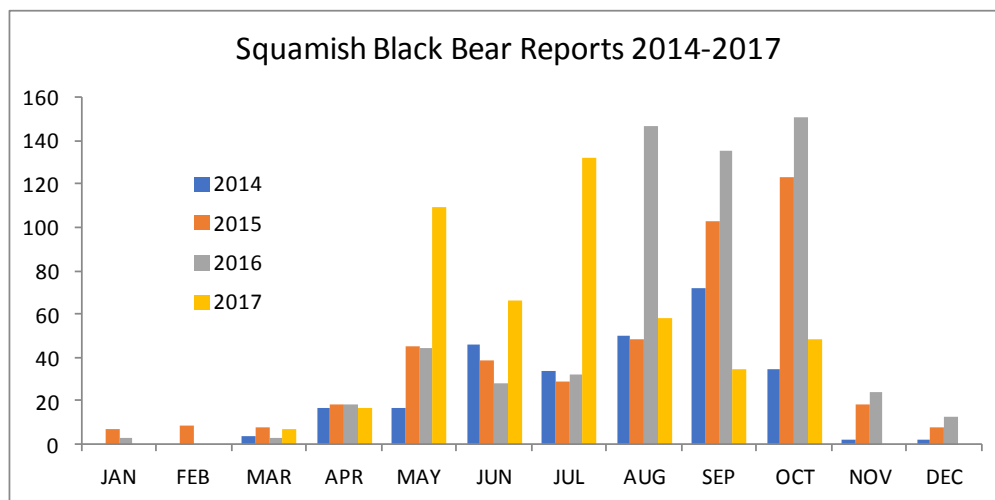


Figure 2. Squamish black bear reports by month to the RAPP line from 2014 to 2017

A breakdown of the 2017 black bear reports by encounter types lists sightings (41%) and garbage (41%) as the two leading causes for a report to the RAPP line (Figure 3). As diversion of organic waste improves, reports of bears accessing compost totes is increasing as an overall percentage.

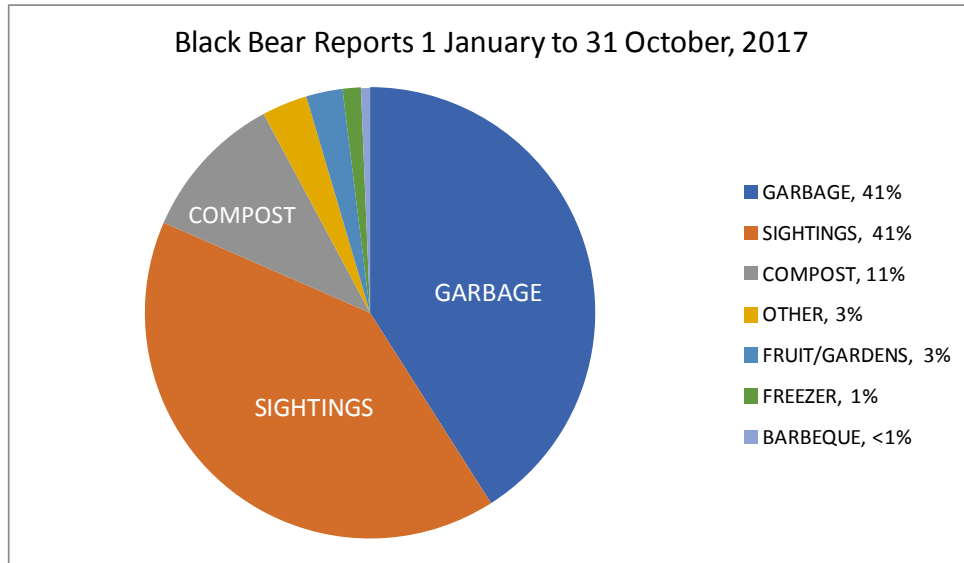


Figure 3. Squamish black bear reports by encounter type from January 1 to October 31, 2017

Wildlife Alerts

A total of eight District Wildlife Alerts were issued in 2017 (Table 2) compared to six in 2016. These alerts are issued by the DOS in collaboration with the COS and WildSafeBC. The trigger to issue an alert is often instigated by the COS when there is an increased safety risk either to the public or pets. It is recommended that these alerts continue as they are an effective communication tool and bring heightened awareness to human-wildlife conflicts and the means to mitigate them. Along with the alert, pertinent wildlife facts are included as well as specific safety messaging. Reports by Constant Contact, the software that facilitates the alerts, shows an average email open rate of 47.2%. Subscribers have increased to 947 in 2017 compared to 885 in 2016, an increase of 6.5%.

Table 2. Wildlife Alerts issued by DOS in collaboration with the COS and WildSafeBC in 2017

Date Issued	Title	Open Rate (%)
26 April	Predatory wolf behaviour on Ray Peters Trail	46
21 May	Territorial bear in Garibaldi Highlands	45
1 June	Merrill Park bear update	44
21 July	Coyote attacks and kills dog on Ray Peters Trail	66
23 August	Black bear behaviour prompts Public Safety Alert	44
18 September	Cougar sightings in Garibaldi Highlands	46
2 October	Cougar activity continues in Garibaldi Highlands	44
11 October	Threatening cougar behaviour/Credit Line Trail	43

Wildlife Alerts were triggered as a result of wolf, cougar, coyote and black bear behaviours. Wildlife conflicts began early in 2017 with reports of a grey-phased wolf stalking people with their dogs in Brackendale along the trails. This was followed by a male Squamish resident being injured by a sow black bear while walking his dog on leash with his partner in the Garibaldi Highlands. In July, after several weeks of coyote sightings in Brackendale and the Wonderland Trail, a coyote killed a small dog off leash. In August, a black bear pursued two women jogging near the Squamish golf course. September and October were marked by several cougar sightings from Alice Lake to the Garibaldi Highlands.

Two other notable wildlife conflicts that did not trigger a Wildlife Alert included a domestic cat being killed by a cougar on a resident's porch in Paradise Valley. As well, two elk were hit by vehicles in January and April along the Sea to Sky Highway between the Squamish Adventure Centre and Brennan Park. These events are a reminder of the need to be constantly vigilant, continue education and put measures in place to mitigate the safety risk as a result of living in wildlife country.

Black Bear Trends

There were eight black bears destroyed by the COS in 2017 from January to October compared to the average of 5.5 bears per year from 2006 to 2016 (Appendix II). These comprised of three bears that were previously tagged (two males and one female), one family unit, and one female and one male untagged bear. High conflict years tend to have proportionately higher bear destructions and increased risk to the public (Figure 4). There were four people injured by black bears in 2016. These encounters occurred on October 9, 2016, November 8, 2016 and May 21, 2017. These coincided with a high volume of black bear reports to the Conservation Officer Service. The 2016 attacks occurred in the Garibaldi Estates area while the 2017 incident took place in the Garibaldi Highlands.

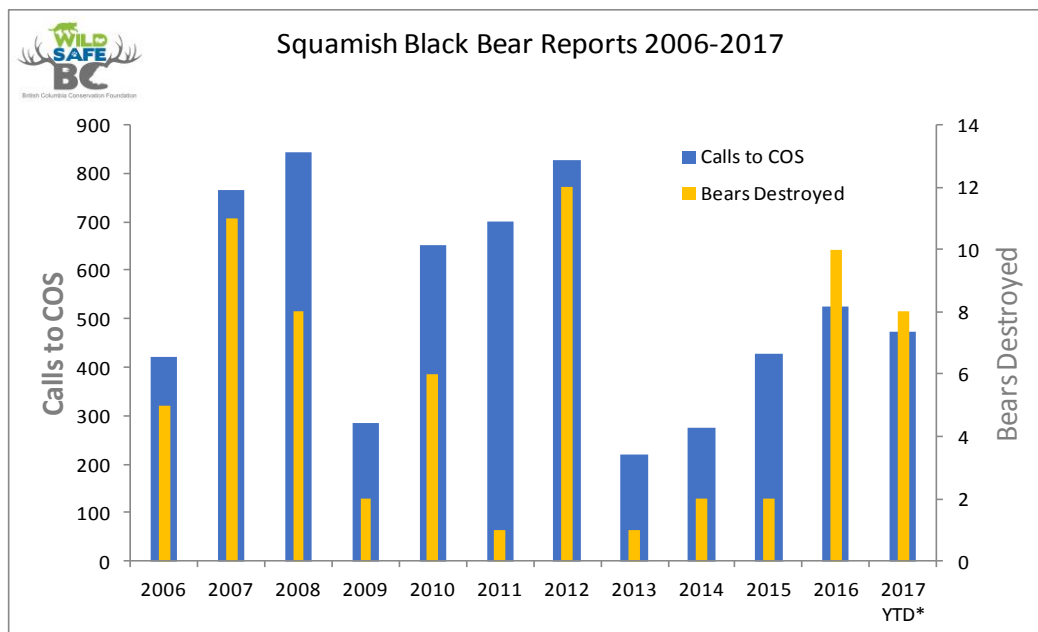


Figure 2. Black bear reports and destructions by the COS or "other" from January 2006 to October 31, 2017

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Highlights from the 2017 Season

School and Daycare Programs

The Junior Ranger (JR) program was delivered to 524 students in four elementary schools (Garibaldi Highlands, Montessori, Valleycliffe and Squamish). The JR program included an extended version for 2017 that required two school visits per class, a homework assignment and an outdoor activity. The extended version was offered to students in Grade 4 or in a split Grade 4 class. The extended version encouraged more active participation by the students and their families to complete the assigned homework that focused on wildlife attractants. Concepts that were taught in class were reinforced through outdoor games around bear food and deer habitat requirements. WildSafeBC also did presentations at local Squamish daycares and at Totem Hall for the Squamish Nation.

BC Goes Wild Weekend

Squamish held two days of events to support BC Goes Wild weekend - a Provincial celebration of BC's wildlife. The first event was "Backcountry Bears, Beers and More!" on September 13. This was a collaboration with Coast to Cascades Grizzly Bear Initiative (C2C). There were presentations by Steve Rochetta (Provincial biologist), WildSafeBC and C2C. This event was hosted at Valhalla Pure Outfitters, beer was donated by Backcountry Brewing, and door prizes provided by Onsite Equipment. There was a significant participation by 75 people, including 50 guests.



Figure 5. Presentations on bear biology, research, conservation and reducing conflicts.

The second day consisted of a number of activities and presentations that were family friendly on September 16th and hosted at the Squamish Adventure Centre. While the event was well publicized and there were a variety of activities, attendance was quite modest. There were several competing events that took place on the same day as well as beautiful weather.

Garbage Tagging

The DOS Wildlife Attractant Bylaw (NO. 2053, 2009) requires that garbage and compost totes remain locked except between 5:00 am and 7:00 pm on collection day. The bin tagging program involves driving through neighbourhoods on the eve of collection and putting stickers on unlocked totes (Appendix III). Addresses are recorded and repeat offenders are passed on to Squamish Bylaw for follow up.

The number of totes tagged for non-compliance continues to trend downwards. There were five addresses that were forwarded to Squamish Bylaw for follow up.

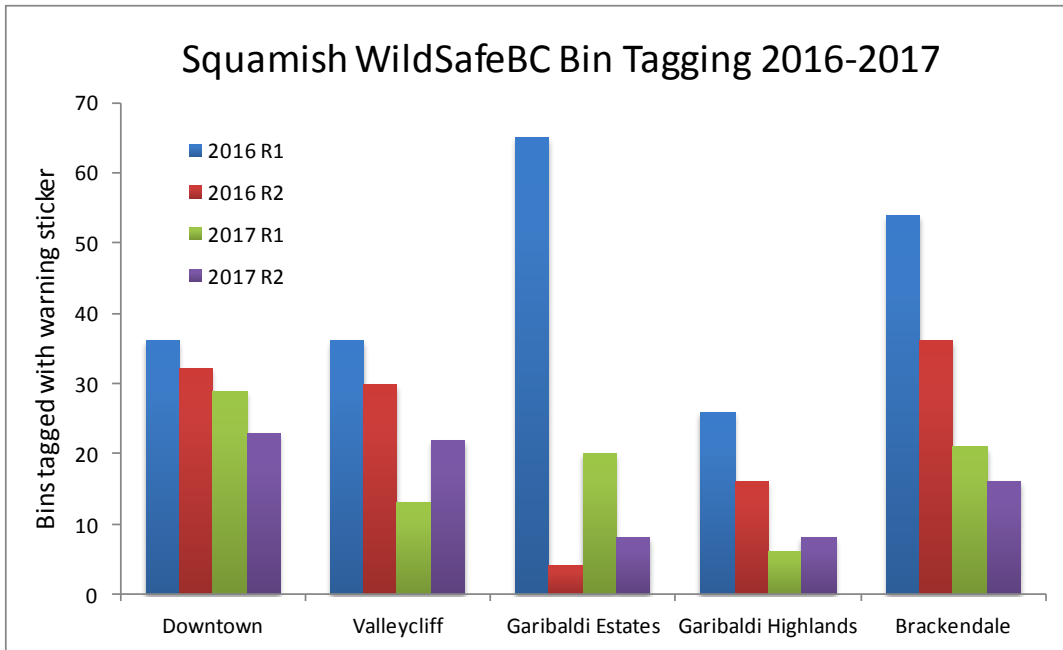


Figure 3. Results of bin tagging on the eve of curbside collection throughout Squamish from 2016 to 2017

Public Outreach, Events and Collaborations

The coordinator assisted Sea to Sky Parks officer with cougar signage at the Alice Lake Provincial Campground and participated in BC Parks Day. The WildSafeBC Community Coordinator (WCC) also coordinated with BC AdventureSmart to provide education at the Stawamus Chief trailhead. The WCC was invited by the COS to join other community groups at Murrin Park on BC Family Fishing Day.



Figure 7. Squamish WildSafeBC at various community and education outreach events in 2017.

Overall, the WCC had booths at 15 events including 3 Farmers' Markets. WildSafeBC was invited to present at Quest University, the Squamish Chamber of Commerce, the Squamish Nation Family Resource Centre, Squamish Streamkeepers, BC Rivers Day, Brennan Park staff, 55 Activity Centre and the Shannon Falls Residence. The WCC also organized and presented at the Squamish Library and during BC Goes Wild weekend events for a total of 14 presentations.

Social Media

Between January 1 and October 31, 2017 the WCC posted 132 times on [Facebook](#) and had a total reach of 120,318. Page likes doubled over this period from 344 to 689.

Wildlife Working Group

The WCC continued to chair four Wildlife Working Group (formerly Bear Working Group) meetings with stakeholders. These include the DOS, COS, RCMP, waste management services provider, Squamish Nation, park operators and other government agencies. These meetings improve communications and bring to light opportunities and challenges. The frequency of these meetings decreased when the Bear Conflict Management Committee (BCMC) was created in July as there was significant overlap in members.

Bear Conflict Management Committee

The purpose of the BCMC is to update the current Bear Conflict Management Plan (BCMP) that was written in 2006 (McCrorry and Paquet, 2006), implement the plan and monitor progress. Members include the DOS, COS, waste management services provider and the Squamish Nation. The goal is to propose a five year plan that can be updated when new information becomes available - also known as adaptive management. The updated plan will identify the following:

- Current bear conflict and management issues in the community.
- Groups and individuals that will address these issues and develop solutions for addressing them.
- Establish clear short-term and long-term priorities.
- Propose strategies and a time frame to achieve the identified priorities.
- Identify benchmarks and objective measures of progress and success.

The BCMC should be prepared to engage the community and provide opportunities for engagement with other stakeholders and user groups (i.e., SORCA, Trails Society, Environmental Groups, Developers, Property Managers, Chamber of Commerce etc.). Having these groups participate in the process will increase ownership of solutions and will promote community-wide best practices. A substantial draft document has been prepared and is currently being reviewed by the BCMC.

New Initiatives

Commercial Bin Stickers and Business Pledge

WildSafeBC collaborated with the DOS and Carney's Waste Systems to produce an education sticker for commercial dumpsters (Appendix III). Costs were shared and 50 stickers were produced. In conjunction, the coordinator created a Business Pledge document to promote best practices. This voluntary program supports businesses in educating their staff on bear smart practices and promotes compliance with the Wildlife Attractant Bylaw. The WCC installed several of the stickers and had four businesses sign the pledge.

Electric Fencing

The WCC installed a temporary electric fence as a demonstration at the Brackendale Fall Fair. A properly installed electric fence can be very effective at deterring bears from accessing a variety of attractants. They are a potential solution for those that cannot harvest their fruit in a timely fashion. Bears are known to access fruit trees before the crop is fully ripe and damage the trees and surrounding property in the process. Fruit trees, like other anthropogenic attractants, lead to human-habituation and food-conditioning.



Figure 8. Electric fence demonstration at the Brackendale Fall Fair.

Signage

New campground signage was created in collaboration with the District Communications Group for the Kinsman Municipal Campground and the not-for-profit Mamquam Campground. These are ready to install in the spring of 2018. Work has also progressed on an interpretive sign for the entrance to the Squamish Estuary. This sign includes an updated trail map and was developed in collaboration with the DOS, several community groups and the Ministry of Environment.

WildSafeBC Brochures

WildSafeBC brochures have historically been available at the Squamish Adventure Centre and Brennan Park. Both locations were provided excess stock in order to replenish their displays. Acrylic brochure holders were also purchased and distributed to several businesses from Brackendale to Downtown Squamish. Over 5000 brochures were picked up by the public in 2017.

Recommendations for 2017-2018

Squamish has made extensive progress since 2006 and the DOS is commended for their commitment to reducing human-wildlife conflicts, maintaining their Bear Smart Community status and supporting the WildSafeBC Program. However, challenges exist with changing human population dynamics and increased pressures on human and natural resources. Many of these challenges and opportunities will be explored in greater detail in the BCMP. It is recommended that the immediate focus be on completing the plan and begin implementation in 2018. The plan cannot be effectively implemented without DOS, stakeholder and community involvement.

References

Environment Canada. 2017. Canadian Climate Normals. Government of Canada. Accessed 12 November 2017 at: http://climate.weather.gc.ca/climate_normals/index_e.html.

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Acknowledgements

I would like to thank the District of Squamish for its ongoing support of the WildSafeBC Program. A special thanks to District staff and Jeff Sim, Senior Director of Human Resources and Public Safety. The coordinator would like to recognize that this program would not be possible without the support of the Squamish Community and Squamish Council. Thank you also to Austin Chandler, Team Leader and the other members and of the Squamish Nation that I have collaborated with in 2017.

I would also like to recognize the important role of the Conservation Officers and Squamish Bylaw Enforcement Officers that work collaboratively with the WildSafeBC Community Coordinator. Their support directly impacts the effectiveness of this program. The information and insight they provide is invaluable.

In 2017 I worked with a number of volunteers and would like to thank them for their commitment and support. The strength of this program is reinforced and broadened by this team of caring individuals. This program is delivered with the support of a dedicated team at the BC Conservation Foundation that provides guidance, insight and materials. Many thanks to all for their commitment to reducing human-wildlife conflicts.

Special events and presentations were made possible through the support of various community partners and they are acknowledged throughout the report. Their support greatly facilitated the delivery of this program. Financial support for this program is generously provided by the Ministry of Environment, the District of Squamish and the British Columbia Conservation Foundation.

Appendices

Appendix I - Squamish rainfall compared to climate averages

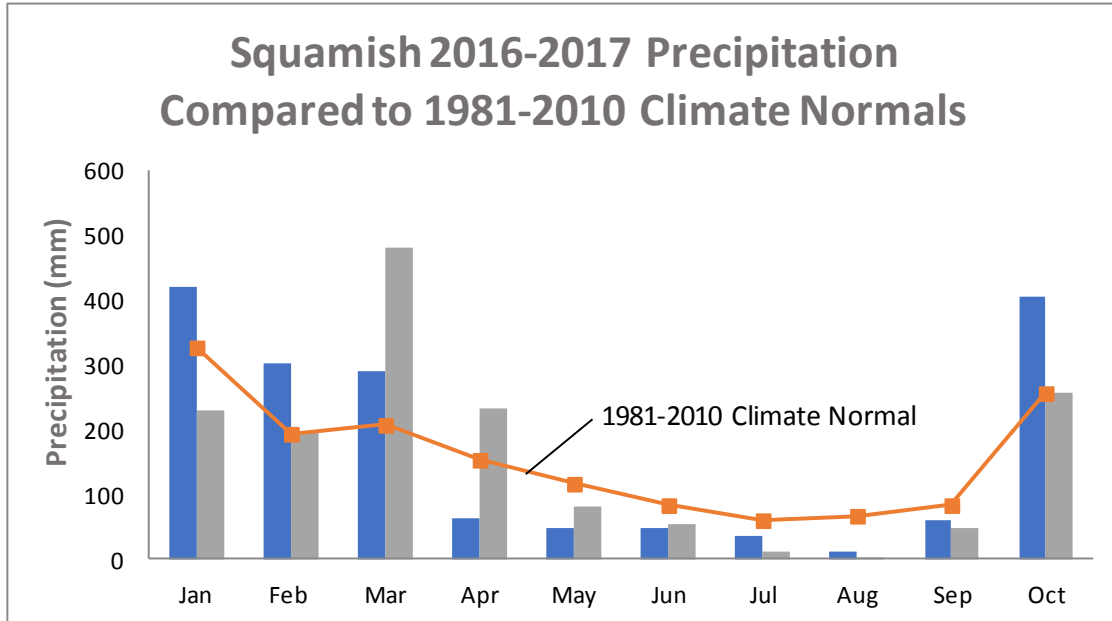


Figure 9. March and April were particularly cool and wet months followed by another dry summer. March was particularly wet with 482 mm of rain. August was extremely dry with only 3 mm of rain (Environment Canada, 2017).

Appendix II - Squamish black bear statistics

Squamish Black Bears			
Year	RAPP Calls	Destructions by COS or other	Motor Vehicle
2004		24	
2005			
2006	422	5	N/A
2007	767	11	N/A
2008	845	8	5
2009	285	2	5
2010	652	6	4
2011	699	1	5
2012	826	12	9
2013	220	1	5
2014	275	2	
2015	428	2	1
2016	722	11	N/A
2017 YTD	526	8	N/A

Figure 10. Historical black bear mortality statistics from 2004 to 2017 (*2017 YTD includes 1 January to 31 October).

Appendix III - Commercial dumpster sticker and business pledge



Figure 11. Commercial dumpster sticker

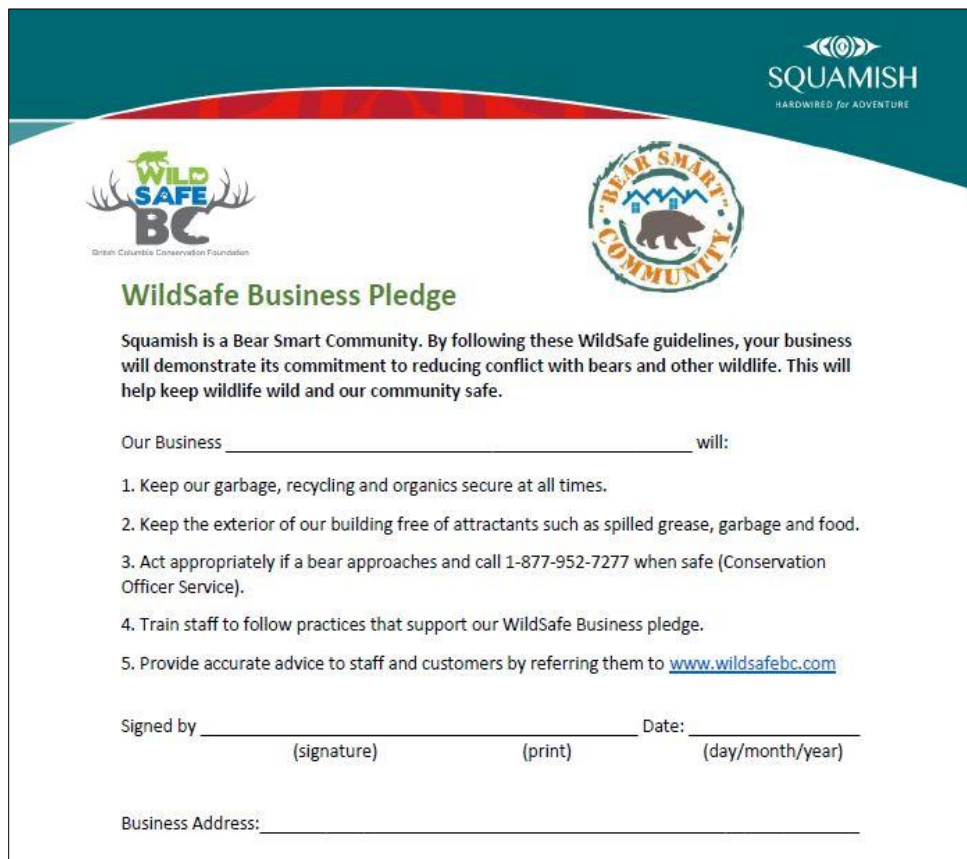


Figure 12. Business pledge