

# **TOWARDS A “BEAR-SMART” FUTURE**

Bear Smart Program: Eastside King County Pilot Project



“Wildlife officials: 7 freeloading bears  
target woman's home” KOMONews.com , September 9, 2014

“Snoqualmie Bear on Food Hunt Climbs Fence, Hoists  
out Whole Garbage Can with Mouth.” Living Snoqualmie, May 30, 2014

“Three bears spotted in Union Hill  
neighborhood, no Goldilocks.”

Redmond Reporter, June 18, 2015

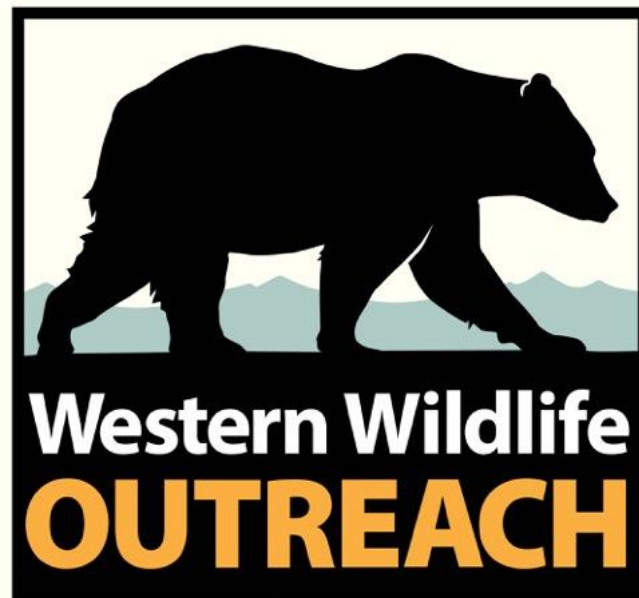
**“BLACK BEAR CAPTURED IN  
WOODINVILLE WITH KRISPY  
KREME DOUGHNUTS.”**

The Woodinville Weekly, July 9, 2014

“Issaquah family shocked when  
'prowler' turns out to be black  
bear.” KomoNEWS.com, September 7, 2014

“Bear previously spotted in Kirkland  
captured after climbing up tree near Fred  
Meyer.” Kirkland Reporter, Oct 16, 2015

# **A Project of Western Wildlife Outreach**



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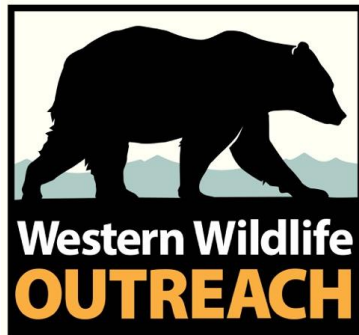
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## Who We Are



Since 2002, first as the Grizzly Bear Outreach Project (GBOP) and then as **Western Wildlife Outreach (WWO)**, WWO has been active in Washington & Idaho communities promoting a science-based, understanding of the four large carnivores native to the Pacific Northwest - black bear, grizzly bear, gray wolf and cougar. WWO works with local communities, outdoor recreationalists, businesses, schools, service clubs and youth groups, providing information regarding the ecology and behavior of these species as well as the facts on the low level of risk associated with living and recreating in the same landscapes where large carnivores exist. By engaging communities in long-term wildlife and habitat stewardship activities, WWO programs foster an appreciation for the large carnivore's niche in maintaining ecosystem health, providing critical context and links to other species and habitat recovery efforts currently ongoing across Washington State.

Washington Department of Fish and Wildlife (WDFW) is responsible for the management of all wildlife species and the laws that govern them in Washington State. WDFW wildlife managers and members of the Enforcement Program work in partnership with WWO to foster wildlife/carnivore



*Washington  
Department of*  
**FISH and  
WILDLIFE**

awareness and familiarity with Washington's wildlife laws. Fish and Wildlife Enforcement Officers are deployed throughout the state's six regions. WWO's "Bear Smart" Program will be located in WDFW Region 4, which covers the Northern Puget Sound portion of the state from King County to the Canadian border. WDFW's Enforcement Program includes the Karelian Bear Dog Program (KBD), which was established to resolve conflicts between humans and bear/cougar in a non-lethal manner whenever feasible. Using innovative "hard-release", hazing and harassment techniques, the program has successfully saved bears that would have otherwise been destroyed. KB dogs are also used to locate orphaned and injured wildlife and transport them to recovery facilities across the Pacific Northwest.



## Introduction

Scenes like the one pictured here are becoming more common in a number of North American communities (Fig 1). As human populations expand into prime black bear habitat, humans and bears are brought into closer proximity when bears seek out the food resources they need to survive. Although black bears are generally not dangerous, bears that find their way into residential communities through the lure of easy food resources can pose a threat to humans and their pets, when they become accustomed to relying on human provided sources of food (garbage, pet food, bird feeders) and food waste (barbeques, compost piles, carcass pits). WWO, in partnership with the Washington

State Department of Fish & Wildlife (WDFW) is proposing to implement the **Bear Smart Eastside King County Pilot Project** as the next step in taking proactive measures to prevent such encounters from becoming the norm in the Puget Sound region.

Communities along the urban/wildlands interface who have not addressed this problem with sufficient resources have watched as bears who once skirted the edges of their neighborhoods are now so habituated to humans and their associated food sources that they inflict property damage on fences, sheds, automobiles and homes in their



Figure 1 Black Bears in Issaquah Highlands, Courtesy Issaquah Highlands Community Association, "Bear Sightings Throughout IH" Blog, May 27, 2015



perpetual search for these easy to access calories. In June 2015 WWO staff and interns, with the assistance of WDFW, began researching the increasing frequency of and reason for human-black bear incidents in Eastside King County. WDFW provided WWO with an early data set of citizen-reported bear incidents for 2014 and 2015, which were then transferred into an excel spreadsheet and spatially displayed in ArcGIS maps (Appendix A). Bear-resistant container sanitation service contracts, municipal wildlife ordinances and enforcement policies were researched and a preliminary assessment completed (Appendix B). Finally, "Bear Smart" education and outreach programs from around North America were reviewed and staff or volunteers consulted on their program strategies in order to determine what would be feasible for outreach efforts in Washington state communities, specifically the Northern Puget Sound and Eastside King County.

In the following report WWO synthesizes these research efforts by:

- ✓ Defining the size and scope of the human-black bear conflict issue in Eastside King County,
- ✓ Identifying key factors causing that human-black bear conflict, and
- ✓ Outlining a specific recommendation for an outreach/education strategy to reduce to "near zero" the number of human-black bear negative encounters occurring in Eastside King County and beyond.

## The American Black Bear (*Ursus americanus*)

American black bears (*Ursus americanus*) are the most numerous of all the bear species of the world, occurring in habitats across North America with a population estimate of around 20,000 widely distributed throughout Washington State. Not only are they found exclusively in North America, black bears are the only living bear species to have evolved here (WWO 2010). Black bears reside in temperate rainforests, dry eastern slope woodlands, neighborhood greenbelts, and anywhere they can find forest cover and plentiful food from sea level to 10,000 foot elevations. Their habitat is characterized by thick forested areas and understory vegetation with an abundant supply of fruit and nut-bearing trees and shrubs. Short, curved claws make black bears excellent tree climbers. Their claws are also well-suited for tearing apart snags and logs and digging up forest duff where they encounter food such as insects and their larvae, small rodents and amphibians.

Though named black bear, their colors range from black to cinnamon, brown to blonde, and rarely white or blue-gray. Black and cinnamon are the most common color phases in Washington, with bears west of the Cascade crest being predominantly black. Females average 150 pounds and males 225 pounds. They are primarily opportunistic omnivores, travelling about their territories, up to 100 square miles, in response to the seasonal availability of food. Black bears have excellent memories and their sense of smell is unparalleled – more than seven times greater than a dog. They spend their days learning about particular foods and developing their memory about where they can be encountered. Some individual bears have been known to so finely tune their knowledge

**"[Bears] don't associate...food with where the food is. They associate it with what's around it. They associate it with the garbage can itself, then they associate it with homes. They know cans are next to homes, so they learn that people's homes are food. Where a bear might not come back to that particular house, when he's walking along a greenbelt and he sees a house, in his mind it clicks, 'Hey, there's food at homes.'" Jason Capelli, WDFW Fish & Wildlife Officer**

of where garbage cans are located, that they actually learn the days and routes used by garbage haulers.

In the temperate rainforests found in the coastal watersheds of the Pacific Northwest, migrating salmon seasonally comprise a substantial part of the black bear’s diet. In fact, black bears provide essential ecosystem services in these watersheds. Foraging bears transfer large numbers of salmon (eight bears transferred 3100 salmon in one study) from the stream into the riparian zone, leaving the remnants of the decomposing carcasses fixing much needed nitrogen into the soils of the Northwest Coast (Reimchen and Fox 2013). The nutrients provided by the salmon are taken up by the root systems of giant coniferous trees, such as Sitka Spruce, and researchers have discovered that the marine-derived nitrogen from salmon contributes substantially to the size, health and vigor of these trees and the surrounding forest community (Fig 2).

**During the fall and prior to hibernation all bears enter a physiological phase called hyperphagia, a**

**term that literally means “excessive eating.”** Foraging up to twenty hours a day during the autumn months, black bears increase their body weight by thirty-five percent in preparation for winter hibernation. While black bears prefer their native foods, easy-to-access anthropogenic (human-provided) food sources are extremely tempting. Accessing garbage requires little energy expenditure with the payoff being

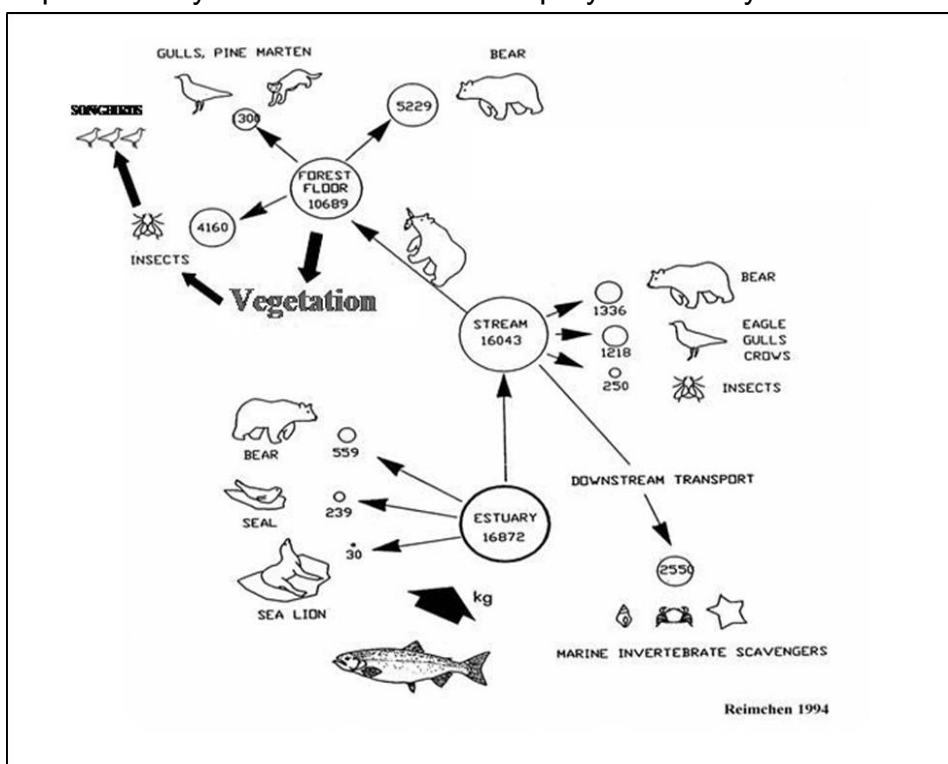


Figure 2 Ecological linkages between marine and terrestrial communities are important processes structuring coastal ecosystems (Reimchen and Fox 2013).

concentrated, nutrient rich, calorie-packed food. As long as the perceived level of risk is low and the pay-off high, bears will return to anthropogenic food sources again and again.

This “food conditioning” is dangerous for both people and bear alike. Black bears experience a range of impacts through increasing contact with humans and reliance on the food sources they provide. In addition to digestive disruption and illness from ingested plastics and other non-consumable materials obtained from garbage cans and other food waste resources, black bears showed decreased natural foraging behavior, shifts to more nocturnal patterns and an increase in birth rates. Food-conditioned bears may also rouse from hibernation more

frequently in order to seek out always available human-provided food sources. Once bears learn they can obtain food from humans, they become persistent in their attempts to access this resource (BCME 2002).

When a bear becomes conditioned to seek out anthropogenic sources of food, the interaction rarely ends well for the bear. In order to access attractants, bears take more risks crossing roads and highways, losing their wariness around people in the process. Many meet their deaths in this manner. Wildlife officials will sometimes try to relocate these bears. However, relocation as a mitigation tool has become increasingly unpopular among managers based on their experiences and the growing scientific evidence refuting its effectiveness (Gore et al 2006). Bears are relocated to habitat areas where other bears may already be in residence. Newcomers are at substantial disadvantage in seeking out food, and frequently return to the area from which they were removed.

In Washington state, WDFW has begun utilizing a new approach to discourage persistent bears: hazing in place (Fig. 3). This method involves trapping the bear as

**"Why spend all day picking berries one by one when you can do a hit and run in five or 10 minutes and live for an entire day? It's time management," said Department of Fish and Wildlife Bear/Cougar Specialist Rich Beausoleil. "It's no different than you or I hitting the drive through at McDonalds."**

**KOMONews.com, Sept 9, 2014**

near as possible to the problem food source, anesthetizing the bear to tag and examine it then, making sure the animal has a clear escape route, utilizing the Karelian Bear Dogs and other non-lethal means to harass the bear (bean bags, loud voices, rubber bullets, e.g.) away from human landscapes and back in to its natural habitat. This new method ensures that the animal is left with a very bad memory of that particular place, so that it no longer considers it a source of easy food. Additionally, KBD’s act as an agency ambassador for community members who, seeing the dogs in action, are often more likely to retain bear safety messaging and adhere to bear manager’s requests to remove the attractants that brought the bear into the area in the first place (Beausoleil & Lackey 2015).



*Figure 3 Fish & Wildlife Officer's use non-lethal methods to haze a black bear back into its natural habitat. Courtesy WDFW*

## “Bear Smart” Program Review

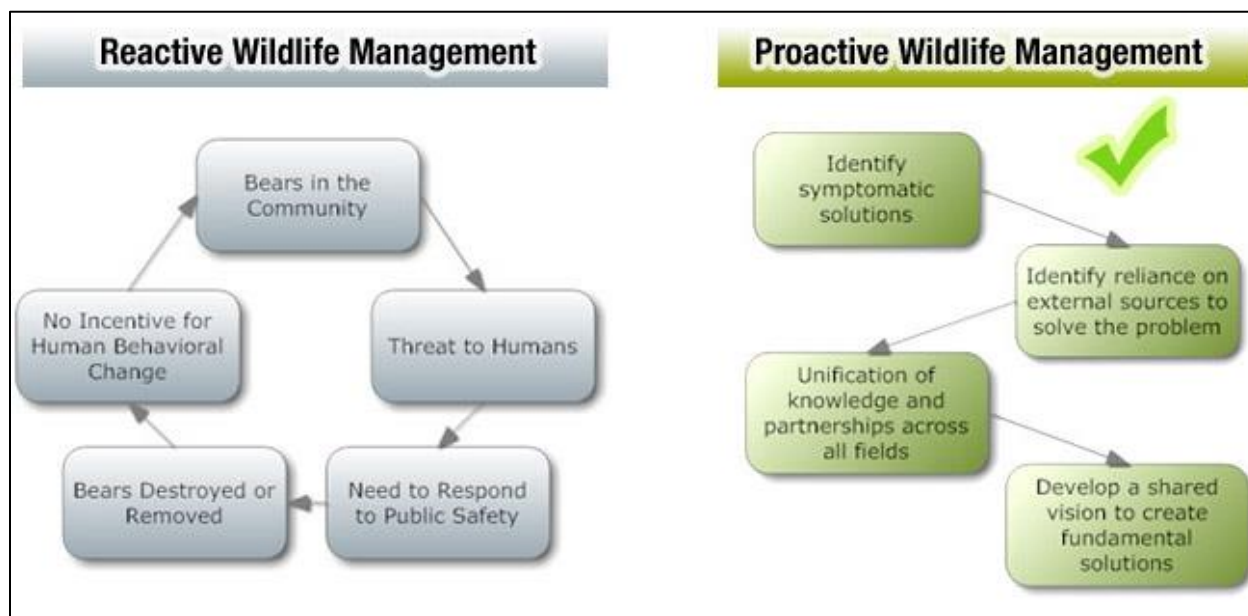


Figure 4 Courtesy of BC Consulting Service, Retrieved January 2016

The aim of all "Bear Smart" programs is to reduce conflict between humans and bears by shifting from “the reactive management or removal of ‘problem’ bears to the proactive management of human behavior and management of the attractants that draw bears into communities” in the first place (Fig 4.) In order to achieve long-lasting success, full buy-in and compliance by county and city municipalities is essential. People-focused non-lethal wildlife management strategies like “Bear Smart” focus on education and outreach regarding bear behavior, and how humans can respond with practical methods for securing human-provided food attractants that may bring bears in to proximity with humans (Gore et al 2006). Most bear managers now realize that lethal removal or relocation of "repeat offender" bears is not a long-term solution, and there is diminishing public acceptance for this approach in many communities. Human-targeted education intervention has proved to be the most successful approach for addressing and reducing human-bear conflicts.

In 2002 the British Columbia Ministry of Environment, (the Ministry) conducted a thorough literature review of human-bear conflict management programs. The Ministry published the [“Bear Smart” Community Program: Background Report](#) presenting criteria

communities should meet in order to be certified a “Bear Smart” area (BCME 2002). In sum:

*“...It is recommended that achieving “Bear Smart” status should be a two-stage process. In Phase I, the sources of potential human-bear conflicts within the community are identified. This typically involves identifying non-natural and natural attractants. In Phase II, a human-bear management plan is developed and implemented. This management plan includes components on monitoring human-bear conflicts, education, managing waste, implementing and enforcing bylaws, managing green space, and community planning. The “Bear Smart” process is designed to be adaptive, so that new management options or improvements can be incorporated into each phase. Criteria for each step in the process are provided so that communities have clearly defined and achievable targets.”*

The Ministry’s report recommends the following minimum criteria for development of a “Bear Smart” community:

Phase 1: Conduct Preliminary Hazard Assessment. The specific objectives of the Preliminary Hazard Assessment are to: 1) identify sites, areas, trails, and practices that have historic, existing, and potential human-bear conflict, 2) identify gaps in the existing knowledge of bear use and human-bear conflict in the area and provide recommendations for further investigation and additional hazard assessment phases, and 3) produce management recommendations to reduce existing and potential conflict within the community.

Phase 2: Develop Human-Bear Conflict Management Plan based on the above analysis and use adaptive management practices to keep it responsive to new knowledge and changing conditions.

WWO’s current “Bear Smart” Program is a proactive educational effort that encourages the involvement of communities and individuals to help reduce human-bear conflicts through education about bear behavior and the identification and elimination of bear attractants (WWO 2010). WDFW is fortunate to have the Karelian Bear Dog Program to assist agency responders in a multitude of bear management roles, from tracking, locating, capturing and hazing bears, to entering a classroom of elementary school



students as ambassadors for “Bear Smart” behavior around their homes and in their communities (Beausoleil & Lackey 2015).

In consultation with WDFW, WWO began Phase 1 of assessing ways to expand “Bear Smart” programming into zones of frequent human-black bear interactions by conducting a preliminary analysis of the human-black bear conflict in the Eastside King County region. After reviewing twenty-four Eastside cities for any local “Bear Smart” efforts, the initial investigation pointed out the pressing need for a coordinated approach between WDFW and WWO to address human-bear conflicts. Local community groups and individuals sporadically provide messaging on bear safety in community newsletters, blogs and on social media sites, yet no ongoing outreach or monitoring efforts have been sustained.

Cornell University researchers conducted a review of “Bear Smart” programs and analyzed them according to six criteria (Table 1, pp 14-15). Their findings showed that education programs designed to reduce human-black bear conflict are often implemented by diverse groups of stakeholders, including non-governmental organizations, state and federal wildlife agencies, community associations, animal welfare groups, and others, who may apply large amounts of resources towards programming (Gore et al 2006). However, the findings also note that little had been done to characterize the structure of those programs or their effectiveness.

Gore et al argue that evaluation of bear-related education programs should focus on outcomes that actually relate to an increase or decrease in human-black bear conflict, not just delivery of education messages, and these changes interpreted relative to the suite of forces that may have influenced them (Gore et al 2006). WWO seeks to develop the Bear Smart Eastside King County Pilot Project with these proposed performance indicators and explanatory variables in mind (Table 2, pp 16), in order to determine effectiveness of bear education outreach strategies for the pilot project so that a regional educational strategy can be developed for implementation across the state.

<b>Table 1. Characteristics of 6 North American education programs designed to reduce black bear–human conflict, 2003 (presence ¼ x, absence ¼ –) (Gore et al 2006, pp 77).</b>							
<b>Category</b>	<b>Characteristic</b>	<b>Adirondack State Park, NY</b>	<b>West Yellowstone, MT</b>	<b>Central Florida</b>	<b>Northern New Jersey</b>	<b>Whistler, BC, Canada</b>	<b>Lake Tahoe, NV and CA</b>
<b>Target audience</b>	user groups	X	X	-	-	X	-
	students and teachers	-	X	X	X	-	-
	residents	-	X	X	X	X	-
	individuals	-	-	-	X	-	-
	no audience specified	-	-	-	-	-	X
<b>Problem</b>	black bear–residential human conflict	-	-	X	X	X	X
	black bear–visitor human conflict	X	X	-	-	X	X
	lethal control	X	-	-	X	X	X
	lack of accurate perceptions of bears	-	X	-	-	-	-
	black bear–human conflict counteracts conservation efforts	-	-	X	-	-	-
	preventable access to garbage and unnatural food	-	-	X	-	-	X
	bears damaging or threatening property	X	-	X	X	-	-
<b>Stakeholders</b>	state agency	X	-	X	X	-	X
	federal agency	-	X	X	-	X	X
	local conservation group	X	X	-	X	X	X
	national conservation group	-	X	X	-	-	X
	municipality	-	-	X	-	X	X
	retail store	X	-	-	-	-	-
<b>Interventions considered</b>	lethal control	X	-	X	X	X	X
	translocation	-	-	X	-	X	X

	garbage ordinance	-	-	-	X	X	X
	restricted use	X	-	-	-	-	-
	none	-	X	-	-	-	-
<b>Program objective</b>	reduce magnitude or frequency of black bear–human conflict	-	-	X	X	X	X
	reduce lethal control of bears	-	-	-	X	-	X
	promote bear conservation	-	-	X-	-	-	-
	promote black bear–human coexistence	-	-	X	-	-	-
	increase awareness of human actions that result in conflict	X	X	X	-	-	-
<b>Performance indicators</b>	reduction in complaints to authorities	X	-	X	X	X	X
	lack of acute black bear–human conflict	-	-	-	X	-	-
	increased requests for information	-	-	X	X	-	-
	knowledge acquisition and behavior change survey	-	-	X	-	-	-
	none	-	X	-	-	-	-

**TABLE 2: Data from state wildlife agencies, research institutions, conservation organizations, or governments that may assist in the interpretation of black bear education program efficacy, that goes beyond only considering the number of black bear-related complaints filed with authorities. These explanatory variables may increase or decrease complaints filed to wildlife authorities (Gore et al 2006, pp. 78).**

Type	Form
Harvest	Number of bears harvested
Food availability	Magnitude of food or seed crop, availability of human foods
Management	Number of bears translocated and euthanized, expansion of hunting range or season
Habitat	Landscape level changes in forested, agricultural, or residential areas.
Human Dimensions	Changes in attitudes, beliefs, motivations, and values.
Weather	Precipitation, temperature, season
Ecology	Survival rates, movement or distribution throughout landscapes, denning chronology

## Bear Smart King County: Eastside King County Pilot Project

### *Defining the Scope of Human-Black Bear Conflict in Eastside King County*

WDFW officials state that black bear complaints are increasing and range from fleeting glimpses to close encounters. ([WDFW website](#), retrieved June 27, 2015). Attached to this report are ArcGIS maps representing an early data set of 2014 and 2015 human-black bear incidents reported to WDFW in the Eastside King County region (Appendix A). The spatial analysis of these data demonstrate that human-black bear incidents have increased in Sammamish, Redmond and Woodinville between 2014 and 2015 and that Issaquah and Snoqualmie, where WDFW

outreach efforts have been focused, have decreased (Fig 5). Prior to 2014, black bear incidents numbered between 400 to 500 annually. In the last two years, human-black bear incidents have neared 700 incidents per year in the Eastside King County area (Beausoleil, personal communication, July 26, 2015).

***It is important to note that the bear incident numbers shown on the maps included with this report do not reflect how many bears there are in the area but***

### King County Bear Incidents 2014 & 2015

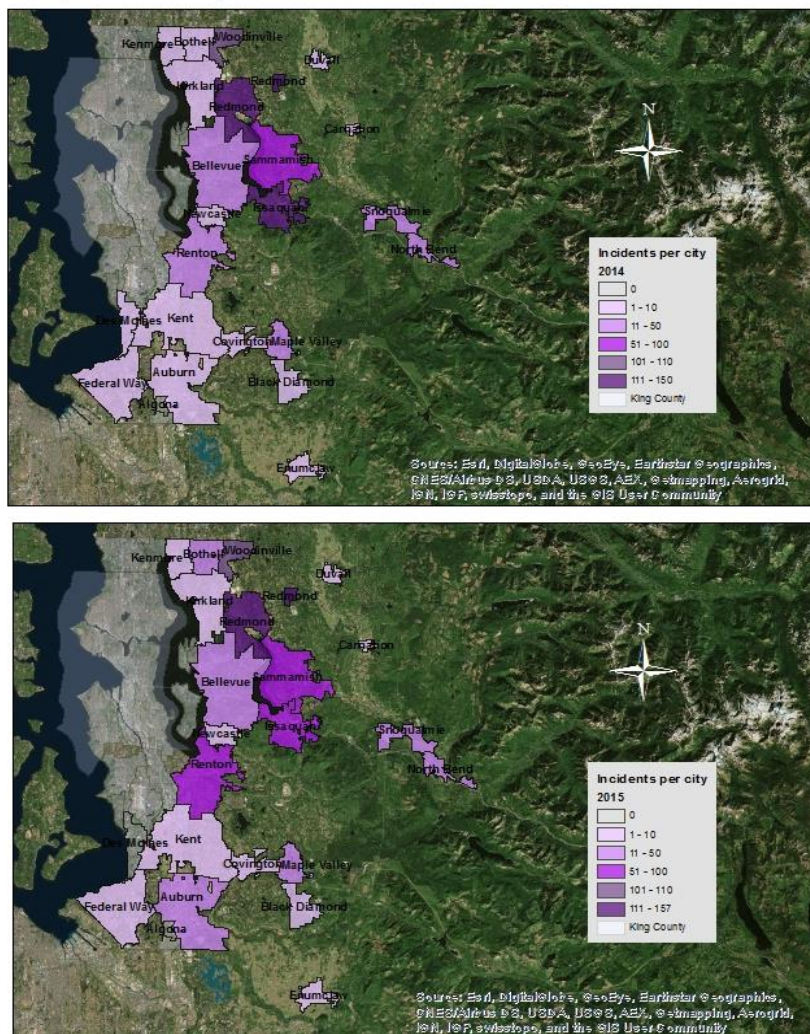


Figure 5 WDFW 2014 & 2015 Human-Black Bear Incidents, Courtesy of Sgt. Kim Chandler

***rather how many people were concerned about the presence and/or behavior of an observed black bear to report it to WDFW officers. In other words, one individual bear could be responsible for multiple phone calls.*** (WWO-WDFW Work Session, October 27, 2015).

For humans residing or recreating in black bear country, WWO and WDFW provide sound management advice to safeguard against attracting bears into residences and campsites. And yet, preliminary data provided to WWO by WDFW confirms that the number one reason these calls are being made to wildlife officials is bears being attracted by the presence of human provided food sources.

### ***Factors Causing Human-Bear Conflict in Eastside King County***

There are three major factors that correlate with black bears turning up in human landscapes – garbage, bird feeders and fruit trees. In Phase One of the Bear Smart King County Pilot Project, WWO is proposing on focusing on the primary black bear attractant - garbage cans.

Negotiating bear-resistant sanitation services between cities and waste haulers is one step in mitigating human-black bear conflict in Eastside King County. Bear-resistant waste management is a multi-tiered strategy involving many stakeholders.

***“The “Big 3” that attract bears are garbage, bird feeders and fruit trees If Agency personnel focused on having homeowners, businesses, and campers remove the “Big 3” when they respond to conflict situations, the number of conflicts would likely decrease markedly over time.”***

***Beausoleil & Lackey 2015***

**Out of the twenty-four Eastside King County cities included in WWO’s research, less than half have negotiated contracts with sanitation services for the provision of bear-resistant containers to their residents, and preliminary data indicates that several of these cities may correlate with high numbers of reported human-black bear incidents.** More effective distribution of information about the role of human behavior in resolving these conflicts needs to be disseminated to the public. Any sustained approach to addressing the long-term issue of human-black bear conflicts in Eastside King County needs to include working with both municipalities and waste haulers to require the use of bear-resistant containers in targeted areas of black bear occurrence. Attached to this report is a more

detailed examination of bear-resistant sanitation services in the Eastside King County region (Appendix B)

Finally, the Eastside King County area encompasses a diverse human demographic, a wide-range of wildlife and their habitats, with varying levels of municipal involvement and resources. Since 1990, immigration has been responsible for nearly half of King County’s population growth and 2010 Census data show an increase in King County’s overall population diversity from nine percent in 1990 to twenty percent in 2011 (Felt 2013). This is also an area

***“We’ve had more calls in Redmond this year than ever before,” Jason Capelli, WDFW Fish & Wildlife Officer said. “Woodinville, Duvall, Carnation, Bellevue, Issaquah, Sammamish. You have bears in your neighborhood if you live east of 405.”***

**(KOMONews.com, Sept 2014)**

where growth has been fueled by a boom in the technology sector. While King County experienced an overall 11.2 percent population growth, the Eastside King County human population grew an astounding 53 percent around the Redmond-Sammamish Plateau with Issaquah nearly tripling in size (Felt 2013). There are more than one-hundred and seventy languages spoken in this demographic, the top three being Spanish (25.4 %), Chinese (12.7%) and Vietnamese (7.5%) (Felt 2013). This high immigration population into the Eastside suggests that many may lack familiarity with Washington’s wildlife, particularly large carnivores like black bears, a species native only to North America and the only living bear species to have evolved here (WWO 2010). WWO started preparing to work with stakeholders in non-English speaking demographics this past year when bear and wolf outreach materials were translated into Spanish.

### ***“Bear Smart” Outreach Strategy for Reducing Human-Bear Conflict***

From dumpster diving at the Issaquah Costco to eating apples off orchard trees in Redmond, black bears are everywhere people are – and aren’t – in Eastside King County, making it the ideal place to concentrate teaching and embedding behaviors in Washington communities around the best management practices for food storage and food waste disposal. In order to develop a comprehensive suite of education and



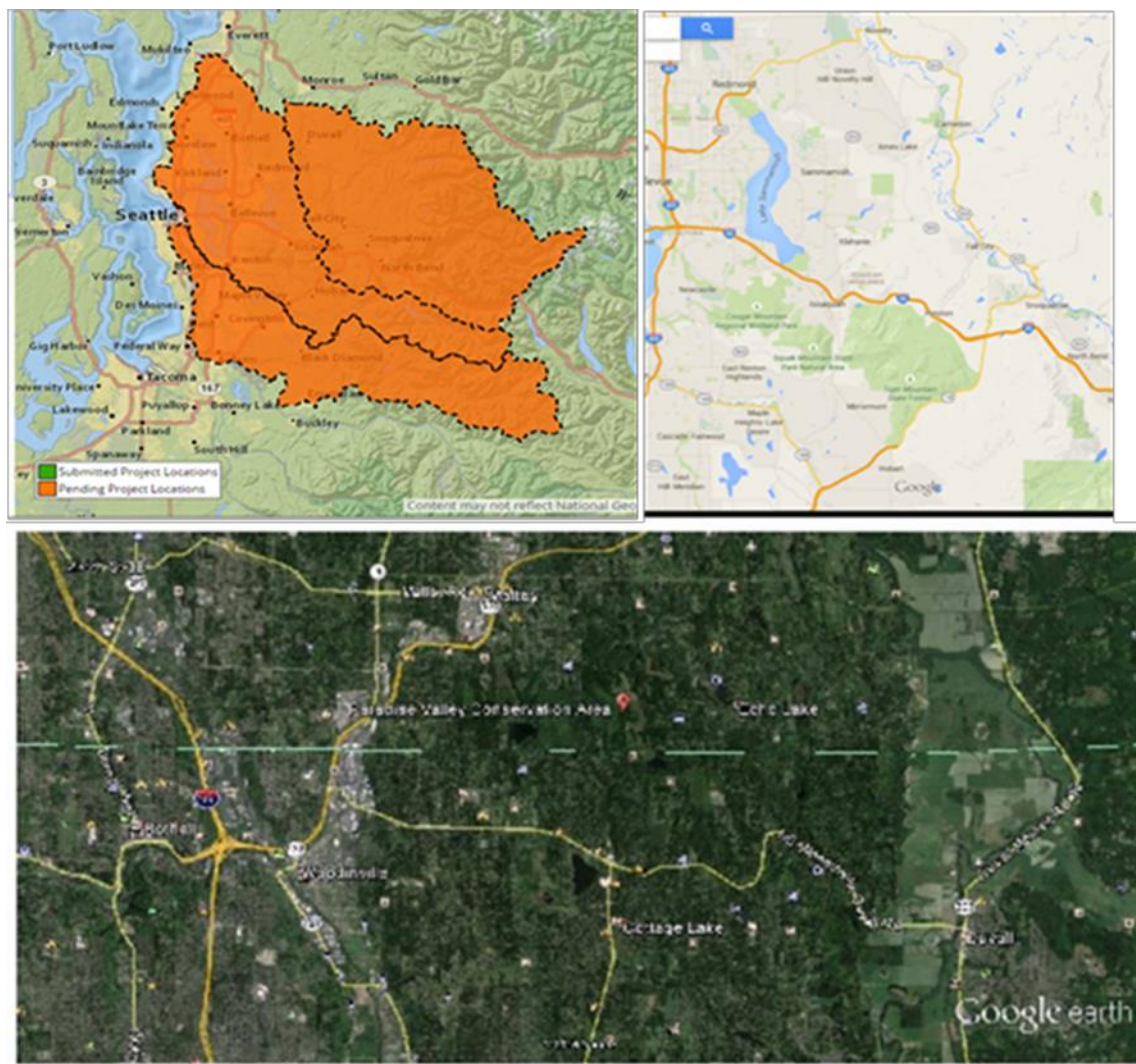
outreach strategies, WWO plans to focus initial coordination efforts in the cities of Sammamish, Woodinville, Redmond, and Issaquah, which are locales that reflect the wide range of human-black bear conflicts that WDFW is tasked to mitigate across the state.

Based on the locations and numbers of bear incidents, the following cities and unincorporated areas were identified for investigation and consideration for possible inclusion in the **Bear Smart Eastside King County Pilot Project**:

*Auburn, Bellevue, Black Diamond, Bothell, Carnation, Covington, Duvall, Enumclaw, Fall City, Federal Way, Issaquah, Kenmore, Kent, Kirkland, Klahanie, Maple Valley, Newcastle, North Bend, Preston, Redmond, Renton, Sammamish, Snoqualmie, and Woodinville*

The pilot project proposes to cover four of the nineteen major Puget Sound watersheds – Green-Duwamish River, Cedar River-Lake Washington, Sammamish and Snoqualmie-Skykomish – and will include demonstration projects in carnivore-detering practices at the Lloyd Historical Farmstead, part of the 793-acre Paradise Valley Conservation Area which straddles the boundary between east-side Snohomish and King Counties, allowing for eventual reach into both larger communities (Fig 6, pp 21).

WWO has entered into preliminary partnership with [Farmer Frog](#), a nonprofit organization that manages the sustainable community farming program at the historical Lloyd farmstead located at Paradise Farm in the Paradise Valley Conservation Area. WWO plans to work with that program to incorporate demonstration projects such as attractant management, fencing and livestock protection/carnivore deterrent methods at their Paradise Farm Headquarters. A significant portion of the headwaters of the Bear Creek watershed, one of the most productive salmon streams in the Sammamish River System, are located on a site that includes dense stands of forest and meadows that provide ideal wildlife habitat for a range of species including deer, black bear, cougar and coyote (SCPR 2004). Trailhead signs warn visitors about cougar and bear presence in the Conservation Area.



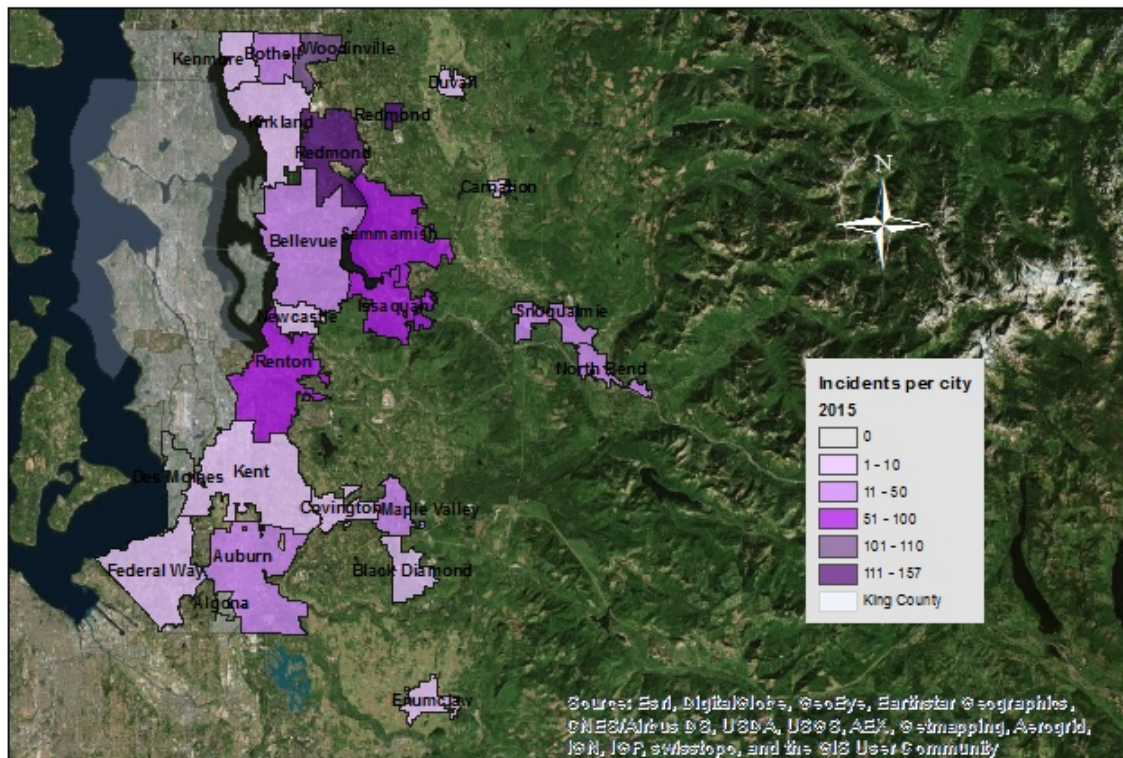
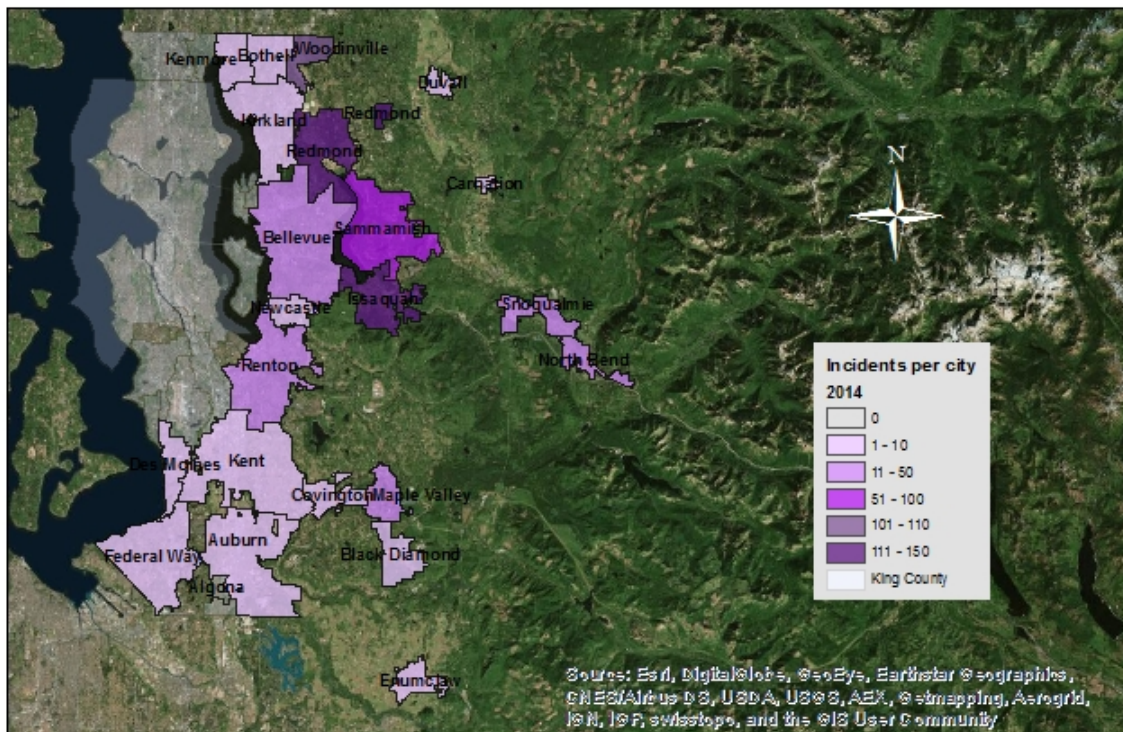
Finally, it must be recognized that human/black bear encounters are only going to worsen without a sustained educational and community outreach effort. WDFW wildlife managers and enforcement officers have allocated as much of their limited time as possible to educating communities about black bears but, of necessity and due to limited resources and funding, it is not the primary focus of their work. The Bear Smart Eastside King County Pilot Project will provide an opportunity to maximize WDFW resources by partnering with WWO and taking advantage of our strong volunteer base, as well as WWO's other partnerships with the Woodland Park Zoo, Conservation Research Education International, King and Snohomish Counties, Farmer Frog, The Cedar River Watershed Education Center and schools throughout the Issaquah school district and beyond.

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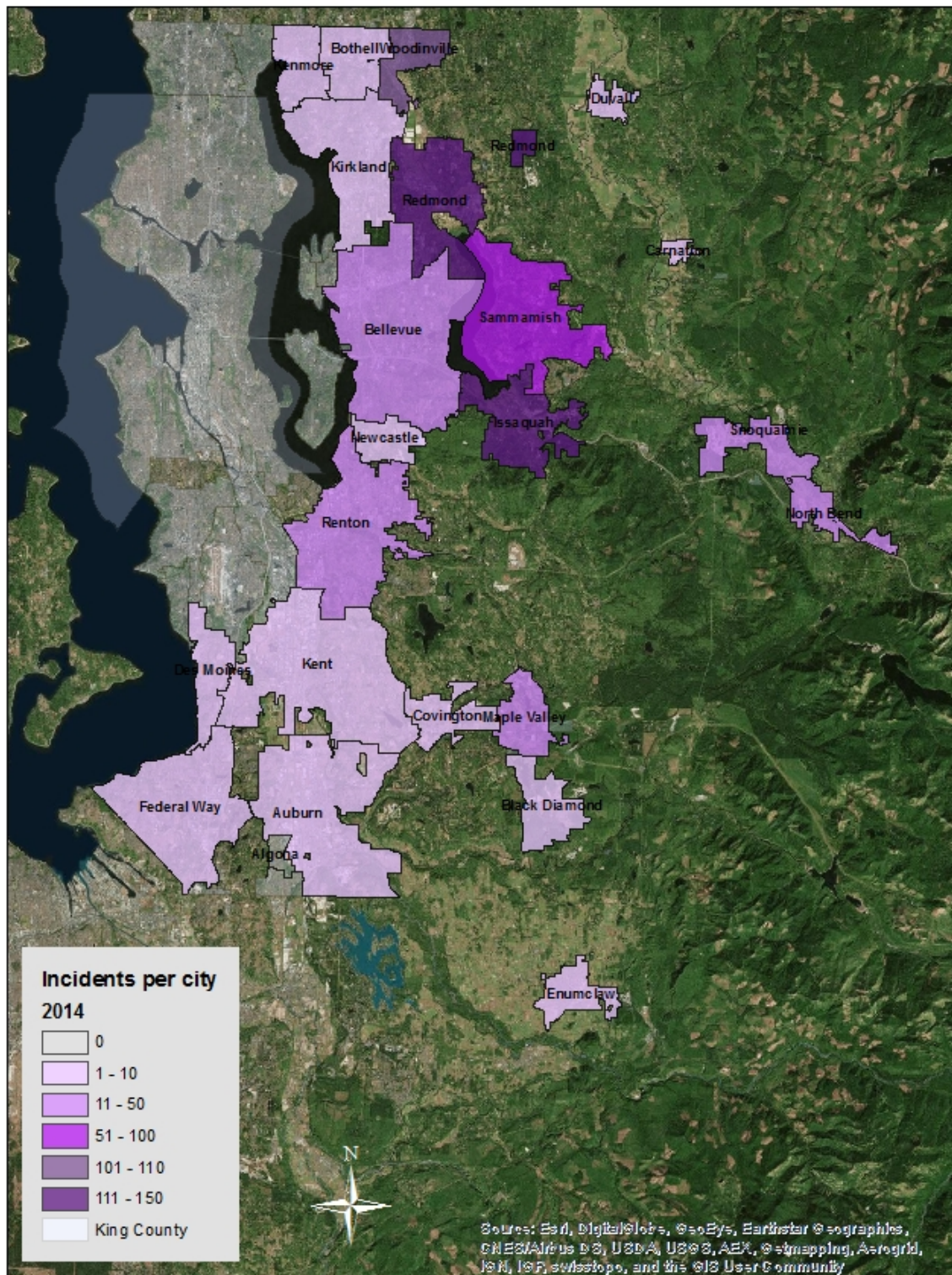


# King County Bear Incidents 2014 & 2015



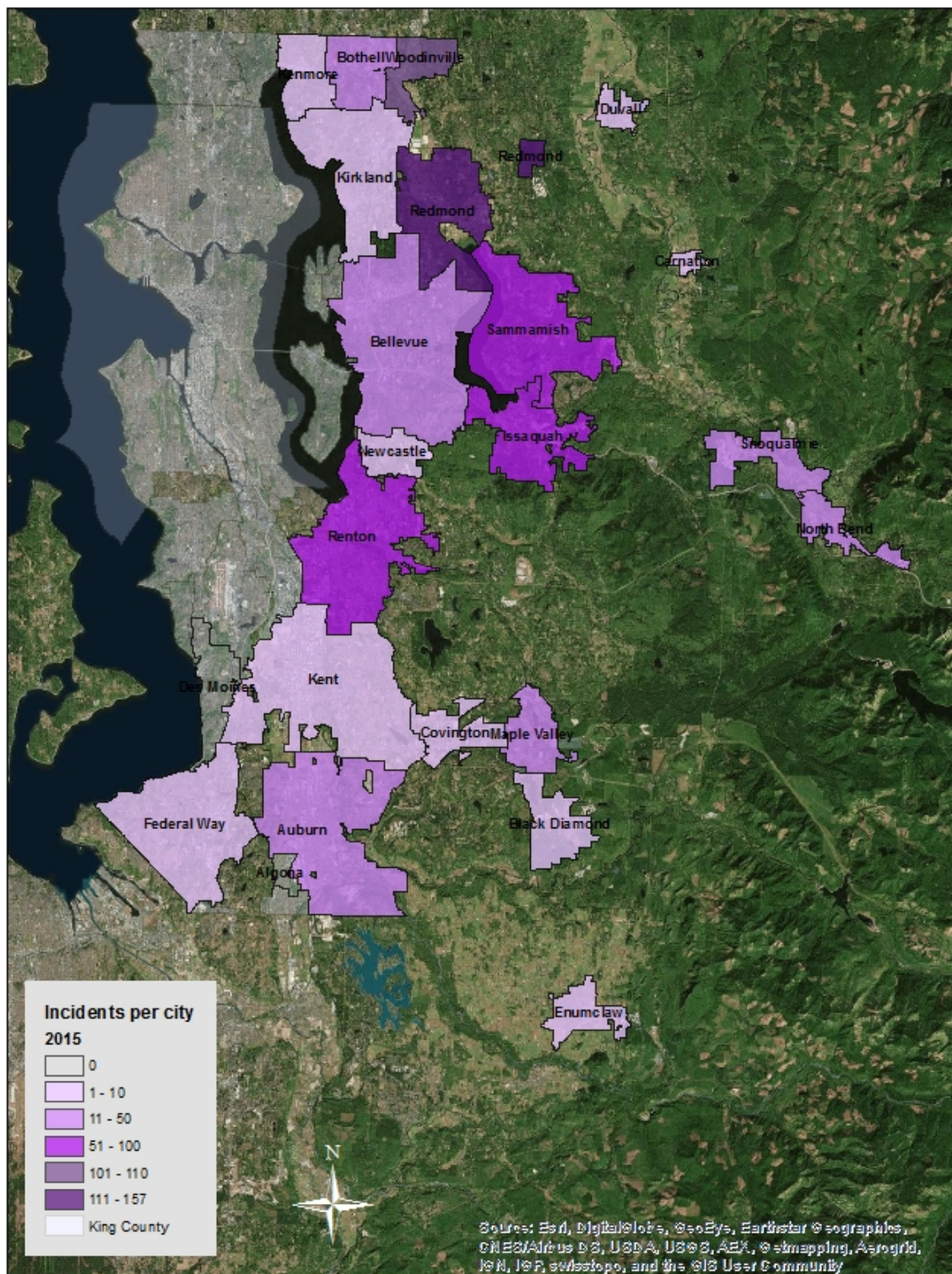


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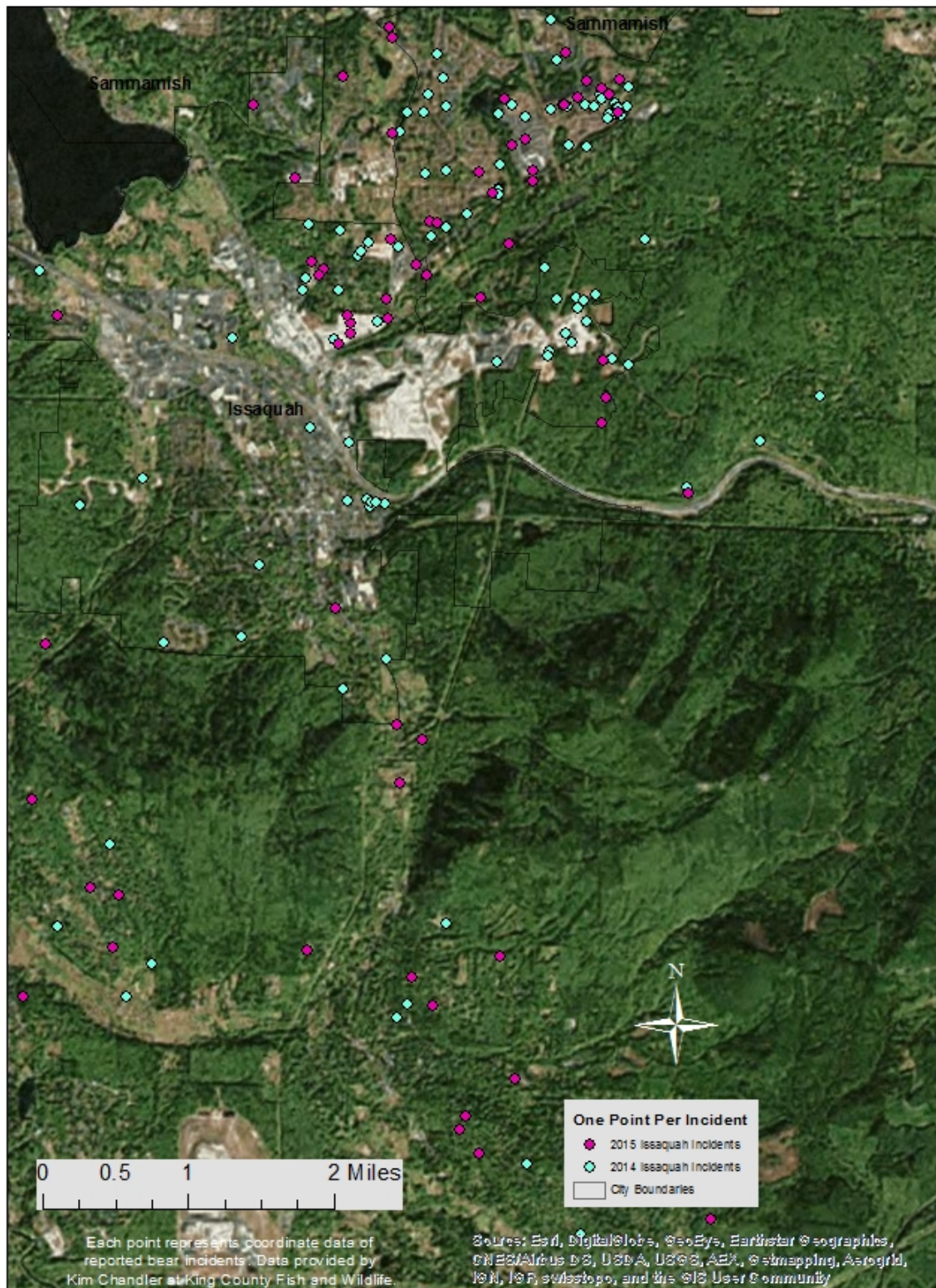


# King County Bear Incidents 2015



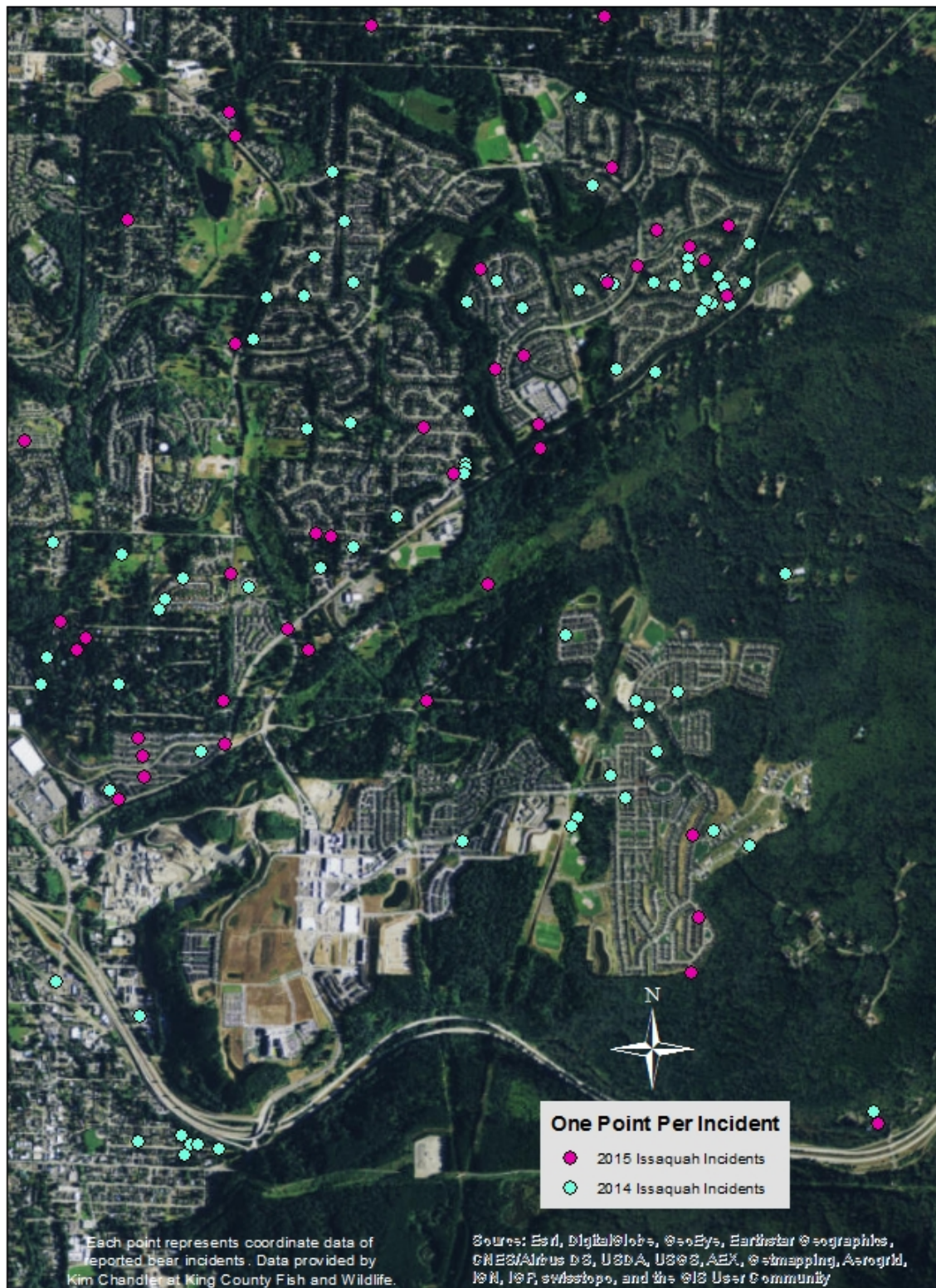


# City of Issaquah Bear Incidents 2014 & 2015



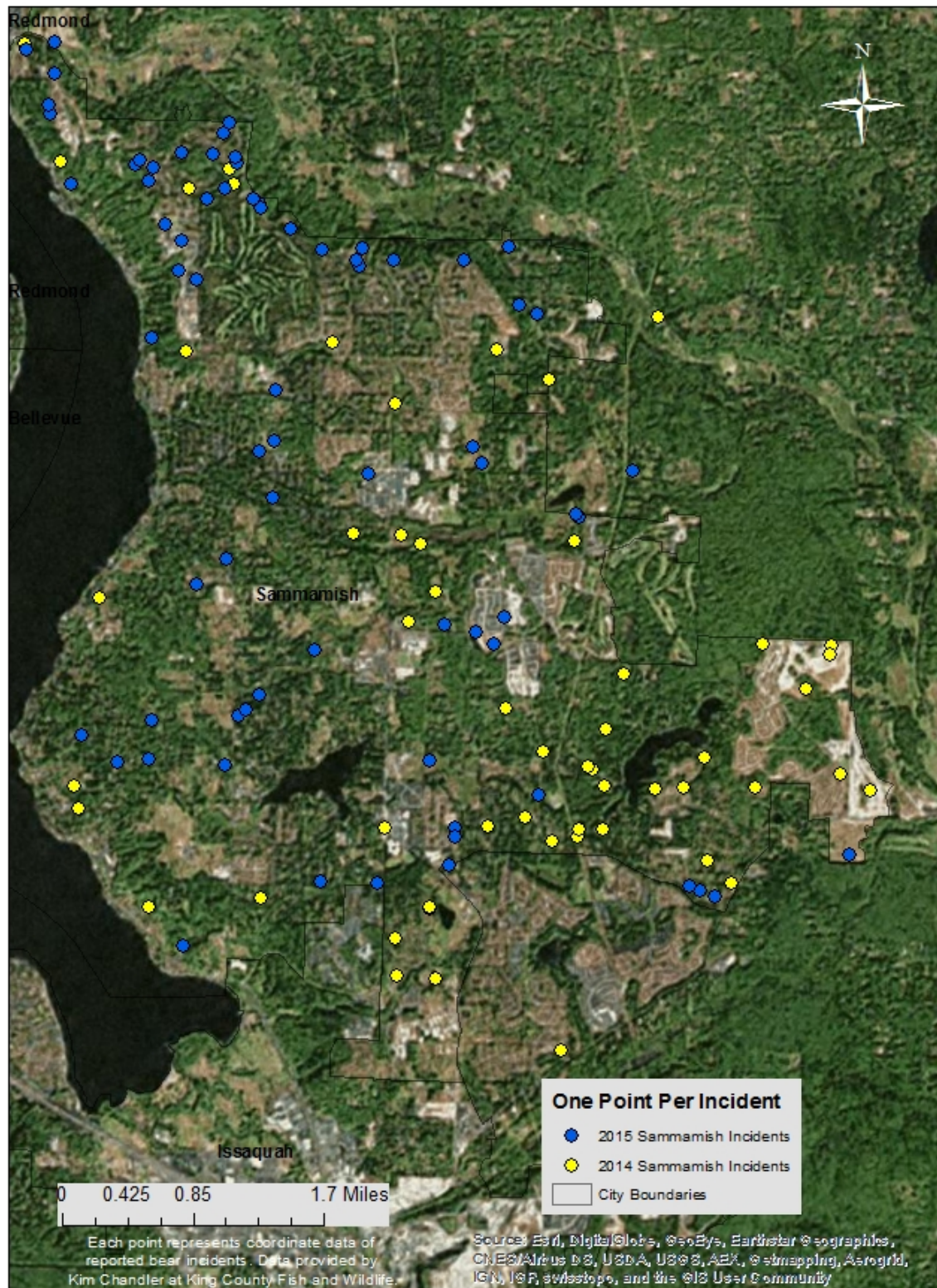


# City of Issaquah Bear Incidents 2014 & 2015





# City of Sammamish Bear Incidents 2014 & 2015



## **Bear Smart Eastside King County**

### **Residential Sanitation Services and the Use of Bear-resistant Containers in East King County**

**Jackie Delie**

*Oregon State University, Corvallis, Oregon 2015*

#### **ABSTRACT**

To mitigate human-black bear conflict in both urban and rural areas change in human behavior needs to occur. One significant change people can make is using bear-resistant containers. Bears seek out food during the foraging season and many times the most easily accessible food is in garbage cans, bird feeders and pet food. This study researches sanitation services, municipal ordinances and enforcement data in the Eastside King County region of Washington State to learn how the use of bear-resistant container correlates with Washington State Department of Fish & Wildlife (WDFW) self-reported human-bear incident data. The study found that out of the 24 cities researched in Eastside King County less than half have negotiated contracts with sanitation service on the service of bear-resistant containers. Several of these cities correlate with high reported incidences or reports of human-bear encounters. Efforts are underway in few cities, such as Snoqualmie, to encourage the use of bear-resistant containers and city of Sammamish is negotiating new contracts to offer the service of bear-resistant containers. More negotiation between cities and service providers along with more education on the use of bear-resistant containers can begin to mitigate the human-black bear incidences in Eastside King County.

**KEY WORDS** : *Bear resistant containers, Eastside King County, sanitation services, municipal ordinances, human-bear conflicts*

## Introduction

High-levels of human-black bear conflict have negative implications for bear and human populations. There is a public safety concern for people with the presence of a black bear and an instilled fear people have towards black bears. Black bears, on the other hand, experience a range of impacts from increasing contact with humans such as a reliance on human food sources, decreased natural foraging behavior, and potential shifts in daily activity patterns (Beckmann, Karasin, Costello, Matthews, & Smith, 2008).

Keeping anthropogenic food sources (i.e. garbage, birdseed, dog food) from bears is arguably one of the most important ways to minimize human-bear conflicts (Mazur, 2015, Beckmann *et. al.*, 2008). Bears are opportunistic foragers and easily adopt to new food sources. Unsecured commercial and residential garbage bins are a large attractant to bears. Once a bear gets a taste of human garbage they can become “food conditioned” and continue their developed habitat of searching for food in garbage cans (Masterson, 2006). Accessing garbage requires little energy expenditure for bears and they receive concentrated sources of nutrient rich, calorie-packed food, which they need to survive during the denning period (Masterson, 2006). This “food conditioning” is dangerous for both the community and the bear as the bear can become more aggressive in its search for food, and people are more likely to want to take action in removing the bear from their neighborhood(s).

To solve these problems, the central focus needs to be on changing human behavior. Bear-resistant waste management is a multi-tiered effort involving residents, businesses, city managers and municipal waste managers. Three recommended steps to eliminate most bear conflicts are (Masterson, 2006):

- 1) Residents put their trash out in the morning and never the night before
- 2) Store trash in a secure location or in a bear-resistant container
- 3) Residents can clean their trash container regularly

However, the most effective ways to keep bears out of our garbage, until it can be properly disposed of, is the use of bear-resistant containers. These containers come in a variety of sizes, from 32 gallons to dumpster size, and they can be purchased or included in the sanitation service charge. The additional charge from sanitation service varies on the contract terms negotiated between the sanitation service and city in which a resident lives.

As a species that is reasonably adaptable and tolerant of human activity, black bears can coincide with humans if human behavior changes to help mitigate conflicts in both urban and rural areas (Masterson, 2006). Proactive measures need to be taken before a human-bear conflict situation truly develops.

### Purpose of the Study

This study researches sanitation services, municipal ordinances and enforcement data in the Eastside King County region of Washington State to address the following research question: How does what we learn about residential sanitation services, the use of bear-resistant containers and existing municipal ordinances and enforcement practices correlate with Washington State Department of Fish & Wildlife (WDFW) self-reported human-bear incident data?

To provide a comprehensive review of sanitation services and use of bear-resistant containers, the research focuses on the following primary objectives:

1. Determine what local municipalities in the Eastside King County region have ordinances or policies in place to mandate or encourage the use of require the use of bear-resistant containers.
2. Determine what (if any) are the impediments to operate/ use bear-resistant containers.

### Significance of this study

This report will be the platform to Western Wildlife Outreach's (WWO), a non-profit organization in the Pacific Northwest, discussion with municipal groups and waste haulers regarding sanitation services and "Bear Smart" behavior. A review of sanitation services provides an understanding of the current ordinances in Eastside King County and supports WWO's mission to promote science-based understanding of four large carnivores, black bear, grizzly bear, gray wolf and cougar, in the Pacific Northwest through outreach and education.

### Methodology

Data on sanitation services and municipal ordinances for 24 cities (including unincorporated areas) in Eastside King County was collected through research on municipal websites, sanitation services websites and calling sanitation service customer support lines. The sanitation services reviewed were Waste Management of Washington Inc., Republic Services and Recology CleanScapes. Data was collected beginning with each cities website, and then researching on

sanitation services website to find additional information about municipal ordinances and enforcement data. All information collected, on either the city or sanitation service website, was verified by calling the sanitation services customer support lines.

For our study, we focused on gathering the cost of residential service for non-bear-resistant containers and bear-resistant containers. We chose not to gather information on commercial service cost due to the large variance in sizes of dumpsters and how cost is configured based on what commodity is in the dumpster. All costs of sanitation services provided are the general service cost negotiated in the cities contracts and not the costs based on specific addresses within each city, which can vary.

Several phone call attempts were made to contact corporate offices of the sanitation services providers, however, Recology CleanScapes was the only sanitation service that responded. This data is augmented by personal interviews with customer support and WDFW personnel.

*Bear Smart Eastside King County Geographic Region:*

Hwy 202 Border E/NE

Hwy 520 Borders N/NW

Hwy 405 Borders W/SW

Hwys 169, 18, 90 Borders S/SE

*Cities and unincorporated areas researched:* Auburn, Bellevue, Black Diamond, Bothell, Carnation, Covington, Duvall, Enumclaw, Fall City, Federal Way, Issaquah, Kenmore, Kent, Kirkland, Klahanie, Maple Valley, Newcastle, North Bend, Preston, Redmond, Renton, Sammamish, Snoqualmie, and Woodinville

Findings

In the Eastside King County region, three sanitation service providers service 22 cities (including unincorporated areas): Waste Management of Washington Inc., Republic Services and Recology CleanScapes. Waste Management of Washington Inc. is the largest sanitation service provider in the county servicing 12 out of 22 cities, followed by Republic Services servicing 10 cities (services South of Inglewood Hill Road in Sammamish), and Recology CleanScapes serving two cities (services all of Issaquah except for the South Cover, which is serviced by Republic

Services). The city of Enumclaw provides service for their own commercial/ residential owners, and the sanitation service provider for Preston County was not confirmed.

All cities in Eastside King County have separate contracts with sanitation service providers, and these contracts are negotiated to include the service of bear-resistant containers or wildlife containers to residents (Table 1). The service of picking-up bear-resistant containers is negotiated between the city and waste management company, and not the individual and waste management company for several reasons; the service cost of picking up bear-resistant containers can vary depending on the city, the service cost of picking up bear-resistant containers can vary depending on the location within a city, or there can be an additional cost on top of the service fee for having to unlock the bear-resistant containers. In communicating with customer support staff from Republic Services, the monthly service costs can vary within a city due to differing distances from pick-up to landfill. However, Recology CleanScapes stated with their contracts pricing will not differ within the cities they operate and only difference in pricing will be the size of the containers the resident chooses to have.

From our research, if an individual lives in an area that does not offer the rental of a bear-resistant container(s) than the individual resident would have to purchase their own bear-resistant container(s) and request a “special service” from the sanitation service provider. The cost of this “special service” for Waste Management of Washington Inc., Republic Services and Recology CleanScapes can vary on the location of one’s residential house, not necessarily the city the individual resides in. A representative from Republic Services stated the cost of a “special service” would have to be acquired from the supervisor who oversees the route of where the resident lives. Recology CleanScapes referred to a “special service” as picking up garbage cans from the backyard of elderly individuals, however, they stated “circumstances can be negotiated once a manager does an assessment to see if the service can apply” (personal communication, 2015). Cost of a special service can be higher because of the extra labor required by the employee of the sanitation service and the additional time it takes to complete the job of a “special service”.

Another option for residents is to not have waste management service their home, and for them to remove their garbage at their own expense and time to the landfill. This option is only available in cities that do not have a mandatory pick-up service, which include: Sammamish,



Redmond, Newcastle, Maple Heights, Federal Way, Woodinville, Fall City, Covington, Kenmore, Klahanie, Issaquah South Corner, Issaquah City Center, and City Center Carnation.

*Bear-resistant container data*

Our research found five cities have negotiated contracts offering residents bear-resistant containers at an additional cost per month from their base service rate. The city center of Issaquah does offer bear-resistant containers except for the South Corner area, which is contracted by Republic Services. Same situation applies for the city of Sammamish, which offers bear-resistant containers except for the area South of Inglewood Hill Road that is serviced by Republic Services. A total of seven cities in East King County offer bear-resistant containers to residences including City of Sammamish and South of Inglewood Hill Road.

Residents can chose from various sizes of bear-resistant containers, which differ in price. The sizes available for residents in bear-resistant containers are 96-gallon, 64-gallon, and 35-gallon for Waste Management Inc., and 32-gallon for Republic Services and Recology CleanScapes. Depending on the city and contract negotiated the cost include service, rental fee and recyclable container. For example, the area in Sammamish serviced by Waste Management Inc. offers bear-resistant containers at an additional \$11.35 per month above their regular service fee for 96-gallon, 64-gallon and 35-gallon (Table 2). In the city of Snoqualmie, bear-resistant containers are an additional \$3.31 per month (Table 2). The cost for Snoqualmie is based on the quotes provided by their Washington State customer support department, however, the city of Snoqualmie's website states the collection service of a bear-resistant container is \$3.24 per month in addition to the regular service fee.

Republic Services offers 96-gallon bear-resistant containers to residences in the Klahanie area at a monthly rate of \$37.47, plus a \$5.00 surcharge fee for unlocking the bear-resistant container. Compared to their base rate for a 96-gallon, a bear-resistant container is an additional \$11.76 per month. A resident can also choose to purchase their own bear-resistant container, but the container cannot exceed 32-gallons at a monthly service charge of \$14.54, plus a \$5.00 surcharge fee for unlocking the bear-resistant container.

The negotiated contract that offers bear-resistant containers for the smallest additional cost per month is between the city of Issaquah and Recology CleanScapes. The sanitation service offers Issaquah residents bear-resistant containers for an additional \$1.55 a month (Table

2). Monthly service cost listed for all sanitation service providers do not include city waste management tax or county waste management tax that may be invoiced to the resident.

<b>Cities:</b>	<b>Sammamish</b>	<b>Sammamish - South of Inglewood Hill Road</b>	<b>Redmond</b>	<b>Snoqualmie</b>	<b>Issaquah South Corner</b>	<b>Issaquah City Center</b>
<b>Haulers they contract with:</b>	Waste Management of Washington Inc.	Republic Services	Waste Management of Washington Inc.	Waste Management of Washington Inc.	Republic Services	Recology CleanScapes
<b>Mandatory pick-up service? (Y/N)</b>	N	N	N	Y	Y	Y
<b>City contract with waste management include rental of bear resistant containers? (Y/ N)</b>	Y	Y	N	Y	N	Y
<b>Waste Management offer bear resistant containers? (Y/ N)</b>	Y	Y	Y	Y	Y	Y

Table 1. Four cities in Eastside King County and whether their sanitation contracts include bear-resistant containers or non-bear-resistant containers.

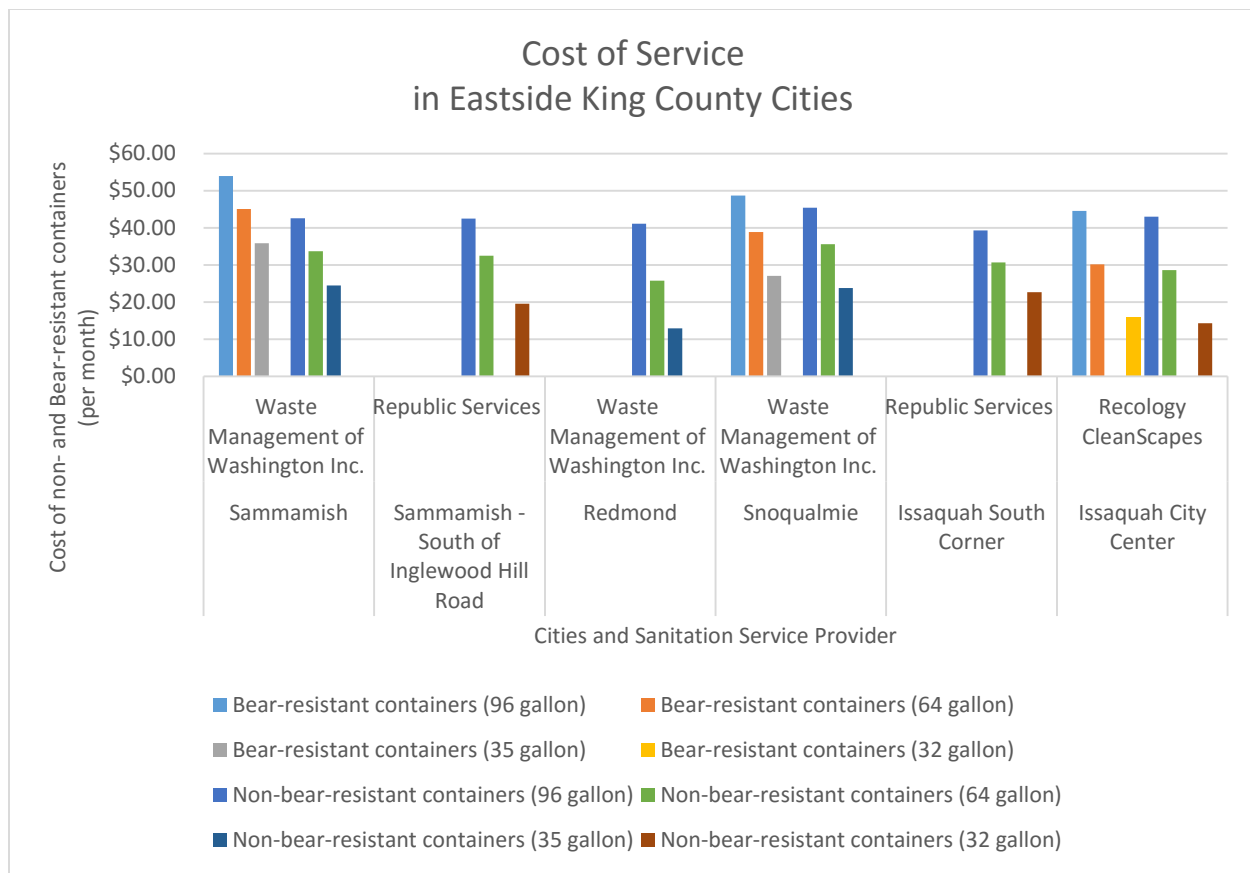


Table 2. Service cost of non-bear-resistant and bear-resistant containers in four cities in Eastside King County.

### *Enforcement of bear-resistant containers*

In speaking with representatives and customer support lines, not one city enforces the use of bear resistant containers. Recology CleanScapes replied “enforcement has not been a discussion in Issaquah since bears going into trash is not an issue in all areas as some areas are very urban and not on the wildlife fringe.” A representative from Waste Management of Washington Inc. and Republic Services corporate offices did not return our phone calls in regards to our inquiry on enforcement or use of bear-resistant containers in the cities they service.

Although use of bear-resistant containers is not mandatory, the city of Snoqualmie passed a garbage ordinance in an attempt to deter bears from local neighborhoods. In April 2015, a new law makes it a Class 2 civil infraction to negligently feed wildlife by allowing wildlife access to garbage containers and a misdemeanor to intentionally feed wildlife by allowing them access to garbage containers (City of Snoqualmie, n.d.). Snoqualmie police are not actively patrolling the garbage can situation, but if police respond to address the issue (i.e. neighbors complain) they

warn the individual and direct them to pay the additional service charge for a bear-resistant container. If the resident does not comply and bears continue to visit, the police can then issue a \$125 ticket (McCall, 2015).

### Discussion

More efforts can be done to mitigate human-bear conflict in Eastside King County as less than half of the cities negotiate in their sanitation service contracts the service of bear-resistant containers. The 2015 WDFW self-reported human-bear incident data shows (Figure 4, Bear Smart King County; A Pilot Project for Bear Smart Washington) cities with high reported incidences or reports from concerned citizens are cities that don't have negotiated bear-resistant containers, such as Redmond and Maple Valley. Although cities such as Issaquah, Sammamish and Woodinville offer residents service of bear-resistant containers, they are some of the cities with the highest reported incidents/ concerned citizen reports. This suggest either residents are not aware of the service of bear-resistant containers in their area, residents find the additional service cost too high and the issue does not justify paying extra, or residents are reporting high number of incidences.

After review of city and sanitation service websites information is unavailable on the use or cost of bear-resistant containers. To receive information or a quote on the service for bear-resistant containers does require prior knowledge on the benefits of bear-resistant containers and requires calling customer support lines, which have limited weekday hours and are not available on weekends. Making information more readily available for residents on both the service providers websites and city websites would bring awareness to residents on the service of bear-resistant containers. City websites and service providers can also offer information on "Bear Smart" communities, and a link to "Bear Smart King County" would provide easily accessible information regarding black bears, black bear management plan and how to prevent future human-black bear conflicts.

The higher cost of service for a bear-resistant container may be a factor for some residents in choosing not to have bear-resistant containers. An interview with Recology CleanScapes representative stated "any subsidized cost for bear-resistant containers would need to come from the city and not the waste management company" (personal communication, 2015). Cities need to negotiate a low additional fee for servicing bear-resistant containers as

with the example of Recology CleanScapes with the additional service charge of \$1.55 per month. City of Sammamish recently put out a bid for a new contract with a service provider and wants to offer bear-resistant containers for a fee. Although part of the city has a contract that offers bear-resistant containers, city officials are interested to have one company to serve the entire city, simplifying collections and ensuring uniform service throughout Sammamish (Corrigan, 2015). This is progress towards mitigating human-bear conflict in the region.

A suggested next step to further mitigate the issue would be for cities to establish new ordinances, which highly encourage the use of bear-resistant containers. Enforcement of ordinances, such as the ordinance in Snoqualmie, would greatly reduce food availability for bears and encourage the species to forage away from neighborhoods. However, it should be noted that negotiating service of or enforcement of bear-resistant containers may only be possible once a contract term ends with a sanitation service company and this process may take two or more years.

East King County will continue to develop and grow in size, and preventing human-bear incidents now is much needed to ensure the safety of residents and the future of black bear population. The use of bear-resistant containers, whether in rural or urban areas, and implementation of enforcement at the city level is how humans can help save black bear populations.

### Future Research

Additional research can be conducted on waste management ordinances not just in Eastside King County, but in King County and the state of Washington. Continuing research would refine results and develop policy recommendations for sanitation services providers and government leaders. Research can also expand to include a review of contract terms between a city and service provider, and incorporate survey's and/or interviews with city officials, service providers, homeowners and business owners. Gathering personal communication can provide a comprehensive review of the waste management service and opinions regarding the use of bear-resistant containers.

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