

Cutting Down on Plastic

Bag Bans Prove Popular and Successful

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Executive Summary

Plastic pollution poses a major threat to Washington's ecosystems. Plastic never fully biodegrades and often harms wildlife like turtles, whales, and seals.ⁱ Once in the water, plastic breaks down into small pieces called microplastics. These microplastics absorb toxins, moving them into the food chain.ⁱⁱ A large part of this plastic problem is single-use plastic bags. Every year, Washington uses over 2 billion plastic bags, over 95% of which end up in landfills or as litter

Increased awareness of this problem, especially as a threat to wildlife in Puget Sound, has led a growing number of cities to take or consider action to reduce the use of plastic bags. This report examines how businesses and consumers have adjusted to and view the recently adopted bans on plastic bags in Seattle and Bellingham.

Seven Washington cities have already passed bans on plastic bags.

In 2009, Edmonds was the first city in Washington State to pass a local ban on plastic bags. Since then, six other cities passed plastic bag bans, including Bellingham, Mukilteo, Seattle, Bainbridge Island, Port Townsend, and Issaquah.

Plastic Bag Bans Reduce Plastic Pollution and Encourage Environmentally Friendly Behavior

Prior to implementing bans on plastic bags, approximately 290 million plastic bags were distributed in Seattle and 30 million in Bellingham each year. In order to determine the success of the plastic bag bans, we conducted a survey of 1,291 consumers and 96 retail stores in Seattle and Bellingham during the month of October 2012. We found that consumers and businesses overwhelmingly support the bag bans there and that eliminating disposable plastic bags has increased the number of people using reusable bags.

Major Survey Findings:

- The majority of consumers surveyed in Seattle and Bellingham report that the bag ban has prompted them to bring their own bag more often.
- 96% of supermarket employees in Seattle and 100% of employees in Bellingham report that since the bag ban passed, more customers are bringing their own bags to the store
- 64% of consumers in Seattle and 67% of consumers surveyed in Bellingham agree with the bag ban.
- 61% of businesses agree with the bag ban.

More Action Must Be Taken to Decrease Plastic Pollution

- To further address the plastic problem, all Washington cities and counties should restrict the use of plastic bags, and advocate for similar action at the state level.
- Washington State should pass a statewide ban on single use plastic bags.

Introduction

Plastic bags pose a serious threat to wildlife. Whales, seals, salmon, and other wildlife will often mistake these bags for food, causing them to starve or choke to death.ⁱⁱⁱ In 2010, a beached gray whale was found dead in West Seattle with 20 plastic bags in its stomach.^{iv} Further out in the Strait of Juan de Fuca, the Port Townsend Marine Science Center discovered that 12.2 percent of the gulls nesting along the shores were consuming plastic. Half of this plastic was thin film that plastic bags are made of.^v

When plastic bags enter our waters, they never fully biodegrade. Plastic breaks down into smaller and smaller pieces called microplastics.^{vi} These small plastic pieces absorb toxic chemicals, including the DDT and PCB, becoming concentrated toxic pellets.^{vii} Researchers at the University of Washington have found microplastics in every sample taken from Puget Sound.^{viii}

Microplastics pose a serious threat to many species. Microplastics are easily ingested by smaller fish and shellfish, which then introduce these deadly toxins into the food chain.^{ix}

Because plastic pollution poses a serious threat to the state's ecosystems, Washington cities, such as Seattle and Bellingham, have taken action by banning single-use plastic bags and numerous other cities and counties are considering doing so.

In this report, the Environment Washington Research and Policy Center examines how businesses and consumers have adjusted to and view the recently adopted bans on plastic bags in Seattle and Bellingham.

Results

In October, Environment Washington Research and Policy Center staff randomly selected and surveyed 1,291 consumers and 98 retail store employees in Seattle and Bellingham to ask them about the plastic bag ban and whether the bans have encouraged people to bring their own bag to the store.

We found that plastic bag bans in Seattle and Bellingham have resulted in a significant increase in people bringing their own bags to the store. Additionally, the majority of citizens and business employees support the plastic bag ban.

Consumers Report

We randomly selected and surveyed 891 consumers outside of nine Seattle supermarkets and 400 consumers outside of eight Bellingham supermarkets during the month of October 2012.

Each consumer was asked six questions about their opinion of the ban and how often they bring their own bag to the store

Ban Prompted You to Bring Your Bag More Often?	Seattle	Bellingham
Yes	54%	59%
No	46%	41%
Total	100%	100%

Figure 1 – The majority of respondents in Seattle and Bellingham bring their own bag.

The majority of respondents reported that the bag ban has prompted them to bring their own bag more often (figure 1). When asked to estimate how often they bring their own bag to the store, 66% of consumers in Seattle and 69% of consumers in Bellingham said that they bring their own bag at least “most of the time” (figure 2).

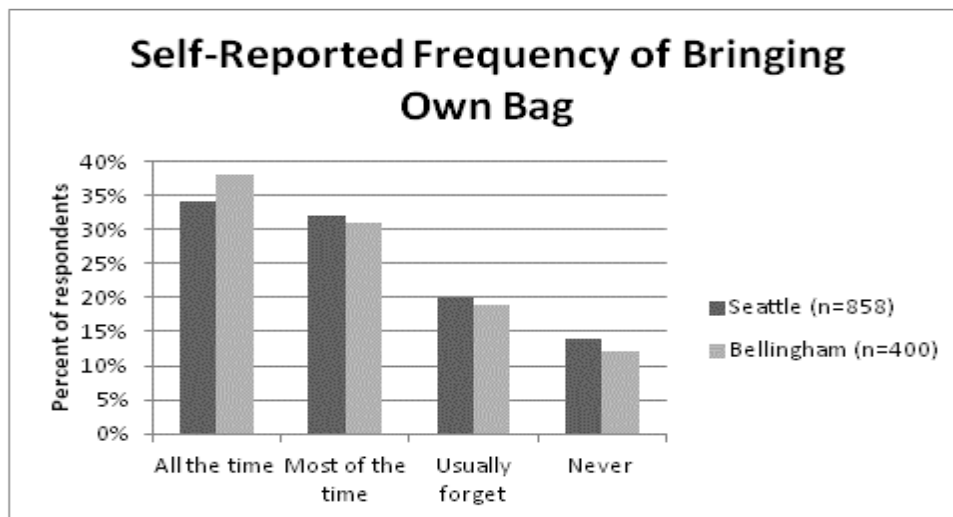


Figure 2—Bringing your own bag is now the norm, thanks in part to the bag ban.

Some consumers don't even use a bag, cutting down on disposable bags used at these stores. In both Bellingham and Seattle, over 80% of the consumers we surveyed were not using a disposable bag (figure 3).

Overall, consumers have responded positively to the bag ban in both Seattle and Bellingham. Not only has the ban been effective, but it has also been popular. 64% of consumers surveyed in Seattle and 67% of consumers surveyed in Bellingham agree with the bag ban (figure 4).

The most common comment from consumers in Seattle and Bellingham was that they recognize the ban is good for the environment and want to see it implemented on a larger scale.

The second most common comment among consumers in Bellingham was that the bag ban has encouraged them to bring their own bag more often. One woman commented that the transition was "easier than I thought." Another customer, at a QFC in Seattle said that seeing everyone else bring their reusable bags has promoted her to remember hers more: "When I see everyone else doing it, it's easier for me to remember."

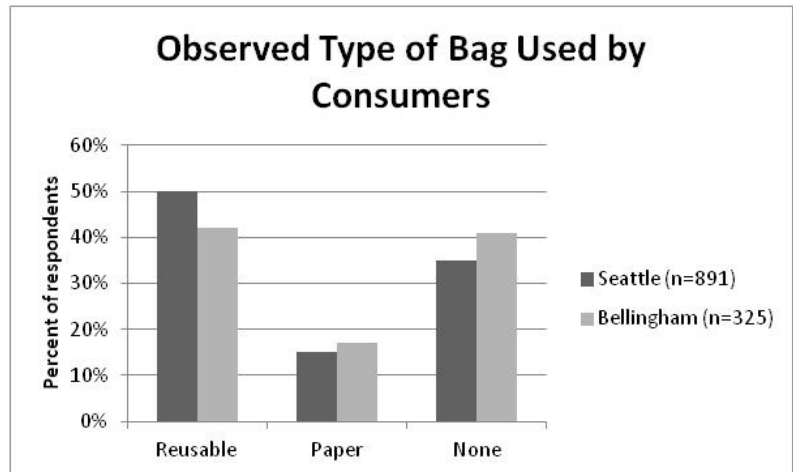


Figure 3— Not using a bag also saves resources and protected our environment.

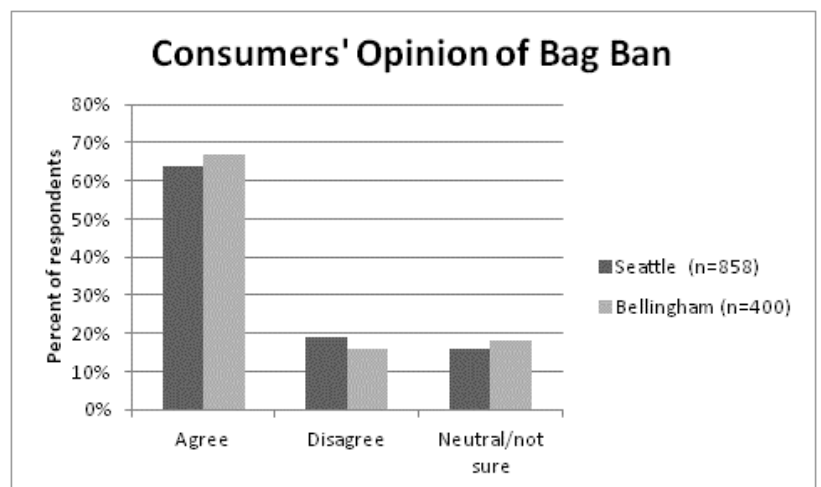


Figure 4— Consumers overwhelmingly approve of plastic bag bans.

Businesses Report

In addition to talking to consumers, we also surveyed 56 businesses in Seattle and 43 in Bellingham. The majority of businesses agree with the bag ban. While some stated that the ban was difficult for consumers to get used to at first, they said that their customers seem to be getting used to the ban. In fact, most businesses report that the number of consumers bringing their own bag to the store has increased since the ban was passed.

Of those stores that distributed plastic bags before the ban, 76% said that the number of people bringing their own bag has increased since the ban was passed (figure 5).

We asked many employees about the bag ban and their experiences with it. Most stores agreed that the ban is good for the environment, but they want to see it implemented on a larger scale. A representative at Video Isle, a small video store in Seattle, said that he does “not want plastic in our seafood.” An employee at Print-Fusion, a small print shop in Seattle, said the ban “should go statewide.”

Some stores, such as Earthwise Architectural Salvage in Seattle, say it has not harmed their business. The manager of the Downtown Co-op in Bellingham said that the plastic bag ban has actually saved their store money by significantly reducing the number of paper bags they give out.

Many employees said that while the ban was difficult at first for some costumers, most people started bringing their own bag after a couple of weeks. An employee at the Kress IGA supermarket in downtown Seattle said that consumers “seem to understand why the ban was passed” and are adjusting as a result. Two cashiers, one at Grocery Outlet and another at Trader Joes in Bellingham, agreed that “the bag ban makes consumers think twice.”

Number of customers bringing own bag	Seattle (n=56)	Bellingham (n=43)
Increased significantly	23%	50%
Increased slightly	53%	35%
Stayed the same	23%	15%
Grand Total	100%	100%

Figure 5—Stores that once distributed plastic bags have seen huge increases in the number of reusable bags being brought into their stores.

Small Businesses Respond to Bag Ban

We randomly selected and surveyed 31 small businesses in Seattle and 18 small businesses in Bellingham.

Many consumers now bring their own bag to small businesses (see figure 6) and most of the small businesses surveyed agree with the bag ban (figure 7). Many have also seen more of their customers bringing reusable bags. 47% of small businesses in Seattle and 60% in Bellingham report that the number of customers bringing their own bags has increased since the bag ban was passed (figure 8).

Frequency of Customers Bringing Own Bag to Small Businesses	Seattle	Bellingham
76-100%	7%	17%
51-75%	17%	33%
26-50%	21%	17%
0-25%	55%	33%
Grand Total	100%	100%

Figure 6—More people are bringing their reusable bags to small businesses.

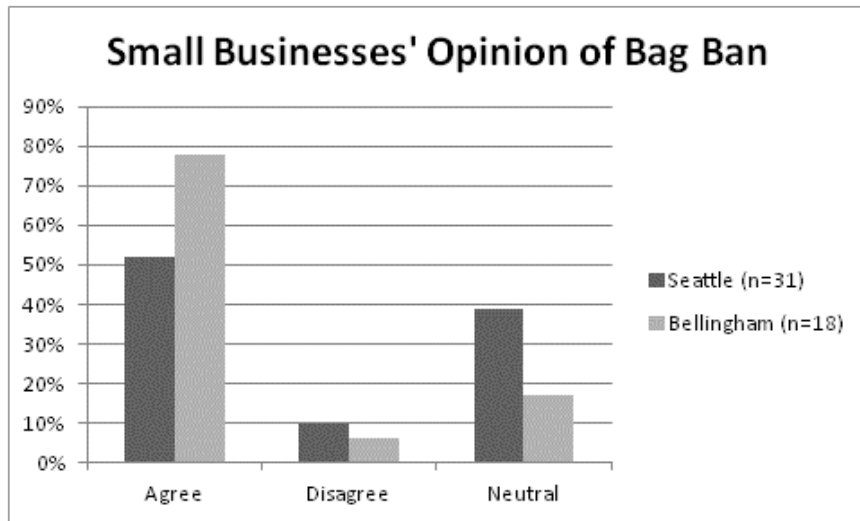


Figure 7— Small businesses agree that the bag ban is good for the environment for business

Number of Customers Bringing Own Bag	Stores Where Plastic Offered Previously			
	Seattle Count	Seattle Percent	Bellingham Count	Bellingham Percent
Increased significantly	1	4%	4	40%
Increased slightly	12	43%	2	20%
Stayed the same	15	54%	4	40%
Grand Total	28	100%	10	100%

Figure 8 – The Plastic bag ban has prompted people to bring their bags to small businesses.

Supermarkets Report Bag Ban Is Effective

The biggest impact of the bag ban has been at grocery stores. In most grocery stores, 50-75% of their customers are bringing their own bags (figure 9). The supermarket employees we surveyed overwhelmingly support the elimination of plastic bags (figure 10).

96% of supermarket employees in Seattle and 100% of employees in Bellingham stated that the number of customers bringing their own bag to the store has increased since the ban was passed (figure 11). Furthermore, the majority of supermarket employees agree with the policy.

Frequency of Customers Bringing Own Bag to Supermarkets	Seattle	Bellingham
75-100%	0%	8%
50-75%	72%	75%
25-50%	28%	17%
Grand Total	100%	100%

Figure 9—Most people bring their own bag to supermarkets these days, thanks in part to plastic bag bans.

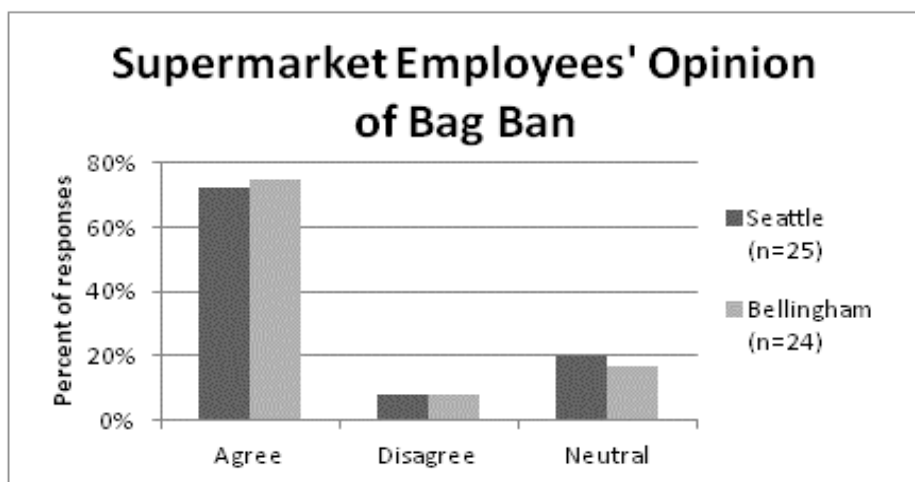


Figure 10—Supermarket employees recognize the need to eliminate plastic bags.

Number of Customers Bringing Reusable Bags	Supermarkets Where Plastic Offered Previously	
	Seattle	Bellingham
Increased significantly	36%	53%
Increased slightly	60%	47%
Stayed the Same	4%	0%
Grand Total	100%	100%

Figure 11 – Supermarkets have seen a huge increase in reusable bag usage since the bag ban has been passed.

Conclusions and Policy Recommendations:

The number of plastic bag bans is growing in Washington State. These policies have been very effective at shifting people to reusable bags and eliminating an unnecessary and wasteful source of plastic that threatens our wildlife. Today, seven cities have banned plastic bags, and many others are actively considering their own bans.

While these local bans have been effective, plastic pollution continues to pose a threat to Washington's ecosystems. Other cities in Washington have yet to take action against plastic bags, meaning that Puget Sound wildlife is still at risk.

Washington State should adopt a statewide ban on single-use plastic bags. Until this happens, cities and counties should continue to take meaningful steps towards protecting Puget Sound wildlife by adopting local plastic bag bans.

Methodology:

Consumer survey:

Environment Washington Research and Policy Center randomly selected and surveyed consumers about their opinion of the plastic bag ban and whether it has prompted them to bring their own bag more often.

In Bellingham, we asked each large supermarket if we could survey outside their store. We gathered 400 responses from eight different stores, or approximately 50 responses from each store.

In Seattle, in order to gain a representative sample of the city's population, we chose to survey five stores in the city's most racially diverse districts and five in the city's least racially diverse districts, based on the City of Seattle's 2010 Census Data. From each district, we created a list of the large grocery stores and randomly selected one grocery store from each of the ten districts. At each grocery store, in order to prevent bias in our selection of survey participants, we randomly selected survey respondents by asking every other person leaving the store to take our survey. In Seattle, we gathered 891 responses from nine different supermarkets, or approximately 100 responses per store.

We asked each respondent to complete a six question survey as they were leaving the store, which included their opinion of the ban and whether it has prompted them to bring their reusable bag to the store more often (see figure 1). Surveyors noted what type of bag respondents were leaving the store with ("reusable," meaning cloth or thick plastic, "paper," or "none"). As a way of determining whether our sample was representative of Seattle or Bellingham's population as a whole, we asked respondents what age range they fell under and surveyors also noted the respondents' race ("white" or "person of color") and gender ("male" or "female").

We understand there are potential limitations to this survey such as language barriers, the accuracy of self-reporting, and self-selection. We tried to address these issues by translating our survey into Spanish, Vietnamese, and Chinese. One of our surveyors spoke Spanish. As well, we sampled on both weekdays and weekends, during the morning, afternoon, and evening.

For results with 95% confidence, we can say that the maximum margin of error is plus or minus 3.3 percentage points.

Businesses:

Environment Washington Research and Policy Center randomly selected and surveyed 56 employees in Seattle and Bellingham during the month of October 2012. Employees were asked to complete a seven question survey, intended to determine their opinion of the plastic bag ban and whether it has prompted customers to bring their own bag more often.

Supermarkets were selected in the same way that consumers were selected. In Bellingham, we simply surveyed all supermarkets. In Seattle, in order to get a representative sample, we selected supermarkets by selecting one from each of the five most racially diverse and one from each of the five least racially diverse districts using 2010 Census Data. From these districts, we created a list of supermarkets and randomly selected one store per district.

Employees at eight Seattle supermarkets agreed to participate in the survey. We surveyed three employees at each store in person.

Small businesses in Bellingham were surveyed in person. In total, 18 small businesses in Bellingham agreed to participate. In Seattle, small businesses were randomly selected from clusters of retail stores that were affected by the plastic bag ban and surveyed by phone. We followed up with stores that were busy at the time we first called. In total, 31 small business employees in Seattle agreed to participate.

We understand there are potential limitations to this survey such as selection bias, the accuracy of self-reported results, and time constraints. We tried to address these issues by calling businesses multiple times and at different times of day.

Seattle Grocery Stores (all offered plastic prior to ban)	
High racial diversity districts	Store
Greater Duwamish	Grocery Outlet
Central	Uwagimaya
Downtown	Kress IGA
Southeast	ABC Supermarket
Low racial diversity districts	
Ballard	Ballard Market
Southwest	QFC on 42nd
Magnolia/Queen Anne	Metropolitan Market
East	QFC
Northeast	Safeway

Bellingham Grocery Stores	
Store	Plastic Offered Prior?
Grocery Outlet	Yes
Sehome Haggen	Yes
Barkley Haggen	Yes
Fairhaven Haggen	Yes
Albertsons	Yes
Whatcom Co-op	No
Trader Joes	No
Downtown Co-op	No

Quotes in this report come from directly from survey respondents.

Sample:

Our sample population is an accurate reflection of Seattle^x: and Bellingham's^{xi} populations as a whole (see Appendix):

Race

The proportion of white people and people of color in our sample population almost mirrors that of Seattle and Bellingham.

Respondents' Race						
	Seattle			Bellingham		
Row Labels	Sample Count	Sample Percent	Census Percent	Sample Count	Sample Percent	Census Percent
People of color	332	37%	32%	27	8%	15%
White	559	63%	68%	323	92%	85%
Grand Total	891	100%	100%	350	100%	100%

Age

The proportions of age groups in our sample almost mirror those of Seattle and Bellingham; our sample included slightly lower proportions of people ages 0-20 and higher proportions of people ages 61+ than exist in the actual population.

Respondents' Age						
Age	Seattle			Bellingham		
	Sample Count	Sample Percent	Census Percent	Sample Count	Sample Percent	Census Percent
0-20	45	5%	20%	26	7%	26%
21-40	345	39%	37%	148	37%	39%
41-60	310	35%	30%	133	33%	19%
61+	191	21%	13%	93	23%	16%
Grand Total	891	100%	100%	400	100%	100%

Sex

Our sample included almost an equal number of males and females, nearly mirroring the proportions of Seattle's population. We did not record gender in Bellingham.

Respondents'sex			
Sample			Seattle
Sex	Count	Percent	Percent
Female	451	51%	50%
Male	440	49%	50%
Grand Total	891	100%	100%

Notes

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- ⁱⁱⁱ Barboza, T. (1 July 2011). “Researchers Find Plastic in More Than 9% of Fish in Northern Pacific Ocean,” *Los Angeles Times*.
- ^{iv} Mapes, L. V. (20 April 2010). “Beached Whales Stomach Found to Be Full of Trash.” *The Seattle Times*. <http://seattletimes.com/html/localnews/2011657607_graywhale21m.html>.
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- ^{vi} NOAA (September 2011). What We Know About: Plastic Marine Debris. <<http://marinedebris.noaa.gov/info/pdf/plastic.pdf>>.
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