



STAFF REPORT TO COUNCIL

Council Meeting: NOVEMBER 27, 2018
500 Matterson Drive, Ucluelet, BC V0R 3A0

FROM: MARLENE LAGOA, DEPUTY MUNICIPAL CLERK

FILE NO: 3900-25

SUBJECT: SINGLE-USE SHOPPING BAG BYLAW

REPORT NO: 18-XXX

ATTACHMENT(S): APPENDIX A – CITY OF VICTORIA CHECKOUT BAG REGULATION BYLAW & AMENDMENT
APPENDIX B – SINGLE-USE PLASTIC REGULATION: SURFRIDER’S SUPPORTIVE EFFORTS
APPENDIX C – SINGLE-USE PLASTIC MASTER CHART UCLUELET
APPENDIX D – UCLUELET AQUARIUM’S MICROPLASTICS AND MARINE DEBRIS INITIATIVE

RECOMMENDATION(S):

1. **THAT** Council direct staff to coordinate with the District of Tofino, Surfrider Pacific Rim Chapter, and the Ucluelet Aquarium, in developing a proposed bylaw to restrict the distribution of single-use plastic shopping bags.
2. **THAT** Council direct staff to bring back a bylaw that restricts the distribution of single-use plastic shopping bags within the District of Ucluelet for Council’s consideration.

PURPOSE:

The purpose of this report is to seek direction from Council on whether to develop a bylaw restricting the distribution of plastic shopping bags.

BACKGROUND:

At the May 8, 2018 Regular Meeting of Council, a delegation from Surfrider Pacific Rim Chapter (Surfrider) and the Ucluelet Aquarium (Aquarium) requested that the District implement a bylaw banning plastic bags.

At that same meeting, Council adopted the following resolution:

THAT Council refer the City of Victoria’s Plastic Bylaw to staff to review and to report back to Council on what would be appropriate for Ucluelet.

DISCUSSION:

Review of City of Victoria’s Bylaw

On January 11, 2018, the City of Victoria adopted the Checkout Bag Regulation Bylaw No. 18-008 to regulate the business use of single-use checkout bags. An Amendment Bylaw (No. 1) was adopted in May 2018. The City of Victoria’s bylaws are attached for reference in Appendix A.

The key elements in the City of Victoria Bylaw's that staff recommend be included in the District of Ucluelet's bylaw includes:

- Regulating plastics under section 8(6) of the *Community Charter* – regulate in relation to business.
- No plastic bags may be provided or sold.
- Plastic bag exemptions based on size and safety reasons – package loose bulk items, contain or wrap fresh or frozen food, meat, poultry or fish, wrap flowers, protect baked goods, contain prescription drugs, large items that cannot easily fit in a reusable bag (linens, dry cleaning), and protect delivered newspapers.
- Permit plastic bags to be distributed that have already been used by a customer and that have been returned to the business for the purpose of being reused by other customers.
- Paper bags are sold at a cost of \$0.25 and must contain at least 40% of post-consumer recycled paper content.
- Reusable bags are sold at a cost of \$2.00.
- A set fine of \$100 for any business found in contravention of the bylaw.

The District of Tofino is interested in restricting the distribution of various single-use plastics such as straws and take away containers. At this time, staff recommend that the District only consider restricting single-use plastic shopping bags, with other items to be considered in the future at Council's discretion. However, both Districts should continue to advocate to higher levels of government about the impacts of single-use plastics and support such motions at AVICC, UBCM, as well as MP Gord Johns' Motion-151 to reduce consumer and industrial use of single-use plastics. Staff will monitor the City of Vancouver's plan to ban plastic straws, foam take-out containers and cups.

West Coast Coordination:

District staff coordinated two meetings to discuss the possibility of Ucluelet and Tofino developing similar plastic shopping bag bylaws including comprehensive and coordinated community consultation with the business community. Representatives from Surfrider and the Aquarium also attended the meeting and expressed interest in assisting the communities with public awareness and outreach.

Appendix B outlines Surfrider's efforts to date and their future commitment to educating and raising awareness about the District's plan to regulate bags both with the businesses, residents, first nations and visitors. The regulation will help to support Surfrider's vision for an "Ocean Friendly Corridor" between Tofino and Ucluelet.

Surfrider surveyed Ucluelet businesses in early 2018 on the use of single-use plastics. The survey found that 26 businesses do not have plastic bags and 33 businesses do distribute plastic bags, and some of those businesses have a lot of supplies still to use up. The full results of the survey can be found in Appendix C.

A summary of the Ucluelet Aquarium's microplastics and marine debris initiative is attached as Appendix D.

Timeline:

February 2019: Draft Bylaw and amendment to Fees and Charges Bylaw

Spring 2019: Community consultation - attend stakeholder meetings and invite input on draft bylaw

June 2019: Adoption of Bylaw

Summer/Fall 2019: Conduct public awareness and education on Bylaw

January 1, 2020: Begin enforcement of Bylaw

TIME REQUIREMENTS – STAFF & ELECTED OFFICIALS:

The staff time required to draft a proposed bylaw would include meeting with the regional partners (Tofino, Surfrider, Aquarium) and stakeholder groups.

The communication plan will be developed and implemented by Surfrider with both Districts providing guidance and support with the use of municipal communication channels.

The bylaw may result in demand for Bylaw enforcement resources and time which may include the cost of attending court or adjudication in the event of any bylaw infractions that were disputed. Providing information to businesses at the time of processing new or renewed business licences can also be expected to involve some staff time.

FINANCIAL IMPACTS:

The direct financial impact would be the cost of having a legal review completed of the draft bylaw. It may be possible to share this cost if Ucluelet and Tofino were to adopt a similar bylaw.

The potential costs for this project would be primarily for communication materials which may include items such as stickers, ads in the Westerly News, and graphic design and printing.

POLICY OR LEGISLATIVE IMPACTS:

The legislative impacts may include the following:

- Drafting the Single-Use Shopping Bag Bylaw and accompanying fine bylaw.
- The potential adoption of a new Bylaw Offence Notice and Adjudication System – initially proposed at the October 24, 2017 Council Meeting. The District of Tofino would enforce the bylaw using a Bylaw Enforcement Notice. Currently, the only option in Ucluelet is through the Municipal Ticket Information System. The implementation of a Bylaw Offence Notice and Adjudication System for Ucluelet is a project being proposed for 2019.

OPTIONS REVIEW:

1. THAT Council direct staff to coordinate with the District of Tofino, Surfrider – Pacific Rim Chapter, and the Ucluelet Aquarium, in developing a proposed bylaw to restrict the distribution of single-use plastic shopping bags. **(Recommended)**
2. THAT Council direct staff to bring back a bylaw that restricts the distribution of single-use plastic shopping bags within the District of Ucluelet for Council’s consideration. **(Recommended)**
3. THAT Council provide alternative direction to staff.

Respectfully submitted:

Marlene Lagoa, Deputy Municipal Clerk
Mark Boysen, Chief Administrative Officer

CHECKOUT BAG REGULATION BYLAW
A BYLAW OF THE CITY OF VICTORIA

The purpose of this Bylaw is to regulate the business use of single use checkout bags to reduce the creation of waste and associated municipal costs, to better steward municipal property, including sewers, streets and parks, and to promote responsible and sustainable business practices that are consistent with the values of the community.

Contents

1	Title
2	Definitions
3	Checkout Bag Regulations
4	Exemptions
5	Offences
6	Penalties
7	Severability
8	Consequential Amendment to the Ticket Bylaw
9	Transition Provisions
10	Effective Date

Under its statutory powers, including sections 8(6) of the *Community Charter*, the Council of the Corporation of the City of Victoria, in an open meeting assembled, enacts the following provisions:

Title

- 1 This Bylaw may be cited as the "Checkout Bag Regulation Bylaw".

Definitions

- 2 In this Bylaw

“Checkout Bag” means:

- (a) any bag intended to be used by a customer for the purpose of transporting items purchased or received by the customer from the business providing the bag; or
- (b) bags used to package take-out or delivery of food
- (c) and includes Paper Bags, Plastic Bags, or Reusable Bags;

“Business” means any person, organization, or group engaged in a trade, business, profession, occupation, calling, employment or purpose that is regulated under the Business Licence Bylaw or the Cannabis Related Business Regulation Bylaw and, for the purposes of section 3, includes a person employed by, or operating on behalf of, a Business;

“Paper Bag” means a bag made out of paper and containing at least 40% of post consumer recycled paper content, and displays the words “Recyclable” and “made from

40% post-consumer recycled content” or other applicable amount on the outside of the bag, but does not include a Small Paper Bag;

“Plastic Bag” means any bag made with plastic, including biodegradable plastic or compostable plastic, but does not include a Reusable Bag;

“Reusable Bag” means a bag with handles that is for the purpose of transporting items purchased by the customer from a Business and is

- (a) designed and manufactured to be capable of at least 100 uses; and
- (b) primarily made of cloth or other washable fabric;

“Small Paper Bag” means any bag made out of paper that is less than 15 centimetres by 20 centimetres when flat.

Checkout Bag Regulation

- 3 (1) Except as provided in this Bylaw, no Business shall provide a Checkout Bag to a customer.
- (2) A Business may provide a Checkout Bag to a customer only if:
 - (a) the customer is first asked whether he or she needs a bag;
 - (b) the bag provided is a Paper Bag or a Reusable Bag; and
 - (c) the customer is charged a fee not less than
 - (i) 15 cents per Paper Bag; and
 - (ii) \$1 per Reusable Bag.
- (3) For certainty, no Business may:
 - (a) sell or provide to a customer a Plastic Bag; or
 - (b) provide a Checkout Bag to a customer free of charge.
- (4) No Business shall deny or discourage the use by a customer of his or her own Reusable Bag for the purpose of transporting items purchased or received by the customer from the Business.

Exemptions

- 4 (1) Section 3 does not apply to Small Paper Bags or bags used to:
 - (a) package loose bulk items such as fruit, vegetables, nuts, grains, or candy;
 - (b) package loose small hardware items such as nails and bolts;
 - (c) contain or wrap frozen foods, meat, poultry, or fish, whether pre-packaged or not;

- (d) wrap flowers or potted plants;
 - (e) protect prepared foods or bakery goods that are not pre-packaged;
 - (f) contain prescription drugs received from a pharmacy;
 - (g) transport live fish;
 - (h) protect linens, bedding, or other similar large items that cannot easily fit in a Reusable Bag;
 - (i) protect newspapers or other printed material intended to be left at the customer's residence or place of business; or
 - (j) protect clothes after professional laundering or dry cleaning.
- (2) Section 3 does not limit or restrict the sale of bags, including Plastic Bags, intended for use at the customer's home or business, provided that they are sold in packages of multiple bags.
- (3) Notwithstanding section 3(2)(c) and 3(3)(b), a Business may provide a Checkout Bag free of charge if:
- (a) the Business meets the other requirements of section 3(2);
 - (b) the bag has already been used by a customer; and;
 - (c) the bag has been returned to the Business for the purpose of being re used by other customers.
- (4) Section 3 does not apply to a Checkout Bag that was purchased by a Business prior to the first reading of this Bylaw.

Offence

- 5 (1) A person commits an offence and is subject to the penalties imposed by this Bylaw, the Ticket Bylaw and the *Offence Act* if that person:
- (a) contravenes a provision of this Bylaw;
 - (b) consents to, allows, or permits an act or thing to be done contrary to this Bylaw; or
 - (c) neglects or refrains from doing anything required by a provision of this Bylaw.
- (2) Each instance that a contravention of a provision of this Bylaw occurs and each day that a contravention continues shall constitute a separate offence.

Penalties

- 6 A person found guilty of an offence under this Bylaw is subject to a fine:

- (a) if a corporation, of not less than \$100.00 and not more than \$10,000.00; or
 - (b) if an individual, of not less than \$50.00 and not more than \$500.00
- for every instance that an offence occurs or each day that it continues.

Severability

7 If any provision or part of this Bylaw is declared by any court or tribunal of competent jurisdiction to be illegal or inoperative, in whole or in part, or inoperative in particular circumstances, it shall be severed from the Bylaw and the balance of the Bylaw, or its application in any circumstances, shall not be affected and shall continue to be in full force and effect.

Consequential Amendment to the Ticket Bylaw

8 The Ticket Bylaw No. 10-071 is amended by inserting, immediately after Schedule Y, the Schedule 1 attached to this Bylaw as the new Schedule Z.

Transition Provisions

- 9 (1) Section 3(2)(c)(i) is amended by deleting “15 cents” and substituting “25 cents”.
- (2) Section 3(2)(c)(ii) is amended by deleting “\$1” and substituting “\$2”.
- (3) Section 4(4) is repealed.

Effective Date

10 This Bylaw comes into force on July 1, 2018 except sections 5 and 9 which come into force on January 1, 2019.

READ A FIRST TIME the	14th	day of	December	2017.
READ A SECOND TIME the	14th	day of	December	2017.
READ A THIRD TIME the	14th	day of	December	2017.
ADOPTED on the	11th	day of	January	2018.

“CHRIS COATES”
CITY CLERK

“LISA HELPS”
MAYOR

Schedule 1

**Schedule Z
Single Use Checkout Bag Regulation Bylaw
Offences and Fines**

Column 1 – Offence	Column 2 – Section	Column 3 – Set Fine	Column 4 – Fine if paid within 30 days
Providing a Checkout Bag to a Customer except as provided in the bylaw	3(1)	\$100.00	\$75.00
Providing a Checkout Bag without asking whether a customer wants one	3(2)(a)	\$100.00	\$75.00
Providing a Checkout Bag that is not a Paper Bag or Reusable Bag	3(2)(b)	\$100.00	\$75.00
Charging less than a prescribed amount for a Checkout Bag	3(2)(c)	\$100.00	\$75.00
Selling or providing a Plastic Bag	3(3)(a)	\$100.00	\$75.00
Providing Checkout Bag free of charge	3(3)(b)	\$100.00	\$75.00
Denying or discourage use of customer's own Reusable Bag	3(4)	\$100.00	\$75.00

CHECKOUT BAG REGULATION BYLAW, AMENDMENT BYLAW (NO. 1)

A BYLAW OF THE CITY OF VICTORIA

The purpose of this Bylaw is to amend the dates when section 5, and 9 of the *Checkout Bag Regulation Bylaw* come into force.

Contents

- 1 Title
- 2 Amendments
- 3 Effective Date

Under its statutory powers, the Council of the City of Victoria, in an open meeting assembled, enacts the following provisions:

Title

- 1 This Bylaw may be cited as the "Checkout Bag Regulation Bylaw, Amendment Bylaw (No. 1)".

Amendments

- 2 The Checkout Bag Regulation Bylaw (18-008) is amended by repealing section 10 and replacing it with the following:

"10 This Bylaw comes into force on July 1, 2018 except

- (a) sections 5 and 9(3) which come into force on January 1, 2019; and
- (b) sections 9(1) and (2) which come into force on July 1, 2019."

Effective Date

- 3 This Bylaw comes into force upon adoption.

READ A FIRST TIME the **26th** day of **April** 2018.

READ A SECOND TIME the **26th** day of **April** 2018.

READ A THIRD TIME the **26th** day of **April** 2018.

ADOPTED on the **10th** day of **May** 2018.

"CHRIS COATES"
CITY CLERK

"LISA HELPS"
MAYOR

APPENDIX B

Single Use Plastic Regulation: Surfrider's Supportive Efforts

1) **Ban the Bag Campaign**

This campaign was launched in the autumn of 2016 with the intent of having plastic bags banned in both the District of Tofino and District of Ucluelet. Please see the results of this campaign below.

a) Businesses Who have Voluntarily Eliminated Plastic Bags

Tofino: 93 businesses have voluntarily eliminated plastic bags

Ucluelet: 25 businesses have voluntarily eliminated plastic bags

For a full breakdown, please refer to the Single Use Plastic Master Chart for [Tofino](#) and [Ucluelet](#)

b) Results from the Ban the Bag Survey

A majority of responses highlight the support of a plastic bag ban. 38 businesses responded to the survey along with 18 individuals across the Pacific Rim.

87% of responders support a bag ban

11% of responders do not support a bag ban

2% of responders are unsure

c) Results from Hand Signed Ban the Bag Petition

Throughout 2017, we brought the Ban the Bag petition to all beach and film events. From the culmination of these events, 388 people signed in support of banning the bag.

2) **Motion-151: Support from Coast to Coast**

Since MP Gord Johns launched this petition, 1861 signatures have been received online, and 3500 signatures on paper petitions have been received via mail.

Surfrider Pacific Rim has supported MP Gord John's petition, as well as the +SumOfUs petition that was launched by our partner, The Ocean Legacy Foundation, which is asking Canadians to support Motion-151. This has gained over 160K signatures, and we are now working to make this petition reach 200K signatures.

3) **Ocean Friendly Business Campaign: Making Plastic Free Towns a Business Led Endeavour**

The Ocean Friendly Business Campaign works to register 15 new businesses in Tofino and Ucluelet each year as Ocean Friendly, by helping them transform their current operations to eliminate single use plastics, implement progressive recycling practices, and increase sustainable initiatives in businesses operations. Through this campaign, resources, innovative ideas and practices are gained from each business and shared with all participants, as well as the entire business community in the Pacific Rim.

A major impact of this campaign is that all businesses must eliminate plastic bags and straws, and then they have the option to eliminate an additional forms of single use plastics. In the last round of this campaign, every business chose to eliminate an additional form of plastic, which includes toothpicks, plastic wrapped candies, clothing packaging, plastic stirrers, ramekins, cutlery and plastic folders.

Businesses signed up to be Ocean Friendly by April 2019:

Live to Surf

Ocean Village Resort

Ocean Outfitters

Pacific Sands Beach Resort

Ukee Dogs

Hello Nature Adventure Tours

Middle Beach Lodge Resort

Hotel Zed

Tin Wis Best Western Resort

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Summit Bakery
The Maquinna
Heartwood Kitchen
Barkley Cafe - to be confirmed
Gypsy Drifter - to be confirmed
Caravan Beach Shop

Businesses Registered as Ocean Friendly in 2018:

Jamie's Whaling Station
Surf Sister
Merge
Zoe's Bakery and Cafe
Tofino Botanical Gardens & Ecolodge
Wolf in Fog
District of Ucluelet
Long Beach Lodge Resort
Wickanninish Inn
Pacific Surf School
Storm Surf
Green Soul Organics
Blackberry Cove
Crystal Cove
Tofino Paddle Surf

4) Rise Above Plastics Film Nights

Film nights in Tofino and Ucluelet have doubled as a platform for community consultation on single use plastics, with a significant amount of focus on plastic bags. These events have brought awareness to this issue on a local scale, while helping attendees understand the global significance of this crisis. These film events include:

- *A Plastic Ocean*, February 2017.
- *Bag It*, Tofino, April 2017. Mayor Josie Osborne spoke on the panel.
- *Bag It*, Ucluelet, August 2017. CAO Mark Boysen spoke on the panel.
- 2nd Annual Surfrider Short Film Festival, October 2017
- *Plastic China*, February 2018
- *Landfill Harmonic*, April 2018
- 3rd Annual Short Film Festival, October 2018

5) Stitch n Beach Program Highlights

Since its inception in March 2017, the Stitch n Beach Program has made 2000 reusable bags out of donated textiles, recycling these textiles that otherwise would have been landfilled. Reusable bags were originally made for both the Tofino and Ucluelet Co-op Groceries, to help residents and visitors say no to plastic bags. This initiative is what helped both Co-ops to eliminate plastic bags from their tills. Reusable bags have also been made for Fishes and Loaves in Tofino, as well as for the Food Bank on the Edge in Ucluelet. Currently, we are working to make more reusable bags for offshore residents who need sturdy non-paper bags that will hold up during the storm season.

6) Love Your Beach Clean 2019: Program Evolution

Surfrider Pacific Rim has finalized the Love Your Beach Clean 2019 plan, and part of the evolution for this program is engaging more visitors to conduct their own personal clean ups when they visit the beach. To do this, we are creating beach clean signage that will be installed at beach entrances in both the District of Tofino and District of Ucluelet. This signage will concisely state the issue with plastic pollution, and give tips on how visitors can collect litter and/or marine debris while they are on the beach.

In addition to the monthly local and remote clean ups we do, we also support beach events that take place in the Pacific Rim. A majority of these events are surf competitions, which require proper waste

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management and advice on how to avoid plastics. In 2018, we have supported 7 beach events, diverting waste from landfill into recycling and composting.

We also submit all of our data to the Great Canadian Shoreline Cleanup, who tabulate beach clean data across the country. In 2017, all participating clean up groups collected 22,724 plastic bags, removing this hazard from the environment.

7) **Our Vision: Ocean Friendly Corridor**

This autumn, Surfrider Pacific Rim applied for funding from the Vancouver Foundation to create an Ocean Friendly Corridor between Tofino and Ucluelet. This entails scaling all of our current efforts deeper within all current groups we work with: schools, businesses, both Districts and local First Nation governments. With this, we intend to continue creating end of life solutions for petroleum products, as well as eliminating all single use plastics from this region. The Single Use Plastic Regulation is integral to making this happen, and we are thrilled to continue working with both District's to achieve our collective goals.

8) **Communications**

Since 2015, we have received a remarkable amount of free media to raise awareness about the Rise Above Plastics Program and the campaigns we have run under this Program (including Straws Suck and Ban the Bag). This includes Tuff City Radio, Ukee Radio, Tofino Times and the Westerly News. We have also brought positive attention to Tofino and Ucluelet as environmentally friendly destinations through Stay Wild Magazine, Immersion Surf, Reef Canada's Beach Freely Blog, Exploring by the Seat of Your Pants, and through Canada's Oceans: Towards 2020 Conference which Chapter Manager Lilly Woodbury presented at.

Going forward, we are committed to educating and raising awareness about the District's plan to regulate both straws and bags in 2019 through radio, social media, print and online publications, and events. We want to ensure this change is smooth for all local and offshore residents, as well as for our visitors, and so we will be dedicated to educating the public on these changes over the next two years.

9) **What's Next? Upcoming Events**

We are dedicated to supporting both District's efforts to regulate and ban single use plastic bags and straws in 2019.

- Stitch n Beach event in Opitsaht, November 13, 2018
- Rise Above Plastics Winter Workshops, inaugural workshop held November 7th, 2018
- Business After 5 event with the Tofino Chamber of Commerce, November 21, 2018
- Business After 5 event with the Ucluelet Chamber of Commerce, November 26, 2018
- Polar Bear Swim, January 1st. First Love Your Beach Clean event of 2019, includes membership drive.

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Single Use Plastic Master Chart Ucluelet

Business	Plastic Straws	Plastic Bags at check out and produce bags	Plastic water Bottles	Takeaway Containers (plastic coffee cup lids, ramekins, cutlery, containers)	Foam containers or cups	Other
TOTALS:	*Two businesses signed on to the Straws Suck campaign and were just using up stock, everyone else has compostable straws	26 businesses do not have plastic bags 33 businesses do have plastic bags, some of which are biodegradable , upon request and have a fee	42 businesses do not have plastic water bottles 27 businesses have plastic water bottles	34 businesses have some form of takeout plastics 36 businesses to not have plastic takeaway containers	57 businesses do not have foam 10 businesses have foam products they give out	
Archipelago Cruises	no	no	not open when visited/called	No	not open when visited/called	
ARMY, NAVY & AIR FORCE VETERANS CLUB	no	no	no	plastic cups	no	plastic bags for garbage
BARKLEY CAFE	no	no	no	plastic cups, cutlery	no	
BARRY'S DRUG MART	no	yes	yes	no	no	products in plastic packaging
BC Liquor Store	no	yes - on request	yes	no	yes	products in plastic packaging
Black Dog Barber	no	no	no	no	no	products in plastic packaging
BLACKBERRY COVE MARKETPLACE	no	yes, reused bags, and bags for bulk food	yes	no	no	products in plastic packaging

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Blackrock Resort: Fetch Restaurant	no	no	yes	plastic ramekins, cutlery	no	operation of hotel uses lots of plastic (bags etc.)
Blackrock Resort: Float Lounge	no	no	yes	plastic ramekins, cutlery	no	toothpick covers plastic
Blackrock Resort: Gift shop	no	no	no	cutlery with plastic cover, coffee lids	no	
BLUE ROOM	no	yes	no	ramekins, cutlery	no	
Canadian Princess Fishing Lodge	no	yes	yes	dixie cups		
CAP'N HOOK SHOP	no	yes	no	plastic lids for coffee cups		lots of products wrapped in plastic
Cargo Thrift	no	yes (uses bags people donate)	no	no	no	
CEDAR GRILL	Yes (biodegradable ones)	yes	no	yes - ramekins & cutler	foam soup bowls	
CEDAR HOUSE GALLERY LTD	no	no	no	no	no	plastic packaging/foam packaging for art
CHEESUS	no	no	not open when visited	not open when visited	not open when visited	
Co-op Gas Bar	No	no	yes	plastic lids & cups	no	
Co-op Grocery	sells them - does not give out	no	yes	plastic containers for salads, cutlery	sells them	packaging of products
CROW'S NEST UCLUELET	no	no	no	no	no	packaging of products

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Eagles Nest Pub	no	no	no	plastic lids	no	
EMPORIUM OF AWESOME	no	no	no	biodegradable potato starch spoons for gelato	no	packaging of products
FAR WEST DISTRIBUTORS		no	yes	no	no	big rolls of plastic for packaging, styrofoam for shipping
FISHFULL THINKING	no	yes	no	no	no	
FLOATHOUSE PATIO & GRILL	no	yes	no	biodegradable containers	no	
FOGGY BEAN COFFEE COMPANY	no	coffee bags may have thin plastic liner	no	no	no	
GRAY WHALE ICE CREAM/DELI	no	no	yes	yes (compostable type)	no	saran wrap
GYPSY DRIFTER	no	no	no	no	no	
Hanks BBQ	no	yes	no	ramekins, cutlery	no	
HARBOUR PIZZA	yes	yes	yes	cutlery	styrofoam ramekins	
HARBOURVIEW DRUGSTORE	no but they do have some for sale as product	Yes, charge .25 per bag, have paper as well	yes	no	no	product comes in plastic
HEARTWOOD KITCHEN LTD.	no	no	no	coffee lids	no	
HOWLER'S FAMILY RESTAURA	biodegradable available	yes	yes	coffee lids	yes	

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Huckelberry Cafe/West Coast Roasters	no	no	yes	cutlery	no	
IMAGE WEST GIFTS	no	yes	no	no	no	plastic packaging
IN-STYLE SNUGGLE BUNNIES	no	not open when visited/called				
Jamie's Whaling Station	no	yes but biodegradable	yes	no	no	
JIGGERS FISH & CHIPS & CATERING	no	yes	yes	cutlery, ramekins	no	
LONG BEACH SURF SHOP	no	no	no	no	no	products in plastic packaging
Majestic Ocean Kayaking	no	yes	yes	no	no	
MURRAY'S GROCERY	compostable	yes	yes	cups, lids	foam coolers for sale	plastic packaging
NORWOODS RESTAURANT	biodegradable	yes	yes	cutlery	no	
OCEAN PET SUPPLIES	no	yes but biodegradable	no	no	no	products come in plastic
OFFICIALS SPORTS LOUNGE LTD	yes - they are using up the rest of their stock and then not ordering any more	no	no	no	styrofoam cups	
PACIFIC RIM DISTILLING	no	no	no	lids on bottles	no	

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Petro Canada	no	yes	yes	lids, cups	cups	products in plastic packaging
PINA STYLES	no	no	no	no	no	cards and art in plastic
PIONEER BOAT WORKS	no	yes but they reuse from shipments	no	no	cups for coffee/tea	products for sale come in plastic
PLACE TV APPLIANCE AND FURNITURE CENTRE	no	yes - using large shipment they received from 1995!	no	no	no	products for sale come in plastic
RAVEN LADY	no	yes	yes	starch cutlery, plastic ramekins	no	
REFLECTING SPIRIT GALLERY	no	biodegradable	no	no	no	plastic product packaging
RELIC SURF SHOP	no	yes	no	no	no	plastic product packaging
RUBIO	no	yes	no	no	no	plastic product packaging
SOLIDARITY SNACKS	no	no	no	no	no	
Sun Island Surf (new surf rental shop?)	no	yes	no	no	no	plastic product packaging
TACO JEFE	no	no	yes	plastic cups	no	
Terrace Beach Resort	wouldn't answer	wouldn't answer	yes	wouldn't answer	wouldn't answer	
THAY TEA	no	no	no	plastic cups	no	
THE DEN	no	no	no	no	no	products in plastic packaging

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The Wreckage	no	no	no	coffee lids	no	products in plastic packaging
UCLUELET AQUARIUM	no	no	no	no	no	plastic product packaging
UCLUELET LIQUOR STORE	no	yes	yes	no	no	
UCLUELET RENT-IT CENTRE LTD	no	no	no	no	no	
UKEE BIKES	no	no	no	no	no	products shipped in plastic
UKEE DOGS	no	no	no	cutlery	no	
UKEE SCOOPS & TOURS	no	yes	no	plastic cups for smoothies etc.	no	
UKEE SEAFOOD AND FISH PAK	no	yes, for vacuum sealing fish	yes	no	no	
Waters Edge Resort	no	yes	yes	no	no	
Waves n Shaves	no	no	no	no	no	products come in plastic
WAYNE'S PLACE	no	yes	yes	yes	yes	
West Coast Motel on the Harbour	no	yes	yes	yes	no	products in plastic packaging
WICK'D SURF CAMPS	no	no	no	no	no	products packed in plastic
WINDSOR	no	yes	yes	yes	foam packaging	products packed in

THE UCLUELET AQUARIUM'S MICROPLASTICS AND MARINE DEBRIS INITIATIVE



WHAT WE ARE DOING

Our communities are intrinsically tied to the local marine environment for food security, the economy, and cultural activities. Microplastics (fragments, nurdles and filaments smaller than 5mm) pose threats to the local economy and to the health of not only marine life, but people as well. Over 180 species are known to ingest plastic pollution, which has indirect impacts to human health through the food chain. Our study is one of the first to scientifically monitor microplastic pollution in beach sediment in British Columbia. By collecting valuable data with the help of citizen scientists, we are learning about the distribution, frequency and type of microplastic pollution affecting our coast. The results from this study are used to engage the public, and inspire change to reduce plastic consumption. Working together with visitors and community members we are raising awareness to protect the coastal ecosystem we are deeply connected to.

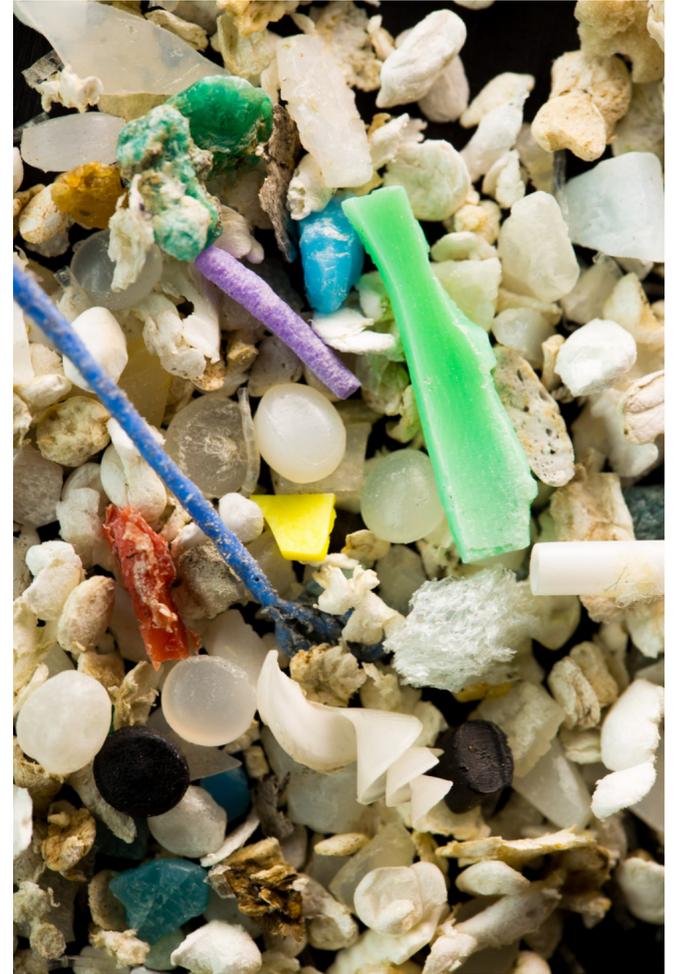


Photo: Adam Baus



Photo: Adam Baus



Photo: Mack Bartlett



Photo: Jessica Landsfield



Photo: Mack Bartlett

THE UCLUELET AQUARIUM'S MICROPLASTICS AND MARINE DEBRIS INITIATIVE



WHAT WE ARE FINDING

Our study sites are located in Ucluelet, Pacific Rim National Park Reserve, and Tofino, BC (see map above). We have found microplastics in EVERY sample, at EVERY study site (Figure 1). As we collect more data we are finding potential patterns from our results (Figure 2). This research will help broaden our awareness of human impacts on the environment and strategies to protect the ocean we depend on.

The Microplastic and Marine Debris Initiative Sample Locations



Figure 1. Microplastic sediment sampling locations, between Ucluelet and Tofino, B.C including the Pacific Rim National Park.

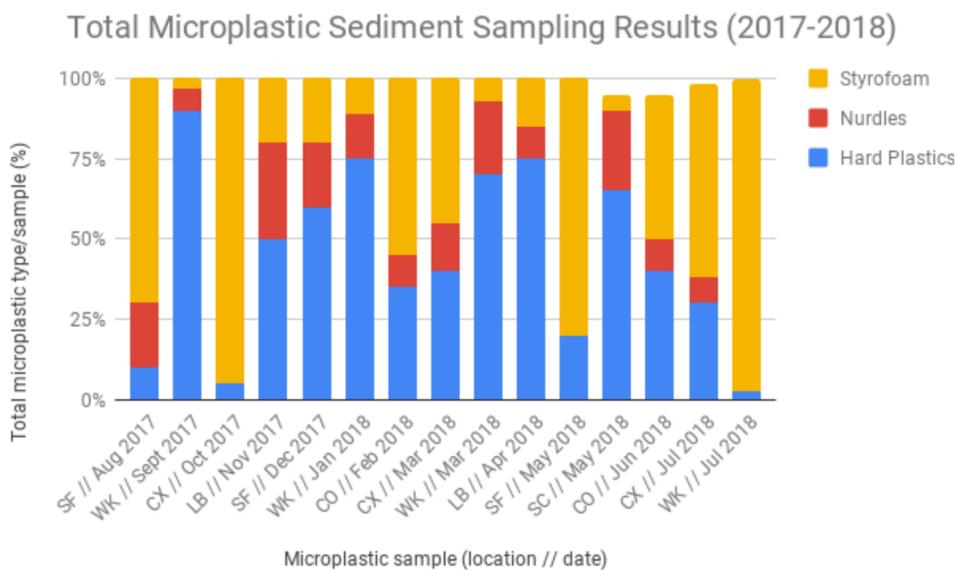


Figure 2. Total microplastic sediment sampling results by location, date and plastic type (August 2017 to July 2018). SF: South Florencia, WK: Wickaninnish Beach, CX: Cox Beach, LB: Long Beach, CO: Combers Beach, SC: Schooner Cove.

TOTAL MICROPLASTIC TYPE

Three major types of microplastics make up the majority of our sediment samples; hard plastics, styrofoam and nurdles. You can see in figure two (left) how the type of plastic changes over time and at different locations.

44.5% HARD PLASTICS
41.9% STYROFOAM
13.6% NURDLES

Seasonal Comparison of Microplastic Sediment Samples by Volume (mL)



Figure 3. Comparison of microplastic volume from sediment samples during Aug. 2017 to July 2018 at multiple sites between Ucluelet and Tofino, B.C.

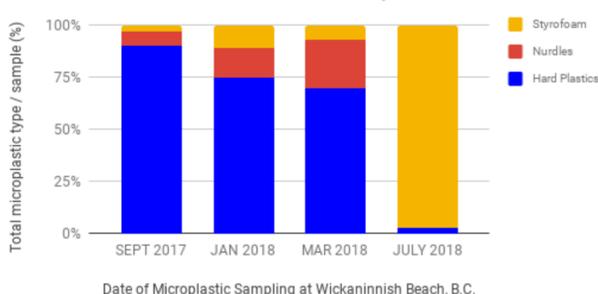
TOTAL MICROPLASTIC VOLUME

Abiotic factors like ocean currents and wind play a large factor in what type and amount of microplastic ends up on beaches.

6.3 mL AUG - NOV 2017
107.2 mL DEC. - APRIL 2018
28.9 mL MAY- JULY 2018

Increase in microplastic volume during 'winter months'

Seasonal Comparison of Microplastic Types at Wickaninnish Beach, B.C.

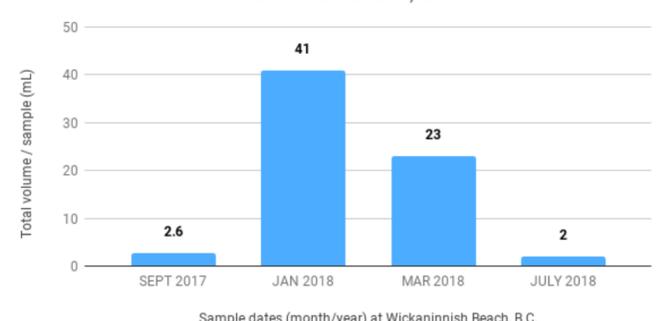


Comparison of Wickaninnish Beach by microplastic type

and volume (ml)

from four sediment samples, collected between Sept. 2017- July 2018

Comparison of Microplastic Sample Volume by Date at Wickaninnish Beach, B.C.

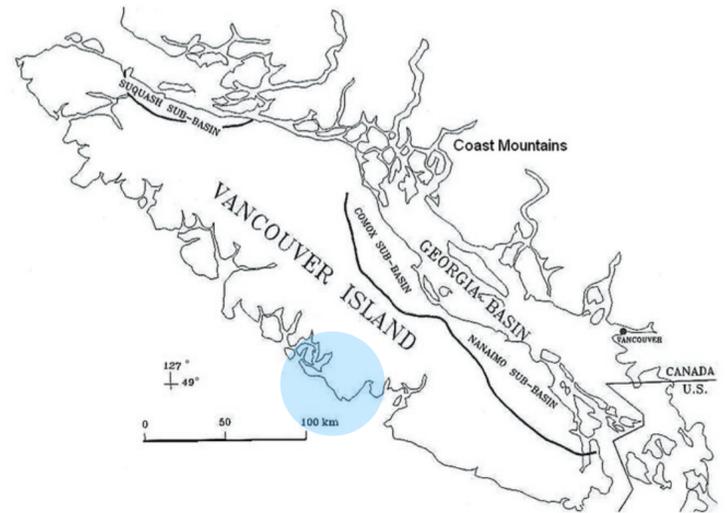


THE UCLUELET AQUARIUM'S MICROPLASTICS AND MARINE DEBRIS INITIATIVE



MAJOR STUDY GOALS

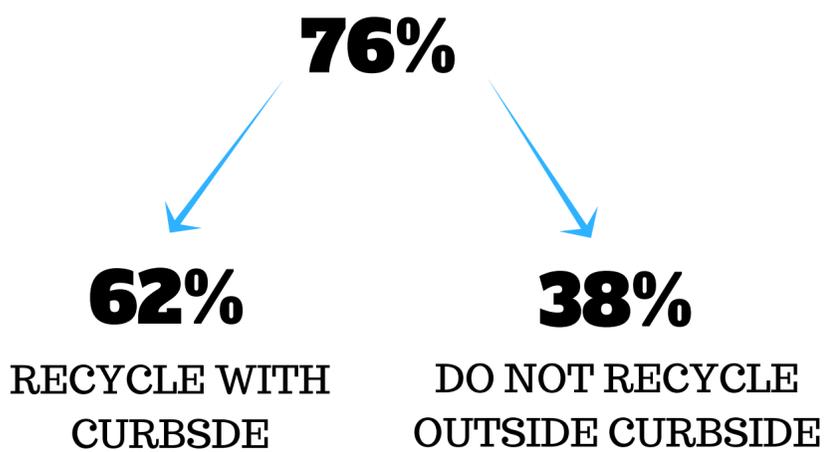
- 1) To collect valuable data to understand the type, distribution and frequency of microplastics on our coast with the help of citizen scientists.
- 2) To share our results with other marine debris and plastic pollution initiatives, the public, and government leaders to influence change and mitigate plastic pollution.
- 3) To provide educational materials and resources to engage our local community and visitors to limit single-use plastic items and find plastic alternatives.



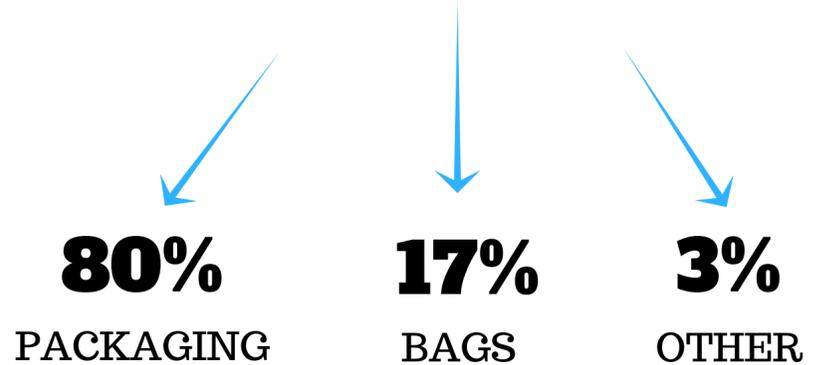
Over 30,000 visitors come to see our displays each year. From the 490 visitors that participated in a feedback survey (between March and June 2018), 97% felt encouraged to reduce their plastic consumption after interacting with our plastic alternatives display.

PLASTIC INITIATIVE SURVEY RESULTS

CANADIAN RESPONSES



WHEN ASKED WHAT PLASTIC IS THE HARDEST TO REMOVE FROM THEIR LIVES:



THANK YOU TO OUR PARTNERS FOR
SUPPORTING THIS PROJECT !



Interested in supporting this project? You, your family, or your business can help us continue this work. If you are interested in sponsorship, please contact the Ucluelet Aquarium!

Want to get involved? We are looking for more citizen scientist volunteers to assist our efforts. Please contact us for more info!

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