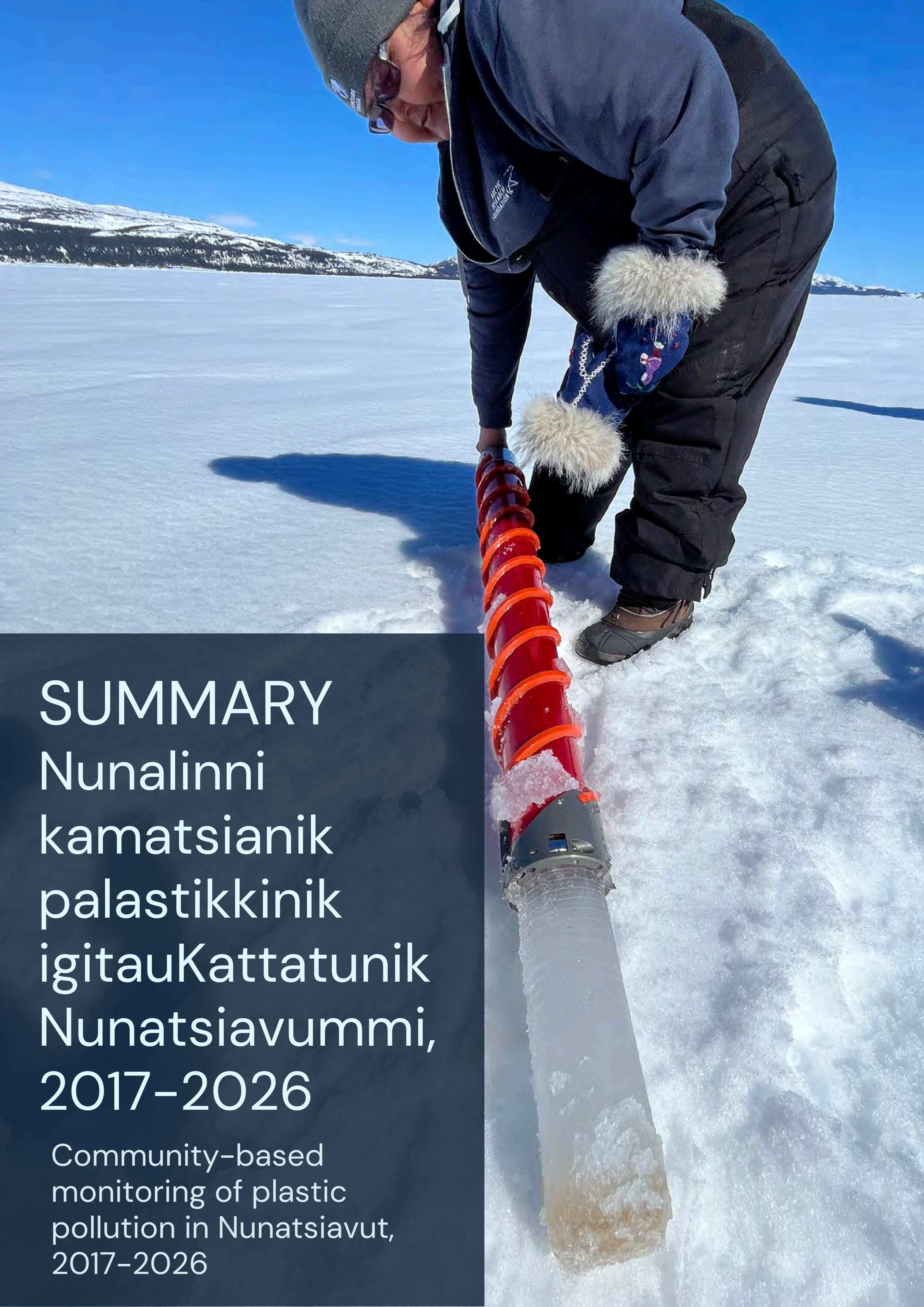

SUMMARY

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Community-based monitoring of plastic pollution in Nunatsiavut, 2017-2026

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Community Based Monitoring of plastic Pollution in Nunatsiavut, 2017-2026

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Allasimajuk Kaujijausimajuk isumagijausimajuk nunalimmi uKâlautigijausimajunut (Atajuk 1)
Authorship was determined based on community discussions (Appendix 1)

Pinianninga / Introduction

Taimanganit 2017, tainna Nunalinni kamatsianik palâstikkinik suliangujuk katuitisimajuk Inuit katitsuijinnik, nunalimmiunik, Kaujisattinik, ammalu suliaKapvini ikajuttigejunut tukisigiamut palâstikkinik iluani Nunatsiavut nunanginni amma imâni. SivukkatigeKatausimajuk Liz Pijogge (Nunatsiavut kavamanga) ammalu Max Liboiron (Memorial Ilinniavitsuanga), ammalu iniKatlutik nunalimmi-ilinganiKajumut avatiliginimmik kamatslutik, tânna suliangujuk takunnâlualauttik palâstikkinik iluni niKituKannik, sitjani, imaup Kângani, aputik, ammalu sikunni ottugatlutik. Ungatâni 250 **inuit** tunitsilauttut tâpsumunga suliatsamut, sakKijâtitsitlutik anginippaumik, nunalimmit-pisimajumit palâstikkinik suliatsamik iluani Ukiuttattumi ullumimut. Tânna allaKutik naillititsijuk napvâtausimauuik pisimajunit Kanitangani **3,000 ottugattausimajunut** nanituinnak Labrador Inuit Satusattausimajop Iningani.

Ilonnait Kaujigatsait katitsutausimajut tâpsuma suliatsakut namminigijauvuk Nunatsiavut kavamakkunut.

Since 2017, the Nunalinni kamatsianik palastikkinik project has brought together Inuit harvesters, community members, researchers, and institutional partners to understand plastics in Nunatsiavut lands and waters. Co-led by Liz Pijogge (Nunatsiavut Government) and Max Liboiron (Memorial University), and grounded in community-based environmental monitoring, the project focused on plastics in wild food, alongside shoreline, surface water, snow, and ice. Over 250 people contributed to this work, sustaining one of the most comprehensive, community-driven plastics projects in the Arctic to date. This report details findings from nearly 3,000 samples across the Labrador Inuit Settlement Area.

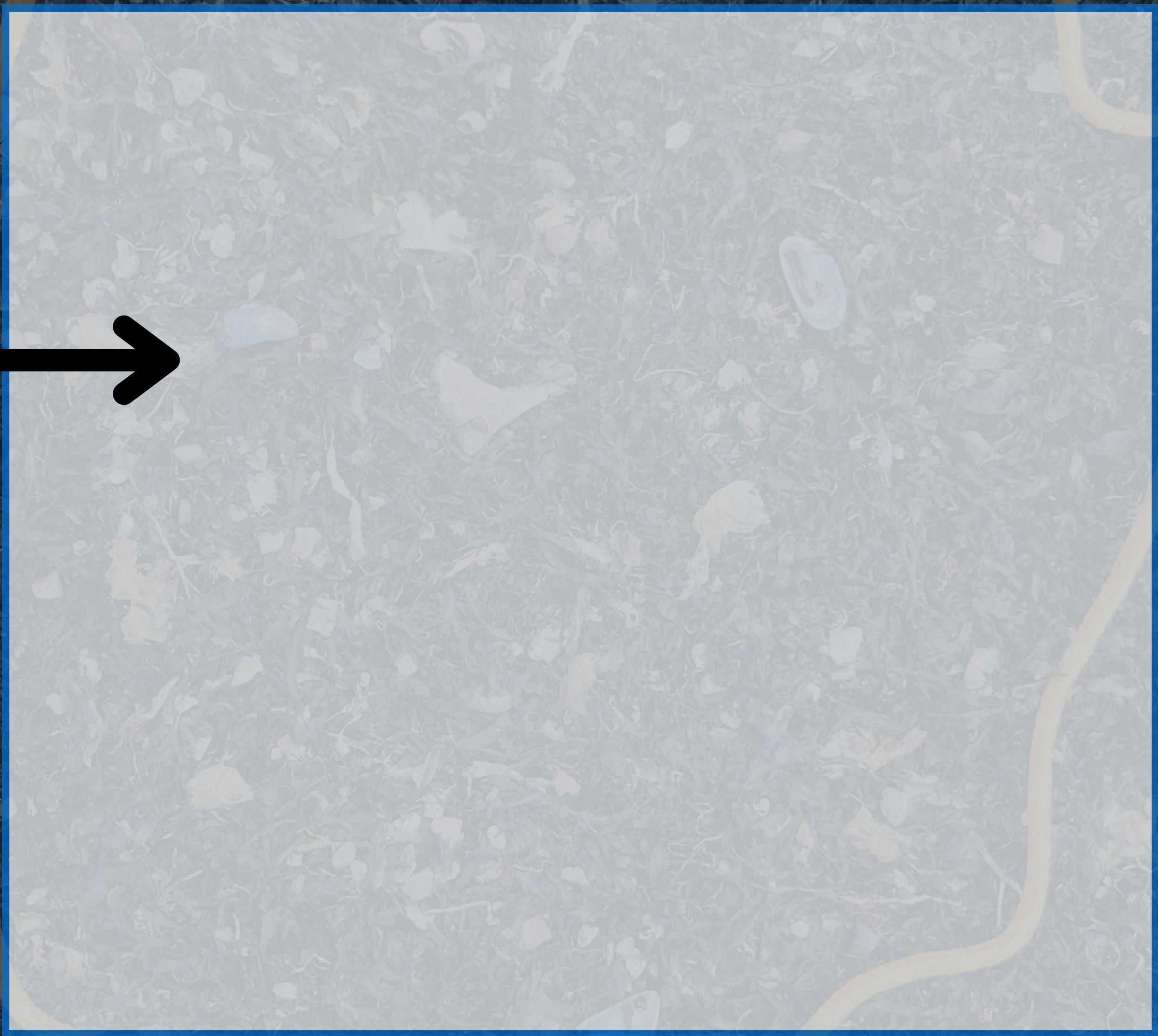
All data gathered through this project are owned solely by the Nunatsiavut Government.

As this partnership phase concludes (March 2026), the Nunatsiavut Government is taking leadership of the project going forward. Liz Pijogge has transitioned into a new position within the Nunatsiavut Government, where she continues to support research and knowledge stewardship. This moment marks both an ending and a continuation: the conclusion of a successful co-led research partnership, and the strengthening of Nunatsiavut-led plastics monitoring rooted in Inuit governance, priorities, and futures.

Front image: Liz Pijogge with an ice core, 2024. Photo: Max Liboiron. This page: Liz Pijogge and Max Liboiron look out over a bridge during training. Film still from niKet (CBC Gem, 2022). Tânna pâginâk: Liz Pijogge ammalu Max Liboiron takuniajut ikâgiapvimut ilinnianiammata. Taggajâliusimajuk pisimajumit niKet (CBC Gem, 2022).

Kangatuinnak takunnâgatta palâstikkisajannik Nunatsiavummi, ukua napvâluaKattasimajavut:

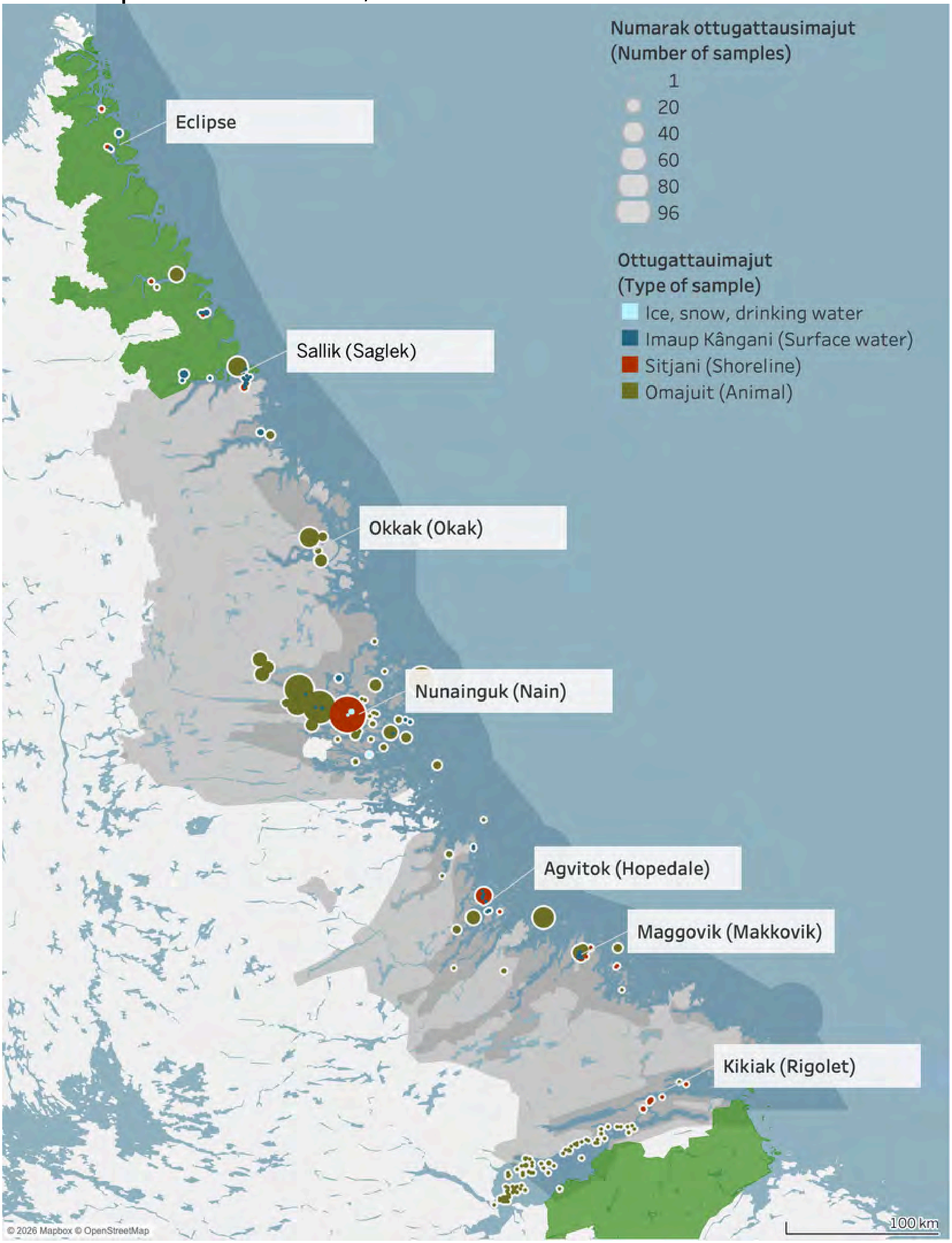
When we look for plastics in Nunatsiavut, this is what we find most of the time:



(Sunaungituk / Nothing)

Kautamâkasâk, palâstikkiKasimangituk.
Most of the time, there are no plastics.

Figure 1: Nunanguak palâstikkinik kamagijaujut Nunatsiavummmi / All samples collected to monitor plastics in Nunatsiavut, 2017-2025



Tânna nunanguak takutitsijuk nani tigujausimajut ottugattaugiamut iluani tapvani allaKutimmi katitsuvigijausimajunut. Angijummaget numarait ammalu Kanuittusuatuinnait tigujausimajut ottugattaugiamut Kanitangani Nainimi tamannauluasimajuk inigijaummat Liz-imut, suliaKapvinga, ammalu sangijumik ataKatiKajuk.

This map shows where samples in this report were collected. It is also a map of relationships. For instance, the large number and variety of samples around Nain are because this is where Liz lives, works, and has strong connections.

Napvâtauluasimajut

1. PiusigijauluaKattajuk, napvâKattangilagut palâstikkisajânnik.

Unauluasimajut numarangit iluani Kaujigatsatinni unauvuk 0.

2. NiKituKait Kanuingitut nigigiangit.

NapvâKattalaungilagut palâstikkinik unuluanik –3/4!—ilonnanginnik omajunik ottugasimajattinik. Napvâsinnagatta palâstikkinik, mikijualosimajut ammalu ajunnasimangitut omajunut anattaugiamut. Ottuganiagatta ilimanattuKammangâmmik, ilonnait omajuit Kanuilaungitut. Inuit, Taggami, ammalu SiKinganimmit Kaujisattet iluani tapvani Kaujisannimi nigigumajut niKituKannik Nunatsiavummit.

3. Nakit piKattaningit palâstikkisajait nunalimmiunguluasimajut.

Nalunaitsigatta nakit pisimakkomangâmmik palâstikkisajannik, niKiKautiuluasimajut nunalimmit pisimatlutik.

4. Palâstikket ilimanattut atjigengimagittut.

Atjigengitut inet ammalu avatinga iluani Nunatsiavummi pitaKavut atjigengitunik Kanuittoningit ammalu Katsiumangâmmik. Ikittuniungituk, sollu Kângani, ajunnatovuk uKagiamut Kanuittomangâmmik palâstikket Nunatsiavummi iluingatillugit. Angijualuk atjinguanga.

Kaujisannik piusigijausimajuk. Sauminnut: Uivak , Joni 2024. Right: Valerie Flowers, Nick Flowers, Bridget Kookooza, June 2024. Photo: Max Liboiron. Palâstikket sitjani. Talippinut: ikajuttigetlutik Kaujijausimajut , Nain January 2025. Paul McCarney, Kayla Wyatt, Mary Maggo, Liz Pijogge, Max Liboiron. Reggie Maggo, Eric Webb. Photo: Lauren Pilgrim.

Main Findings

1. Usually, we don't find plastics.

The most common number in our dataset is 0.

2. Wild food is safe to eat.

We did not find plastics in most—three quarters—of the animals we tested. When we did find plastics, they were extremely small and easy for the animal to poop. When we did toxicity testing, animals had safe levels. Inuit, Northern, and Southern researchers in this study choose to eat wild food from Nunatsiavut.

3. Sources of plastics are mainly local.

When we can identify the likely source of plastics, they are mainly from that region.

4. Plastic pollution is highly uneven.

Different places and environments in Nunatsiavut have different types and amounts of plastic. With a few exceptions, like those above, it is difficult to say what plastics are like in Nunatsiavut as a whole. It is a complex picture.

Two co-analysis sessions in Rigolet, June 2025.
On the left, we discuss plastics and other contaminants in birds. The final conclusion was that wild food was safe to eat. On the right, we figure out likely sources of plastics we've collected on shorelines. Photo: Paul McCarney

Piujut napvâtausimajut

1. Palâstikket ânnelungitut omajunik.

Napvâlaungilagut takutsaujunut palâstikkinik ilaKitsijunik, simittisijunik, upvalu ulcerinnik omajunut. Tânna palâstikket mikijolauttut Kângiutigijausongutlutik ajunnangitumik. Ânnisongugaluatlutik, senanik jârini kasâk kamatillugit takutitsijuk tamakkua attuinginnalungitut upvalu piusigijaunginnangitut nâmmalugatik sakKigiamut Kaujigatsatinnik.

2. NilaluviniKavuk, Ammalu tamanna Kanuingituk.

Nilaujait sakKinginnagaluatlutik sitjani (23%), avatimmut attuinialungitut ilimanattunit. SakKijâjut akuni takutitsitluni inuit iniKanninginnik, taipsumani sunatuinnak pannaitausimatlutik nilaujagalannit.

3. Ikittut palâstikkisajait pisimajut silatânit nunakKatigengitumit.

Aputimmi ammalu imaup Kângani, Nunatsiavut ikittunik palâstikkilet asinginnut nunakKatigengitunut Kaujisattausimajunut. Palâstikket nanigiallakiak pisimajut sakKiKattagaluatlutik, tamanna nunakKatigek atuttautuinnalungituk akuni iniggavigijaulluni. Taikkunangat ungatânit 8,000 palâstikkinik allaKutiliuttausimajunut, kisiani ikittut napvâtausimajut Kaningitummit pisimajunit, napvâtausimajut killinganit Kikittami Makkoviup saniani.

4. Piungilivallialungituk.

Senanik jârinik kamagijaunninganik, palâstikket unutsivallialungitut nalletuinnanut avatimmut, ininginnut, upvalu omajunnut Kaujisattausimajunut.

Positive findings

1. Plastics are not harming animals.

We found no evidence of plastics causing entanglement, blockages, or ulcers in animals. The plastics detected were small enough to pass through the digestive system, easily. While harm may occur, nearly a decade of monitoring shows these impacts are not regular or systematic enough to appear in our data.

2. There's a lot of glass, and that's ok.

Although glass is common on shorelines (23%, compared to 50% plastic), it is environmentally harmless from a toxics perspective. Its presence mainly reflects long-term human occupation from when goods were packaged in glass containers.

3. Few plastics are from outside the region.

In snow and surface water, Nunatsiavut has fewer plastics than many other regions studied. While plastics from elsewhere may occasionally appear, the region is not collecting lots of plastics from long-range transport. Of more than 8,000 plastics recorded, only a few were clearly from distant sources. These were found on the outer edges of islands near Makkovik.

4. It's not getting worse.

Over nearly a decade of monitoring, the amount of plastic has changed from year to year, but there is not an overall increase in plastics in any environment, location, or animal studied.

Inet isumâlotigijaujunut

1. Puttunippaunut nigijausimajunut omajunut atjigingitamminik asinginnut Kaujisattausimajunut.

Atjingitamminik asinginnut nenittausimajunut Kaujisannimit iluani Nunatsiavummi nigijut palâstikkisajannik. Tânna palâstikkik mikijovut ammalu takunnâlaukKugut ânnelungitut, tâvatuak immigolingajut omajuit palâstikkitaliuluat asinginnik Kaujimajaujunut. Tamanna atjigengigijanga sakKiluasimakkotuk ottagattausimannikut ammalu Kimiggutausimajutigut piusinginnik, upvalu KaujisattausimajuKangilak taikkuningatsainak avatimmik. Asiagut, piusinga ilingagajattuk Kanuk KaujisattuKammangât isumagilunnagu avatiup piusinganik. Suli Kaujigunnangilagut summaumangât, tâvatuak piusinga malittigejut nanituinnak omajunut atjigingitamminik Kaujigatsanik sakKijâgettunut.

2. Palâstikket saniani itsavinni ammalu nunalinni.

Palâstikket puttunigijangit saniani itsavinni ammalu nunalinni, nigiusimajattinik. Tamanna sakKititsijuk nunalinni anginitsauvuk avatittini palâstikkiKagiamut avatinnojunut iluanevut nunalinni aulatausongutluni ikilliumittitaugiamut.

3. Sikarevinait ilimanattovut palâstikkisajautluni.

Sikarevinet ilimanalualauttut palâstikket napvâtausimajunut iluani tapvani Kaujisannimi (n=245). Kaujimajaujut siammatitsigiamut ilimanattunik imânut ammalu piungitumik attuisot omajunut ammalu avatimmut. Huntait napvâtaulauttut sitjani, ammalu atautsik napvâtaulauttuk mitiup aKiagunganit.

4. PalâstikkisajaKavuk Hopedale-imi, tâvatuak salummasattausot.

NapvâlaukKugut palâstikkisajannik Hopedale tasingani atuttauKattajumut imijaugiamut, tâvatuak palâstikkisajait imailingasimavut 0.03 mm upvalu mikinitsamik, iluani anginingita imaup salummasaigutingitigut.

Areas of concern

1. Higher rates of ingestion in animals compared to other studies.

Compared to some other published studies, a higher proportion of animals in Nunatsiavut eat plastics. We observed no visible harm, but more individual animals eat plastics than is reported elsewhere. This difference may be more about sampling and analysis methods. In other words, the pattern may be due to how research is conducted rather than environmental conditions. We cannot determine the cause, but the trend is consistent across multiple species.

2. Plastics near wharves and communities.

Plastic levels are higher near wharves and communities, as expected. While this creates localized areas of greater environmental plastic, it also means that locals can reduce significant portion of plastics entering the environment.

3. Cigarette butts are toxic plastics.

Cigarette butts were the most toxic plastic found in this study (n=245). They are known to leach harmful chemicals into water and can negatively affect animals and ecosystems. Hundreds were recovered from shorelines, and one was found in the stomach of a Hound Duck.

4. There are plastics in Hopedale's reservoir, but they can be filtered.

We did find plastics in the ponds that Hopedale uses for water, but the plastics were 0.03 mm or smaller which is well within the size range of water filters.

Puttunippâk palâstikkisajait napvâtausimajut Nunatsiavummi

Top plastics found in Nunatsiavut

1. None/SunaKangituk

The most common number in our dataset is 0.

2. Fragments/Pejasimajut

The largest share of plastics is hard fragments from larger items. They make up over a third of plastics in animals and surface water, and a quarter of plastics in shoreline quadrats.

3. Microfibres from wastewater/ AnnugânesimaKattajut

Microfibres are tiny, dust-sized, threads that come from washing clothing. They represent 43% of all plastics found in animals.

4. Food packaging/NiKinut poKautingit

A quarter of plastics on shorelines were linked back to food packaging.

5. Plastic bags/Palâstikket poKautingit

Plastic shopping bags are banned, but 12% of the shoreline plastics we found were plastic bags, such as garbage bags or food bags.

6. Fishing gear/Oganniatet piKutingit

One in ten plastics in animals and on land, and 30% of shoreline plastics by weight, is related to fishing gear.

7. Paint chips/Minguagutivininnit amejasimajut

Paint represented 10% of microplastics in animals and surface water.

8. Cigarette butts/Sikarevinet

Cigarette butts are the most toxic plastic in this study, and we know they harm animals. We found 350 cigarette butts representing is 4% of all plastics that we found. A hound duck ate a plastic cigarette butt.

9. Aluminum cans/Aluminummisajait Kummujuit

Aluminum cans represented 19.5% of items on shorelines. These cans have plastic liners on the inside and plastic-based inks on the outside.

Elizabeth Tuglavina takunnâjuk palâstikkinik iluani quadrat Arvertok, Joni 2012. Atjiliugisimajuk Max Liboiron. Elizabeth Tuglivina looks for plastics in a quadrat in Hopedale, June 2024. Photo: Max Liboiron.

Sâk 1: Kanuilinganningit palâstikket ilusigijangit Kanuittonningit ottugattausimajunut Nunatsiavummi, 2017-2026

Tottugattaujunut[a]	ottugaujuk angininga	Sanianettut mikinitsak	KikKananettuk numarak palâstikkinut nigijausimajut/omajuk[b]	Sanianettut angijuk	FO%[c]	Pigiluangit Kanuittoningit Palâstikkinik (nalunaittausiajut)	% plastic vs other waste materials*	Number of total plastics[d]
iKaluk	348	0	0.0	7	26%	51% microfibres Imani anijausimajunut	77%	125
natsik	152	0	0.0	7	43%	47% microfibres	73%	109
aKiggik	74	0	0.0	3	24%	50% pesimajut	97%	26
Atlantikkimit ogak	68	0	0.0	2	13%	50% pesimajut, 40% microfibres	83%	10
appak	40	0	0.0	6	13%	60% ivalutsait oganniatet piKutinginnit	83%	10
natânnavak	33	0	0.0	1	9%	nigiKattajut palâstikkisajannik	75%	3
pitsiulâk	32	0	0.0	4	22%	58% pesimajut	83%	19
ujagak ogâtsuk	32	0	0.0	1	6%	nigiKattajut palâstikkisajannik	67%	2
matsojak	32	0	0.0	2	9%	nigiKattajut palâstikkisajannik	80%	4
mitik	24	0	0.0	3	29%	91% microfibres	85%	11
Ânâtlik	19	0	0.0	1	5%	nigiKattajut palâstikkisajannik (anijausimajunut imait)	50%	1
kavaisitik	17	0	0.0	1	12%	nigiKattajut palâstikkisajannik	67%	2
suglutuk	11	0	0.0	3	46%	Akulligejut	100%	9
appak	8	0	0.0	1	38%	Ottugattaujut anginingit mikiluatlatut	100%	3
A-angik	3	0	0.0	1	33%	Nigisimajut sikarevininnik	100%	1
kanajuk	3	0	0.0	0	0%	Palâstikkinik napvâviusimangituk	0%	0
Ânâtlik	2	0	0.5	1	50%	Ottugattaujut anginingit mikiluatlatut	100%	1
pitsuilâppak	1	1	1.0	1	100%	Immigolingajuk microfibre	100%	1
niglik	1	0	0.0	0	0%	Palâstikkinik napvâviusimangituk	0%	0
nipisak	1	4	4.0	4	100%	Ottugattaujut mikiluatlatuk	100%	4
Omajut ottugattausimajut	**901**	**0**	**0.0**	**7**	**25%**	43% palâstikkinik omajunni ukuanguvut microfibre, 53% pisimajunit anijausimajunut imanik	**76%**	**341**
imaup Kângani	51	0	*	*	69%	51% pesimajut, unuluat anitagatsanik saniani itsavinni	85%	187
sitjani	24	n/a	n/a	n/a	n/a	pesimajut	53%	7686
sitjani (quadrats)	963	0	0.0	18	13%	Piluattumik nilait (69%). Palâstikket akulligejut	24%	230
sputnik	6	0	0.0	2	33%	Ottugattausimajut mikiluatlatuk	33%	2
sikuk	4	6	22.5	46	100%	91% pesimajut: mikijualovut	100%	101
tagiuKangituk[e]	6	0	0.0	3	33%	Palâstikkisajaungitut microfibres	63%	5
imijausok imak (imittavik)	15	0	0.0	2	33%	Ottugattausimajut mikiluatlatut: ilonnait Hopedale imattavet tasinginni	50%	6
Ilonnanga kitillugu	2871	0	0.0					8895

Pigiannimit pigiasiutigijauvuk. ÂkKisuttaugesimajut numarak atuttausonguniattumut Kanuk atjigengitigisimammangât sivunittini kamagunnagiamut takuniagiamut piusivalliamangât upvalu piungilivalliamangât. SanajauKattavut sangijuKappat ottugattausonik uKatsiasongugatta numarangit utijut isumagijaujunut ottotigigialinginnut.

Anginitsaupat ottugattaujuk, KaujimatsianiakKugut sulitsiatuk Kaujigatsait. **Iluani tapvani Kaujigatsani, ottugattausimajut anginingit atânevut 24 tukisittauvut pigiasiutigijauvut ammalu inet asigiallanik Kaujisannimik. Tamakkua ottugattaujut atingit sinannaguttausimajut naillititausimajumut sângani illuagut.**

Ilusigijangit palâstikket takutitsivuk Kanuilinganningit, anginingit, nakit pisimakkomangâmmik, inigiKattajangit, ammalu asigiallait ilinganiKajut ungatâgut pigiannimit. Atjigengitommata palâstikket Nunatsiavummi, tukisigiamik Kanuittomangâmmik palâstikket ikKanattovuk.

Nunanguak (Sâk 1, illuani)

75-100%
50-74%
25-49%
1-24%
0%

[a] Ottugattausimajut ikinnasaKajunut 23-nguvut sinannaguttausimajut. Sitjani salummasaijunut, atunik “ottugattaujuk” sitjauvuk, taimaimmat kiggatuvut mikinitsamik ottugattauniattunut angininginnik.
[b] Tainna KikKanganeluattuk numaranga Kaujijausimajunut. KikKanganeluattuk 0-imit tukiKavuk sunaKaluangituk asinginnut numaranut iluani tapvani Kaujisannimik, Tamanna piujualuk! TukiKattisivuk Kau tamâkasâk, napvâKattalungilagut palâstikkinik taikkununga ottugattaujunut. Sitjani saluammasainnik napvâgunnalungitut piusigijammitigut ammalu ilautitaungitut tapvani kititannik.
[c] FO% Akulaittumik sakKiKattaningit unaunguluak kangiani Kaujisattilagijet ottugasimajut palâstikkinik nigiKattajunut tainna percentinga omajunut ottugattausimajunut nigisimajut atautsimillonet palâstikkinik. Nalunaitsilungait Kanuk angitigijunik (angininga pujunnut upvalu taijanik frisbee) upvalu Katsinik (1 upvalu 100) palâstikkinik nigijausimajut omajunut. Napvâsimangilagut tainna numarak Kanuttogutigijaujuk nunalimmiunut, tâvatuak atuttauluattuk metric-imut atuttautillugit kangiani Kaujisattilagijinginnut atuttauniattumut atjigengitotigianga asinginnut Kaujisattausimajunut.
[d] Numaranga ilonnanginnik palâstikkinik asianik isumaKattisijuk naillititausimajunut kititanginnik tamannauluattuk isumagijaugiaKammat kisiani ottugattausimajunut anginingit, ammalu isumagillugit imaup Kânganettut ammalu quadrats, anginingit/iningata ottugattausimajunut. Tâvatualli, takutitsisiangituk sitjani salummasainnik atuttausimammata anginitsamik numaranik palâstikkinik asiagut taikkunangat asigiallak ottugattausimajunut.
[e] Ilonnait tagiummengitut ottugattausimajut Hopedale-imit atuttauKattangitunut imijaugiamut.
* Imaup Kângani palâstikkinik naillititausimajunut ilinganiKammata pitaKaluattunut, kitijaunialungitut. Takuniallugu ilagiagutik imaup Kânganetttunut naillititausimajunut Kaujigatsanginnut.

Table 1: Overview of plastics characteristics by type of sample in Nunatsiavut, 2019-2025

Type of sample[a]	Sample size	Minimum # plastics/ sample	Median # plastics/ sample[b]	Maximum # plastics/sample	% of samples that had at least 1 plastic	Average size of plastics (mm)[c]	Dominant type of plastic (descriptive)	Total number of plastics[d]
Arctic char	348	0	0.0	7	26%	2.5	51% microfibres from wastewater	125
Ringed seal	152	0	0.0	7	43%	2.9	47% microfibres (wastewater)	109
White partridge	74	0	0.0	3	24%	2.4	50% fragments	26
Atlantic cod	68	0	0.0	2	13%	3.1	50% fragments, 40% microfibres	10
Thick-billed murre	40	0	0.0	6	13%	9.9	60% threads from fishing gear	10
Turbot	33	0	0.0	1	9%	1.1	Tend not to ingest plastics	3
Black guillemot	32	0	0.0	4	22%	0.8	58% fragments	19
Rock cod	32	0	0.0	1	6%	1.0	Tend not to ingest plastics	2
Scallop	32	0	0.0	2	9%	1.6	Tend not to ingest plastics	4
Common eider	24	0	0.0	3	29%	2.8	91% microfibres (wastewater)	11
Brook trout	19	0	0.0	1	5%	2.9	Tend not to ingest plastics	1
Salmon	17	0	0.0	1	12%	0.9	Tend not to ingest plastics	2
Surf scoter	11	0	0.0	3	46%	5.3	Mixed	9
Dovekie	8	0	0.0	1	38%	1.2	Sample size too small	3
Hound duck	3	0	0.0	1	33%	21.3	Ate a cigarette butt	1
Sculpin	3	0	0.0	0	0%	n/a	No plastics found	0
Lake trout	2	0	0.5	1	50%	1.0	Sample size too small	1
Brasswing	1	1	1.0	1	100%	6.1	A single microfibre (wastewater)	1
Canada goose	1	0	0.0	0	0%	n/a	No plastics found	0
Lump fish	1	4	4.0	4	100%	2.2	Sample size too small	4
Subtotal animals	**901**	**0**	**0.0**	**7**	**25%**	**1.1**	**43% of plastics in animals are microfibres, 37% are fragments**	**341**
Surface water	51	0	*	*	69%	3.6	50% fragments, significantly more waste around wharves	187
Shorelines (clean up)	24	n/a	n/a	n/a	n/a	n/a		7686
Shorelines (quadrats)	963	0	0.0	18	13%	131.5	Glass made up 69% of all waste items. Plastic types were very mixed	230
Snow	6	0	0.0	2	33%	5.5	Sample size too small	2
Ice cores	4	6	22.5	46	100%	0.3	91% fragments; extremely small	97
Fresh water[e]	6	0	0.0	3	33%	0.6	Mostly non-plastic microfibres	5
Drinking water (reservoir)	15	0	0.0	2	33%	0.3	Sample size too small; all are from Hopedale reservoir ponds	6
Total number	2871	0	0.0					8895

A baseline is a benchmark. It's a fixed number that becomes the point of comparison for future monitoring to see if it is getting better or worse. They are created when there is a representative sample size, so we can be confident the number reflects the overall phenomenon it is supposed to measure.

The larger the sample size, the more sure we are of the data. In this dataset, **sample sizes under 24 are understood to be preliminary and areas for further study. These sample names are greyed out on the summary table opposite.**

Characteristics of plastics describe their shapes, sizes, potential sources, distribution, and other elements beyond baselines. Given the variability of plastics in Nunasiavut, understanding what kind of plastics they are is important.

Legend (Table 1, opposite)

75-100%
50-74%
25-49%
1-24%
0%

[a] Sample categories that have fewer than 24 instances are greyed out. For shoreline clean-ups, each "sample" is a shoreline, so they are representative even with smaller sample sizes.
[b] The median is the middle number in a dataset. Medians of 0 mean that there are more zeros than any other number in the study. This is a *very* good thing! It means most of the time, we don't find plastics for that type of sample. Shoreline clean-ups cannot find zeros due to their nature and are not part of this calculation.
[c] This measurement is of the longest axis (length) of the plastic. It's in millimeters. Averages are sensitive to a few large pieces, so this measure is higher than the median.
[d] Number of total plastics is somewhat of a misleading summary statistic because it should be considered only with sample size, and in the case of surface water and quadrats, the volume/area sampled. However, it does clearly show that shoreline clean-ups are based on a significantly larger number of plastics than other types of sample.
[e] All freshwater samples are from Hopedale ponds that are not used for drinking water.
* Surface water plastic summaries are based on concentration, not count. See the section on surface water for summary information.

NiKituKait Kanuingitut nigigiangit

Ilonnait omajuit Kaujisattausimajut nigisimalauttut palâstikkisajannik, unuluat immigolingajut omajut pitinnagit. IsumâlotiKalungilagut isumagillugit ânnitaugiamut attuiniakKotunut: palâstikket mikijutuinnaumata – mikinitsait raice-ikulummut – ammalu anattausongutillugit. Ungatânin 900 omajunut Kimiggutausimajunut, simipviusimalaungitut, aKiattunguasimajut, upvalu ulcerilet ilingaiKajunut palâstikkinut. Atgengitogasuamut, pogutak niKilik Kimattausimajut sâmi katitsuisongujuk pujunnik-angitigijunik palâstikkinik iluani ikkiamit taikkuningangat omajunut nigigalajunut. (Catarino et al.2028).

Sulot 50+ aKigginit, Appaliatsiak, ammalu Mittinnit tigujausimajunut Nain-iup saniani ottugattaulauttut ilimanattuKammangâmmik ukuninga, mercury, kikiatsajak, tuKunnatuk, ammalu cadmium. Atautsik kisiani pitaluviniKasimajuk kikiatsajannik, nigisimakkogami tipvuajop sakKunginnit. Puttuninga kikiatsajannit pigajasimangituk nigisimajanginnit upvalu avatimmit. Asigiallait timmiat pitaKasimammijut ilimanattunik kikiatsajannik, ammalu sutaijajut timmiat malunnautiKasimangitut sunamillonet. Takutitsilaungitut isumâlotigijaungitunik, ammalu timmit nalunaitsilaungitut pitaKanninginnik. Tamanna suliangujuk suliagijaulauttuk ikajuttigetlutik Dr. Alex Bond taikani Natural History Museum (UK). Nakummek ilonnasi ilauKataulaugatsi iluani KimiggutuKaniammat katimatsinimmik Rigolet-imi.

Tânn asia Kaujisannik takunnâlaummijuk naujaummijunut (Northern fulmars (*Fulmarus glacialis*) ammalu napvâviulauttut PCB-inik (Polychlorinated biphenyl) attuilugani numaranik palâstikkinik omajut nigisimajanginnik (Provencher et al. 2018: 1). Naujaummijuit (Northern fulmars) nigiluaKattajut palâstikkinik ammalu anginitsanik palâstikkinik asinginnut omajunut iluani Kaujisasimajattinik (van Franeker et al., 2011). PCB-Kangipat taikkunani naujaummijuit (Northern fulmars), nigiungilagut tamannaunianninganik asinginnut omajunut.

Max, Liz ammalu asigiallait Kaujisattet tâpsuminga suliangujumut nigisimajut omajunik nigisimajut tâpsumangat Kaujisannimit.

Atjinguak puijivinik igajut nunami taikani Uivak saniani Hopedale, igajik Nicholas Flowers. Joli 2024. Atjiliugisimajut Max Liboiron, mamatsalauttumut.

Wild food is safe to eat

While all species studied can ingest plastics, most individual animals did not. We are not concerned about harmful effects: the plastics found were tiny—usually smaller than a grain of rice—and small enough to pass through digestive systems. In over 900 animals examined, we found no blockages, false fullness, or ulcers linked to plastics. For comparison, a plate of food left on a kitchen table can collect more dust-sized plastics from indoor air than these animals are ingesting (Catarino et al. 2018).

There are two studies that look at chemicals linked to plastics from animals in Nunatsiavut. Feathers from over 50 Partridge, Turrs, and Eider ducks caught around Nain were tested for mercury, lead, arsenic, and cadmium. Only one had a high level of lead, which was likely from eating a shotgun pellet. The level of lead could not have come from its diet or the environment. No other birds had concerning levels of any heavy metal, and many birds had no detectable levels at all. This work was conducted in partnership with Dr. Alex Bond at the Natural History Museum (Tring, United Kingdom). Nakummek to everyone who participated in the analysis workshop in Rigolet.

The other study looks at naujaummijuit (Northern fulmars/*Fulmarus glacialis*) and found that PCB (Polychlorinated biphenyl) levels were not influenced by the number of plastics an animal ate (Provencher et al. 2018: 1). Naujaummijuit (Northern fulmars) eat more plastics and larger plastics than any other animal in our study (van Franeker et al., 2011). If PCBs don't transfer from plastics to naujaummijuit (Northern fulmars), we don't expect it to happen with other animals.

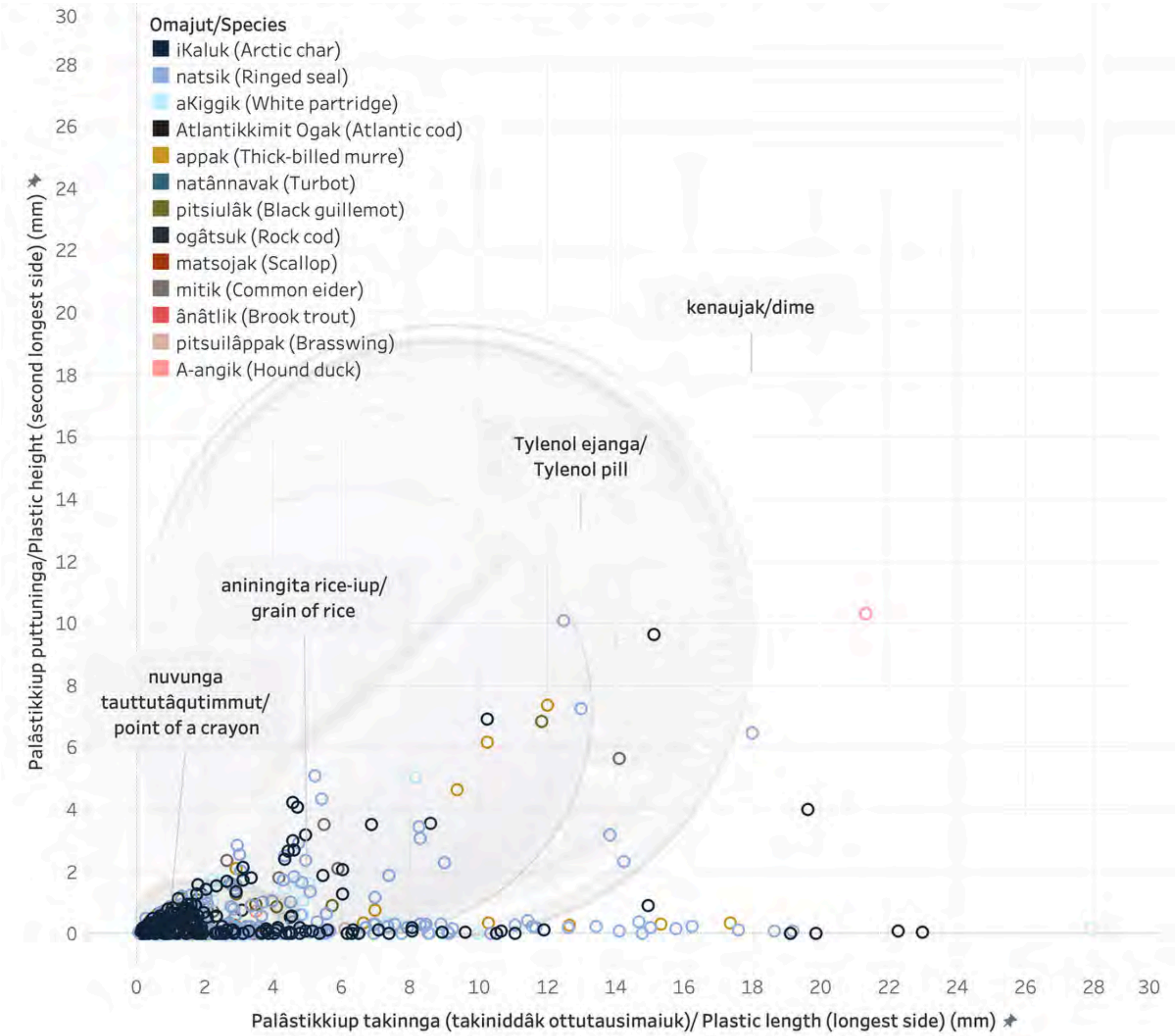
Max, Liz and other researchers on this project eat animals from this study.

Jaqueline Winters and Max Libojron gather samples from fish caught around Rigolet, 2025. Photo: Paul McCarney.

Unuluat palâstikket nigijausimajut omajunut atuttauKattajunut niKituKannut mikijovuk.

Most plastics ingested by animals used for wild food are tiny.

Figure 4: The size of each plastic ingested by an animal in Nunatsiavut, 2017-2026.



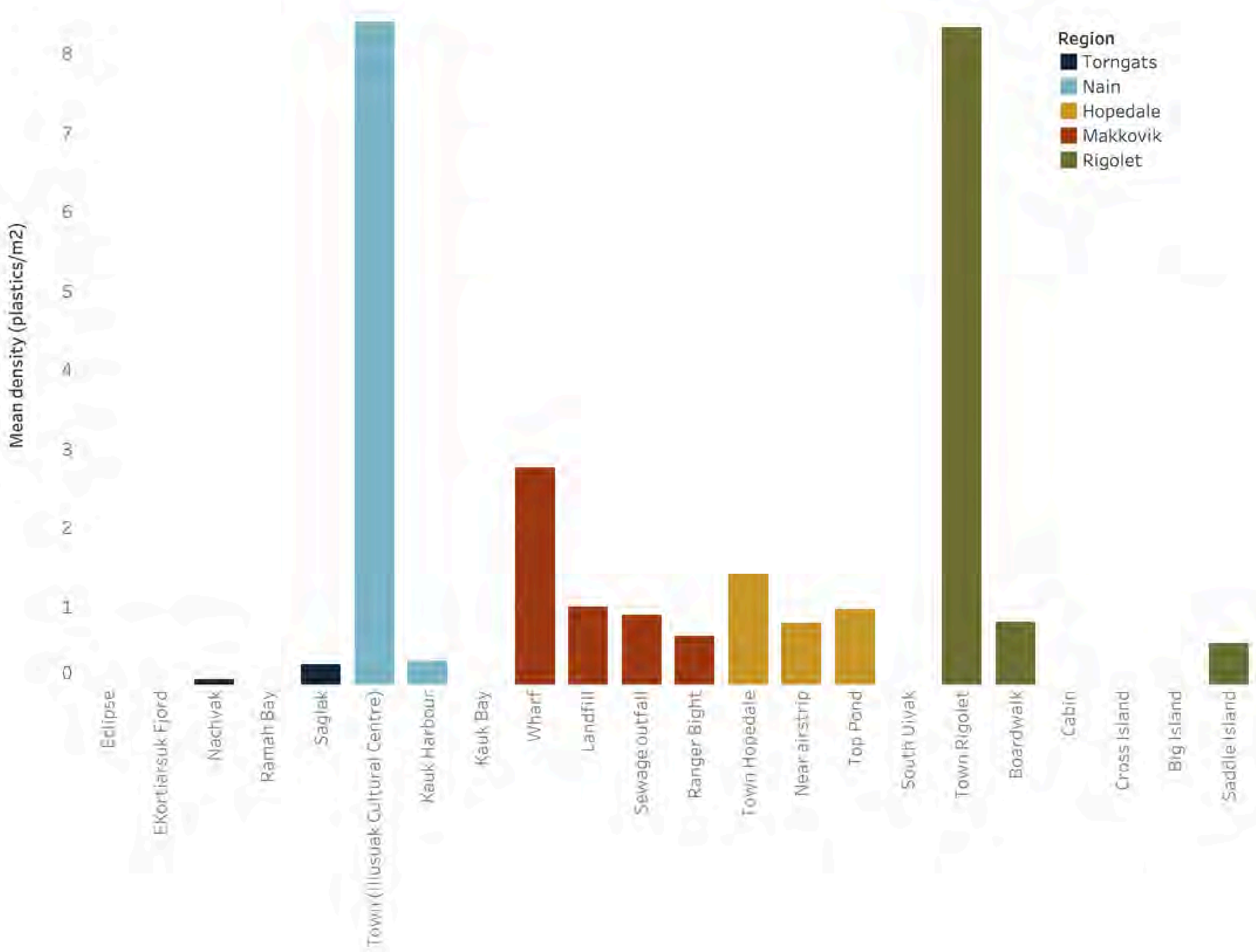
This graph shows the size of each plastic by charting its longest side (bottom axis) against its second longest size (left axis) compared to common items.
Most of the plastics are smaller than a grain of rice, of which more than half are smaller than the point of a crayon. A few are larger, with the largest being the size of a dime on one side (but these are flat and long). The largest item is the pink dot from the Hound duck– that is a cigarette butt.

Nakit piKattaningit palâstikkisajait nunalimmiunguluasimajut

Sources of plastic are mainly local

There are more larger plastics closer to permanent communities. In water, concentrations of plastics are highest near wharves. On shorelines and in water, concentrations of plastics are much higher near permanent communities. Away from communities, we find plastics where people go off hunting. You can reduce plastics in the environment by returning home with your garbage, including cigarette butts and shotgun shells while out on the land and water.

Figure 5: The average concentration of plastics on shorelines, from north to south (2017-2025)



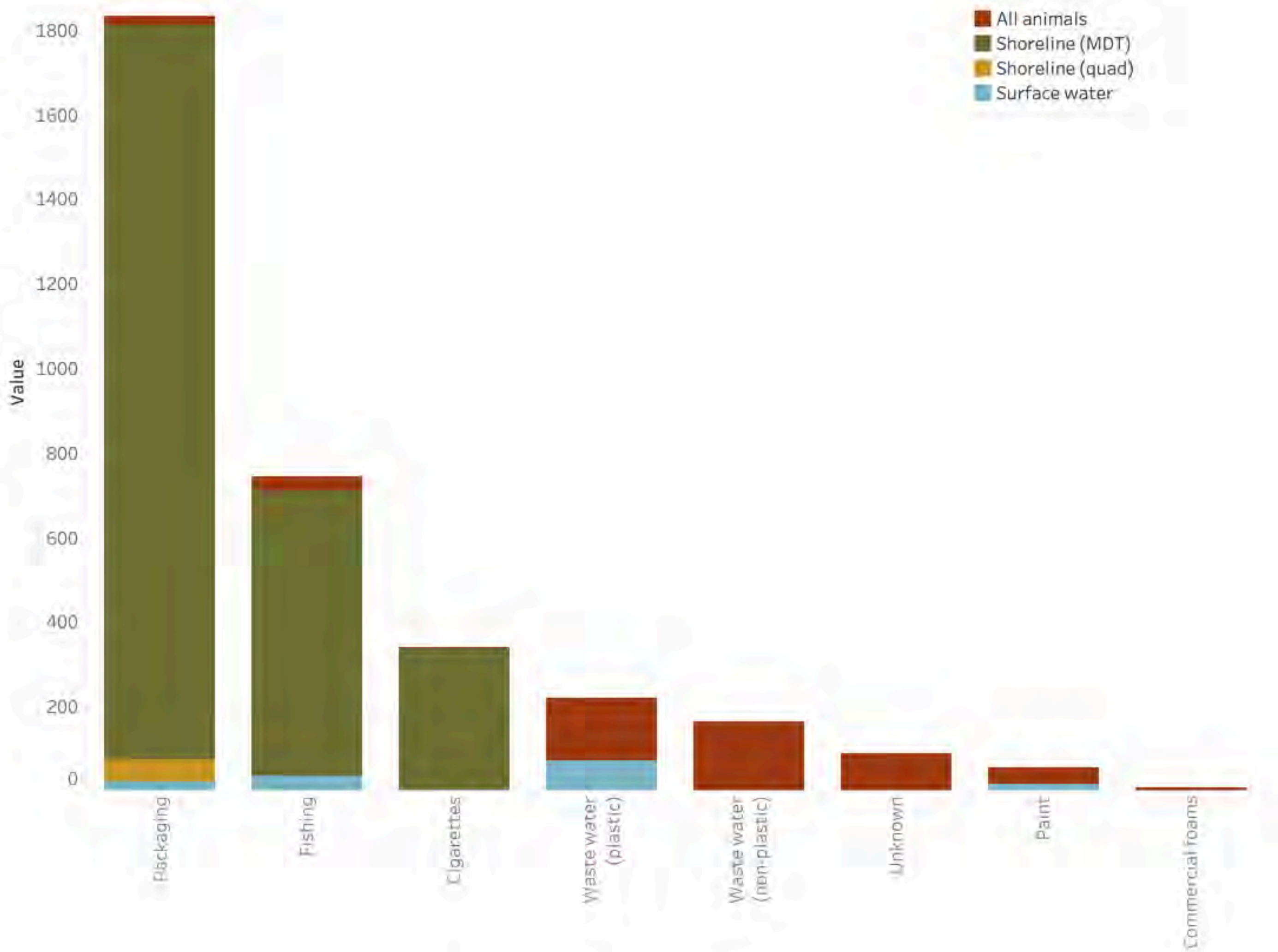
As we move farther from communities, the lower the concentration of plastics on shorelines. The two tallest spikes are from the middle of communities. Quadrats focus on smaller plastics and plastics that have caught in the scruff at the back of the shoreline, so the plastics are likely to have been in a location for a longer time and are a good representation of plastics in the area.

The are a few places facing the Labrdaor Straight that catch “come from away” plastics. Out from Makkovik near Long Tickle, both southern-based researchers and local people have found plastics from Nunavik, the United States, Kalaallit Nunaat (Greenland), and other European locations. However, these account for a small amount of plastics in Nunatsiavut.

It is difficult to identify where microplastics come from because they are usually tiny fragments of something larger, so the following are only for plastics we think are very likely to come from a particular source:

- Most identifiable plastics are from **packaging**, although this is also because we find them on shorelines, a technique that gives us the most plastics.
- **For animals, the great majority of ingested plastics are microfibres** that come from laundry wastewater (these could be local or come from away).
- **In surface water, plastics from laundry wastewater, fishing gear, and food packaging** are the most plentiful identifiable sources.
- **The most toxic type of plastic found are from cigarette butts**, which leach toxins into the environment after they are discarded. Please gather your butts.

Figure 6: The number of plastics from likely sources, by where we find them in the environment (2017-2025)



This graph shows count data so the big green bars show that most of the plastic we sampled was from shorelines, and that most of the shoreline plastic we sampled originated from packaging. Notice how there is no green in the wastewater bar, for example, because we can’t find microfibres in shoreline surveys.

Palâstikkisajait ilimanattoningit angijumik atjigelungitut

Plastic pollution is highly uneven

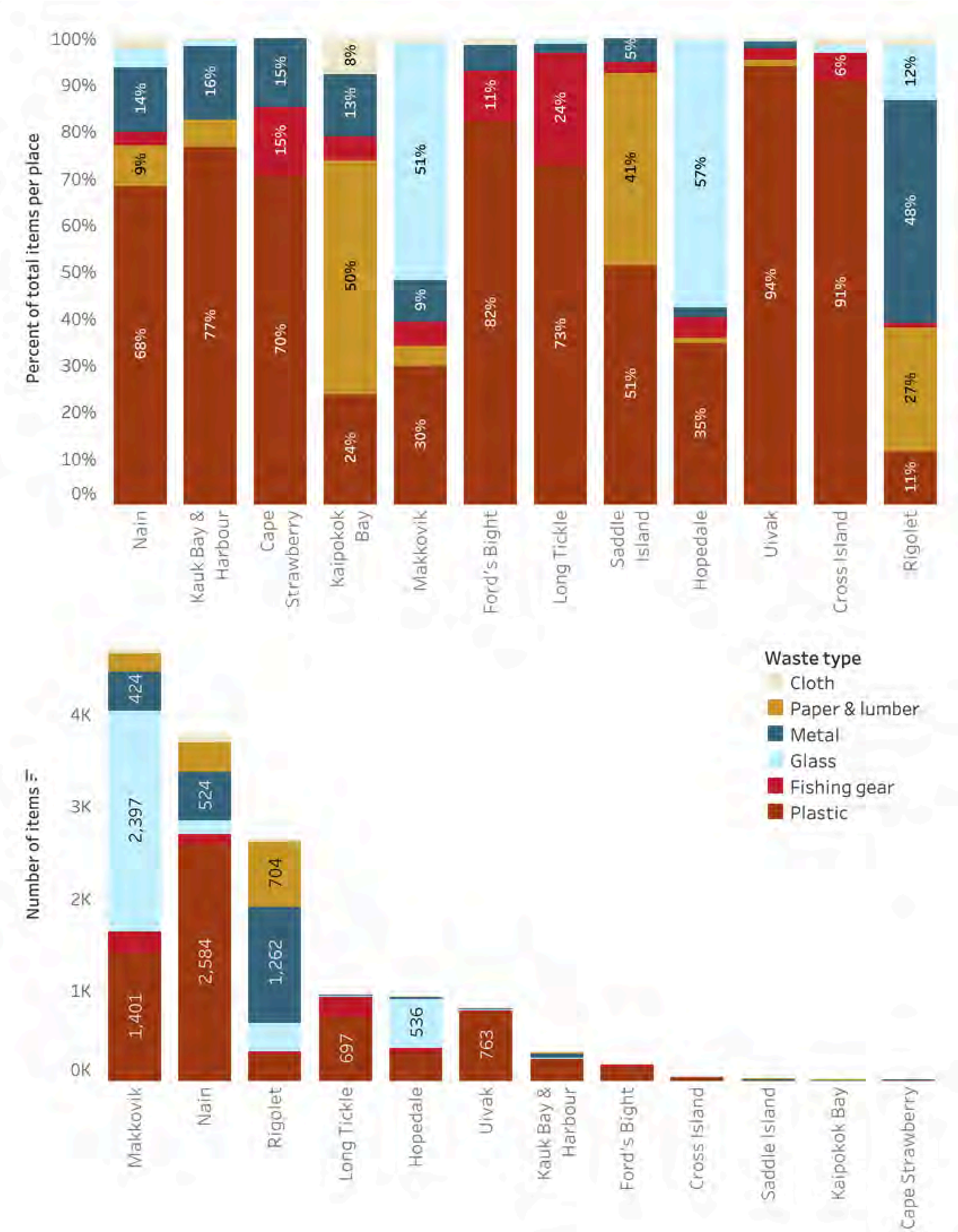
Different places and environments in Nunatsiavut have different types and amounts of plastic.

For example, when we do shoreline monitoring, the places we go influence the data. Figure 7 (page opposite) is a graph of the types of plastics we find in different places. In Rigolet, you can see a large share of lumber and paper—this is because we went along the boardwalk, and we counted all the extra lumber and cutoffs from construction. There is also a huge share of metal. We cleaned up in front of Jacqueline Winter's house, where someone used to build and burn boats. There were thousands of nails there, which we counted (!!!). If we had stopped before Jacqueline's house, the results would be very different.

This means that some of our monitoring isn't a baseline for all of Nunatsiavut, and when one is, we have proven it holds across time and space. A baseline is the starting point or reference in a monitoring study that you use to compare later measurements and see if things have changed. Any true baselines are in the baseline section. Anything that holds true across Nunatsiavut is in the summary findings on earlier pages.

Left: Jacqueline Winters and her son, Mylo, helping the cleanup in Rigolet, 2025.
Right: These are some the nails we cleaned up in Rigolet, 2025. Photos: Max Liboiron

Figure 7: The percentage (top) and count (bottom) of waste materials found on shorelines in different places in Nunatsiavut (2017-2025)



These figures are for all shoreline data from both large plastics and microplastics. Fishing gear is a subcategory of plastics, but has been broken out here for source analysis.

Table 2: Baseline figures for plastic ingestion by animals in Nunatsiavut[a]

Animal	Sample size[b]	# of animals that ate plastic	% animals that ate plastic (%FO)[c]	% animals that did NOT eat plastic	Total number of plastics eaten	Minimum # of plastics eaten	Median # of plastics eaten[d]	Maximum # of plastics eaten	IQR of # plastics eaten[e]	Mean # of plastics eaten	Standard deviation of the mean[f]	Median size of plastics eaten (mm)[g]	total # of non-plastic waste materials eaten[h]
iKaluk (Arctic char)	348	89	25.6%	74.4%	125	0	0	7	1.0	0.36	0.77	1.09	63
natsik (Ringed seal)	152	66	43.4%	56.6%	109	0	0	7	1.0	0.72	1.10	1.84	65
Ogatuinnak (Atlantic cod)	68	9	13.2%	86.8%	10	0	0	2	0.0	0.15	0.40	0.84	4
Ujagak Ogâtsuk (Rock cod)	32	2	6.3%	93.8%	2	0	0	1	0.0	0.06	0.20	1.03	3
mitik (Common eider)	24	7	29.2%	70.8%	11	0	0	3	1.0	0.46	0.88	1.45	3
Ânâtlik (Brook trout)	19	1	5.3%	94.7%	1	0	0	1	0.0	0.05	0.23	2.93	2
kavaisitik (Salmon)	17	2	11.8%	88.2%	2	0	0	1	0.0	0.12	0.30	1.03	1
Suglutuk (Surf scoter)	11	5	45.5%	54.5%	9	0	0	3	1.5	0.82	1.10	3.13	2

[a] These baselines are for all animals collected between 2017-2025 from two or more regions in Nunatsiavut (Nain, Hopedale, Makkovik, the Torngats or Hebron). We recommend looking at the original dataset to see the locations and see whether these fit your goals for a regional baseline.

[b] The greyed-out rows are for sample sizes that are too small (<24) to make a baseline. They should be understood as preliminary findings that show whether animals ingest plastics.

[c] FO% stands for Frequency of Occurrence, the main Western scientific measure for plastic ingestion that measures the percent of animals in a sample that ingested plastic, no matter the size of plastic or how many plastics the animal ate. While this is not a metric that is often referenced in community conversations, it allows comparison to other studies, since it's reliably reported in published literature.

[d] The median is the middle number in series of numbers. If the median is 0, it means half or more of the animals in the study ate no plastics.

[e] The Interquartile Range (IQR) is the spread of the middle half of the data, from where the bottom 25% ends to where the top 25% begins. An IQR of 0 means that if we stacked animals from most to least plastics ingested, the middle half of the stack would not have eaten plastics (and therefore not the lowest part of the stack either!).

[f] The standard deviation (SD) tells us how far data points are from the mean. It measures variation. When the standard deviation is smaller than the mean, the data points are clustered relatively close to the average, suggesting consistent values. When the SD is larger than the mean, the data is highly spread out (more variation), which often indicates the presence of extreme outliers or that the average isn't a good representation of the "typical" value.

[g] Median length of the longest side.

[h] Like cotton or paper. Non-plastic waste materials are not included in the other summary statistics for plastics, meaning these counts are *in addition* to the ones in the rest of the table.

Table 3: Baseline figures for plastic ingestion by animals near Nain,[a] 2019-2025

Animal	Sample size[b]	# of animals that ate plastic	% animals that ate plastic (%FO)[c]	% animals that did NOT eat plastic	Total number of plastics eaten	Minimum # of plastics eaten	Median # of plastics eaten[d]	Maximum # of plastics eaten	IQR of # plastics eaten[e]	Mean # of plastics eaten	Standard deviation of the mean[f]	Median size of plastics eaten (mm)[g]	total # of non-plastic waste materials eaten[h]
aKiggik (White partridge)	74	18	24.3%	75.7%	26	0	0	3	0.0	0.35	0.73	1.31	11
appak (Thick-billed murre)	40	5	12.5%	87.5%	10	0	0	6	0.0	0.25	1.00	10.26	4
pitsiulâk (Black guillemot)	32	12	22.0%	88.0%	19	0	0	4	1.0	0.59	0.98	0.53	5
Matsojak (Scallop)	32	3	9.4%	90.6%	4	0	0	2	0.0	0.13	0.40	1.37	2
Appaliatsuk (Dovekie)	8	3	37.5%	62.5%	3	0	0	1	1.0	0.38	0.52	1.17	2
A-angik (Hound duck)	3	1	33.3%	66.7%	1	0	0	1	0.5	0.33	0.58	21.33	1
Pitsuilâppak (Brasswing)	1	1	100.0%	0.0%	1	1	1	1	0.0	1.00	n/a	6.10	0
Nipisak (Lump fish)	1	1	100.0%	0.0%	4	4	4	4	0.0	4.00	n/a	0.82	0

[a] Animals that were caught between Kamarsuk and Napattusuak, or that were collected from the Nain community freezer, are included as baselines for the Nain region.

[b] The greyed-out rows are for sample sizes that are too small to make a baseline. The should be understood as preliminary findings that show whether animals ingest plastics or not, but not the amount, frequency, or range.

[c] FO% stands for Frequency of Occurrence, the main Western scientific measure for plastic ingestion that measures the percent of animals in a sample that ingested plastic, no matter the size of plastic or how many plastics the animal ate.

[d] The median is an average that is the most central number in a dataset. If the median number of plastics is 0, it means most animals in the study ate no plastics.

[e] The Interquartile range (IQR) tells us about the spread of the middle 50% of data points. In this baseline, an IQR of 0 means that at least three quarters of the animals ate no plastics.

[f] The standard deviation (SD) tells us how far data points are from the mean. It measures variation. When the standard deviation is smaller than the mean, the data points are clustered relatively close to the average, suggesting consistent values. When the SD is larger than the mean, the data is highly spread out (more variation), which often indicates the presence of extreme outliers or that the average isn't a good representation of the "typical" value.

[g] Median length of the longest side.

[h] Like cotton or paper. Non-plastic waste materials are not included in the other summary statistics for plastics, meaning these counts are in addition to the ones in the rest of the table.

For more details on how these numbers were made see the main report, Appendix 16, Table S3.

Table 4: Baseline figures for plastic ingestion by Natânnavait (Turbot) by Striped Island, 2019

Animal	Sample size	# of animals that ate plastic	% animals that ate plastic (%FO)[a]	% animals that did NOT eat plastic	Total number of plastics eaten	Minimum # of plastics eaten	Median # of plastics eaten[b]	Maximum # of plastics eaten	IQR of # plastics eaten[c]	Mean # of plastics eaten	Standard deviation of the mean[d]	Median size of plastics eaten (mm)[e]	total # of non-plastic waste materials eaten[f]
Natânnavak (Turbot)	33	3	9.1%	90.9%	3	0	0	1	0.0	0.09	0.30	0.66	1

[a] FO% stands for Frequency of Occurrence, the main Western scientific measure for plastic ingestion that measures the percent of animals in a sample that ingested plastic, no matter the size of plastic or how many plastics the animal ate.
[b] The median is an average that is the most central number in a dataset. If the median number of plastics is 0, it means most animals in the study ate no plastics.
[c] The Interquartile range (IQR) tells us about the spread of the middle 50% of data points. In this baseline, an IQR of 0 means that at least three quarters of the animals ate no plastics.
[d] The standard deviation (SD) tells us how far data points are from the mean. It measures variation. When the standard deviation is smaller than the mean, the data points are clustered relatively close to the average, suggesting consistent values. When the SD is larger than the mean, the data is highly spread out (more variation), which often indicates the presence of extreme outliers or that the average isn't a good representation of the "typical" value.
[e] Median length of the longest side.
[f] Like cotton or paper. Non-plastic waste materials are not included in the other summary statistics for plastics, meaning these counts are in addition to the ones in the rest of the table.

There are several species that we have fewer than ~20 samples, but not enough for a baseline. They are all from one specific area so cannot be used to understand the species in the wider region.

However, they do tell us whether an animals ingests plastics–but only if they ingested one! A small sample size with 0 ingestd plastics does not mean that animal doesn't ingest plastics. But a single plastic in one animal tells us that they do. The size and type of plastic can also tell us that they do ingest plastics of that particular size and kind, but not whether that is usual for that animal or place. These include:

- **kanajuk (Sculpin):** Three from around Comma Island caught in 2024 did not ingest any plastics. However, we know from Gus Dicker, who found a large plastic handle from a fish box in a sculpin, that as a species, they ingest plastics. Also, if you've ever met a sculpin you know they probably eat plastic.
- **niglik (Canada goose):** One Canada goose caught in Kaigulitok in 2023 did not ingest a plastic.
- **Ânâtlik (Lake trout):** Out of two trout caught in the Kingurutik River in 2020, one ate a plastic that was 1.01mm on the longest side. It was a yellow polyethylene fragment.

Table 5: Plastics in surface water in Nunatsiavut, 2017-2025

Place	# Samples[a]	Samples with no plastic (%)	Mean concentration	Standard deviation +/-	Average/NHL hockey rink[c]
Nain (average)	5	3 (60%)	0.0068	0.0088	11
Nain Bay	2[b]	2 (100%)	0.0000	0.0000	0
Webb's Bay	1[b]	0	0.0083	n/a	13
Paul Island	2[b]	1 (50%)	0.0128	0.0119	20
Hopedale (average)	12	2 (17%)	0.0029	0.0023	5
Hopedale	6	0	0.0033	0.0013	5
Nunaaksaluk	3	0	0.0035	0.0013	6
Umiattugiak	3	2 (67%)	0.0027	0.0046	4
Uivak Point	1[b]	1 (100%)	0.0000	0.0000	0
Makkovik (average)	7	0	0.0278	0.0221	44
Makkovik wharf	1[b]	0	0.0738	n/a	117
Makkovik Harbour	4	0	0.0242	0.0089	19
Outside Makkovik	2[b]	0	0.0118	0.0036	38
Torngats (average)	26	11 (42%)	0.0049	0.0056	8
Eclipse	5	1 (20%)	0.0077	0.0100	12
Saglek	18	8 (44%)	0.0039	0.0041	6
Ramah	3	2 (67%)	0.0060	0.0062	9
Hebron	1[b]	0	0.0052	n/a	8
Total	51	16 (31%)	0.0077	0.0056	12
Nunatsiavut average[d]	**44**	**10 (23%)**	**0.00326**		**4**

[a] We were unable to measure the concentration of plastics in some samples, so the number here indicates the number of samples with concentration data only.
[b] To be sure of our results, we usually only calculate concentrations for areas with three samples collected that accurately measured the volume of water sampled. Given that this is a community report, we summarize all data here, but generally 3 or more samples produce more reliable results.
[c] The number of plastics in a square meter are scientific standards, but the numbers do not make intuitive sense (what does 0.010 plastics in a meter look like?!) so we use the number of plastics in an area the size of an NHL hockey rink instead. It's much easier to think about 17 plastics in a hockey rink. See the section on surface water plastics for more details.
[d] This is the average without the wharf in Makkovik. You can see the difference between this number and the Total in the line above–the "total" is almost double because the wharf in Makkovik skews the data so much. This average without the wharf is a truer number for all of Nunatsiavut.

For more about how these numbers are made see Appendix 16, Table S3.

Table 6: Baseline of plastics in pond water around Hopedale, Nunatsiavut, 2024

Location	Sample size	% samples with no plastic	Total # of plastics	Minimum # of plastics	Median # of plastics	Maximum # of plastics	IQR of # of plastics	Median concentration (# plastics/L)	Mean concentration (# plastics/L)	SD of the mean concentration	Smallest size of waste material (mm)[a]	Total # of non-plastic waste materials
Top Pond	6	67%	2	0	0	1	0.75	0.0	0.76	1.18	0.03	1
Third Pond	3	67%	2	0	0	2	0.75	0.0	1.48	1.48	0.01	1
Bottom Pond	6	67%	2	0	0	1	1	0.0	0.74	0.74	0.01	4
Shetniq	3	67%	2	0	0	2	1	0.0	1.48	1.48		1
US dump site	3	67%	3	0	0	3	1.5	0.0	2.22	2.22	0.01	4
Total	**21**	**67%**	**11**	**0**	**0**	**3**	**1**	**0.0**	**1.17**	**1.94**	**0.01**	**11**

[a] The smallest dimension of the smallest human-made material that would determine the filter size required to capture the particle.

Figure 9: Mean concentration of plastics/L in pond water around Hopedale, Nunatsiavut, 2024

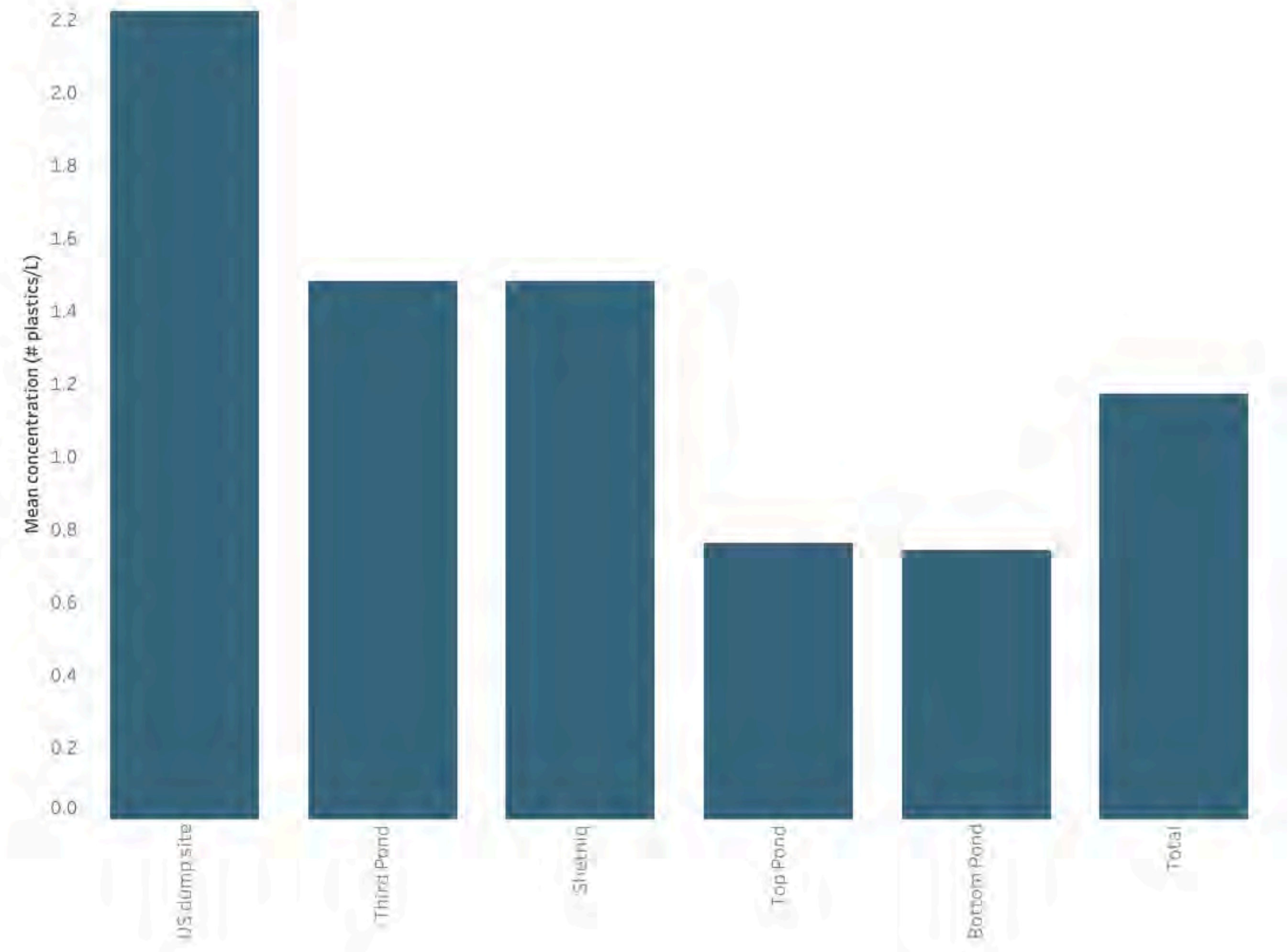


Table 7: Summary for likely[a] plastic sources in Nunatsiavut, 2017-2026

Type of sample	Sample size	Total number of plastics	% waste water	% packaging	% fishing	% cigarettes	% paint	% local[c]
All animals[b]	901	346	43%	7%	10%	0.3%	11%	13%
Shoreline (MDT)	23	7686		23%	9%	4%		59%
Shoreline (quad)	963	134		28%	15%	5%		53%
Surface water	70	214	18%	9%	13%	1%	8%	23%
TOTAL[d]	**1961**	**4926**	**2%**	**22%**	**9%**	**4%**	**1%**	**56%[e]**

75-100%
50-74%
25-49%
1-24%

[a] "Likely" indicates a forensic assessment based on material characteristics to infer probable sources of plastics. For example, microfibres are categorized as wastewater because they primarily originate from clothing, even though some may also come from the atmosphere.

[b] Because animals eat different types of plastics based on their foraging habits, we compared birds, fish, and seal against each other: they were all similar to one another, and to the numbers for all animals combined. There is variation within a species, but not within a class. This species variation may be due to a good sample size, but a small number of plastics ingested. To see individual species' numbers, see Appendix Table 1.

[c] To determine locality, we consider a number of factors, including morphology, particle erosion, duplication in samples, and buoyancy. See Appendix Figure 14

[d] Snow, ice, freshwater, and drinking water are not included here because their plastic particles are too small to be robust in source analysis.

[e] These figures include only plastics whose characteristics (such as intact condition) suggest short-range transport or local sources; many plastics, including microfibres, cannot be reliably classified as local or long-range. Even though we only identify 56% of plastics as likely local, we expect that a higher proportion of plastics originate locally given that some plastics, like microfibres, aren't included in this analysis.

Usually, baseline measures are given for overall levels of pollution. But a baseline is a reference point used to measure *any* change, so relying only on total pollution levels can hide whether a *specific* intervention is working. For example, if a community filters waste water to reduce microfibres in the environment, we would want to track microfibres in particular. This might be masked if we only look at overall levels of plastics, because while wastewater microfibres go down, another form of plastic might increase.

By reporting baselines for individual *types* of pollution, we can distinguish if a reduction comes from our targeted efforts. This granular approach ensures we see the true impact of actions on the specific problem we aim to solve, rather than just watching aggregate numbers over time.

Table 8: Baseline of plastics from shoreline quadrats in Nunatsiavut, 2017-2025

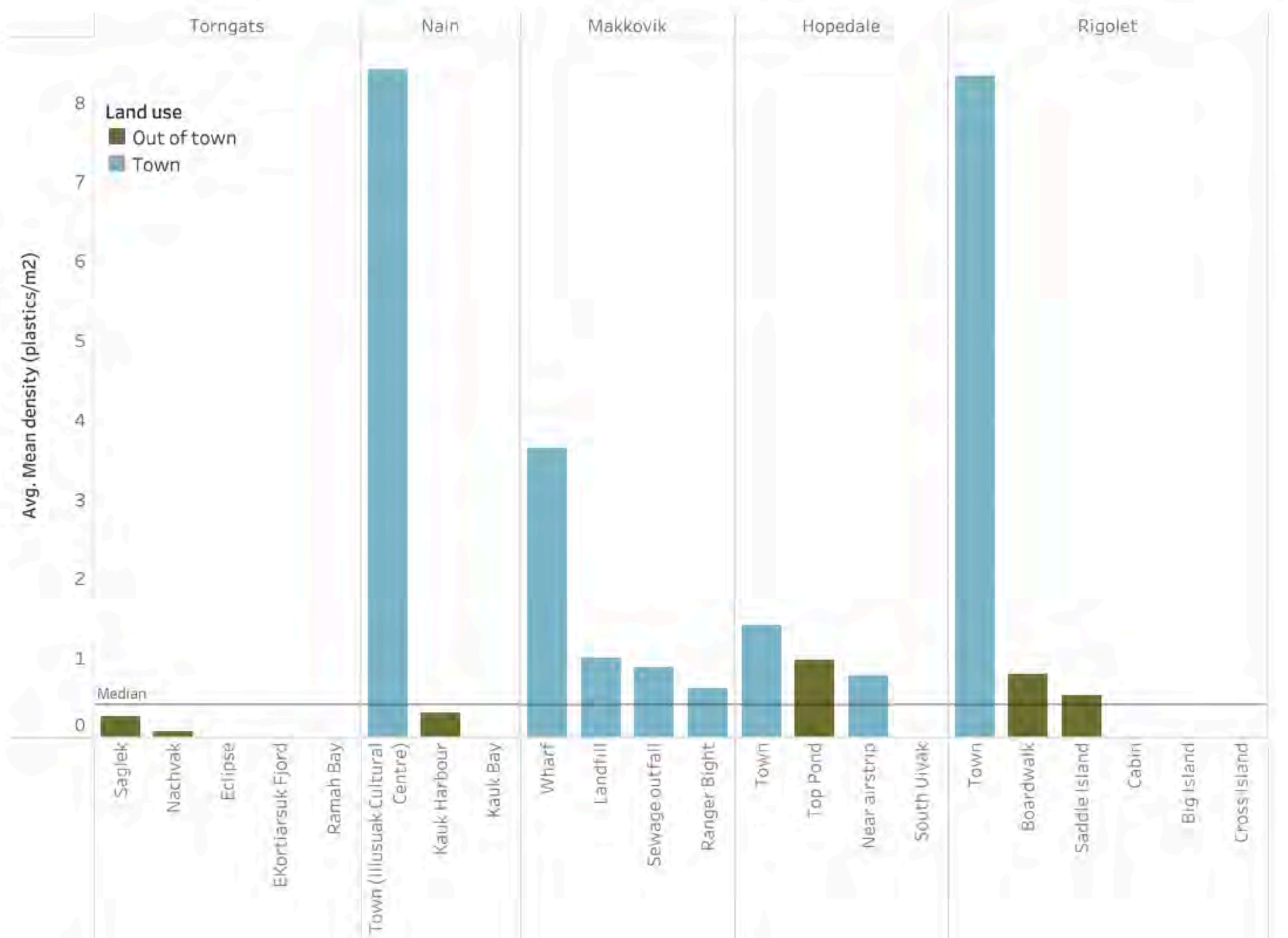
Region	Location	Sample size	% with plastic	Mean density (plastics/m^2)	Standard deviation	Median density (plastics/m^2)	IQR
Hopedale	Near airstrip	71	13%	0.79	2.50	0	0
	Town	85	21%	1.41	3.31	0	0
	South Uivak	8	0%	0.00	0.00	0	0
	Top Pond	62	11%	0.97	3.29	0	0
	Total	**226**	**15%**	**1.04**	**3.01**	**0**	**0**
Makkovik	Near landfill	2	50%	1.00	1.41	1	1
	Ranger Bight	21	29%	0.62	1.24	0	1
	Sewage outfall	17	47%	0.88	1.50	0	1
	Wharf	11	91%	3.64	3.98	2	3.5
	Total	**51**	**49%**	**1.37**	**2.45**	**0**	**2**
Nain	Town (Illusuak Cultural Centre)	5	100%	8.40	6.50	9	6
	Kauk Bay	8	0%	0.00	0.00	0	0
	Kauk Harbour	23	13%	0.30	0.82	0	0
	Total	**36**	**22%**	**1.36**	**3.67**	**0**	**0**
Rigolet	Big Island	14	0%	0.00	0.00	0	0
	Boardwalk	35	14%	0.80	2.34	0	0
	Cabin	10	0%	0.00	0.00	0	0
	Cross Island	5	0%	0.00	0.00	0	0
	Saddle Island	15	13%	0.53	1.41	0	0
	Town	12	15%	8.33	15.95	0	5
	Total	**91**	**11%**	**1.49**	**6.38**	**0**	**0**
Torngats	Eclipse	16	0%	0.00	0.00	0	0
	EKortiarsuk Fjord	19	0%	0.00	0.00	0	0
	Nachvak	38	8%	0.08	0.27	0	0
	Ramah Bay	14	0%	0.00	0.00	0	0
	Saglek	184	5%	0.26	1.23	0	0
	Total	**271**	**4%**	**0.19**	**1.02**	**0**	**0**
Nunatsiavut[a]	**Total**	**675**	**13%**	**0.80**	**3.21**	**0**	**0**
Nunatsiavut in towns	**Total**	**212**	**27%**	**1.73**	**4.94**	**0**	**1**
Nunatsiavut going off	**Total**	**451**	**6%**	**0.34**	**1.64**	**0**	**0**

0%	1-24%	25-49%	50-74%	75-100%

This table does not include a series of daily quadrats that Kayla Wyatt, Geraldine Andersen, and Caroline Nochasak did from May to Oct 2024, to see if plastics were loading onto shore after ice break-up; checking every day will result in fewer plastics than checking once or twice a year.

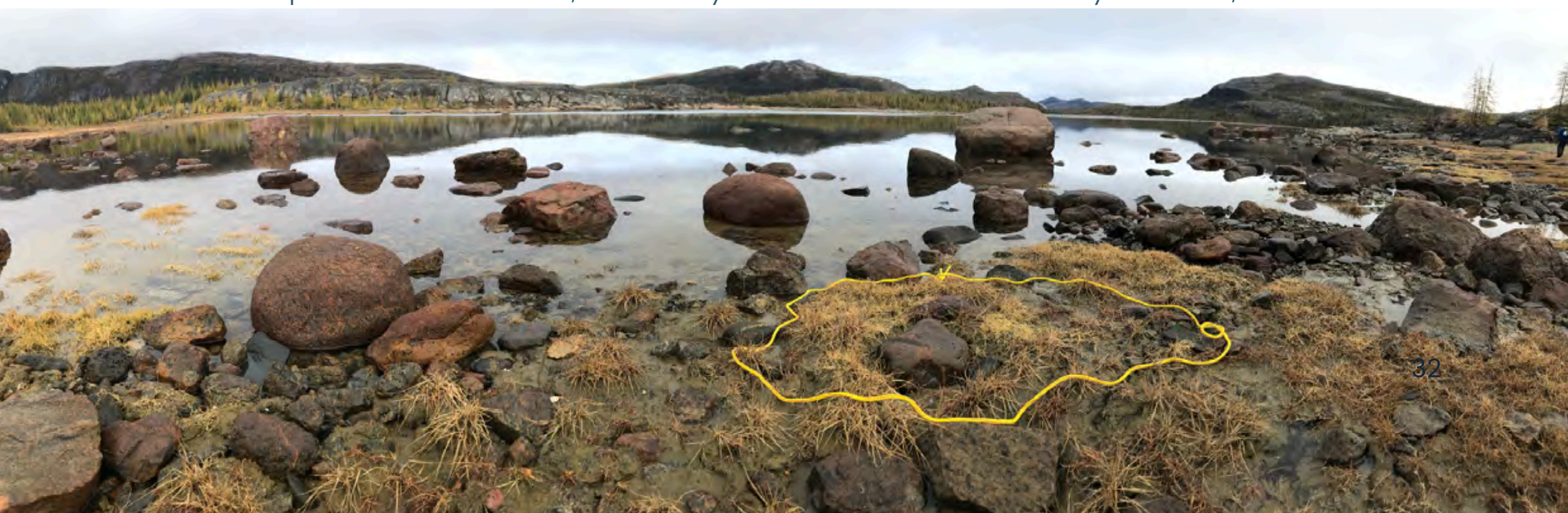
[a] As you can see from the variation within each site (such as the area in Nain by the Cultural Centre compared to Big Island in Rigolet, for example), that the average for all of Nunatsiavut is somewhat misleading. We recommend using one average measure for in communities and another for outside of communmities. "Town" is our measurements is somewhere waste can blow out of a yard or truck.

Figure 10: Baselines of plastics from shoreline quadrats in Nunatsiavut, 2017-2025



The blue columns indicate locations that are in towns, where regular traffic, commercial or industrial land use, and permanent settlement means higher numbers of plastics will blow or flow from local sources. They consistently have greater concentrations of plastics on shorelines.
This extreme variation is also why we do not provide a single baseline number for Nunatsiavut, which would average out the middle of town with areas that have no plastics. The median for the entire dataset is 0.4 plastics/m2, and the mean for just out of town areas is 0.3. Both measures are less impacted by the skew that a total average would create (1.3).

A quadrat in Kauk Harbour, checked by Max Liboiron and Frédéric Dwyer-Samuel, 2021. Photo: Max Liboiron



https://civiclaboratory.nl/plastic-pollution-monitoring-in-nunatsiavut/
Illustration by James Jacque