Sponsors: Citizen Initiative

CITY AND BOROUGH OF SITKA
ORDINANCE NO. 2019-11

AN ORDINANCE OF THE CITY AND BOROUGH OF SITKA ADDING A BALLOT QUESTION ON THE NEXT REGULAR MUNICIPAL ELECTION TO BE HELD ON OCTOBER 1, 2019 ON WHETHER TO ENACT A PROHIBITION ON RETAIL SELLERS FROM PROVIDING OR DISTRIBUTING DISPOSABLE PLASTIC BAGS, ENACTING A FEE, AND FINE SCHEDULE, AND IF APPROVED, SITKA GENERAL CODE WOULD BE AMENDED BY ADDING CHAPTER 9.28 "DISPOSABLE PLASTIC SHOPPING BAG PROHIBITION"

FAILED at the MUNICIPAL ELECTION on October 1, 2019

915 - YES

1322 - NO

1. **CLASSIFICATION**. This ordinance is of a permanent nature and is intended to become a part of the Sitka General Code.

2. SEVERABILITY. If any provision of this ordinance or any application thereof to any person or circumstance is held invalid, the remainder of this ordinance and application thereof to any person or circumstances shall not be affected thereby.

3. PURPOSE. The purpose of this ordinance is to reduce the generation of waste from disposable plastic shopping bags and address the environmental problems associated with disposable bags.

This ordinance establishes a prohibition on providing or distributing disposable plastic shopping bags, enacts a fine schedule, and requires a fee on each alternative bag provided by a retail seller to a customer at a check-out stand or counter beginning on April 22, 2020.

4. ENACTMENT. NOW, THEREFORE, BE IT ENACTED by the Assembly of the City and Borough of Sitka that Sitka General Code Title 9 "Health and Sanitation" is amended by adding a new Chapter 9.28 entitled "Disposable Plastic Shopping Bag Prohibition" to read as follows: (new language underlined):

TITLE 9
HEALTH AND SANITATION

* * *

Chapter 9.28
DISPOSABLE PLASTIC SHOPPING BAG PROHIBITION

Sections:

9.28.010 Definitions.
9.28.020 Prohibition on providing or distributing disposable plastic shopping bags; fees for alternative bags.
9.28.030 Exceptions.

9.28.040 Required signage for retail sellers.
9.28.050 Fine schedule.

* * *

9.28.010 Definitions.

A. "Alternative bag" means any bag that is designed to carry customer purchases from the retail seller premises that is neither a disposable plastic shopping bag nor a reusable bag, generally means a paper bag.

B. "Disposable plastic shopping bag" means a bag made exclusively or primarily of soft plastic or plastic-like material (including plastics marked or labeled as "biodegradable" or "compostable") that is designed to carry customer purchases from the retail seller's premises. Plastic film bags of any thickness are included in this definition of a disposable plastic shopping bag.

1. "Disposable plastic shopping bag" does not include:

a. Bags used by customers inside stores to:

i. Package bulk items, such as fruit, vegetables, nuts, grains, candy or small hardware items;

ii. Contain or wrap ice, frozen foods, meat, or fish;

iii. Contain or wrap flowers, potted plants, or other items where dampness may be a problem;

iv. Contain unwrapped prepared foods or bakery goods; or

v. Protect a purchased item from damaging or contaminating other purchased items when placed in another bag.

b. Bags provided by pharmacists to contain prescription drugs.

c. Newspaper bags, door-hanger bags, laundry-dry cleaning bags, or bags sold in packages containing multiple bags for uses such as food storage, garbage, pet waste, or yard waste bags.

d. Bags provided by a retail marijuana store in accordance with the requirements of any future statutes, ordinances, or regulations.

C. "Retail seller " means commercial business located within the municipality, including but not limited to markets, grocery stores, convenience stores, pharmacies, drug stores, retail stores, restaurants or similar establishments that:

1. Sells goods or prepared food directly to final consumers such as household supplies, perishable items, or food merchandise, including meat, produce, dairy produce, or snack foods.

D. "Reusable Bag" means a bag that is:

1. Designed and manufactured to withstand repeated uses over a period of time;

2. Is made from a material that can be cleaned and disinfected regularly, preferably in a washing machine;

3. Has a minimum lifetime of 125 uses; and

4. Has the capability of carrying a minimum of 22 pounds.

9.28.020 Prohibition on providing or distributing disposable plastic shopping bags; fees for alternative bags.

A. On or after April 22, 2020, except as provided in sections 9.28.010 and 9.28.030 a retail seller shall not provide or distribute a disposable plastic shopping bag to a customer to carry away or protect goods purchased from, or serviced by, the retail seller.

B. On or after April 22, 2020, except as provided in sections 9.28.010 and 9.28.030, a retail seller may only provide or distribute an alternative bag to a customer to carry away [or protect] goods purchased from, or serviced by, the retail seller for a minimum fee of $0.10 per bag.

1. A retail seller shall not absorb or discount the required fees established by this subsection,

2. A retail seller shall state the fees as a separate item on the receipt provided to the customer, and

3. A retail seller may retain the full amount of the fee or give any portion of it to a Sitka nonprofit.

4. The fees in this section shall be waived for a transaction in which purchases are made with state or federal supplemental nutrition assistance programs, commonly known as food stamps, food coupons, or other type of allotment, issued under 7 U.S.C.2011-2036, or with food instruments, food vouchers, or other type of certificate issued under 42 U.S.C.1786 (special supplemental food program for women, infants and children), or other similar programs.

C. A retail seller may provide a reusable bag without limitation or fees.

9.28.030 Exceptions.

Inventories of disposable plastic shopping bags purchased before the date of enactment of this ordinance may continue to be used by retail sellers and provided to customers after April 22, 2020 until all such inventories of disposable plastic shopping bags are completely used in the

course of regular business operations. Retail sellers providing disposable plastic shopping bags under this exception after April 22, 2020, shall, if requested, provide documentation or other satisfactory evidence to the Municipal Administrator, or his or her designee, that such bags were purchased on or before the date of enactment of this ordinance.

Commented [P1]: We changed this (including changing the date to match Homer's ordinance)– if you must have a "who to provide to?"…our first choice would be "provide documentation to customers upon request that such…", our second choice would be "provide documentation to City staff upon request that such…"

9.28.040 Required signage for retail sellers.

Every retail sellers subject to the prohibition on providing or distributing disposable plastic shopping bags shall display a sign in a location outside or inside of the business, viewable by customers, alerting customers to the municipality's prohibition on distributing disposable plastic shopping bags and the requirement of a fee on alternative bags. The notice shall state "Retail sellers in Sitka are prohibited from providing or distributing disposable plastic shopping bags. Retailers may have paper bags available for purchase," legibly printed in letters at least one-half inch high.

9.28.050 Fine Schedule.

A. Any licensed retail seller found to have violated the provisions of this chapter shall be charged with a minor offense. The maximum penalty for violation of the provisions of this chapter is five hundred dollars.

In accordance with AS 29.25.070(a), citations for offenses in this chapter may be disposed of as provided in AS 12.25.175 through 12.25.230, without a court appearance, upon payment of the fine amounts stated herein plus the state surcharge required by AS 12.55.039 and 29.25.074. Fines must be paid to the city and borough. The Alaska Rules of Minor Offense Procedure in the Alaska Rules of Court apply to all offenses referenced herein. Citations charging these offenses must meet the requirements of Rule 3 of the Alaska Rules of Minor Offense Procedure. For the first offense, the fine shall be one hundred dollars. For the second offense, the fine shall be two hundred dollars. For the third offense and any subsequent offenses, the fine shall be five hundred dollars. If a person charged with one of these offenses appears in court and is found guilty, the penalty imposed for the offense may not exceed the fine amount for that offense stated herein. These fines may not be judicially reduced. For purposes of this section, prior offenses must be within the previous five years.

B. Each and every day during any portion of which a violation or failure to comply is committed, permitted, or continued, shall be treated as a separate offense, and subject the offender to separate charges and a fine as provided in subsection A of this section.

5. BALLOT PROPOSITION. The ballot proposition shall be stated as follows:

Proposition No. _____

Shall the Sitka General Code be amended to add Chapter 9.28, entitled "DISPOSABLE PLASTIC SHOPPING BAG PROHIBITION", which prohibits a retail seller from providing or distributing disposable plastic shopping bags, enacts a fee for alternative bags and establishes a fine schedule for violations?

Commented [P2]: Should this say, "…a fine schedule for violations."? Or "…a fine schedule for retail sellers who violate the code."?

☐ YES ☐ NO

Informational: The purpose of this ordinance is to reduce the generation of waste from disposable plastic shopping bags and address the environmental problems associated with disposable bags. An affirmative vote of this ballot proposition would prohibit retail sellers in the municipality from providing or distributing disposable plastic shopping bags to customers for carrying purchases from the retail seller's premises. The prohibition would begin starting April 22, 2020. If a retail seller provides or distributes an alternative bag (generally a paper bag) to a customer, the retail seller shall be required to charge a minimum fee of $0.10 per bag – which they may keep or donate to a Sitka nonprofit entity. Existing inventories of disposable plastic shopping bags may continue to be provided to customers after April 22, 2020 until that supply is exhausted, so long as retail sellers provide documentation that such bags were purchased on or before the date of enactment of this ordinance. A fine schedule for retail sellers who violate the code is also established.

Commented [P3]: See comment above in ballot measure…perhaps stating this here is good enough?

Retail sellers may still provide or distribute, at no charge, the plastic bags listed below because they are not defined as disposable plastic shopping bags. Disposable plastic shopping bags do not include: bags used by customers inside stores to package bulk items such as fruit, vegetables, nuts, grains, candy or small hardware items; bags used to contain or wrap ice, frozen foods, meat, or fish; bags used to contain or wrap flowers, potted plants, or other items where dampness may be a problem; bags used to contain unwrapped prepared foods or bakery goods; bags used to protect a purchased item from damaging or contaminating other purchased items when placed in another bag; bags provided by pharmacists to contain prescription drugs; bags used for newspapers, door-hanger bags, laundry-dry cleaning bags, or bags sold in packages containing multiple bags for uses such as food storage, garbage, pet waste, or yard waste bags; and bags provided by a retail marijuana store in accordance with the requirements of any future statutes, ordinances, or regulations.

6. EFFECTIVE DATE. This ordinance shall become effective upon certification of the election results that show a majority of qualified voters approved the enactment. The prohibition and the imposition of fines becomes effective April 22, 2020.

_____
Gary L. Paxton, Mayor

ATTEST:

_____
Sara Peterson, MMC
Municipal Clerk

Introduced By:	Chilson and Parker
Date:	April 10, 2024
Public Hearing:	April 24, 2024
Action:	Enacted
Vote:	6 Yes, 0 No

CITY OF SOLDOTNA
ORDINANCE 2024-016

AN ORDINANCE AMENDING SOLDOTNA MUNICIPAL CODE TITLE 8: CHAPTER 8.06 – DISPOSABLE PLASTIC SHOPPING BAGS

WHEREAS, the use of disposable plastic shopping bags in the City of Soldotna burdens the environment, endangers wildlife, and has been shown to be harmful to bodies of water and problematic for solid waste management; and

WHEREAS, disposable plastic shopping bags create problematic environmental issues and frequently escape from trash containers and landfills, creating a burden on residents and the city staff for clean-up; and

WHEREAS, environmental health and clean water is essential for quality of life and economic prosperity in the City of Soldotna; and

WHEREAS, to decrease the number of littered disposable plastic shopping bags in the City of Soldotna and surrounding area, it is necessary to restrict general use; and

WHEREAS, a recent study on microplastic content in water sources across Southcentral Alaska, conducted by the Alaska Environment Research and Policy Center and released January 2024, found microplastics in every body of water sampled; and

WHEREAS, it is in the best interest of health, safety, and welfare of all residents to restrict the use of disposable plastic shopping bags in the city; and

WHEREAS, the City of Soldotna adopted Ordinance 2018-013 establishing SMC Chapter 8.06 in 2018 to restrict the use of disposable plastic shopping bags; and

WHEREAS, SMC established in Chapter 8.06 has had a positive impact on the use of disposable plastic shopping bags within the community.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SOLDOTNA, ALASKA:

Section 1. Soldotna Municipal Code Chapter 8.06 is hereby amended to read as follows ([DELETED TEXT IS CAPITALIZED AND IN BRACKETS]. Added text is underlined):

SMC 8.06.010 [-] Purpose.
The purpose of this chapter is to reduce the generation of waste from [SINGLE-USE PLASTIC DISPOSABLE SHOPPING BAGS] disposable plastic shopping bags[.] and promote a healthier local environment.

SMC 8.06.020 [-] Definitions.
Any word, term, or phrase not defined in this section shall have its ordinary and common meaning. The following words, terms, and phrases, when used in this chapter, shall have the meanings ascribed to them in this section:

"Affected establishment" means any retail or commercial business facility located inside the City of Soldotna that sells goods or prepared food directly to consumers including but not limited to grocery stores, pharmacies, retail stores, and restaurants.

["SINGLE-USE PLASTIC DISPOSABLE SHOPPING BAG" MEANS A BAG MADE FROM ANY PLASTIC (INCLUDING PLASTICS MARKED OR LABELED AS "BIODEGRADABLE "OR "COMPOSTABLE") OR ANY MATERIAL NOT MARKED OR LABELED AS "BIODEGRADABLE" OR "COMPOSTABLE" THAT IS NEITHER INTENDED NOR SUITABLE FOR CONTINUOUS REUSE AND THAT IS LESS THAN 2.25 MILS THICK, DESIGNED TO CARRY CUSTOMER PURCHASES FROM THE SELLER'S PREMISES, EXCEPT FOR: BAGS USED BY CUSTOMERS INSIDE STORES TO PACKAGE BULK ITEMS SUCH AS FRUIT, VEGETABLES, NUTS, GRAINS, CANDY, OR SMALL HARDWARE ITEMS, SUCH AS NAILS AND BOLTS; BAGS USED TO CONTAIN DAMPNESS OR LEAKS FROM ITEMS SUCH AS FROZEN FOODS, MEAT, OR FISH, FLOWERS OR POTTED PLANTS; BAGS USED TO PROTECT PREPARED FOODS OR BAKERY GOODS; BAGS PROVIDED BY PHARMACISTS TO CONTAIN PRESCRIPTION DRUGS; NEWSPAPER BAGS, LAUNDRY, OR DRY CLEANING BAGS; OR BAGS SOLD FOR CONSUMER USE OFF THE SELLER'S PREMISES FOR SUCH PURPOSES AS THE COLLECTION AND DISPOSAL OF GARBAGE, PET WASTE, OR YARD WASTE.]

"Disposable plastic shopping bag" means a bag designed to carry goods from the vendor's premises made from any plastic (including plastics marked or labelled as "biodegradable or "compostable"), or any material not marked or labeled as "biodegradable" or "compostable" that is not a recyclable paper bag or a reusable bag.

"Reusable bag" means a bag that is designed and produced to withstand repeated use over time and is made from material that is machine washable or that can be cleaned and disinfected regularly.

SMC 8.06.030 [– SINGLE-USE PLASTIC DISPOSABLE SHOPPING BAG] Disposable plastic shopping bag prohibited.

A. No affected establishment may provide or make available to any customer a [SINGLE-USE PLASTIC DISPOSABLE] disposable plastic shopping bag for the purpose of carrying away goods [FROM THE POINT OF SALE].
B. No person may provide or make available [DISTRIBUTE SINGLE-USE PLASTIC DISPOSABLE] disposable plastic shopping bags at any city facility or any event held on city property.
C. Affected establishments and other vendors or persons may provide recyclable paper bags or reusable bags without limitation.
D. Additional exceptions - the prohibition established in this section does not apply to a plastic bag that is:
    1. Used by customers inside stores to contain a product that does not have other packaging such as fruit, nuts, vegetables, meat, candy, bakery goods, prepared foods, other food products or small hardware items such as nails and bolts;
    2. Used only to contain dampness or leaks from items such as frozen foods, meat, fish, ice, flowers or potted plants;
    3. Provided by a pharmacy to contain prescription drugs;
    4. Used only to contain a newspaper, laundry, or dry cleaning;
    5. Sold for consumer use off the vendor's premises for such purposes as the collection and disposal of garbage, pet waste, or yard waste.
E. [C] Any violation of this chapter shall be considered a minor offense punishable as provided in SMC 1.08.080.

Section 2. This ordinance shall become effective January 1, 2025.

ENACTED BY THE CITY COUNCIL THIS 24TH DAY OF APRIL, 2024.

Paul J. Whitney, Mayor

ATTEST:

Johni Blankenship, MMC, City Clerk

Yes: Carey, Chilson, Hutchings, Nelson, Parker, Wackler
No: None

Introduced By:	Parker, Murphy
Date:	March 28, 2018
Public Hearing:	April 11, 2018
Action:	Enacted
Vote:	4 Yes, 1 No

CITY OF SOLDOTNA
ORDINANCE 2018-013

AN ORDINANCE AMENDING SOLDOTNA MUNICIPAL CODE TITLE 8 – HEALTH AND SAFETY TO ESTABLISH A NEW CHAPTER 8.06 – DISPOSABLE PLASTIC SHOPPING BAGS

WHEREAS, the use of single-use-carry-out disposable plastic shopping bags in the City of Soldotna (City) burdens the environment, endangers wildlife, and has been shown to be harmful to bodies of water and problematic for solid waste management; and

WHEREAS, to decrease the number of littered disposable plastic shopping bags in the City, it is necessary to restrict general use; and

WHEREAS, it is in the best interest of the health, safety and welfare of all residents to restrict the use of single-use disposable plastic shopping bags; and

WHEREAS, plastic carry out bags do not biodegrade, create problematic environmental issues and frequently escape from trash containers and landfills creating a burden on residents and the City for clean-up;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SOLDOTNA, ALASKA:

Section 1. Soldotna Municipal Code Title 8 is hereby amended by the addition of a new Chapter 8.06, Disposable Plastic Shopping Bags, to read as follows:

Chapter 8.06 – DISPOSABLE PLASTIC SHOPPING BAGS

Sections:

8.06.010 Purpose
8.06.020 Definitions
8.06.030 Single-Use Plastic Disposable Shopping Bag Prohibited

8.06.010 Purpose

The purpose of this chapter is to reduce the generation of waste from single-use plastic disposable shopping bags.

8.06.020 Definitions

Any word, term, or phrase not defined in this section shall have its ordinary and common meaning. The following words, terms, and phrases, when used in this chapter, shall have the meanings ascribed to them in this section:

"Affected Establishment" means any retail or commercial business facility located inside the City of Soldotna that sells goods or prepared food directly to consumers including but not limited to grocery stores, pharmacies, retail stores, and restaurants.

"Single-Use Plastic Disposable Shopping Bag" means a bag made from any plastic (including plastics marked or labeled as "biodegradable "or "compostable") or any material not marked or labeled as "biodegradable "or "compostable" that is neither intended nor suitable for continuous reuse and that is less than 2.25 mils thick, designed to carry customer purchases from the seller's premises, except for: bags used by

customers inside stores to package bulk items such as fruit, vegetables, nuts, grains, candy, or small hardware items, such as nails and bolts; bags used to contain dampness or leaks from items such as frozen foods, meat, or fish, flowers or potted plants; bags used to protect prepared foods or bakery goods; bags provided by pharmacists to contain prescription drugs; newspaper bags, laundry, or dry cleaning bags; or bags sold for consumer use off the seller's premises for such purposes as the collection and disposal of garbage, pet waste, or yard waste.

8.06.030 Single-Use Plastic Disposable Shopping Bag Prohibited

A. No affected establishment may provide to any customer a single-use plastic disposable shopping bag for the purpose of carrying away goods from the point of sale.

B. No person may distribute single-use plastic disposable shopping bags at any city facility or any event held on city property.

C. Any violation of this chapter shall be considered a minor offense punishable as provided in SMC 1.08.080.

Section 2. That SMC 1.05.080 Minor Offence Fine schedule is hereby amended to include the following offenses and fines:

Soldotna Municipal Code Reference	Offense	Fine
08.06.030	Distribution of single use, plastic disposable shopping bags.	$300

Section 3. This ordinance shall become effective November 1, 2018.

ENACTED BY THE CITY COUNCIL THIS 11TH DAY OF APRIL, 2018.

Nels Anderson, Mayor

ATTEST:

Michelle M. Saner, MMC, City Clerk

Yes: Cashman, Murphy, Parker, Cox
No: Whitney

SOLDOTNA
Soldotna City Council

MEMORANDUM

TO: Mayor Anderson and Members of the City Council

FROM: Lisa Parker, Council Member and Linda Murphy, Vice Mayor

DATE: March 28, 2018

SUBJECT: Ordinance 2018-013 - Amending Soldotna Municipal Code Title 8 – Health and Safety to Establish a New Chapter 8.06 – Disposable Plastic Shopping Bags

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Over the past few years Soldotna has significantly improved the aesthetics of our community, including improvements to signs, upgrades to city parks and the addition of more festivities for the enjoyment of residents and visitors alike.

Recently, the Gganiłchit Dena'ina Youth Council sent an invitation to come to the viewing of the documentary "Bag It", discussing the effect plastic has on our waterways, oceans, and bodies. Based on the request from the Youth Council and Soldotna residents, Vice Mayor Murphy and I request you support the introduction of Ordinance 2018-013 – Disposable Plastic Shopping Bags.

The proposed ordinance was adapted from the ordinance enacted by the City of Wasilla. Unlike many ordinances that are effective immediately, the proposed ordinance has an effective date of November 1, 2018 giving businesses the opportunity to make the transition.

While there are countless reasons for cutting down on the number of plastic bags, some primary reasons for elimination include:

1. They are unsightly – how often do we see the bags blowing across the road, in a parking lot or floating down the Kenai River.
2. They are bad for wildlife – plastic bags can choke or poison birds, fish and animals. Particularly vulnerable are marine life, like our Cook Inlet Beluga Whales.
3. They take years to decompose.

The City Manager and I have had the opportunity to visit with some of the local businesses to discuss the ordinance. While there has been no outright opposition, businesses have requested the ordinance not take effect immediately, giving them and their staff time to inform shoppers of the upcoming change. Additionally, we've discussed working with the Soldotna Chamber of Commerce to deliver the message.

Informational:

City of Hopper Bay currently has a plastic bag ban in effect.

City of Bethel in 2012 enacted a law that requires all plastic bags be biodegradable. The biodegradable capabilities vary from each biodegradable bag type and some do not biodegrade in the Alaska climate.

City of Homer enacted a law banning plastic bags in August of 2012, with an effective date of January 1, 2013. In February of 2013 a citizen's referendum was filed and in October of 2013 the voters of the City of Homer repealed the plastic bag ban.

City of Wasilla enacted a law banning plastic bags in January of 2018, with an effective date of July 1, 2018.


PLASTIC BAGS ONLY
PLASTIC BAGS ONLY
PLASTIC BAGS ONLY
PLASTIC BAGS ONLY


DODGE RAM

International Union for Conservation of Nature
ISSUES BRIEF
www.iucn.org
MAY 2024

PLASTIC POLLUTION

- Over **460 million metric tons of plastic** are produced every year for use in a wide variety of applications.
- An estimated **20 million metric tons of plastic litter** end up in the environment every year. That amount is expected to increase significantly by 2040.
- Plastic pollution **affects all land, freshwater, and marine ecosystems**. It is a major driver of biodiversity loss and ecosystem degradation and contributes to climate change.
- As plastic pollution is a transboundary issue, a **global plastics treaty is needed** to ambitiously reduce plastic production, phase out harmful subsidies, eliminate products and chemicals of concern, and adopt strong national plans and rigorous reporting and compliance mechanisms.

What is the issue?

Plastic is a synthetic, organic polymer made from fossil fuels, such as gas and petroleum. Over **460 million metric tons of plastic are produced every year**, according to the United Nations Environment Programme. Plastic is used in almost all consumer and industrial activities, from construction and vehicles to electronics and agriculture.

Discarded improperly, plastic waste pollutes and harms the environment, becoming a widespread driver of biodiversity loss and ecosystem degradation. It threatens human health, affects food and water safety, burdens economic activities, and contributes to climate change.

Macro-plastics (pieces larger than 0.5 mm) made up 88% of global plastic leakage to the environment in 2019, around 20 million metric tons, polluting all ecosystems. Much of the world's **plastic pollution is generated by single-use products** such as bottles, caps, cigarettes, shopping bags, cups, and straws.

Pollution sources are mainly land-based, coming from urban and stormwater runoff, littering, industrial activities, tyre abrasion, construction, and agriculture. In the marine environment, plastic pollution originates primarily from land runoff, but includes paint shed from shipping, discarded fishing gear, and more.

Due to solar radiation, wind, currents and other natural factors, **plastic breaks down into microplastic (smaller than 5 mm) and nanoplastic (smaller than 100 nm) particles**. 'Primary' microplastic particles are also shed by products such as synthetic textiles and tyres, through abrasion. Nanoplastics are able to cross cell membrane walls and enter living organisms.

Many nations lack the capacities and facilities to properly manage plastic products and waste, and

Millions of tons of plastic pollute land and water every year, causing impacts to the environment, ecosystems, and human health. (mbeo/Flickr)

the burden often falls on the local level. That impact is disproportionately felt by islands, developing countries, Indigenous peoples, local communities, women, and children. This problem is deepened by the global trade of plastic products and waste to locations where infrastructure is not sufficient for safe and environmentally sound management.

Why is this important?

Impacts on human health

Microplastics have been found in human blood and placentas and in food and drinks, including tap water, beer, and salt. Several chemicals used in the production of plastic materials are known to be carcinogenic and can cause developmental, reproductive, neurological, and immune disorders.

Impacts on economies

The build-up of plastic litter can have a negative impact on aspects of a country's economy and trade systems, with income declines in sectors such as small- and medium-enterprises, the informal sector, tourism,

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fisheries, agriculture, and water safety. IUCN's research on these economic impacts demonstrates examples and possible solutions.

Impacts on species and ecosystems
All land, freshwater, and marine ecosystems are affected by plastic pollution. Natural ecosystems provide a broad range of services that are not only fundamental for conservation, but also key for economies and human well-being. For example, healthy mangroves provide coastal protection services, whereas wetlands are important for freshwater provision.

The most visible impacts of plastic debris are the ingestion, suffocation, and entanglement of species. Wildlife such as birds, whales, fish, and turtles mistake indigestible plastic waste for food and die of starvation as their stomachs become filled with it. It also causes internal and external injuries that reduce the ability to swim and fly. Domesticated farm animals are also affected by plastic pollution. Floating plastics transport invasive alien species, one of the leading causes of biodiversity loss and species extinction.

Plastic pollution can also seep carcinogenic chemicals (such as those contained in certain plastic products or fireproofing coatings) into the soil. These can run into groundwater or rivers, affecting exposed people and ecosystems.

Impacts on climate
Climate impacts begin with oil and gas extraction, the refining of these products into plastics, and then plastic pollution itself. Incinerated plastic waste releases greenhouse gases and other pollutants into the atmosphere, including carbon dioxide, dioxins, and methane.

What can be done?

The removal of legacy plastics and prevention of pollution **requires that fewer plastic products be made, that the circularity of supply and value chains be increased, and that consumer behaviour be changed.** It also involves public and private investment and the development of infrastructure along the full lifecycle of plastics, including circular economy solutions like reuse, refill, etc.

Despite positive efforts from countries to tackle plastic pollution, such as bans on certain forms of single-use plastics, **a global plastics treaty is essential because plastic pollution is transboundary and a main driver of biodiversity loss.**

To best address the triple planetary crisis and ensure the proper implementation of the Global Biodiversity Framework (GBF); the Paris Agreement; the Sustainable Development Goals (SDGs); and initiatives under the broader chemicals, waste, and pollution agenda; a future plastics treaty needs a common approach and requires collective action on a global scale.

Biodiversity has come to play a prominent role in international law, including in multilateral environmental agreements. **A focus on the connections between plastic pollution, biodiversity loss, and the degradation of ecosystems at the global, regional, and national levels is important for effective action.** The protection and restoration of biodiversity, and nature *per se*, must be incorporated in the legally binding control measures and enforcement terms of a future treaty.

To address plastic pollution globally, IUCN supports:

- Ambitious reductions in plastic production, phasing out harmful subsidies, eliminating products and chemicals of concern, and agreeing on the adoption of strong national plans, reporting requirements, and compliance mechanisms.
- Measurable and ecologically sustainable objectives, targets, and actions.
- An inclusive, just, and gender-responsive process and effective and science-based nature-positive frameworks, including a global treaty.
- Convergence between commitments made by States at various international and regional treaties, including the Kunming-Montreal Global Biodiversity Framework (GBF), the agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ), the Ramsar Convention on Wetlands, and others.
- Improved product design created with full lifecycle approaches for a more circular economy, and support for nature-positive Extended Producer Responsibility Systems that go beyond waste management.
- Enhanced national legislation and capabilities to address plastic pollution, reporting, and compliance.
- Funding a strong financing mechanism, for capacity building, technological assistance and transfer, education, and to build on and share Indigenous and traditional knowledge.

Where can I get more information?

IUCN publications on plastic pollution

IUCN Brief and proposed text for inclusion of biodiversity protection in the Plastics Treaty

IUCN Resolution 019 *Stopping the global plastic pollution crisis in marine environments by 2030*

IUCN Resolution 069 *Eliminate plastic pollution in protected areas, with priority action on single-use plastic products*

Twitter: @IUCN_Plastics

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SUMMARY OF THE REPORT:
THE ECONOMIC IMPACT OF PLASTIC POLLUTION IN ANTIGUA AND BARBUDA

Impacts on the fisheries and tourism sectors, and the benefits of reducing mismanaged waste

Full publication

www.iucn.org

July 2023

INTRODUCTION

In 2019, IUCN launched the Plastic Waste-Free Islands (PWFI) project, aiming to reduce plastic waste generation and leakage into the ocean in island nations in the Pacific and Caribbean regions. An economic assessment was conducted as part of the project in Antigua and Barbuda. The study examined the impacts of marine plastics on the fisheries and tourism sectors and the costs and benefits of implementing a national recycling system from a national and from a regional cooperation perspective.

Plastic waste is a global problem!

9% of plastics are recycled

22% is mismanaged

80% of marine plastics can be attributed to land-based sources

20% of marine plastic pollution originates from the fishery sector

Plastic pollution leads to contamination of the marine environment

Harms biodiversity and ecosystems

Reduces the provision of ecosystem services

Has negative impacts on the economy, such as for:

- **fisheries**
- **tourism sectors**

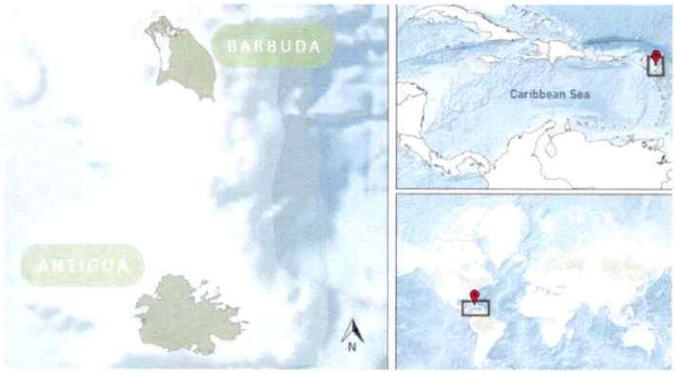
To address the issue, efficient policy responses and legal instruments are required at various levels. These can include waste reduction at the source, extended producer responsibility, consumer behaviour changes through bans and taxes, educational campaigns, and improvements in waste management infrastructure.

The Caribbean Region heavily relies on a healthy marine ecosystem for its economy, specifically tourism and fisheries, which faces significant challenges due to plastic pollution, driven by poor waste management systems and limited recycling. Governments in the region have started implementing measures such as bans on single-use plastics, but more analysis of policy responses is needed.

CASE STUDY INTRODUCTION

Antigua and Barbuda is a dual island country in the northeastern heart of the Caribbean archipelago, see Map 1 below.

Map 1

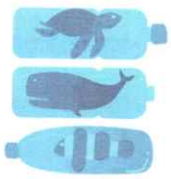


In this country > 3,200 tonnes of plastic waste were disposed, mainly single-use plastics.

Around 21% of all plastics disposed end up leaking into the marine environment annually.

The government has implemented measures to address the issue, including fees on imported cans and bottles and the prohibition of plastic shopping bags and styrofoam. However, challenges remain in waste management and recycling.

To combat plastic pollution, efforts are needed to:



- Encourage producer responsibility,
- support the recycling sector,
- and improve waste disposal practices.

IMPACT OF MARINE PLASTICS IN ANTIGUA & BARBUDA (2019)

The impact of marine plastics in Antigua and Barbuda in 2019 was assessed through data collection and analysis. Two different plastic accumulation scenarios were considered to estimate the stock and flow of marine plastics in the region, specifically on the shoreline and the Exclusive Economic Zone of Antigua and Barbuda. The study focused on the impact of marine plastics on the fisheries and tourism sectors.

For the fisheries sector, the impact on revenue caused by marine plastics was estimated. Factors such as repair costs, lost productive time, and reduced catches were considered. The estimated impact on fisheries revenue in 2019 was 9.2% of the total revenue, equivalent to 3,861,103 East Caribbean Dollars (XCD) or 1,428,980 US Dollars (USD).

The study also calculated the costs of completely cleaning up all plastics ending up on the coastline to prevent further accumulation of plastics and potentially impacting the tourism sector through a reduction in visitors in the future. The estimated costs for coastal clean-ups in 2019 ranged from XCD 12,868,519 (USD 4,762,590) to XCD 37,657,395 (USD 13,936,860) depending on the plastic accumulation scenario.

Overall, the impact of marine plastics in Antigua and Barbuda in 2019 amounted to XCD 16,729,622 (USD 6,191,569) to XCD 41,518,498 (USD 15,365,839) in direct costs (impact on fisheries and total estimated costs of coastal clean-up).

These findings highlight the significant economic implications of marine plastics on Antigua and Barbuda's key economic sectors, emphasizing the need for effective measures to mitigate plastic pollution and protect the environment and economy of the region.

PROPOSED SOLUTIONS

The recommendations for improving waste management in Antigua and Barbuda include, among others, strengthening the recycling system by:

- improving waste collection and
- segregation at the source.

Through the PWFI project, establishing a Regional Recycling Hub in the Caribbean has been proposed as a potential solution for Antigua and Barbuda and other Caribbean islands to improve waste management.

Currently, recycling in Antigua and Barbuda is limited, with only one waste recycling company operating in the country. There is no separation at the source of recyclable materials or organic waste prior to collection from households or commercial businesses.

This study considered the costs and benefits of a recycling system when Antigua and Barbuda implements it alone, as well as from a regional cooperation perspective with all countries bordering the Caribbean Sea also reducing plastic leakage into the sea.

OVERALL DIRECT COST MISMANAGED PLASTICS (2023-2040)

After estimating the impact of marine plastics in 2019, the study estimated the future impact of plastics continuing to leak into the marine environment, without measures to reduce this leakage.

The future and present values for the period 2023-2040 of the overall impact, direct cost to the fisheries sector, and clean-up costs are displayed in Table 1 and they depend on which plastic scenario is chosen; thus, four different values are presented.

Table 1

Future and present values of the overall direct costs to fisheries and coastal clean-ups (2023-2040) (discount rate: 6.35%)

	Plastic Accumulation Scenarios	
	Scenario 1 (XCD)	**Scenario 2 (XCD)**
Future Value	389,568,230	938,245,714
Present Value	214,660,490	517,614,074

COST OF IMPLEMENTING THE RECYCLING SCHEME

To understand the costs and benefits of reducing mismanaged waste and plastic leakage into the Caribbean Sea, the study estimated the costs of improving the recycling system in Antigua and Barbuda, considering improved collection and sorting, and transport to existing large-scale recycling infrastructure.[1]

Currently, the operating cost of the general waste management system is estimated to amount to XCD 110.3 per tonne of waste. The estimated cost per tonne of recycling plastics is presented in Table 2.

Table 2

Estimated costs of recycling per tonne of plastics (2019)[2]

Types of cost		XCD per tonne	USD per tonne
Collecting cost	Labour cost	272.9	101.0
	Investment cost	13.3	4.9
	Fixed cost	7.9	2.9
Sorting cost		201.5	74.6
Shipping cost		68.8	25.5
Total		**564.4**	**208.9**

The following figure compares the Waste Management Budget (WMB) under the BaU scenario with the WMB under the recycling scenario, which is combined with the cost of recycling. The difference between the two waste management scenarios is equal to the additional cost of the proposed solution, i.e. the recycling system as shown in Figure 1.

Figure1

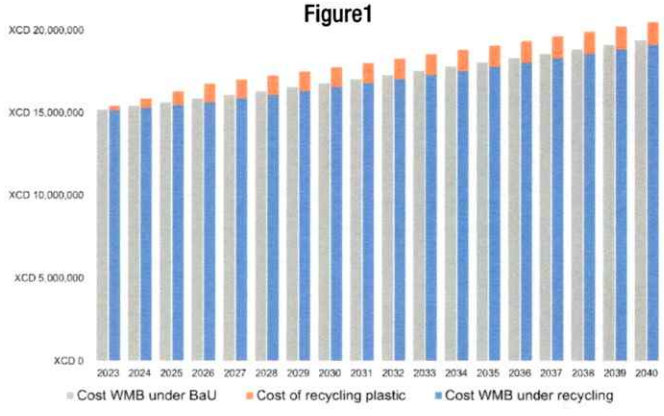


Figure 1 – Estimated costs of recycling, and the waste management budget under BaU scenario and the national recycling scenario (XCD/year)

The future value of the overall cost is estimated to be XCD 25,473,259 (USD 9,427,556). Applying the discount rate of 6.35% results in an estimated present value of XCD 13,495,094 (USD 4,994,483).

The impact in terms of the amount of plastics accumulating in Antigua and Barbuda's waters and coastline under the two recycling scenarios (national recycling and regional cooperation) is displayed below in Figure 2.

1 The study considered transport to Miami as a proxy for costs, while an exact location for the Regional Hub is not yet decided.
2 Source: Searious Business, 2021; PEW, 2020.

Figure 2

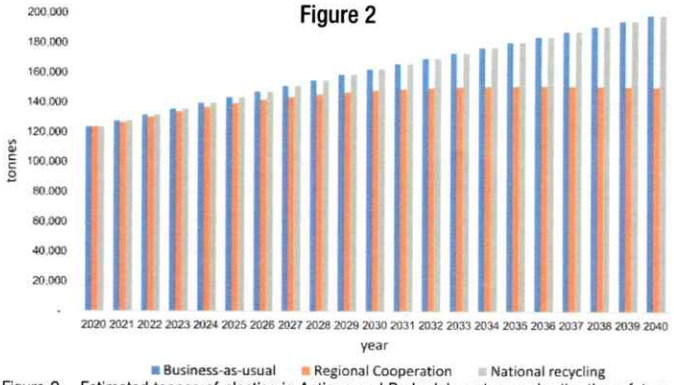


Figure 2 – Estimated tonnes of plastics in Antigua and Barbuda's waters under the three future plastic management scenarios

OVERALL RESULTS NATIONAL AND REGIONAL RECYCLING SCENARIOS

The next figures show the annual benefits of both recycling scenarios (national and regional cooperation) as well as the annual costs of implementing the proposed national recycling system. Figure 3 shows the results under the first plastic accumulation scenario, while Figure 4 shows the results under a second plastic accumulation scenario. Results are displayed both in discounted and non-discounted values. Table 3 shows the net future and present values of the regional cooperation and national recycling scenario.

Figure 3

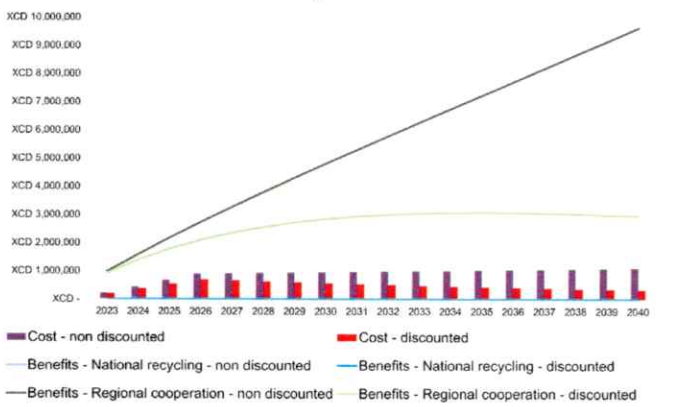


Figure 3 – Cost of recycling plastics for Antigua and Barbuda; benefits of the national recycling and regional cooperation scenario under plastic accumulation scenario 1 (future and present values, discount rate: 6.35%)

Figure 4

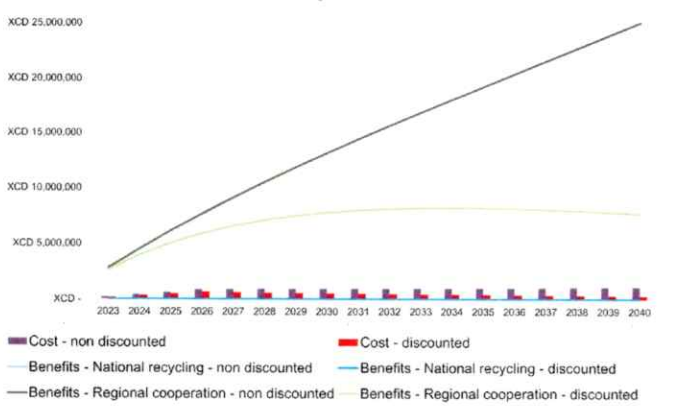


Figure 4 – Cost of recycling plastics for Antigua and Barbuda; benefits of the national recycling and regional cooperation scenario under plastic accumulation scenario 2 (future and present values, discount rate: 6.35%)

Table 3 shows that none of the national recycling scenarios are profitable based on the benefits and costs considered in this study, and without or with applying the discount rate used. However, under the regional cooperation scenario, for both plastic accumulation scenarios, the benefits of a regional reduction in MPW greatly overcome the costs of implementing recycling in Antigua and Barbuda.

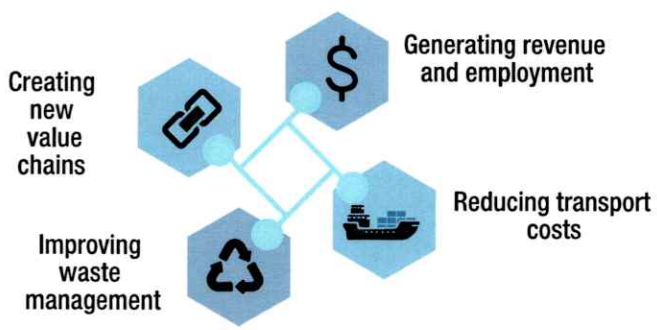
Table 3

Recycling Scenario	Plastic Accumulation Scenarios	Net Future Value		Net Present Value	
		XCD	USD	XCD	USD
National recycling	1	-16,466,210	-6,094,082	-8,667,780	-3,207,913
	2	-16,408,969	-6,072,898	-8,637,216	-3,196,601
Regional Cooperation	1	81,975,409	30,338,789	38,351,629	14,193,793
	2	247,607,709	91,638,679	118,490,732	43,852,973

Net future and present values of the national and regional cooperation scenario under both plastic accumulation scenarios (discount rate used: 6.35%)

The study highlighted the potential benefits of selling recycled plastics. To breakeven in net present value over the 18-year period considered, Antigua and Barbuda would need to resell the plastics at least at a constant price of XCD 436.14 (USD 161.41) per tonne under the least profitable scenario (national recycling under plastic accumulation scenario 1) and XCD 434.6 (USD 160.84) per tonne under the best case (national recycling under plastic accumulation scenario 2).

Additionally, there are other potential benefits of increased recycling of plastics in Antigua and Barbuda.



OTHER ASPECTS OF THE IMPACT OF MARINE PLASTIC POLLUTION AND INSTRUMENTS TO REDUCE IT

Marine plastic pollution not only has potential adverse effects on tourism and fisheries revenue, but it also can negatively impact employment in these sectors. The tourism sector employs a significant portion of the workforce in Antigua and Barbuda, whereas the fisheries sector serves as a crucial safety net for the population, particularly during periods of income loss.

Antigua and Barbuda has a high per capita fish consumption of around 50 kilograms, which is among the highest in the world. Marine plastics pose a threat to food security in Antigua and Barbuda, by diminishing fish stocks and contaminating fish with macro- and microplastics.

Although this study focuses on the direct cost of marine plastics on the fisheries and tourism sectors in Antigua and Barbuda, it's important to note that other factors such as natural disasters like Hurricane Irma in 2017 and the global travel restrictions due to the COVID-19 pandemic have had significant impacts on the tourism sector and the overall economy.

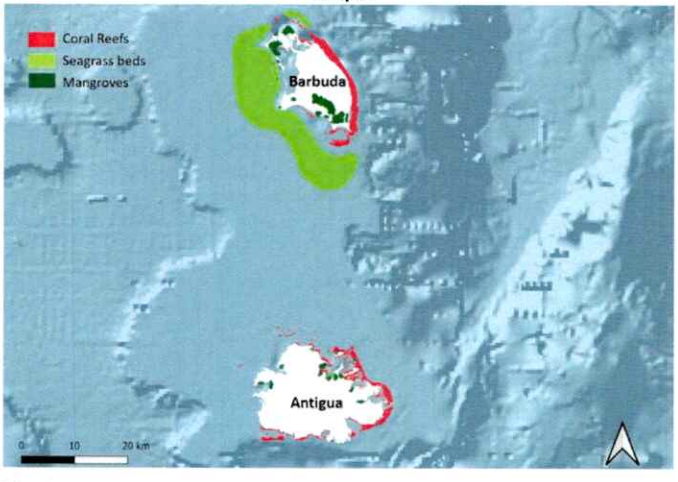
The tourism sector is also vulnerable to the effects of climate change, including sea level rise, increased storm frequency, and coastal erosion. Additionally, this study does not fully consider the future impacts of climate change on fisheries, such as shifting fish migration patterns, changes in reproduction, and altered habitats. It's worth mentioning that Caribbean fishery resources are already overexploited, with declining regional production and a high percentage of species considered overfished.

IMPACT ON MARINE AND COASTAL ECOSYSTEMS

Marine ecosystems in Antigua and Barbuda, including coral reefs, mangroves, and seagrass beds, are crucial for tourism, natural coastal defense, livelihoods in the fisheries sector, and various ecosystem services such as shoreline protection, breeding grounds, water purification, and carbon sequestration.

The conservation and restoration of these ecosystems are essential due to their significant contribution to the island's economy, employment, and vulnerable conservation status of certain species. Map 2 below displays the locations of these ecosystems.

Map 2



Marine plastics have detrimental effects on coral reefs, seagrass beds, and mangrove forests, interfering with their ecological functions and causing population declines and increased disease.

These impacts are exacerbated by other stressors such as climate change, pollution, overfishing, and invasive species, leading to the degradation of marine and coastal ecosystems, affecting tourism, fish stocks, and marine biodiversity including seabirds and marine mammals.

IMPACT ON MARINE WILDLIFE

Antigua and Barbuda's waters are home to six marine mammal species, with three considered vulnerable; four species of sea turtles, two of which nest and forage in nearshore waters; and a diverse range of bird species, including migratory and resident species, with 33 seabird species listed as "least concerned" and two listed as "vulnerable" and one as endangered."

Marine plastics pose various dangers to marine fauna including:

- entanglement,
- ingestion,
- colonisation by invasive species and
- contact or coverage with plastics and exposure to harmful chemicals.

Seabirds, sea turtles, marine mammals, sharks, rays, and sponges are among the species affected with:

- ingestion of plastics leading to potential mortality,
- entanglement causing suffocation or drowning, and
- plastic debris serving as vectors for the spread of pathogens and pollutants.

Plastic pollution should be considered in conjunction with other stressors when assessing its impact on the marine environment, as it may contribute to the decline of individuals, populations, or ecosystems, but not necessarily cause critical population decreases on its own. In addition to macroplastics, the presence of microplastics is a concern as small organisms can ingest them, bioaccumulate contaminants, and elicit toxicological effects, posing risks to marine animals throughout the food chain.

FINAL REMARKS

This study primarily focused on estimating direct costs for the fisheries and tourism sectors in Antigua and Barbuda, but it acknowledges that some costs and benefits were not included, such as the impact of ghost fishing, or the full costs of establishing a Regional Recycling Hub and the demand for recycled plastics under the current and future market.

The study emphasizes the need to consider the broader impacts of mismanaged plastics on blue natural capital assets, marine biodiversity, and the overall economy, recognizing the complexity of quantifying the impact on marine ecosystems. It suggests the implementation of a national recycling system and shows the positive impact of regional efforts to address the plastic waste problem while highlighting the importance of reducing plastic use, improving waste management infrastructure, and integrating local waste pickers into the system.

Further research is needed to gather data on mismanaged plastics, understand the real costs including microplastics, and develop comprehensive accounting frameworks like Ocean Accounting to assess the economic impacts of marine plastics and multiple stressors.

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WCC-2020-Res-069-EN

Eliminate plastic pollution in protected areas, with priority action on single-use plastic products

APPRECIATING that protected areas serve an important role in protecting global biodiversity, mitigating carbon emissions and increasing resilience to climate change;

AWARE that wildlife resources also serve as important components of ecosystems, providing services that benefit humanity in the form of pollination, seed dissemination, disease control, pest control, food production, water purification and waste decomposition;

ACKNOWLEDGING that plastic products account for the majority of waste in protected areas, are often inappropriately disposed of on-site, and that discarded plastics take up to a thousand years to decompose;

RECOGNISING that inappropriate disposal of plastics has a significant impact on the environment and may affect wildlife;

FURTHER RECOGNISING the need for responsible management of plastics waste and scrap that prevents its leakage into the environment; and

NOTING that there are alternatives to single-use plastic products available for bringing drinks and other items into protected areas, and that 'pack-it-out' policies encourage responsible management of plastics brought into protected areas;

The IUCN World Conservation Congress 2020, at its session in Marseille, France:

URGES State Members to take priority action by 2025 to prevent pollution of protected areas by single-use plastic products, with the ultimate goal of eliminating all plastic pollution in protected areas.

WCC-2020-Res-069-EN

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