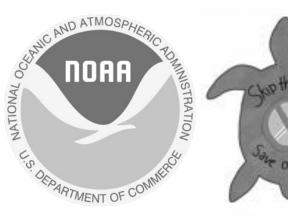
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Trash Shouldn't Splash promotes a reduction in use of single-use items, especially those made of plastics, to decrease waste on land and in the oceans.



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## **COMMUNICATION MATERIALS**

Logos | Printable Campaign Materials | Website & Social Media



Artwork created by Falmouth High School student Jonah Ether



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## **DESIGNING A LOGO**

In designing the name of our campaign, we aimed to keep it short (2-3 words), alliterative and rhyming so that it would be catchy and easy to remember. The trash displays some of the common single-use plastic items found in beach cleanups, while the whale tail in the foreground inspires positive thoughts about the ocean. We did not want the logo to be just a gloomy reminder of trash. The logo presents the problem and hopefully inspires the viewer to take action by invoking positive emotions about the ocean.

In hindsight, we would not have chosen a logo with an apostrophe, as this has made hashtags and URLs somewhat challenging.

You may choose to use our logo, or reference our guidelines for creating your own that better fits your audience.

## TRASH SHOULDN'T SPLASH



*Trash Shouldn't Splash* gratefully acknowledges Skye Moret (www.skyemoret.com) for her inkind services in helping us design the campaign logo, including font and color elements.



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## PRINTABLE CAMPAIGN MATERIALS

To download and use our printable logos, signage, postcards, and business cards, please visit the "Printable Campaign Materials" tab at trashshouldntsplash.com/printable-campaign-materials.



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## WEBSITE & SOCIAL MEDIA

### Goals

*Trash Shouldn't Splash* is building a team of problem solvers who care about ocean health and decreasing waste. Our strength is in our dialogue between businesses, students, consumers, and researchers. To reach a broader audience, connect with our partners, and keep updated with news regarding marine debris, we created a website and an Instagram account. We focused on striking a balance between manageability and necessity; we did not want to keep up with more than two or three digital spaces, but wanted to make sure that Trash Shouldn't Splash was available across multiple platforms. This allows different audiences to connect with the campaign and to participate in more than one way.

## Website | trashshouldntsplash.org

The main goal of trashshouldntsplash.org is to distribute the toolkit and provide a comprehensive platform that individuals can access to implement marine debris reduction programs in their own communities. New *Trash Shouldn't Splash* programs may refer their partners to the original website if they do not wish to build their own website.

## Instagram | @trashshouldntsplash

We use Instagram mainly to engage with the community of Woods Hole and our partners. We use our social media presence to post about important local events, news, new partners, and behaviors we want to promote. Instagram was intended to target businesses and younger residents, in particular, with a focus on local events and positive behaviors.

We always use the hashtag #trashshouldntsplash on both Instagram and Twitter in the hopes of branding our message and creating a digital community. When forming a chapter of *Trash Shouldn't Splash*, we encourage you to create Instagram accounts with usernames that include *Trash Shouldn't Splash* and to use the hashtag, #trashshouldntsplash.

Trash Shouldn't Splash originated at an educational institution and, as such, does not endorse specific policy agendas (for example, product bans) in printed materials or on social media. This avoids unproductive confrontation and promotes partnerships and participation with people of all backgrounds.



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## **RESTAURANT OUTREACH MATERIALS**

Scripts & Strategies for Restaurant Visits | Overview of Restaurant Partnership Program | Survey for Initial Restaurant Visit | How to Recruit Restaurant Partners | Examples of Restaurant Printables | Alternative Products Guide & Cost Calculator | Comparable Programs & Campaigns



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## SCRIPTS & STRATEGIES FOR RESTAURANT VISITS

## Strategy

The goal of *Trash Shouldn't Splash* is to build a team of problem solvers who care about ocean health and decreasing waste. Our major strength lies in the dialogue we promote between businesses, students, consumers, and researchers. Thus, it is critical that any conversation be framed as an offer to collaborate, rather than a lecture about what a person or a business is doing badly. We chose to approach food service businesses, such as restaurants, coffee shops and markets (hereafter referred to collectively as "restaurants"), to discuss their current use of single-use items such as straws and utensils, with an offer to help assess feasible ways to use fewer of these items. Because these changes are not always easy or cost-effective, we emphasize that *progress* toward reducing plastic waste is just as desirable as the end goal of minimal use of single-use items, especially those made of plastics.

## First Restaurant Visit

Our restaurant outreach program targeted all 11 food service businesses in Woods Hole, a village in the town of Falmouth, MA. For each visit, the *Trash Shouldn't Splash* team consisted of one adult and 1-3 middle school students from a group that started a local Skip the Straw campaign. The passionate and informed young voices often drew more interest than that of the accompanying adult, who served to gently guide the conversation. A script was designed to ensure that the initial visit to each restaurant was short, and the information concise and consistent.

### Script

**Bold** indicates speaker. Brackets [] indicate either anticipated responses or actions.

### Adult:

Hi, we're here representing *Trash Shouldn't Splash*, a collaboration between Sea Education Association and Falmouth Water Stewards-Skip the Straw campaign. We are working to reduce the amount of plastic trash produced, some of which may end up in the ocean harming wildlife. We are interested in working with Woods Hole restaurants to reduce the amount of single-use plastic items used. Can you spare 10 minutes to talk with us?

[Yes:] Great, thanks!

[No:] Can we set up an appointment to talk at another time? [leave contact info]

#### Students: {personalize with your own favorite facts}

Student #1: We're a group of middle schoolers who started Skip the Straw because we care about ocean health.

Student #2: Did you know that 90% of seabirds have ingested plastic?

Student #1: And also that 9 million tons of trash enter the ocean from land sources each year? You can picture this as 5 grocery bags of plastic trash piled up on every foot of coastline in the world being dumped in the ocean.

Student #2: We want to work with restaurants because you reach so many people and you would be a strong leader in sustainability efforts in Woods Hole.

#### Adult:

Right now we are gathering information about plastic items used in Woods Hole restaurants. Would you mind answering a few short survey questions?

[Adult reads survey questions and marks answers]

We are doing research into the costs and benefits of alternatives to single-use plastic items. Would you be willing to set up a time to talk with us again about alternatives that might work for your business?

[*Yes:*] When would be a good time? [*No:*] If you change your mind, please contact us.

Thank you for your time and your help today. [Leave contact info]

### Students: {personalize your own "Thank you" message}

Thank you for your help protecting our ocean.

### Second Restaurant Visit

We found that all restaurants we visited were receptive to continuing the conversation and working together to reduce single-use plastics used in their business. We returned to each business, again with an adult and 1-3 students. Before the second visit, and every visit thereafter, it was very important to review information from past visits, such as with whom the group met (name and position, e.g. restaurant owner/manager/employee), data that was gathered, and what was discussed.

### Script

### Adult:

### First, re-cap last visit

We're happy you're willing to meet with us and talk again. We're excited you're taking initiative to reduce ocean plastics by \_\_\_\_\_\_. [refer to restaurant's specific strategies for reducing waste using information from interview notes/data collected from first visit].

### Second, offer help

We want to share information on customer desires we've learned through the *Trash Shouldn't Splash* partnership research program: we have ideas we think you'll like for making ocean plastic pollution a thing of the past. We think restaurants can save money, learn about customer expectations, and benefit from great PR by joining the *Trash Shouldn't Splash* coalition.

Your time commitment can be the time it takes to tell us what you need in order to reduce plastic waste.

### Third, explain why

This student [*insert name*] can tell you why the *Trash Shouldn't Splash* project is something we all care about.

### Student:

[Student explains why they care about plastic waste, ocean health, and shares statistics on plastics harming marine life and amount of trash entering ocean each year. For example:

- ~ 90% of marine birds have ingested plastic
- 9 million tons of plastic trash enters the ocean from land each year, which you can picture as 5 grocery bags of plastic trash piled up on every foot of coastline in the world being dumped in the ocean.]

#### Adult:

#### Fourth, explain what happens when restaurants sign on as partners

These are our customizable guidelines for partnership in our ocean plastics reduction team [*share Overview of Restaurant Partnership Program document*]. Would you like to talk about ways to participate?

It would help the study if restaurants collaborate by allowing us to conduct a single-use plastics inventory, followed by cost-benefit research by *Trash Shouldn't Splash* to evaluate alternative products to reduce their single-use (plastics) footprint. A reduction plan might include suggested replacement of single-use plastic items with reusable (dine-in only), compostable, or biodegradable (wood, paper) items, for example.

[If the restaurant is willing to work with us, ask if they are willing to continue with a few more questions today, or to schedule a time to return. Start with a few questions to continue the single-use plastics inventory that was begun at the last visit (see Single-Use Inventory List below).

In addition to addressing the following questions, it is important to <u>listen</u> and <u>observe</u> in order to clearly understand current practices and the factors that have led the restaurant to select the products they currently use (e.g., consumer demand, convenience, cost, food safety/health regulations, etc.).]

#### Adult and Students:

Thank you for your time and your help today. [Leave contact info]

### Single-Use Inventory List

The following information would be useful to understand current practices and the types of single-use items used in the business.

- A sample of each type of single-use item the restaurant provides to customers (e.g., straw, utensils, cups, dishware, takeout containers, bags) so that we can research exactly what material these items are made of, especially for businesses using what they believe to be "biodegradable" plastic items. Explain that "biodegradable plastic" usually means the item will break down only in an industrial composting facility. It cannot be recycled, and will not break down in the environment.
- A buy list from restaurant suppliers with the name and cost of each product, or simply the name of their supplier with permission for us to contact to ask for this information about their business. We would like to know the quantity ordered per month or quarter and the cost per item.
- If not already in use, what are the obstacles to using reusable items (utensils, cups, dishware) for dine-in customers?
- Does the restaurant automatically include utensils in takeout orders? If not, do they ask before including? Or are they set out on a counter for the customer to take?
- Does the restaurant automatically put takeout orders into a bag?
- Does the restaurant automatically include a straw in drinks? If not, do they ask before including? Or are they set out on a counter for the customer to take?



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## OVERVIEW OF RESTAURANT PARTNERSHIP PROGRAM

### Introduction

*Trash Shouldn't Splash* is a local collaboration between *Sea Education Association* and *Falmouth Water Stewards-Skip the Straw*, working to reduce single-use plastics in our community. Single-use items (plastics, in particular) frequently become litter on beaches and in waterways. The fewer single-use items we use as a community, the less chance they have of becoming ocean pollution. We work with interested local food service businesses to develop individual, business-friendly strategies to reduce the amount of single-use (i.e., "disposable") items. We also work to inform consumers about ocean pollution and to encourage them to consider alternatives to single-use plastics.

### **Restaurant Partnership**

As a *Trash Shouldn't Splash* Restaurant Partner, you commit to working with us to reduce the number of single-use items used in your restaurant through a dialogue to determine what would work best for your business and your customers. We offer this program at no cost, and we will provide display materials free of charge. Your commitment is the time it takes to discuss your needs and any obstacles to reducing plastic waste. Sharing information about the type and amount of single-use items you currently purchase would also be very helpful.

Here are some initial ideas to reduce single-use plastic items, which can be customized based on your current practices and needs:

- Offer single-use items only when requested by the customer. For example:
  - Provide straws only upon request by the customer (for dine-in & takeout customers).
  - Put a sticker on straw dispensers or a sign on countertops with "Skip the Straw" or "Choose to be straw free" (for takeout customers).
  - Provide a bag for take-out <u>only</u> after asking a customer, "Would you like a bag?", or upon request.
  - Provide single-use utensils for take-out <u>only</u> after asking a customer, "Will you be eating at home, or do you need utensils?", or upon request.

- Switch to washable, reusable items, if possible.
- Switch to non-plastic single-use items, where appropriate, such as paper-based takeout containers, or bamboo straws or stirrers. Use compostable plastic only if your food waste is directed to an industrial composting facility. *Trash Shouldn't Splash* can calculate potential cost savings of switching from single-use plastic items to alternative products.
- Avoid polystyrene foam. This type of plastic cannot be easily recycled, but can be easily carried by the wind due to its light weight.
- Display printed materials to educate customers about ocean plastic pollution and the *Trash Shouldn't Splash* program.
- Wear *Trash Shouldn't Splash* buttons to highlight participation in the Restaurant Partnership Program. *Trash Shouldn't Splash* can provide a 5-10 minute staff training to prepare servers to answer questions customers may have about the program.

This list is just a place to start. The *Trash Shouldn't Splash* team welcomes your suggestions and further discussion for other ways to reduce waste. We will promote your participation in the program, as desired, in communication materials, including media articles and interviews.

### **Metrics of Success**

We hope to work with our restaurant partners to collect data to track the effectiveness of any practices you choose to implement. This could include:

- Follow-up visits to monitor progress in reducing customer use of single-use plastic items.
- Collecting quantitative data about single-use item purchases. For example, we could analyze invoice data about straw purchases before and after implementing straw-upon-request-only practices.

### How Can Your Business Benefit?

Through public surveying and local engagement, *Trash Shouldn't Splash* will inform you of customers' attitudes and concerns about single-use items. For example:

- Of more than 50 people surveyed at the Woods Hole Science Stroll in August 2017, 96% agreed that restaurants should only offer straws upon request, and 96% agreed restaurants should use fewer single-use plastics. We are conducting more surveys in town and will share the results with you.
- In summer 2017, *Skip the Straw*, one of the founding partners of *Trash Shouldn't Splash*, obtained unanimous Falmouth Conservation Commission and Falmouth Board of Selectmen support for its goal of working with residents, restaurants and schools to minimize use of single-use plastics in order to reduce ocean pollution.

*Trash Shouldn't Splash* could potentially result in long-term cost savings from purchasing fewer single-use items. We can utilize a cost calculator to research potential cost savings before any new products are purchased.

Reducing marine debris will allow Woods Hole to continue attracting tourists and maintain local quality of life by keeping Falmouth beaches and waters clean and healthy.

We welcome your thoughts and suggestions, and hope to welcome you as a *Trash Shouldn't Splash* Restaurant Partner.

Contact us at trashshouldntsplash@gmail.com

Visit www.trashshouldntsplash.org



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## SURVEY FOR INITIAL RESTAURANT VISIT

BUSINESS NAME: \_\_\_\_\_\_ DATE/TIME: \_\_\_\_\_

CONTACT NAME & POSITION: \_\_\_\_\_

CONTACT EMAIL: \_\_\_\_\_ CONTACT PHONE: \_\_\_\_\_

	Plastic	Paper	Bamboo	Glass	"Biodegradable" Plastic	Notes
Straws						
Stirrers						
Cutlery						
Cups						
Dishware						
Takeout						
Bags						

1. What are your main reasons for providing plastic items? Check all that apply.

□ Cost	🗆 Habit	Convenience
Customer Demand	Take Out	Other

2. Are you open to another conversation about costs, benefits, and alternatives to single-use plastic items?

□ Yes □ No

3. Future appointment date/time:

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trashshouldntsplash@gmail.com





## HOW TO RECRUIT RESTAURANT PARTNERS

### Focus on the Positives

Focus on what restaurants are doing well, not just on where they need to improve. If we promote good practices, owners have an incentive to continue. If we criticize poor behavior, restaurant owners will not want to talk to us and may even stop eco-friendly practices.

### Make it Easy

Use language like "How can we help you?" and "What can we do for you?". Don't ask restaurants to come up with their own eco-practices unless they take the initiative themselves. If they perceive changes to be difficult or time-consuming, they may feel overwhelmed and they may not commit.

### **Use Peer Pressure**

If competitors and neighboring businesses have made steps to reduce single-use plastics, bring this up in a tactful way. For example: "Business X has our signage up in their straw dispenser area, if you'd like to see how it looks," or, "This could be a straw-free street if you commit to straws upon request. Business Y just agreed to do so!" This puts mild pressure on businesses to keep up and "fit in" with their restaurant peers. However, make sure these comparisons are 1) true, 2) reasonable, and 3) tactful, so owners don't get defensive, offended, or overwhelmed.

### Accommodate their Schedule

Try to schedule meetings when it is convenient to the business owner/manager. If you must drop in, go between busy meal times or during off-hours. Opening time is typically not busy and owners may be around, whereas closing time and the lunch rush are too busy to expect a conversation. In general, always ask what works best for their schedule. and ask for only 10-15 minutes. Then limit your visit to this agreed upon window, to show that you respect their time.

### **Be Persistent and Polite**

If an owner does not respond to emails or never seems to be in the store, ask hosts and waitstaff how they would suggest reaching owners. And then go back. And go back again. And send another email. Always say, "Thank you for your time" and smile.



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## ALTERNATIVE PRODUCTS GUIDE

Should I choose "biodegradable" or compostable products for use in my food service business?

- Do you currently send your food waste to a commercial composting facility?
   □ YES
   □ NO
- 2. Do the majority of your customers dine in your restaurant (rather than take out)?□ YES □ NO
- 3. If you have table service, are your waitstaff trained to properly sort compostable waste from recyclables and trash?
  - □ YES □ NO
- 4. If customers dispose of their own waste, do you have separate containers and clear signage to properly sort compostable waste from recyclables and trash?

  YES
  NO

ONLY IF YOU ANSWERED "YES" TO ALL 4 QUESTIONS should you consider replacing single-use plastic items (straws, stirrers, cups, plates, utensils, etc.) with compostable alternatives in order to reduce the amount of waste produced.

**BEWARE!** The term "biodegradable" is ambiguous and misleading! The only materials that can be fully biologically degraded are those that are plant-based and not synthetic (e.g., wood, paper, bamboo) or specific plastics designed to degrade in a commercial composting facility.

See reverse for cost calculator and additional resources

### **Cost Calculator**

#### Foodware Cost Calculator

Provided by the Product Stewardship Institute

https://www.productstewardship.us/page/FoodwareCalculator

This is a resource that restaurants can use to calculate the cost of switching between single-use plastic products and alternatives. You may offer this tool as a stand-alone resource. However, we *highly recommend* that you either do the calculations for the business or have a sit-down meeting with the owner and whoever is responsible for ordering.

### Additional Resources

### 3 Steps to Reduce Plastic & Benefit Your Business: A Guide for Restaurants and Eateries

Prepared by the Product Stewardship Institute

https://www.productstewardship.us/page/RestaurantGuide

This is a guide that restaurants can use when making the switch from disposable plastic items to more sustainable alternatives.

### **ReThink Disposable**

A program of Clean Water Action

https://www.cleanwateraction.org/rethink-disposable

ReThink Disposable is a campaign that does similar work to *Trash Shouldn't Splash*, with information on best practices that they have implemented in California food service businesses.



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## EXAMPLES OF RESTAURANT PRINTABLES



Here are two examples of restaurant partners who have chosen to display printable materials. We recommend placing materials where customers can see before they order, or near selfserve plastic utensil/straw stations.

You may download your own materials to print and distribute from the "Printable Campaign Materials" section of the toolkit.

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## **COMPARABLE PROGRAMS & CAMPAIGNS**

In the time since the concept behind *Trash Shouldn't Splash* was first born, many similar programs and campaigns targeting single-use plastics and waste reduction have been launched. Many of the campaigns that we researched had similar marketing strategies: to educate people about plastic pollution in our oceans, and to recommend alternatives to single-use plastic products. Some campaigns that specifically target single-use plastic straw use suggest instead using single-use straws made from materials such as paper or bamboo, or reusable straws made from metal or plastic. Some groups advocate shopping for reusable alternatives to other single-use plastic items, such as utensil sets, shopping bags, produce bags, takeout containers and other products. In offering diverse options, these campaigns do the work for consumers to identify alternative products.

Other campaigns were designed to help businesses and institutions reduce their waste, plastic and otherwise. One common strategy has been to promote "only upon request" policies, whereby restaurants and food service businesses stop automatically giving customers straws in drinks, or other single-use items that they may or may not need. It is human nature for people to accept the default option presented to them, such as automatically using a plastic straw when it arrives in a drink that has been ordered. Many campaigns seek to take advantage of this tendency by simply choosing not to offer these items unless they are requested from a customer, thereby changing the "default" option.

ReThink Disposable reported hesitation by some restaurants to implement these programs for fear of increased cost and angry customers. However, in three case studies, the restaurants *saved* money by purchasing fewer single-use items. For example, Lola's Chicken Shack (Alameda, CA) replaced single-use water cups with reusable cups and reduced the number of single-use items supplied to customers, such as lids and foodware. These changes saved them \$3,205 in one year and prevented 1,400 lbs of waste. In many cases, restaurant owners were more incentivized by potential economic benefits than by environmental concerns. Thus, even if the campaign values and goals are primarily environmental in nature, a focus on financial viability and potential benefit may be an important strategy when working with businesses.

Effectively communicating the goals of plastic reduction relies on engaging and effective marketing, such as a catchy campaign slogan and a well-designed, aesthetically-pleasing campaign website. These should grab the attention of the potential audience and subsequently allow them to more deeply engage with the issue and consider proposed actions.

Adapted from original work by SEA students: Kaylee Pierson and Kimberly Kusminsky

## Campaigns & Programs with Similar Goals to Trash Shouldn't Splash

### Programs with Toolkits & Guides for Restaurants and College/University Campuses

ReThink Disposable program, Clean Water Action

http://www.cleanwater.org/campaign/rethink-disposable

3 Steps to Reduce Plastic & Benefit Your Business: A Guide for Restaurants and Eateries, Product Stewardship Institute

#### https://www.productstewardship.us/page/RestaurantGuide

Ocean Friendly Restaurants program, Surfrider Foundation

https://www.surfrider.org/programs/ocean-friendly-restaurants

Green Restaurants Certification

http://www.dinegreen.com/certification-standards

Marine Debris Campus Toolkit, Trash Free Waters Program, Environmental Protection Agency

https://www.epa.gov/trash-free-waters/marine-debris-campus-toolkit

Plastic-Free Campus Manual, Post Landfill Action Network, University of New Hampshire

http://www.postlandfill.org/wp-content/uploads/2015/12/Plastic-Free-Manual-12.2.15.pdf

#### **Straw Reduction Campaigns**

Be Straw Free, Eco-Cycle	https://www.ecocycle.org/bestrawfree#touch
Straw Free	https://strawfree.org/
The Last Plastic Straw	http://thelastplasticstraw.org/
Strawless Ocean, Lonely Whale Foundation	https://www.lonelywhale.org/strawlessocean
Plastic Free Seas	http://plasticfreeseas.org/campaigns.html
Straw Wars	http://strawwars.org/
Straws Upon Request, There is No Away	http://thereisnoaway.net/strawsuponrequest/
One Less Straw, One More Generation	https://onelessstraw.org/
Skip the Straw, Blue Ocean Society	http://www.blueoceansociety.org/how-to-helpdonate/skip-the-straw-
	project/

#### **Other Plastic or Waste Reduction Programs**

takeout without	http://takeoutwithout.org/
Cafeteria Culture	http://www.cafeteriaculture.org/

#### **Alternatives to Single-Use Plastic Water Bottles**

Disposable Plastic Water Bottle Ban, National Park Service

https://www.nps.gov/aboutus/foia/upload/Disposable-Plastic-Water-Bottle-Evaluation-Report\_5\_11\_17.pdfTaplthttps://freetapwater.wordpress.comREfill REuse REgattahttps://hosr.org/refill-reuse-regatta/



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## PUBLIC OUTREACH MATERIALS

Tabling at Public Events | Public Surveying | Finding Outreach Opportunities | Sample Letter to Town Officials | Writing to Local Newspapers & Media Outlets | Personal Plastics Use & Waste Inventory

Artwork created by Falmouth High School student Sara Cook



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## TABLING AT PUBLIC EVENTS

## Signage

Your table needs to look inviting and signage should clearly indicate your campaign name. Make sure that font on signage is big and that phrasing is concise enough that someone walking by at some distance can read and quickly identify your subject matter.

## Staffing and Attracting Visitors

When possible, have multiple people staffing the table so that more than one person can be engaged at any given time. If children will be helping to staff the table, give them specific tasks, such as running activities for other children and giving short speeches to all visitors about why single-use plastic reduction is important to them. Leave more complex topics, such as legislation, best practices, and detailed scientific information, to informed adults or older teenagers.

Attracting visitors to your table is easiest when you smile and engage them with a question such as, "Would you like to learn more about *Trash Shouldn't Splash* and win a prize?". We created three-question "quizzes" with facts about ocean plastics on large posters, and gave every participant a stainless steel straw (even if they answered incorrectly). It is important to ensure that all people staffing the table are engaged (i.e., not staring at their phones) and eager to talk with visitors.

### Activities

See K-12 Outreach Materials > Presentation and Activities

- Plastic Density Activity
- Rubber Band Activity
- Foraging for Food Among Plastic Activity

### Surveys

In order to better understand existing public opinions and behaviors around single-use ("disposable") and reusable items, and opinions about restaurant practices, we asked people to take a short (5 minutes or less) survey using *Survey Monkey* on an electronic tablet. Participants were given a prize, such as a reusable water bottle or other reusable item, for participating.

### Prizes and Giveaways

The original chapter of *Trash Shouldn't Splash* had funding to purchase printed giveaways for all table visitors, and prizes for people who engaged with staff through the poster quizzes or who participated in the electronic survey. Giveaways included logo stickers, business cards and postcards with *Trash Shouldn't Splash* student artwork. Prizes ranged from stainless steel straws for quiz-takers, to reusable items such as cutlery sets, stainless steel cups and takeout containers, produce bags and water bottles for survey-takers. *Trash Shouldn't Splash* logo stickers were attached to reusable items, when possible. Prizes can be expensive and aren't entirely necessary, but do help to draw and engage visitors.

### "What We Carry" Exhibit

An exhibit on the table of reusable items a *Trash Shouldn't Splash* member regularly carries with them is an effective way to show that a shopping bag, takeout container, produce bags, bamboo utensil set, water bottle, and stainless steel straw can all be carried in a personal bag, backpack, or kept in the car. This normalizes the use of many different reusable items, and shows how easily one can reduce dependence on single-use items when on the go.

## **TABLING CHECKLIST**

Woods Hole Science Stroll – August 11, 2018

#### **Tabling Supplies**

- 2 Tables
- □ 3 Chairs
- 10' x 10' Tent
- □ Institutional Banner(s)
- □ 2 Easels with Binder Clips for Poster Quizzes
- Tablet and Internet Access for Online Survey

#### **Materials to Print**

- D Partner Organization Posters / Materials
- □ Trash Shouldn't Splash Poster Quizzes
- □ NOAA Marine Debris Program Handouts
- □ Trash Shouldn't Splash Stickers
- □ Trash Shouldn't Splash Business Cards
- □ Trash Shouldn't Splash postcards with student artwork
- □ Trash Shouldn't Splash Email Sign-Up Sheets
- □ "Take our Survey" Sheet, with URL to Online Survey
- □ Instructions for Volunteer Staff
- □ Restaurant Partners List

#### Show-and-tell Items & Activities

- □ Microplastics Samples
- □ Bird Bolus Containing Plastic Debris
- Reusable Item Samples (Shopping Bag, Produce Bag, Utensils, Straw, Takeout Container, Water Bottle, Coffee Mug)
- □ Tub of Beach Trash Collected at a Local Beach Clean-Up
- □ Skip the Straw Pledge Sheet

#### **Giveaways and Prizes**

- D NOAA Marine Debris Program Bookmarks & "What is Marine Debris" Posters
- Stainless Steel Straws
- Bamboo Straws
- Bamboo Utensil Sets
- □ Stainless Steel Cups (add Trash Shouldn't Splash stickers)
- □ Reusable Water Bottles (add *Trash Shouldn't Splash* stickers)
- □ Stainless Steel Takeout Containers (add Trash Shouldn't Splash stickers)
- □ Cotton Mesh Produce Bags
- Bamboo Toothbrushes with Boar Hair Bristles

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## PUBLIC SURVEYING

To better understand the existing attitudes, beliefs, habits and behaviors of people in our community around single-use and reusable items, we developed a short (less than 5 minutes) electronic survey. We conducted the survey using *Survey Monkey* on an electronic tablet connected to the internet. We surveyed attendees of public outreach events (Woods Hole Science Stroll, August 2017 and 2018), and SEA Semester students surveyed passersby outside public places such as the ferry terminal in Woods Hole. At the public events, we offered a prize (reusable item – see *Tabling at Public Events*) to encourage people to take the survey. SEA Semester students simply asked passersby if they could spare 5 minutes to take a student survey, without offering a prize.

The survey questions are listed below. A direct link to the *Survey Monkey* survey is available by emailing *trashshouldntsplash@gmail.com*.

	Always	Most of the time	Sometimes	Rarely	Never
Shopping bag	0	0	0	0	0
Nater bottle and/or coffee nug	0	0	0	0	0
Drinking straw	0	0	0	0	0
Utensils (Fark/Knife/Spoon)	0	0	0	0	0

#### 2. If you use any of the above reusable items, how important is each of the following?

	Extremely important	Somewhat important	Less important	Not important
Doing what my friends & family do	0	0	0	0
Using less or preventing waste	0	0	0	0
Helping the environment	0	0	0	0
Saving money	0	0	0	0
Other (please specify)				

#### 3. How often do you use a straw to drink beverages?

- Most of the time
- Some of the time
- Rarely
- O Never

#### 4. How important are the following in your decision to use a straw?

	Extremely important	Somewhat important	Less important	Not important
By using a straw I can bypass the ice in my drink, or avoid ice failing out when tipping the glass	0	0	0	0
I prefer using a straw for drinking	0	0	0	0
I think straws are more sanitary for drinking	0	0	0	0
I was given one with my order	0	0	0	0
Other (please specify)				
		G+		

Totally agree	Disagree
O Agree	Totally disagree
O No opinion	

#### 6. Restaurants should reduce their use of single-use ("disposable") plastic items.

Totally agree	O Disagree
Agree	Totally disagree
0	

C opinion	0	No	opinion
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#### 7. I would make an effort to carry a reusable water bottle if there were free water refilling stations in Falmouth.

Totally agree	O Disag

O Agree

ree

0	Totally disagree
---	------------------

No opinion

#### 8. How often do you recycle at home?

- Most of the time
- Some of the time
- Rarely
- Never

#### 9. What is your gender?

- Female
- Male
- O Other
- Prefer not to answer

#### 10. What is your age?

18-29	50-59
30-39	60 or older
0 40-49	

#### 11. What is the highest level of education you completed?

Some high school, but no diploma	2-year college degree
High school diploma (or GED)	4-year college degree
Some college, but no degree	Graduate-level degree

#### 12. In which U.S. state do you reside?

		•

#### 13. If you live in Massachusetts, do you live in Falmouth (including Woods Hole)?

- Yes, year-round
- Yes, seasonal
- O No

14. If you would like more information about our "Trash Shouldn't Splash" campaign, please enter your email address:



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## FINDING OUTREACH OPPORTUNITIES

Communication efforts are best when designed for the target audience, whether K-12 students, college students, restaurants, or community organizations. Below are suggestions for ways you can reach those local audiences.

### K-12 Students

- Classroom visits, arranged through school administrators or directly with teachers
- School environmental clubs
- Environmentally focused summer camps
- Girl and Boy Scout troop meetings
- Religious groups
- Kid-friendly community events

### **College Students**

- Environmental clubs
- Campus sustainability teams
- Scholarship groups
- Outdoor/outing clubs
- Visits to classes with an environmental science curriculum
- Environmental off-campus study programs
- Involvement fairs
- Service fairs
- Signage for dorm buildings or student off-campus housing units

On-campus candidates to join the *Trash Shouldn't Splash* Restaurant Partnership Program:

- Cafeteria/campus food services
- On-campus restaurants and food trucks
- Campus sports stadiums and other venues (e.g., music, theater) that offer concessions

### Restaurants

When identifying potential businesses to approach about the *Trash Shouldn't Splash* Restaurant Partnership Program, it is helpful to have an initial "hook", or reason that a business might be particularly interested in working with you. For example:

- restaurants that have already demonstrated an interest in reducing single-use plastics, such as by replacing traditional plastic items with compostable plastic, paper or wood alternatives, or businesses already only providing straws only upon request;
- restaurants whose owners or management with whom you already have a relationship or a personal connection;
- restaurants that you patronize often;
- restaurants that are local chains, in which there is potential for change in more than one restaurant location;
- restaurants located on a waterfront;
- seafood restaurants;
- restaurants drawing patrons that might be especially interested in reducing ocean plastics, such as those in coastal towns or in college/university towns.

Also, targeting businesses that are clustered in some way can encourage businesses that might initially be slow to adopt the program to sign on when they see their neighboring businesses become partners. For example, start by focusing on:

- all businesses in a small town or a small business district;
- all members of a local restaurant or business association;
- a cluster of restaurants in close proximity to one another, such as those that share a parking lot.

## Other Venues for Outreach

- Local community organizations that are concerned about related environmental problems such as roadside litter, water quality, etc.
- Zoos and aquariums
- Marine science research and/or education centers
- State or local parks
- Your business or place of work, including vendors that provide catering services



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## SAMPLE LETTER TO TOWN OFFICIALS

When drafting a letter, it may be helpful to refer to *A Guide to Writing Letters to Public Officials: Contributing to Important Decisions Affecting You and Others* by Tom Seekins and Stephen B. Fawcett of The Research & Training Center on Independent Living. This helpful guide gives a general format to writing effective letters to local officials.

A sample letter follows, based on the principles in the above guide. Note that names, phone number and address are fictional.

Source: Seekins, T., & Fawcett, S. (n.d.). A guide to writing letters to public officials: Contributing to important decisions affecting you and others. Lawrence, KS: Research and Training Center on Independent Living, University of Kansas.

Honorable Selectman Patrick Adams:

I am a concerned citizen working on the *Trash Shouldn't Splash* campaign in the Woods Hole village of Falmouth. *Trash Shouldn't Splash* is an initiative focused on reducing the use of single-use items, particularly those made of plastic, to reduce the amount of waste on land and in the oceans, which scientific data indicates is harmful to marine life and potentially human health. In addition, the coastal area of Falmouth is particularly vulnerable to the impacts that plastic marine debris can have on tourism. I am concerned about the state of the municipal trash bins in Woods Hole village. They are poorly labeled and recycling bins are not consistently paired with each trash bin. I am thrilled to hear that the town is considering implementing recycling and compost bins with each trash bin in Woods Hole, and I am completely in support of this allocation of funds.

The new three-bin system would allow people to easily recycle their plastic waste, which is incredibly important in preventing marine debris on the beaches and in the waterways of coastal Woods Hole. I believe that as a community with many scientists, Woods Hole and the greater Falmouth area should set an example for sustainable waste management, which should include recycling and composting. In fact, many of the *Trash Shouldn't Splash* restaurant partners in Woods Hole have invested resources to replace traditional plastic items with compostable plastic alternatives. However, their efforts will only be realized if there are bins to collect these items for commercial composting.

I saw you speak at the unveiling of the new water bottle filling stations and I think that in supporting this funding allocation, you show the residents of Falmouth that you're willing to follow through with your commitment to reducing Falmouth's plastic footprint. I would be happy to talk about this endeavor further with you. Please reach out if you have any questions or would like to discuss.

Sincerely,

Laura H. Smith

Laura H. Smith *Trash Shouldn't Splash* Representative (508) 123-4567 1001 Woods Hole St.



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## WRITING TO LOCAL NEWSPAPERS & MEDIA OUTLETS

Below is the text of an Op-Ed written by the *Trash Shouldn't Splash* team that was submitted to the *Falmouth Enterprise*, a local newspaper. This is one model of many styles of media writing that can be used to communicate key messages about your campaign to a broader public audience. Our goals in writing the article were to be informative and understandable to a broad audience, and to employ a positive tone focusing on solutions, in the style of "solutions journalism" (www.solutionsjournalism.org).

To ensure that the letter represents *Trash Shouldn't Splash* accurately and positively, it is important to:

- Understand and follow guidelines for submission provided by the media outlet;
- Clearly and concisely communicate the goals of the organization;
- Include information about upcoming events that readers might be interested in attending, such as tabling events, public lectures, panel discussions or beach cleanups;
- Include contact information for readers who would like more information or who wish to get involved;
- Proofread carefully before submission.

## Graduate from Plastics

The forces working against ocean plastic pollution just got stronger. On a New England fall day, two middle-school girls went door-to-door to restaurants and stores with a product to sell. It wasn't Girl Scout cookies or another fundraising sale. It was something far bigger and, arguably, more satisfying. They were selling an idea: a reduction in single-use plastics.

The girls formed a local Skip-the-Straw organization associated with Falmouth Water Stewards, and later collaborated with Sea Education Association (SEA) to establish the *Trash Shouldn't Splash* campaign, which promotes a reduction in single-use items, especially those made of plastics, to decrease waste on land and in the oceans. SEA Semester undergraduates have conducted *Trash Shouldn't Splash* surveys in Falmouth to understand consumers' habits and attitudes about single-use ("disposable") plastic items, such as bags, straws and water bottles. More than 60% of respondents indicated they use straws simply because they were given one with their drink order, and that they would happily do without.

As early as the late 1970s, SEA Semester students went to sea with plans to study marine life, towed their plankton nets, and were surprised to find not just plankton, but also tiny plastic bits smaller than your fingernail. These "microplastics" (< 5 mm in size, mainly resulting from larger plastic debris breaking apart but not biodegrading) continue to show up year after year in SEA's plankton net tows in both the Atlantic and Pacific Oceans. Microplastics are small enough to be eaten by a wide range of marine animals, from blue whales to tiny zooplankton, with health consequences that are not yet fully understood, but which may include internal injury, starvation, and effects on growth and reproduction. Now, when SEA Semester students go to sea and observe, first-hand, this floating plastic debris, they want to know how to stop this pervasive ocean pollutant.

Plastics are a necessary part of our everyday lives and we want them in useful applications, such as electronics and health care. But we discard many items, especially those associated with food and drinks, after only one use. When SEA Semester students recorded personal waste inventories, they were sobered by the volumes of unnecessary plastic waste generated as a byproduct of their simple – and changeable – personal daily habits.

In Falmouth, keeping our coastline and town clean is an expressed priority of our town government, local organizations, schools, businesses, and residents. For businesses, integrating environmental stewardship with the economic bottom line isn't just possible - the two are interdependent. In the *Trash Shouldn't Splash* survey, 96% of respondents said restaurants should use fewer single-use plastics, suggesting customers might prefer restaurants that offer straws only upon request and that provide reusable utensils and dishes. Armed with these data, *Trash Shouldn't Splash* visited Woods Hole restaurants to offer support in finding ocean-friendly alternatives to single-use plastic items that are also business friendly. For example, although paper straws are more expensive than plastic straws, a restaurant might save money by offering them only when requested by a customer.

Many organizations and communities are already working together against the tide of trash threatening our neighborhoods, our ocean, and potentially our health. At Sail Martha's Vineyard regattas, children organize hundreds of diners to place waste into categorized bins of compost, recyclables, and dishes to be washed and reused. One organizer said, "people listen to kids when they might ignore adults saying the same thing."

Kids in Falmouth care about plastic pollution too, carrying trash bags to and from school or the beach to collect plentiful roadside debris. And more than 120 Falmouth K-12 students responded to the *Trash Shouldn't Splash* "Call for Ocean Art" to showcase the ocean plastics problem and to encourage waste-reducing habits, such as skipping single-use dining ware and carrying reusable water bottles. Water refill stations have been installed in a number of Falmouth schools, and the first two outdoor water refill stations were recently installed in Peg Noonan Park and at the Falmouth Heights ballpark by Falmouth Water Stewards, with support from Falmouth Road Race, Inc. and the Town of Falmouth.

Establishing new habits to reduce plastic waste across all of society may be hard work, but when it can be as simple as skipping a straw or carrying a reusable water bottle, being the change you want to see in the world may not be so tough.

Contributed by members of Trash Shouldn't Splash (trashshouldntsplash.org)



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# PERSONAL PLASTICS USE & WASTE INVENTORY

# A One-Day Activity for Older Students and Adults

asks you to reflect upon your behaviors and habits. This activity is intended to draw your attention to the plastic items you use and the waste that you generate on a typical day, and

# I: Record a Personal Plastics & Waste Inventory

You may need to print several pages of the form in order to log all items (in compost, recycling, or trash), including the item's material. Do this to the best of your ability using the included, two-sided form. (touch, or use in some way) that is made, in whole or in part, of plastic. During the same time, record every item that you dispose of For one full day, starting from the moment you wake up to the moment you fall asleep, record every item that you interact with

You may wish to complete the activity twice – once during the work/school week, and once on the weekend

# **II: Personal Reflection**

The following questions are intended to guide a personal reflection upon this exercise, including your daily behaviors and habits

- What were your reactions while filling out the plastics and waste inventories?
- 2 What are your reactions upon looking at the final list of inventoried plastic items and waste items?
- ω. How much of the plastic you interacted with was waste? How much of your waste was made of plastic?
- 4 If you were to reduce your personal usage of plastics, what actions might you take? Would you target particular items or products? Are there old habits you would break, or new habits you would set?
- ю products? Are there old habits you would break, or new habits you would set? If you were to reduce your personal generation of waste, what actions might you take? Would you target particular items or
- <u>م</u> trash)? Are you fully utilizing these services? What are the available options for disposing of your waste in your community (e.g., compost, recycling, container deposit return,

7. Do you think your behavior changed while doing this activity? If so, how?

# Adaptation for Younger Students

This activity could be adapted for use by younger students by making the following changes:

- Shorten the activity by conducting during the school day, and/or assign for a shorter time to do at home.
- Conduct a discussion-based reflection in small groups.
- belongs in classroom recycling and waste bins. Focus on changes that can be made in the classroom, such as using only the materials that you need and learning what
- Focus on behaviors and changes that can be made in the school cafeteria, such as taking only what you need (e.g., food, napkins, utensils) and learning what belongs in compost, recycling and waste bins.
- straws, or bringing a reusable water bottle to school and filling it at water fountains/water stations. Discuss changes that might help reduce single-use plastics and waste in school, such as replacing plastic straws with paper

This activity is adapted from an original version developed and generously shared by Dr. Heather Heenahan.

NAME:

DATE: \_

# **One-Day Personal Plastics Use Inventory**

								Name of item
								Single-Use (1) OR Multi-Use (M)?
								Can this item be recycled after use? (Y/N)
								Do you use this item most days? (Y/N)
								Comments

NAME:\_

DATE:

# **One-Day Personal Waste Inventory**

							Name of item
							Material type(s): Plastic, paper, metal, wood, combo, etc.
							Single-Use (1) OR Multi-Use (M)?
							Disposed of in Compost, Recycling, Trash (C/R/T)?
							Comments



### K-12 OUTREACH MATERIALS

Template for Classroom Visits | Presentation and Activities | Designing an Art Contest | "Call for Ocean Art" Flyer | Classroom Waste Audit & Sorting Activity



Artwork created by Falmouth High School student Evan Isenhour



@trashshouldntsplash





### TEMPLATE FOR CLASSROOM VISITS & ACTIVITIES

I. Introduce the problem with a photo slide show (10-15 min):

Ask the class for their input along the way using engagement questions shown in italics.

• <u>Introduce the problem</u> using photos of contaminated beaches or waterways, including floating plastics; use local examples, if possible.

Q: Has anyone ever seen trash at our local beach/river/park? What kind of trash was it?

• <u>Describe impacts on wildlife</u> using photos of ingestion, entanglement, invasive species transport.

*Q*: Why do we care about trash in the ocean? What are some of its possible impacts on wildlife?

Dispel misconceptions and get into the details: Explain that there is no enormous floating island of trash in the Pacific Ocean (or in any ocean). There are recognizable large items floating out in the open ocean, but the most numerous type of floating plastic debris consists of small particles commonly called microplastics. Most microplastics are smaller than a pencil eraser, and started out as larger items that broke apart into smaller pieces over time when exposed to sunlight. Floating microplastics collect in specific parts of the ocean (subtropical gyres) where they are carried by surface ocean currents. Discuss how you could measure plastics floating in the ocean by towing a plankton net and counting the plastic particles that are collected together with the plankton and other floating material (such as natural debris, algae, or even tiny fish and fish larvae). This section can be more or less detailed based upon the age group and the topics of interest (e.g., marine life, ocean currents, ocean exploration, etc.). It is important to dispel the misconceptions and introduce microplastics with any audience.

Q: Where does plastic accumulate in the ocean? Why? How could you measure this?

An important note on sourcing material for your presentation: There are many resources available that describe the problem of marine debris, or ocean plastics. Before using any material, please ensure that your source is reputable and scientifically accurate, and do not use any photos without information about where the photo was taken and by whom. Please properly attribute the sources of all material that you use.

### A few recommended sources:

NOAA Marine Debris Program: https://marinedebris.noaa.gov/

• *Discover the Issue* (https://marinedebris.noaa.gov/discover-issue): for background information

- Resources (https://marinedebris.noaa.gov/resources): for activities, curricula, fact sheets
- Multimedia (https://marinedebris.noaa.gov/multimedia): for artwork, images, infographics

STEM Pre-Academy: https://stempreacademy.hawaii.edu/c-more/marine-debris

• Science kits with three lessons for students in grades 8-12

Duke University Marine Lab Community Science Program on Marine Debris: https://sites.duke.edu/communityscience/marine-debris/marine-debris-classroom-resources/

• Activities for the classroom, on the beach, at home and in the community for students in grades 4-5

### II. Engage the students with activities at several stations (20-30 min):

If possible, divide into small groups of students for each activity. Each station should take 5-10 minutes. The details for each activity are on following pages.

- Station 1: How can we keep plastic out of the ocean? Observe debris items collected on a beach (bring items, or use a photo). List items in the data table. Brainstorm possible sources of these items and enter students' ideas to keep these items out of the ocean.
- **Station 2: Bird beak feeding simulation.** Students use a variety of "beaks" to attempt to pick out grains of rice from a bin containing rice mixed with plastic beads.

*Q*: What do you think a seabird will do when it is feeding at the surface of the ocean? Will it pick out its natural food? Will it pick up and eat plastics?

• Station 3: Sink or float: A density experiment. Students place different types of plastics in jars of water and compare sinking and floating tendencies.

*Q*: What types of plastics would you expect to find floating in the ocean? Where might other, denser materials be found if they entered the ocean?

III. Reconvene the entire class for a group discussion (5-10 min):

• <u>Brainstorm solutions:</u> The goal is for students to think about they trash they produce and what they can do about the problem of ocean plastics.

Where does all this trash come from? What should you do with these items if you have them in your house [bring common household items to sort into recycling vs. trash]?

What's even better than recycling [i.e., use less/make less trash, avoid single-use plastics]?

What can we do if we see trash on the beach? On the street? On the playground?

How can we let more people in the community know about this problem and help to solve it [i.e., tell parents, relatives, teachers; organize beach cleanups].

- Talk about *Trash Shouldn't Splash* and/or any ongoing local initiatives (e.g., Call for Ocean Art; local plastic bag or packaging ordinances; skip-the-straw efforts, etc.).
- Leave students copies of one of the NOAA Marine Debris Program activities (e.g., word scramble, crossword, coloring activity) from the Understanding Marine Debris: Games and Activities for Kids of All Ages publication (https://marinedebris.noaa.gov/sites/default/files/publicationsfiles/MDP\_ActivityBook.pdf)

### Activity: How can we keep plastic out of the ocean?

Observe debris items collected on a beach (bring items or a photo). For each item shown, ask and record answers to the following:

- 1. What is this item and what is it made of? (e.g., glass drink container, plastic fishing line, plastic wrapper)
- 2. How do you think it got to the beach?
- 3. What could we do to keep it out of the ocean?

Item & Material	How did it get there?	How can we keep it out?

### Activity: Bird Beak Feeding Simulation

To demonstrate how difficult it is for seabirds to avoid plastic when feeding, ask participants to use different "beaks" (tongs, spoons, chopsticks, clothes pins, etc.,) to retrieve only pieces of rice from a mixture of dry rice and plastic beads in a variety of sizes, shapes and colors. You may make the activity more exciting by timing the participants, or by making it a friendly competition to see who can get the most food or least plastic in a set amount of time.

Source: Ocean Conservancy and NOAA Marine Debris Program



Photo: *Trash Shouldn't Splash* middle school students leading the bird beak feeding activity at a public outreach event.

### Activity: Sink or float: a density experiment

**Objective**: To learn about different plastic materials (polymers) and how they relate to recycling codes, and to test the density of these materials relative to water. Relate this to marine debris by determining which materials would float in the ocean and which would sink to the seafloor, if disposed of improperly.

### Materials needed:

- Containers full of water individual cups/jars at each table so students can work in groups. In a small group you can use one jar and pass it around.
- An object made from each plastic material (recycling codes #1-6), cut up into small pieces using scissors or a hole punch. It is helpful to choose objects that are distinct colors, or to color objects with a permanent marker if they are the same color. This helps keep track of different plastics once they are in small pieces.

Plastic material associated with each recycling code, and common items made of each material:

- #1: PETE (Polyethylene terephthalate) water bottles, soda bottles, berry containers
- #2: HDPE (High Density Polyethylene) milk jugs, detergent bottles, some grocery bags
- #3: PVC (Polyvinyl Chloride) old credit or debit cards, white PVC pipe (difficult to cut up)
- #4: LDPE (Low Density Polyethylene) dairy container lids, bread bags
- #5: PP (Polypropylene) sour cream or yogurt containers, some iced coffee cups
- #6: PS (Polystyrene) there are two forms of this plastic, it is a good comparison to have both:
  - PS foam, commonly referred to as "Styrofoam": take out containers, insulated coffee cups, some egg cartons
  - Solid PS: some hot drink cup lids, some clear, hard, brittle take out containers (sometimes used for baked goods)
- #7: "All other plastic" there are too many types to include here, but you can add additional examples, if they are of interest.

### **Experiment:**

Fill each container with water. Tap water is fine if you don't have seawater; you can discuss the density difference between the two during the question/discussion section.

As you pass out a few pieces of each plastic type to each group or student, show the recycling code number and polymer type and talk about some common items that are made of that material.

Have group define the "density" of a material.

After each group has some pieces of each polymer, have them hypothesize which polymers will float and which will sink based on the pieces in their hand and what they know about the items made of each plastic.

Have the students work together to test which types float and sink. You can summarize the results from each group on the board.

**Discussion:** As a class or group, discuss the questions below:

- Did some groups have a polymer that sank, while it floated for other groups? What could cause this? [Sometimes a bubble may form on a plastic piece, or the surface tension of the water may make a piece float when it would otherwise sink (this is especially true of some solid PS). Students may have to gently mix or submerge each piece for accurate results.]
- Were their hypotheses correct? Which one is the densest? The least dense? Did they notice a difference in how quickly the densest materials sank (e.g., PVS vs. solid PS)? Were some polymers easier to predict than others?
- Does the size of the piece matter? Does the shape of the piece matter?
- What happens to the density if you add air to the material? (e.g., PS solid vs. PS foam)
- Would the results change if the experiment were done in seawater/fresh water?

### Final discussion:

- Bring the topic back to marine debris.
- Based on what you know now, what polymers and objects could end up floating in the ocean if disposed of improperly? Where might the others end up?
- What are some impacts of these plastics ending up floating in the ocean or sitting on the sea floor? (Note: wildlife live in both locations)
- What can individuals do to help prevent marine debris? Are there items that could be avoided or replaced? [Think about reducing single-use plastics by avoiding them or switching to reusable items; talk about how can every individual can make small changes that will add up]

### Key:

Mass - the amount of matter in an object

Density - the mass per unit volume of a substance (how compact or concentrated something is)

Density of each plastic material (to share or display following the experiment):

- PETE 1.38 1.39 g/ml
- PVC 1.30 1.45 g/ml
- PS (solid) 1.04 1.07 g/ml
- HDPE 0.95 0.97 g/ml
- LDPE 0.92 0.94 g/ml
- PP 0.89 0.91 g/ml
- PS (foam) <0.05 g/ml

Density of fresh water 1.0 g/ml Density of seawater ~1.03 g/ml

Source: Jessica Donohue, Sea Education Association



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### DESIGNING A STUDENT ART CONTEST

People are often more likely to listen to children with a cause than adults with a cause, but sometimes adults might have to do the talking. A great way to bridge this gap is with student-designed artwork featured on campaign materials. In addition, art contests are a great way to engage students and teachers in local schools, who may then be further inspired to reduce unnecessary single-use plastics at school or at home.

In designing our "Call for Ocean Art", we first reached out to art teachers at our local elementary, middle and high schools, who were extremely helpful in the design of the contest and who promoted it to their students. To encourage participation we solicited local businesses for small prizes (e.g., gift cards or small gift items) that we awarded to winners in designated grade categories. The contest announcement clearly stated that submitted art could be used, in part or in whole, in *Trash Shouldn't Splash* print and electronic materials.

To promote the contest we designed a one-page flyer (*Call for Ocean Art flyer*, included as a separate file in this toolkit) for distribution in both electronic (PDF file) and printed format. To coordinate distribution within schools, we contacted the school district and individual school administrators to ask for permission and for the best method to reach students. We learned that most communication in our local schools occurs by sending printed flyers home with each individual student. We chose not to print hundreds of copies of the flyer, and instead delivered 25-50 printed copies for school-wide posting to a designated contact person at each school (typically an administrative assistant to the principal). We also posted the flyer at town locations where students (and parents) were likely to see it, such as at the public library, post office, markets, coffee shops, sports facilities, etc.

Examples of Trash Shouldn't Splash printed materials designed using student art.



Student artist: Abe Lineweaver



Student artist: Sophia Adelstein

### Step-by-step guide to designing a student art contest:

- Choose a deadline for the contest, allowing a minimum of 4 to 6 weeks for students to create their entries.
- Decide who will serve as judges. Our middle school student *Trash Shouldn't Splash* collaborators served as judges. You could reach out to a school environmental club, or other group of engaged older students to help.
- If the contest spans a large age group, you may wish to create age- or grade-based categories for judging. Our contest solicited entries from students in grades K-12, which we divided into the following groups: Grades K-2, 3-5, 6-8, 9-12, and one group for entries from a high school design class.
- Decide upon requirements for entries, such as size specifications and type of artwork (e.g., two-dimensional only vs. sculpture). If you plan to use artwork for campaign materials, it is best to require that artwork contain no text, which may be difficult to read when resized. It is also important to state that artwork must be original and should not contain images or graphics from other sources such as movies, TV, books, or internet image searches.
- If you plan to award prizes, which might include having winning art displayed in the school or community, or gift cards (< \$15) or small items donated by local businesses, arrange these before announcing the contest.
- If you plan to display submitted artwork (all entries, or winners of each category) in schools
  or local venues (e.g., library or businesses), decide how many pieces you plan to display, the
  area required, when and for how long the art will be displayed, etc., and then reach out to
  local venues before announcing the contest. Seeing their art displayed is exciting for the
  student artists, and will help spread your message in the community.
- Determine how students will submit their art entries. We included the campaign email address for electronic submissions, and school art teachers were willing to collect artwork for us to pick up.
- Once you have decided all the logistical details, design flyers to get the word out. Be sure to include all important contest details on your flyer. Included in this toolkit is the *Call for Ocean Art flyer* that we used, as an example. A PowerPoint file with our flyer is also included if you wish to simply fill in the specifics of your Call for Ocean Art (school name, due date, submission details etc.). Feel free to change the look of the flyer, or make your own entirely.
- To announce the contest, first contact school district and/or individual school administrators for permission and to determine the best method to advertise the contest to students. This may include posting or distributing printed flyers, emailing an announcement, and mentioning the contest in school announcements or in art classes.
- Hang printed flyers in town locations where students (or their parents) are likely to see them, such as at the public library, post office, markets, coffee shops, sports facilities, etc.

- In a timely fashion after the deadline passes, decide winners, distribute prizes and display artwork (if applicable).
- If you wish to incorporate student artwork into campaign materials, use a digital scanner to scan the art and then use graphic design software to add text or logos. Always remember to credit the student artist!



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### (FILL IN school name) STUDENTS:

*Trash Shouldn't Splash* needs your help to spread the word about the threat plastic trash poses to our oceans! Help raise awareness by participating in this Call for Ocean Art, and inspire people to use fewer single-use ("disposable") plastics.

### **Deadline: (FILL IN Date and Time)**

**Why Care About Ocean Plastics?** Each day in the U.S., tens of millions of single-use plastic straws, cups, bottles, wrappers, and bags are used for a few moments and then thrown away. Many of these plastics end up in landfills, a small percentage are recycled, and some may end up in the environment, potentially making their way to beaches and the sea. Plastics do not biodegrade, but instead persist for years to decades or longer. In the ocean, single-use plastics may cause harm when they break into smaller and smaller pieces that can be eaten by a wide variety of marine animals. Choosing to use fewer single-use plastic items will reduce plastic waste on land, and in the ocean.

**Submission Details:** We invite you to create a visual work that explores the relationship between our use of single-use plastics and the health of our oceans, coasts, and marine animals. This art may inspire others to use fewer single-use plastic items!

- ♦ Your work may be in any medium that can be rendered into 2D posters and prints: painting, drawing, collage, printmaking, digital art, photography, or a combination.
- $\diamond$  Your work should be a minimum size of 8" x 10" and a maximum of 18" x 24".
- ♦ Your work should contain minimal text.
- $\diamond$  PLEASE DO NOT TAKE OTHER PEOPLE'S WORK AND SUBMIT IT AS YOUR OWN.
- ♦ You may submit your work either to (FILL IN), or electronically as a high resolution .jpg, .png, .gif or .pdf file to (FILL IN).
- Most of all have fun and let your creativity soar!!

**Selected entries** will be chosen from each school (including home schooling students) for display in (FILL IN). Top entries will earn prizes including reusable items and gift certificates. Ocean Art may be used, in part or in whole, in *Trash Shouldn't Splash* print and electronic education and outreach materials.

(THIS PARAGRAPH IS AN EXAMPLE, EDIT THIS TO FIT YOUR CONTEST)



## CLASSROOM WASTE AUDIT & SORTING ACTIVITY

### Purpose

The purpose of this classroom waste audit is threefold:

- 1. To make students aware of the kinds of waste they typically produce in school, largely from snacks and lunches brought from home;
- 2. To teach students how to properly sort waste into trash, recycling and compost bins; and
- 3. To engage students in a discussion about ways to reduce plastic waste by replacing singleuse items and packaging with reusable alternatives.

This protocol is designed as a short classroom activity requiring minimal preparation. Simply take a few minutes to skim the following pages and grab the supplies listed, then gather your students for a hands-on waste analysis activity.

The goal is to get the conversation about waste started using real data that reveal how we are actually behaving on a typical day when it comes to trash. Your students will learn about data collection as you take steps together to set new habits that will help reduce waste.

### **Supplies**

- Tongs
- Garbage can
- Recycling bin
- Compost bucket
- White board and at least 3 white board markers

### Activity: Let's Talk Trash

Our classroom has recycling bins and garbage cans. Today we're going to see how well our class is doing getting waste into the correct bins. We'll see how well we're doing now and then we'll check again in the future to see if we have improved.

We have two goals. One goal is to produce as little waste as possible. The second goal is to make sure we know what items belong in the recycling or compost bins so that they don't end up in the trash can. We also want to make sure that trash doesn't end up in the compost or recycling bins. By doing these things we will ultimately use fewer resources, have less trash to deal with (for example, by burying in landfills), and reduce litter. Working on these goals will help make the Earth a more sustainable place to live for people and for wildlife.

One of the types of waste we will keep track of today is single-use plastic. When people talk about single-use plastics they are talking about plastic items that just get used one time before they are thrown in the trash or recycling. Kind of wasteful, right? Fifty years ago most things were made of paper, cloth, leather or metal. More and more things are now made of plastic. Plastics last a very long time, and if they end up in the environment they can cause problems for animals that might eat or get tangled up in plastic trash.

Raise your hand if you can think of an example of a single-use plastic item. Or quickly list some of the following if the students don't come up with them.

- straws
- ziplock bags
- plastic spoons and forks
- single-serve water bottles
- juice pouches
- snack wrappers

- yogurt and apple sauce containers
- plastic bags
- cling wrap
- ketchup/mustard/mayonnaise packets
- coffee stir sticks

### Waste tally and sorting activity

Now we are ready to see how our recycling program is going. We are going to describe and count all the items I found in the classroom recycling bin.

I need three volunteers. (Choose three students and hand them each a white board marker.)

- 1. One person will tally the number of single-use plastic items.
- 2. One person will tally the number of things that should have gone in the trash can instead of the recycling.
- 3. The third person will tally the number of items that should have gone in the compost bin instead of the recycling.

Draw a quick data table on the white board with headers for single-use plastics, trash and compost.

Everyone else has a job too. Each time I use the tongs to hold up an item I found in our recycling bin, you tell us whether it is a single-use plastic and whether it is recyclable, trash, or compost. Ready?

Start pulling things out of the recycling. Give your volunteers time to tally when needed. Stop and discuss any questions that come up about where to put things. Drop any items that should not have gone into the recycling into the trash can or compost bucket. You might need an area to put things you have questions about if you're not sure what can be recycled in your area.

Single-Use Plastics	Trash	Compost
(# of single-use plastic	(# of items that should	(# of items that should
items)	have gone in trash can)	have gone in compost bin)

Now that we've checked the recycling bins we're going to see if what we put in our trash can is really trash. We need three new volunteers to help us tally the things in our trash can.

Draw another data table on the board and assign each of your volunteers a category to tally.

### What's in the Trash?

Single-Use Plastics	Recyclable	Compost
(# of single-use plastic	(# of items that should	(# of items that should
items)	have gone in recycling)	have gone in compost bin)

*Discuss the data*: How did we do? Were the majority of items made of plastics? Are most of the single-use plastic items we found recyclable? Did they end up in the correct bin?

### Questions for discussion

### What are some problems with single-use plastics?

- Many of them are not recyclable.
- If they get into the environment they can hurt animals that try to eat them or that get tangled up in them.
- Most plastics are made from fossil fuels, which are a non-renewable resource.

- Even if they go in the recycling bin, the process of recycling plastics requires energy.
- People in the United States use much more plastic than we recycle. A lot of recyclable plastic is ending up buried in landfills, where it will sit for years to decades or longer.

now can we reduce the amount of single-use items we use and reduce waste:					
Single-use item	Alternative (to reduce overall waste)				
Plastic wrappers from granola bars, snacks, etc.	Pack a snack of mixed nuts, dried fruit, or fresh fruit or veggies in a reusable container. This may help you eat healthier foods too.				
Single-serve plastic containers from yogurt, applesauce, etc.	Buy a large container of yogurt or applesauce and put small amounts in reusable containers each day to reduce packaging waste.				
Plastic forks and spoons	Pack reusable utensils (metal, plastic, bamboo) and wash them at home.				
Plastic drink containers	Bring a reusable water bottle.				
Plastic bags and plastic cling wrap	Use a reusable container (a glass jar, plastic snap-top bowl, beeswax sandwich wrapper, paper wrapper, etc.).				
Paper napkins	Bring a cloth napkin.				

How can we reduce the amount of single-use items we use and reduce waste?

Each of you is now a Garbage Guardian! It is your job to help your friends, teachers, and parents put things in the right bin and avoid making unnecessary trash whenever possible. We'll surprise you with another check of our recycling and trash bins sometime soon to measure our progress. We're all going to work together to keep the Earth healthy and a sustainable place for us to live. Thank you!

Follow the same protocol in the same location at a future date and compare results.

This activity was adapted from an original version developed and generously shared by Dr. Sarah Bryant.



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## **LESSONS LEARNED**

Concepts from Behavioral Science | Things We Learned the Hard Way



Artwork created by Falmouth High School student Mia Bluestein



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### CONCEPTS FROM BEHAVIORAL SCIENCE

*Trash Shouldn't Splash* was developed together with undergraduate students enrolled in multiple SEA Semester programs who interrogated behavioral science literature for guidance in developing the behavior change campaign. A reference library was compiled in Zotero (www.zotero.org) with more than 200 entries, including annotated bibliography entries for more than 70 academic journal articles.

This segment of the toolkit includes a description of concepts from behavioral science specifically focused on environmental problems that we found useful during our campaign development. It is not a comprehensive or critical review of the academic literature. The major contributors to this section are Emily Dailey (*Trash Shouldn't Splash* summer intern and SEA Semester class S-278) and students of SEA Semester classes C-269, C-270, S-270, S-271, C-273, S-276, and S-277.

### Social Norms

**Descriptive Norms**: Descriptive norms are implied social rules that can influence behavior because people tend to do what they think other people are doing.

**Injunctive Norms:** Injunctive norms are implied social rules about what individuals perceive that they should do as a result of what others do.

When targeting those who are already concerned about marine debris but who are not acting in accordance with their concern, it may be effective to make use of descriptive social norms by highlighting actions that others are taking, such as recycling, carrying reusable straws, participating in beach cleanups, using reusable grocery bags, etc., (Doherty and Webler, 2016; Schultz *et al.*, 2015).

It is important to frame using the desired behavior, such as using reusable items, as the "new norm" rather than framing undesirable behavior, such as using single-use plastics, as a "negative norm". People make unconscious efforts to fulfill norms, whether positive or

negative, so even discussing a negative norm could unintentionally encourage people to carry out this undesired behavior. For example, in trying to increase recycling rates, instead of saying "most people don't recycle, you should be the change in your community because recycling is important," you could say, "more and more people are recycling in your community – you can be part of this new movement" (Schultz *et al.*, 2016).

### Attitudes, Beliefs and Behaviors

**Cognitive dissonance:** Cognitive Dissonance is the process by which a person discovers they have inconsistencies in their attitudes, beliefs, and behaviors, creating internal discomfort. In order to alleviate this discomfort they may change any of their attitudes, beliefs, or behaviors to become consistent.

**Induced-Hypocrisy Paradigm:** The Induced-Hypocrisy Paradigm describes the process of making people aware of behaviors they exhibit that do not align with their attitudes and beliefs, in hopes that they will change their behavior to match their attitudes and beliefs.

Cognitive dissonance and the Induced-Hypocrisy Paradigm may help in the design of strategies to change behavior in people that already have pro-environmental attitudes and beliefs. It is very important to ensure that people do not feel attacked when such inconsistencies in their beliefs and behaviors are revealed. It is also important to provide manageable steps towards changing behavior to prevent the person from becoming overwhelmed and, instead, changing their attitudes and beliefs to match their behavior (Priolo *et al.* 2016).

**Theory of Planned Behavior:** This theory states that whether or not a person engages in a particular behavior relies on the person's attitude toward the behavior, subjective norms regarding the behavior, and the person's perceived control over that behavior. For example, to increase a person's likelihood of recycling, instilling a positive attitude towards recycling (e.g., recycling is a good thing to do), conveying subjective norms that promote recycling (e.g., my friends and neighbors all think that I should recycle), and ensuring that the person has the resources to recycle (e.g., that they have access to recycling collection facilities) will increase their likelihood of recycling.

**Reactance:** Reactance occurs when a person feels that their choices or freedoms have been limited or taken away, resulting in a negative or uncooperative reaction (Mallett and Melchiori, 2016).

### Additional Concepts

**Habit Discontinuity Hypothesis:** This hypothesis suggests that when people experience major life interruptions or changes (e.g., moving, marriage, birth of child, new school, etc.), they are better able to establish new habits. When promoting the replacement of single-use plastic products with reusable alternatives, which requires setting new habits, interventions may be most successful if messaging is targeted at people experiencing major changes (Verplanken and Roy, 2015). For example, if presenting *Trash Shouldn't Splash* to a middle school audience, it

would be best to introduce new recommended actions at the beginning of the school year, and might be most influential for first year middle school students who are adjusting to a new environment and forming new habits.

**Positive and Negative Spillover:** Spillover occurs when a person feels satisfaction at completing a pro-environmental behavior and either: 1) Completes another pro-environmental behavior – *positive spillover*, or 2) Feels like they have earned the "right" to make an environmental transgression – *negative spillover*. Once someone has completed a pro-environmental action, such as participating in a beach cleanup, positive spillover can be promoted by suggesting other pro-environmental behaviors that use similar resources (Margetts and Kashima, 2016). Negative spillover might be avoided by first praising the participants and then noting that, although beach cleanups are important, preventing future beach litter is the ultimate goal, which can be achieved by reducing use of single-use items that account for much of the trash found on the beach (Lin and Chang, 2017).

**Emotional Appeals:** Emotional appeals attempt to evoke an emotional response in the person that will encourage them to take pro-environmental actions. This may be most effective when a positive emotional response, such as pride in a pro-environmental action, is associated with a positive descriptive social norm, which may encourage further pro-environmental behaviors (Bissing-Olson *et al.*, 2016).



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### THINGS WE LEARNED THE HARD WAY

Listed below are some important take-away lessons we learned while developing *Trash Shouldn't Splash*:

- Before trying to change people's behavior and habits, you must first understand the *driving factors* underlying the behavior you wish to change, as well as the *obstacles* to changing those behaviors. We gathered this kind of information through our public survey, and by having open and honest conversations with students, business owners and employees, and residents of and visitors to our town.
- Involve kids! People listen to kids-with-a-cause more than adults-with-a-cause, and kids can be passionate and energetic team members.
- Utilize a variety of outlets and make use of personal connections to reach a wide audience. For example, if you have or know schoolchildren, reach out to their teachers to arrange classroom visits. Contact leaders of Girl/Boy Scout troops, or other local school groups, to ask if they would like to arrange a visit. Reach out to local media outlets (newspaper, TV), whose coverage may result in dissemination of the program and its messages to a broad local audience.
- It is important to know your audience, and to customize your communication for that audience. For example, we learned quickly that many food service businesses in our town had already chosen to replace traditional single-use plastic utensils with a commonly available compostable plastic alternative. However, few understood that these items fully biodegrade only in an industrial composting facility. In this case, the business owners/managers had already demonstrated an environmental awareness, yet didn't always have the most accurate information about the potential environmental impacts of the products they had chosen.
- Even if food service businesses are eager to partner with *Trash Shouldn't Splash*, it can be a slow process to see substantial and lasting changes. Some of the easiest actions for restaurants to take are to provide straws only upon request, and to hang *Trash Shouldn't Splash* signage. This may be a good place to start while you engage with them on more complex tasks such as research into alternative materials, or redesigning waste collection in their businesses.

When describing *Trash Shouldn't Splash*, we found it important to emphasize that it is a
plastic waste reduction program, specifically focused on reducing single-use items that
quickly become waste. *Trash Shouldn't Splash* is not an advocacy organization lobbying for
bans on particular items, such as plastic straws or bags. The goal is to inspire people to
assess their personal use of single-use plastics and consider changing their habits, not to tell
people what they can or cannot do, or to limit their individual choices.



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