

INTERNATIONAL TRASH FREE WATERS IMPLEMENTATION GUIDE



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INTRODUCTION

The Trash Free Waters (TFW) International Guide is a tool designed to provide step-by-step guidance for government representatives, non-governmental organizations (NGOs), and community leaders to plan and implement a TFW program. The Guide is based on TFW, the U.S. Environmental Protection Agency's (EPA) stakeholder-based approach to address marine litter. It can be used to implement TFW as a national program or at the local level within communities along a coast or further upstream in the watershed. TFW is designed to include all stakeholders in decision-making to address marine, coastal and watershed issues, as well as improvements to solid waste management. TFW works by bringing together stakeholders to identify and prioritize their most immediate needs and develop actionable solutions to address them.

WHAT IS TRASH FREE WATERS?

TFW is a strategic, stakeholder-based approach to address marine litter through improving solid waste management and prioritizing community needs. Community needs are identified through a step-by-step process that brings stakeholders together to discuss the state of marine litter and associated solid waste management issues at the national or local level. Stakeholders will use this process to identify and prioritize projects to prevent and reduce litter from entering waterways and eventually the ocean.

The Trash Free Waters International Implementation Guide is based on EPA's experience working with Jamaica, Panama, and Peru to implement their own TFW programs. The Guide presents the TFW approach in a step-by-step format to instruct users on how to implement a TFW program at the national or local level.

Many countries face challenges that are impeding efforts to address marine litter. EPA's experience in Jamaica, Panama, and Peru showed that, for example, countries face challenges in understanding national ministry roles, difficulty in addressing gaps or inadequacies in policies and enforcement, limited resources, and high turnover of leaders on the issue. Many countries face these similar challenges, including the U.S., and TFW can serve as a model for countries to address these challenges and better manage their land-based sources of marine litter.

WHAT IS MARINE LITTER?

Marine litter is defined as human-created waste that has deliberately or accidentally been released into the environment, including inland waterways and lakes, urban storm drains, coastal estuaries, and the ocean¹. When consumer goods, especially single-use items such as plastic bags, food wrappers and beverage bottles, are improperly managed, they can find their way into rivers, streams and other waterways. These inland waterways eventually drain into the ocean. The recent COVID pandemic has dramatically increased single-use plastic items such as personal protective equipment (PPE). Because of widespread PPE use outside of clinical environments, it has a high probability of becoming marine litter and will require special consideration and focused awareness raising to reduce leakage into the marine environment.

Land-based sources of waste account for approximately 80% of marine litter found on shorelines worldwide, according to surveys from coastal cleanups and removal efforts². The most common materials that make up marine litter are plastics, glass, metal, paper, cloth, rubber, and wood¹. The remaining 20% of items found during shoreline cleanups can be attributed to at-sea losses from either accidental or deliberate discharges from ocean-going vessels, lost or abandoned fishing gear and traps, or derelict and abandoned vessels³.



Photo courtesy of Blue Ocean Society for Marine Conservation

Examples of common land-based marine litter

THE PROBLEM WITH MARINE LITTER

Marine litter is a significant problem that is impacting oceans worldwide. The 80% of marine litter stemming from land-based sources is largely a result of insufficient solid waste management. Five countries in Asia account for over half of the waste input into the ocean – China, Indonesia, the Philippines, Thailand, and Vietnam². A recent study estimates that 88-95% of the global load of mismanaged plastic waste transported by major waterways originates from just 10 rivers, eight of them located in Asia⁴. The majority of these land-based sources of marine litter comes from plastic waste. In the U.S., plastic waste comprises less than 13% of the municipal solid waste stream, yet because it is lightweight, incredibly buoyant and can be easily transported by the wind and persist in the environment, it is the most visible component of marine litter.

Uncollected waste is a major source of the problem. It is estimated that less than 50% of waste in the least developed countries is collected and approximately 90% of waste is burned or ends up in open dumps⁵. The remaining 20% of marine litter comes mostly from sea-based sources, attributed to at-sea losses from accidental or deliberate discharges from ocean-going vessels, and from lost or abandoned fishing gear. The Global Ghost Gear Initiative estimates that annually between 640,000 to 800,000 tons of fishing gear is lost or abandoned in oceans, coastal estuaries and bays.

Though the problem is visible in the marine environment, the solution requires significant improvements to solid waste management on land. The amount of uncollected and mismanaged waste entering the ocean has significantly worsened in the past decades, causing increased economic and environmental damage. Litter and trash can be transported across land masses through waterways into oceans, and can also accumulate on beaches, shorelines, and within gyres – large, offshore currents of floating trash. The trash can also harm physical habitats for wildlife, transport chemical and nutrient pollutants, and interferes with human uses of river, marine and coastal environments.

IMPACTS FROM MARINE LITTER



The Economy

Marine litter impacts the economy in many ways. Litter and debris can interfere with maritime navigation and commercial and recreational fishing, impact urban infrastructure through clogging stormwater drains and sewer systems and cost coastal communities large sums for continuous removal and maintenance. Litter reduces the aesthetic and recreational values of rivers, beaches, and coastal ecosystems, which comes at a high cost to communities that rely on tourism. In Indonesia, for example, an estimated \$166 million is lost in tourism revenues annually due to a lack of adequate waste collection and management⁶. The Asia-Pacific Economic Cooperation (APEC) estimates that the cost of marine litter to the tourism, fishing and shipping industries is \$10.8 billion in that region alone⁷.



The Environment

As litter accumulates in our waters, the species that depend on these environments for foraging and shelter may decline. Riverine, coastal, and marine organisms are threatened by physical hazards from ingestion and entanglement, as well as potentially harmful impacts from contaminants attached to plastics and other debris. Illegal dumping into waterways can exacerbate flooding, and the decomposition of unsorted, untreated waste – whether collected or dumped – releases methane, a powerful greenhouse gas that contributes to climate change⁸.



Public Health

Litter in waterways has the potential to absorb chemicals of concern from the environment and serve as global transport mechanisms for them to enter the food chain, impacting humans. Communities that are particularly vulnerable are those that rely primarily on seafood as a main source of food. Litter and debris in the environment can hold water and become breeding grounds for mosquitos, potentially easing the spread of diseases such as Zika, Chikungunya, and Dengue Fever. Communities with open dumps and uncollected waste have also shown higher instances of respiratory illnesses and increased rates of food-chain contamination⁵. In areas where households burn or openly dump their waste, instances of diarrhea are twice as high, and acute respiratory infections are six times higher than in areas where waste is regularly collected⁹. Uncontrolled waste collection also affects the health of waste pickers or scavengers, who may suffer higher rates of disease¹⁰.

IMPLEMENTING A TRASH FREE WATERS PROGRAM

TFW follows a logical, step-by-step approach that is easy to use and straightforward to implement even with limited resources. The purpose of the step-by-step approach is to address marine litter in a holistic manner and involve key stakeholders to the extent possible. It also helps the users identify low-cost, low-tech projects that can be implemented in a shorter time span.

The remainder of this Guide will take users through the steps to implement TFW and provide a simple playbook for addressing marine litter at the community or national level.

STEPS TO IMPLEMENT TRASH FREE WATERS

1**Form a Trash Free Waters Launch Team****2****Conduct the Situational Assessment****3****Convene Stakeholder Dialogue(s)****4****Project Implementation and Further Actions****5****Monitoring, Evaluating, and Sustaining a Trash Free Waters Program**

1

Form Trash Free Waters Launch Team

The TFW Launch Team is a foundational component of a Trash Free Waters program. The Launch Team consists of a small group of key stakeholders that are invested in addressing marine litter at the national or local level. Typically, the Launch Team will include representatives from government, NGOs, and where possible, a community champion. The Launch Team's principal interest is starting the program and members may have expertise in marine litter and/or solid waste management issues in a community or at the national level.

The Launch Team members will be responsible for the following:

- Initiate the overall Trash Free Waters program
- Coordinate and conduct the Situational Assessment
- Identify and engage with stakeholders
- Plan and convene the broader stakeholder dialogue(s)
- Inform the government, the public, and the media about the actions being taken

Each member of the Launch Team should take on a specific responsibility and serve as the point of contact for that action item. The Launch Team should meet with sufficient frequency to identify the goals of the program, the strategic direction, and establish a plan for conducting the Situational Assessment and the stakeholder dialogue.



TFW Jamaica Stakeholder Dialogue – February 2017

In Jamaica, the National Environment Protection Authority (NEPA) led the TFW Launch Team that included stakeholders such as the Jamaica Environment Trust, Community Youth Environment Network, Sandals Foundation, and U.S. Peace Corps. Other institutions such as Jamaica's Ministry of Economic Growth and Job Creation and the National Solid Waste Management Authority played critical roles after the launch. The United Nations Environment Program (UNEP) and EPA provided funding and guidance to this overall effort.

2

Conduct the Situational Assessment

THE PURPOSE OF A SITUATIONAL ASSESSMENT

The next step in implementing TFW is to identify and understand the trash and marine litter problem in the area it is being addressed. This step involves executing the Situational Assessment. The Situational Assessment is a process that gathers, synthesizes, and communicates data and information about the marine litter problem at the national or local level to better inform decision-making. The Launch Team will conduct the Situational Assessment with other technical experts, such as waste management officials and marine protection specialists in the government or civil society.

The Situational Assessment is also used as a baseline survey to inform the Launch Team of public perception about the current status of solid waste management and marine litter issues at the national or local level. Finally, the Situational Assessment should be shared with all stakeholders prior to the stakeholder dialogue(s).

The Situational Assessment should provide the following information:

- Marine litter and solid waste management problems to be addressed in the community
- A list of relevant stakeholders and their initial concerns, including marginalized populations
- Information gaps or misunderstandings
- Waste and litter data to help support decision-makers on crafting solutions
- Relevant legislation and population and geographic data
- Current and past efforts in the community to address marine litter
- Existing laws related to marine litter and solid waste management
- Local studies or reports on land-based sources of marine litter
- Information on local sources and types of marine litter
- Capacity and resources of organizations and stakeholders involved in the issue
- Potential barriers to success
- Other relevant information to inform the stakeholder discussion

HOW TO CONDUCT A SITUATIONAL ASSESSMENT

The Launch Team should meet to develop an outline of the Situational Assessment and assign roles and responsibilities to gather the information needed to draft it. The Assessment does not have to be comprehensive, but should exist to better inform the stakeholders and the general public about the current state of the marine litter problem at the national or local level. Any information gaps identified in the Situational Assessment should be discussed during the stakeholder dialogue. An example of a Situational Assessment outline can be found in the Appendix.

Once the Launch Team has identified member roles, responsibilities and an outline, the Launch Team should draft questions for local experts and community members. The Launch Team should ask questions that are based on the problems the community is facing. Every community (or country, depending on the scope of the defined TFW program) will face different problems and realities related to the state of marine litter and solid waste management.

Look at the list of questions below to determine which questions can be best applied in the selected community and will assist the stakeholders in determining solutions. These are only a sample of questions the Situational Assessment should answer and are not comprehensive of the scope of any individual Assessment. The Launch Team may also come up with questions of its own, depending on what is needed to reflect the realities of the country or selected community to better inform decision-making.

- Is there legislation related to marine litter or solid waste management in the selected community?
- What are the roles and responsibilities of the government in implementing waste management?
- Are there basic waste management services in the selected community? If so, what is the extent of those services?
- If there is waste collection, what does it look like in a typical residential community?
- Are there waste bins in public spaces that are regularly collected?
- What is the public perception of waste and the impacts it has on the environment?
- What are the financial constraints in providing waste management services to the selected community?
- What current or past efforts have been conducted to address marine litter?
- Has the government conducted a waste characterization study for the selected community?
- Where are marine litter “hotspots” – areas of waste accumulation on shorelines or near waterways?
- What efforts to address the issue have been tried but failed? What has been successful?

What’s Your Favorite Trash Data App?

Marine Debris Tracker – <http://www.marinedebris.engr.uga.edu>

Created by Dr. Jambeck’s lab at the University of Georgia, this app can aggregate and make accessible all itemized litter data collected by users. This data helps the Jambeck lab with modeling and analysis related to plastic inputs from land-based sources.

Clean Swell – <https://coastalcleanupdata.org>

The Ocean Conservancy’s Clean Swell app feeds into their larger coastal cleanup database, making for robust analysis. It uses the same item categories as their paper datacard.

Litterati – <https://www.litterati.org>

All data are not publicly downloadable yet, but with pictures required for every item, this dataset is the most robust when it comes to quality control. Analysts can look at multiple characteristics like item type, material type, and brand.

Global Alert – <https://www.oceanrecov.org/global-ocean-alert-system/solution.html>

Ocean Recovery Alliance has created Global Alert as an online tool that allows users to report, rate and map trash hot-spots in their waterways and coastlines via mobile devices and a web-based platform.

Open Litter Map – <https://openlittermap.com/>

This effort out of The Netherlands compares different countries based on litter collection. Any user can conduct their own analyses. The use of pictures to capture landscape views helps provide quality control.

As part of the Situational Assessment in Jamaica, U.S. Peace Corps Volunteers surveyed their communities on solid waste management practices and provided the data to the National Environment Protection Authority (NEPA). NEPA incorporated that Assessment into a nationwide survey they used to inform their decision making on improving waste management.

Data on marine litter sources and types, if available, can be a critical component of the Assessment. There are many smart phone apps available to help gather, store, and collate data on types of marine litter found in the local environment. Other apps are helpful in mapping trash hotspots in the watershed. The apps highlighted here are more appropriate for citizen science and should not be a substitute for formal waste characterization studies conducted by local officials.

USING THE RESULTS FROM THE SITUATIONAL ASSESSMENT

The information gathered from the Situational Assessment should be compiled into a report or slideshow that can be easily shared with stakeholders and the general public. The Assessment will be used when communicating to the public and interacting with government officials, community leaders, and the private sector about the marine litter problem.

The Assessment will provide important insights into the state of the environment with respect to marine litter and solid waste management. In addition, it should help assess the capacity and resources of the organizations and the selected community working with the TFW program. Use this Assessment to inform the process moving forward, especially with identifying which stakeholders will be significant for the program and the stakeholder dialogue process.

The following are resources to reference how to conduct and develop a Situational Assessment or what scope of materials are needed to be included in the assessment (i.e. waste characterization template). The Resources are in Appendix of this document.

- **Public Participation Guide** (<https://www.epa.gov/international-cooperation/public-participation-guide-view-and-print-versions>) – This guide provides a clear overview of important considerations in the design and implementation of a meaningful public participation program, including useful information on Situational Assessments. The Guide is also available in Spanish, Arabic, French and Chinese.
- **Trash Characterization Materials Found Template** – Tracking template to record materials found, this is a template from Puerto Rico. (see Appendix)
- **Trash Characterization Template (Spanish)** – A template from Puerto Rico to characterize trash materials. (see Appendix)
- **Peace Corps Jamaica Community Perception Survey** – A community survey that gauges community ideas about solid waste management practices. (see Appendix)



Installation of a Litter Gitter, or trash trap, installed along a creek in the U.S.



Staff sort litter that was collected from the Litter Gitter

3

Convene Stakeholder Dialogue

Convening stakeholders for dialogue is the most important step in implementing Trash Free Waters. The goal of the dialogue(s) is to bring together key stakeholders at the national or local level to discuss marine litter problems and identify and prioritize solutions to address them. The added value of stakeholder dialogues is that they provide opportunities for direct interaction between stakeholders with diverse perspectives; foster information and data exchange; present and disseminate the Situational Assessment; and encourage partnerships and working relationships to identify and develop actionable solutions. These dialogues can be compressed into a one-day workshop format or consist of many separate discussions with the same group but over a longer period, depending on the needs and constraints of the stakeholders.

PLANNING FOR STAKEHOLDER DIALOGUE(S)

Stakeholder dialogues provide an opportunity to:

- Share key features and foundation of the TFW program
- Identify and build the stakeholders relationships that will help to inform and implement solutions in the TFW program
- Provide a forum for robust information and data exchanges among those closest to the issue in the community
- Discuss opportunities and challenges related to addressing marine litter
- Obtain a baseline understanding on the current problem (i.e. what has been done to address marine litter in the past, and what can be done to better address marine litter in the future)
- Design a clear plan and next steps for moving forward with implementing solutions and communicating a unified message

Who are the stakeholders?

Stakeholders should consist of individuals from the following sectors:

- Government (national, local, regional)
- Private sector (businesses, chamber of commerce, tourism)
- Non-governmental organizations (NGOs)
- Academia (local schools, universities, researchers)
- Community leaders
- Development Volunteers (U.S. Peace Corps, JICA, AusAid)
- Community members

It is important to identify the relevant stakeholders for involvement in TFW. Identify individuals that make sense to be involved based on the needs and goals of the TFW program. The appropriate stakeholder is one who is already involved in this type of work, has responsibility and/or legal authority on the issue and/or is impacted by or contributes to the problem.

Given that marine litter is often a result of inadequate solid waste management on land, it is critical that the local or national solid waste management authority be included. Other valuable stakeholders may be the ministries of tourism, environment, solid waste management, etc., coastal protection specialists

and city managers. These people are most likely to fully understand the impact of marine litter to the community and have the local expertise and knowledge required to better inform decision-making and support a robust dialogue.

Over time, stakeholders will build networks with each other and the community members and leaders. These networks and relationships within the community will increase the capacity of community members to become more aware of the issue, better define what questions need to be asked and how they should be answered and participate in additional stakeholder discussions to help identify appropriate solutions.

How many stakeholders should be included?

The number of stakeholders can vary, but it is more productive to the group to hold the number of participants lower, ideally 30 or under. Maintaining low participant numbers for the dialogue(s) ensures productive breakout groups and allows more time for stakeholders to share their perspective and work with each other to develop solutions.

What contributions can stakeholders provide?

Stakeholders provide valuable information on the current state of the problem. Involving stakeholders during the Trash Free Waters dialogue helps to:

- Provide full insight into the problem
- Give differing perspectives on what will be considered credible, high quality and useful information
- Facilitate discussion of existing data and information gathered (i.e. public perception surveys, waste characterization studies, etc.)
- Ensure broad participation of community members in the Trash Free Waters program
- Connect decision-makers with people impacted by marine litter
- Manage risks, especially if the program is controversial

Once identified, how should the Launch Team communicate with the stakeholders?

Maintaining a stakeholder database is an important part of stakeholder outreach. Many stakeholder groups create WhatsApp groups, Facebook pages, or utilize other social media platforms and email lists to effectively communicate with stakeholders.

HOSTING STAKEHOLDER DIALOGUE(S)

Now that stakeholders have been identified, the Launch Team can begin planning the logistics for hosting the stakeholder dialogue(s). The planning includes identifying a strong facilitator and a venue, drafting the agenda(s) and examining any budgetary needs.

The Facilitator

A strong facilitator (or facilitators) will help the participants to identify or clarify its objective, bring diverse perspectives towards consensus and expertly maintain momentum with participants while strategically moving them toward their goals. The facilitator(s) should be a neutral, dynamic speaker with a well-rounded understanding of the issues and the ability to deal with unforeseen challenges and disagreements that may arise throughout the course of the dialogue.

Key stakeholders can be given a time slot during the dialogue to share some of their work. For example, in Jamaica, the Jamaica Environment Trust (JET) ran a well-known public awareness anti-litter campaign on the island called “Nuh Dutty Up Jamaica”. Having stakeholders present on successful efforts can serve as both motivation for new projects and a summary of existing work.

Agenda

The agenda(s) should be carefully crafted so that it meets the needs and objectives of the stakeholders and the goals of the dialogue. The amount of time allotted for the dialogue can vary widely. As mentioned above, the dialogue can take place at one time in a compressed format or can be a series of dialogues over a longer period. This all depends on the availability and motivation of the stakeholders to come together and this should be evaluated during initial contact with them. In order to maximize time and have the best outcome of the dialogue, the agenda should include the following:

- Introduction to the Trash Free Waters program
- Overview of the issue
- Presentation of the Situational Assessment
- Challenges and opportunities
- Identifying and prioritizing solutions
- Measuring progress
- Project design and management
- Sustaining the Trash Free Waters program

Venue

The physical location of the venue(s) should be accessible to all participants and should provide enough space for small group sessions. In large cities it can be at a hotel, ministry building or anywhere there is conference room space. Smaller communities might consider use of a community center or school. Ideally, it is best to have round tables with 5-6 participants per table. This helps facilitate better group discussion throughout the dialogue.



Workshop participants meet at a community center in Peru for a TFW stakeholder dialogue

Some participants may not be able to attend in person but are committed to the development and implementation of a TFW program. While interaction in-person between all participants is ideal for robust discussions, the Launch Team should ensure that the venue has technical capabilities, via teleconference or web-conferencing system, to stream the dialogue to remote participants that are unable to participate in-person.

Invitations

It is recommended that invitations include an agenda and the goals of the dialogue. Invitations should be sent out with ample time preceding the dialogue so that stakeholders and other participants can make themselves available. You can find examples of invitations in the Appendix.

Funding – Examine Whether a Budget is Needed

Once there is an estimate of how much a dialogue might cost, identify what financial resources are available for the dialogue and project implementation, even if it is just an estimate. Explore funding sources, through grants, donations, or investors. Identifying and managing these sources is an important part of the dialogue process. Puerto Rico’s San Juan Bay National Estuary Program, for example, has a description of their approach to Trash Free Waters program funding titled “Leveraging and Funding SJBEP TFW Activities” which can be found in the Appendix.



Summary of key actions for planning and hosting Stakeholder Dialogue(s):

1. Identify date, time, and venue for the Trash Free Waters stakeholder dialogue.
2. Write down a list of stakeholders to invite.
3. Identify a strong facilitator(s).
4. Define goals and objectives of the dialogue(s).
5. Craft an agenda to meet the goals and objectives of the stakeholder dialogue(s).
6. Develop invitations and send out well in advance to all participants. Include an agenda and copy of the Situational Assessment.
7. Gather materials for the dialogue. This can include notecards, poster board, flipchart paper, pens, ruled paper for notetaking, folders, etc.
8. Confirm attendance through RSVPs.
9. Host the dialogue(s)!

IDENTIFYING PROBLEMS AND POTENTIAL PROJECTS

The main purpose of hosting a stakeholder dialogue(s) is to identify problems and prioritize relevant projects to address those problems. It is important to have a good facilitator to help bring potentially divergent stakeholder views together. This process will result in a consensus to identify the most immediate issues and select projects that are informed by stakeholder input.

It is recommended that the facilitator divide the stakeholders into small groups with diverse representation for better exchange of information and allocate enough time for discussion on this topic. Through small group discussions, the stakeholders should aim to achieve the following objectives:

- Identify the marine litter and solid waste management problems and gaps in the community
- Identify and prioritize short, medium, and long-term solutions to address those gaps
- Set up realistic, achievable, and measurable projects for these solutions
- Identify leads/champions for each project
- Assign action items and tasks to participants
- Identify available resources for each project
- Develop concept notes for potential projects
- Schedule follow-up required after the dialogue

When discussing solutions, stakeholders should consider projects that improve effective and environmentally sound solid waste management in any capacity. Otherwise, stakeholders may be attracted to “quick wins” such as beach cleanups, while beneficial, only address the problem superficially and fail to focus efforts on the origin of the problem.

It can be helpful for stakeholders to work in small groups to better identify problems and prioritize potential projects. The small groups should identify a group leader and a note taker/rapporteur to write down key talking points to message to the stakeholders. This information will be summarized by the facilitator of the dialogue. Refer to EPA’s Public Participation Guide¹¹ on the [World Café \(www.epa.gov/international-cooperation/public-participation-guide-world-cafes\)](http://www.epa.gov/international-cooperation/public-participation-guide-world-cafes); a method for how to conduct a dynamic and interactive small group discussion.

For example, The World Café method of facilitation assists in gathering information in a non-confrontational setting and allows for underrepresented voices to be heard. The World Café process poses distinct questions for small group discussions that help reveal the strengths, weaknesses, opportunities, and threats to addressing the marine litter problem.

NOTE TO FACILITATOR OR LAUNCH TEAM

This part of the dialogue can become a session where frustrations are vented. The facilitator should try to keep the venting to a minimum and turn the conversation into an opportunity to understand the obstacles that they are encountering and ultimately to identify ways to lower the barriers.

TRANSLATING PROJECTS INTO SOLUTIONS

The solutions that have been identified will need to be conceptualized into realistic, achievable, and measurable projects that reflect what was discussed during the dialogue. After participants have identified problems and prioritized solutions, they should devote time to work in their small groups to develop concept notes broadly, outlining potential projects for implementation. For example, in Trash Free Waters Jamaica, the stakeholders identified three potential pilot projects for the Trash Free Waters program. Each group identified a project that was low-cost, low-tech, and addressed the gaps presented during the stakeholder dialogue.

The concept notes can be brief, such as a one-page document that illustrates the project goal, partners involved, potential funding sources and leveraging, and brief description of implementation. There may be several potential projects that arise during the dialogue, so it is important that the small groups form a Stakeholder Coordinating Committee to help shepherd the process to the next stage of implementation.

Prioritizing Projects

The projects identified may describe work that varies in scope, duration, cost and level of effort and cooperation that are needed for successful implementation. Stakeholders should be realistic and initially consider prioritizing projects that may be easier to implement and/or take a short amount of time to implement. For example, projects that are low-cost can generally be implemented in 6-8 months and require limited technology which makes them strong first projects. Stakeholders should also discuss medium (1-2 years) and long-term (2-5+ years) projects for consideration, but these may require large funds and extensive partnership building to be initiated and should be regarded as low-priority for immediate action. Examples of medium and long-term projects may be instituting waste collection routes in new neighborhoods, securing resources such as waste collection trucks or the development of a sanitary landfill. Over time, stakeholders can build relationships and seek external resources for the support they need to implement larger projects.

TFW in Jamaica: The Whitehouse and Bluefields Solid Waste Reduction Project set up a collection system for waste that was then separated into organic composting materials and plastics. Organics were given to a farmer from the community and plastics were aggregated, collected and bailed by Recycling Partners of Jamaica. Sandals Foundation was a partner that financed collection and recycling in the surrounding communities of Sandals Resorts. Ultimately, the goal of the project was to set up finance mechanisms so the communities can make money from selling what they collect.

The Stakeholder Coordinating Committee will manage all related project concept notes and the prioritization of projects. This record-keeping is important to the sustainability of a TFW program, because it enables stakeholders the ability to stay on track and continue to work towards stated medium and long-term goals.

4

Project Implementation and Further Actions

FORM A STAKEHOLDER COORDINATING COMMITTEE

In order to implement projects effectively and successfully, it is important to form a Stakeholder Coordinating Committee to evaluate potential projects discussed during the dialogue and bring them into the implementation stage.

What is a Stakeholder Coordinating Committee?

A Stakeholder Coordinating Committee is a smaller group of stakeholders that is responsible for guiding implementation of the projects identified during the dialogue and maintaining coordination with all stakeholders involved. The Coordinating Committee can act as a forum for routinely engaging the broader stakeholders and project partners on an informal or formal basis to:

- Evaluate project concept notes submitted during or after the stakeholder dialogue for implementation
- Ensure projects that were identified during the stakeholder dialogue are implemented or have plans for implementation
- Discuss short, medium, and long-term opportunities identified in the stakeholder dialogue
- Make time-sensitive decisions between face-to-face stakeholder meetings and engagements
- Act as a sounding board for the broader stakeholders and project partners involved as well as the community as a whole

Within the Stakeholder Coordinating Committee, it is helpful to identify a Trash Free Waters Champion(s). The Trash Free Waters Champion(s) is someone who will serve as the lead coordinator of the TFW program and maintain the sustainability and coordination of the coordinating committee throughout the lifetime of the initiative. Champions can be anyone, but they should have leadership qualities and be committed to addressing marine litter in the community or at the national level. In Jamaica and Panama, for example, experts in the national environment agencies served as Champions; a mayor or community leader could also take on that role.

The Coordinating Committee should be given formal recognition through documentation to ensure that all parties involved will maintain the relationship and elevate the visibility and importance of the group. A Terms of Reference document can assist in formalizing the Committee and provide clarification and documentation of the purpose, functions, composition, and operations of the committee. A sample TFW Committee Terms of Reference document is provided in the Appendix. Many TFW Coordinating Committees meet several times a year, depending on implementation needs.



Glass bottles in the Condado lagoon, San Juan, Puerto Rico



Approximately 80% of aquatic trash comes from land-based sources

Photo courtesy of the Trinity River Authority of Texas

Below are questions to consider in the formation of the Stakeholder Coordinating Committee and defining its roles and responsibilities:

1. Who should be on the Committee?
2. What is the best structure for the Committee, given the needs of the region or community?
3. What are the roles of each participant within the Committee? Who and from what organization will take the lead and make decisions? Participants should be committed and accountable to the committee.
4. What is the overall strategy of the Committee? At a minimum, the strategy should include:
 - a. Stakeholder dialogue
 - b. Potential funding sources
 - c. Project implementation and planning
 - d. Public awareness campaign
 - e. Creating a task force or an advisory committee (or other organized group) to lead

PROJECT IMPLEMENTATION

After the Stakeholder Coordinating Committee has been formed, it should turn its focus to project implementation. The goal of a TFW program is to have tangible outcomes from the stakeholder dialogue. Stakeholders want to see that problems are being addressed. The role of the Stakeholder Coordinating Committee is to guide project implementation. Individual Committee members can also have on-the-ground responsibilities for implementation.

In order to have successful implementation of the projects identified by the Coordinating Committee, it is necessary to have a detailed project plan that includes a timeline, budget, roles and responsibilities and contingencies in case there are unforeseen problems due to extenuating circumstances. Prior to the work getting started, the Coordinating Committee should be working with the on-the-ground partners to lay out the implementation plan and statement of work.

Drafting an Implementation Plan

The Implementation Plan outlines the activities and decisions needed to turn the strategic goals and objectives of the project into reality and helps to ensure on-the-ground success. TFW brings together multiple stakeholders from different sectors into partnerships that will execute on-the-ground projects. This involves many different players, budgets, and roles and responsibilities. The implementation plan will help map out these specifics into a document that can be referenced throughout the project.

Timeline

The Implementation Plan should have a clear timeline of events and activities needed for successful implementation. The timeline should consider the entire process, from securing funds and writing statements of work with project partners to final completion and evaluation of success. Typically, TFW projects are low-cost, low-tech and can be implemented within a relatively short duration of time – a year or less. Longer, more complex projects can require extensive planning and resources. The timeline should also include key milestones for deliverables or events, depending on the project.

Roles and Responsibilities

The roles and responsibilities should be clearly defined in the Implementation Plan. The individuals writing the Implementation Plan may not be the people executing the work. Since TFW brings together multiple stakeholders, it can be confusing when roles and responsibilities are not defined, particularly with the roles of executing the work itself and overseeing the project implementation and budget. These are key positions that need to be identified early on and will maintain success of the project.

Budget

A TFW program does not always include available resources for project implementation. This is where it is important that stakeholders come together and pool any resources they might have into an actionable project that provides meaningful results for the community, city, or country. Projects do not always need to have large budgets, and a small budget should not deter stakeholders from moving forward with a project. Consider leveraging resources from other ongoing projects in the region to maximize efforts. The budget for a TFW project should include labor cost, materials, travel, as well as potential overhead costs to maintain project management.

Contingencies

A TFW project does not always go as smoothly as planned. Projects can be delayed, lose a key stakeholder's interest or materials can be damaged or stolen. While this is rare, it is important to plan for any contingencies that might happen. When delays occur, discuss options immediately with stakeholders and alert local officials to any theft of materials. Contingencies may include considering security measures or additional oversight in order to prevent any unintentional or accidental delays. It is important to be flexible with the project, and if it doesn't work out as planned, consider moving on to another project identified during the dialogue that may be easier to directly implement.

KEEP THE STAKEHOLDERS CONNECTED AND ENGAGED

It is critical that the stakeholders stay connected, engaged and continue the work started under the stakeholder dialogue(s). The Stakeholder Coordinating Committee's role is to maintain engagement with project partners and broader stakeholders. Since a TFW program is mostly voluntary, it can become deprioritized due to competing priorities and responsibilities of Committee members and other stakeholders. Maintaining momentum with stakeholders is possible by scheduling recurring meetings, either as formalized, in person meetings, or as informal, brief check-ins. These can be organized and facilitated by the Committee.

Staying in contact with a large group can be difficult. The Committee should consider creating a mobile group messaging platform (e.g. WhatsApp, Facebook messenger, etc.) for ongoing check-ins with implementing partners and stakeholders and any others who wish to stay involved and informed. The Committee can use these check-ins to share information about next steps, problems, and updates to the project with the stakeholders. In-person meetings are extremely valuable to maintain the interpersonal relationships needed for sustainability of the program but can be challenging to schedule. Informal check-ins can be enough to ensure engagement, but their utility and effectiveness depends on the needs of your stakeholders and implementing partners.

In addition to weekly check-ins or in-person meetings, there are other ways to keep stakeholders connected and engaged. For example, newsletters or email blasts can be used to highlight ongoing activities, community gatherings, citizen science events, and other actions and activities. An example of EPA's Trash Free Waters domestic program newsletter is included in the Appendix.

5

Monitoring, Evaluating, and Sustaining a Trash Free Waters Program and its Projects

After the dialogue(s) is completed, it is important to maintain the effectiveness of a TFW program through project monitoring, evaluation and identification of opportunities for expansion. The Stakeholder Coordinating Committee, as explained in Step 4, should include a monitoring and evaluation process and measures for all projects identified by the stakeholders as part of their Implementation Plan. It is important for the Committee to work on implementing as many identified projects as possible; there should be a clear plan for prioritizing projects. Some projects may be able to be implemented simultaneously. If simultaneous implementation is possible, creating subcommittees for each project will establish accountability, sustain momentum, and provide for additional coordination between the projects.

MONITORING, EVALUATION AND RELATED MEASURES

Continuous monitoring and evaluation are critical to sustaining a robust, relevant and effective TFW program to help identify weak points and ensure long-term success. For example, the Stakeholder Dialogue should include a post-dialogue evaluation that identifies elements of the dialogue that are effective, elements that need improvement, and provides an opportunity for stakeholder feedback. It is imperative that the Stakeholder Dialogue be continuously evaluated to ensure that their input is informing both program and project implementation. An example of a Stakeholder Dialogue evaluation form is provided in the Appendix.

At the project level, stages of implementation should be closely monitored and evaluated. In some instances, communities implementing their project may experience unexpected challenges and/or unplanned successes. For example, what initially is identified during the stakeholder dialogue as a straightforward solution may not be easily implemented due to unforeseen circumstances. Monitoring and evaluation are tools to help implementers replicate components that met project goals, while rethinking less successful project components.

Each TFW project will have different measures, depending on the goal of the project. Typically, a TFW project's primary goal will aim to reduce the amount of marine litter in the environment over a specific time period. Below are project examples to help illustrate goals, corresponding measures and monitoring and evaluation activities that may be carried out before, during and after a project.



Photo from NOAA's Marine Debris Program

EXAMPLE 1 | PROJECT: Raising public awareness about beach litter**GOAL:** Increase awareness about the impacts of littering by beach visitors**POTENTIAL MEASURE(S):**

1. Count the number of awareness campaigns conducted over a time period.
2. Conduct an initial survey of visitors to gauge their awareness of the problem. At the conclusion of the awareness campaign, conduct a follow-up survey to determine if more beach visitors are aware of the problem.
3. Conduct a beach cleanup before implementing the awareness campaign to identify types and measure the amount of waste collected. Compare those data points to those from a beach cleanup conducted at the conclusion of the awareness campaign to determine if there is a change in the amount and types of waste collected.

POTENTIAL MONITORING/EVALUATION ACTIVITY:

After the initial beach cleanup, periodically monitor on a set schedule (choose a day of the week and time) to assess and record the amount and type of waste found in a small area of the beach. Use these data points to focus messaging, location and audience of the ongoing awareness campaign.

EXAMPLE 2 | PROJECT: Improve waste collection in a targeted community**GOAL:** Increase the amount of waste collected with a focus on high-value recyclable materials.**POTENTIAL MEASURE(S):**

1. Conduct a waste analysis or waste characterization of waste generated in targeted community. Information on waste characterization methodologies can be found at www.epa.gov/sites/production/files/2015-09/documents/06numbers.pdf. Implement the increased and/or improved waste collection in the targeted area informed by the waste analysis.
2. Track the amount of waste collected and/or recycled under the new collection regime. These data will quantify the amount of managed waste and/or diverted from entering waterways.

POTENTIAL MONITORING/EVALUATION ACTIVITIES:

The results of the waste analysis or characterization will yield specific information about different waste streams and their percentage compared to the total waste stream. For example, if the initial analysis shows organics are a significant portion of the waste stream, then a focus should be to increase organics recycling. After an organics recycling program is put into place, conduct periodic waste analyses to determine whether the percentage of organics is decreasing or diverted in the general waste stream. This information will help identify areas of the project that require adjustments to increase organics recycling.

EXAMPLE 3 | PROJECT: Litter capture system or boom installed in a highly polluted waterway**GOAL:** Decrease the amount of waste in the waterway downstream of installed litter capture system or boom**POTENTIAL MEASURE:**

1. After initial installation, quantify the amount of waste and types of waste collected in the litter capture system (e.g. litter boom) over a set time period. This can be accomplished several times during the period in which the capture system is installed. These data will quantify the amount of waste flowing downstream in the waterway.

POTENTIAL MONITORING/EVALUATION ACTIVITIES:

Continuous monitoring and evaluation of a boom or litter capture system is critical to ensure that the installation is properly working and secured. This monitoring will also yield information that supports hot spot identification (locations where waste accumulates faster as compared to other locations) and any seasonal fluctuations in the waste types and quantities. These data points will ensure the boom is fully operational with regards to its placement and the captured waste is periodically removed.

Establishing realistic project goals with corresponding measures are key to demonstrating a TFW project's effectiveness. Continuous monitoring and evaluation of project goals and established measures allows project implementers to quantify the impact of the project's activities and determine if the activities are meeting the set goal. If improvements or changes are required to meet the goal, they can be informed by these data sets rather than relying on a trial and error implementation scenario. Measuring and evaluating a projects' effectiveness allows for replication of successful elements in the implementation of future projects while avoiding past implementation mistakes.

The success of a TFW program relies on creating an accountability structure which can be accomplished through the Stakeholder Coordinating Committee with partners on the ground, such as local governments, NGOs, or community groups. This Committee should have an implementation plan that includes goals, measures and an on-going monitoring/evaluation process for the projects. Successful project implementation should be guided by interim lessons learned from monitoring and evaluation.



Photos from NOAA's Marine Debris Program

CONCLUSION AND SHARING TRASH FREE WATERS SUCCESSES

The TFW International Guide is a tool designed for representatives from all levels of government, non-governmental organizations, and community leaders. The goal of the Guide is to provide the user with the tools and direction necessary to organize, implement and sustain a TFW program in a community or country. TFW is a good mechanism to include stakeholders in decision-making and helps build partnerships among stakeholders creating lasting relationships and fostering sustainable solutions to solid waste management and marine litter issues. Ultimately, the success of a Trash Free Waters program is contingent on community approval and passionate leaders that will ensure the project continues after the initial dialogue.

TFW program successes should be shared with others. Sharing successes can happen with other communities in the same watershed facing similar challenges, or with regional and global organizations that are finding innovative ways to address marine litter. Sharing successes can help connect local stakeholders with national, regional or global level expertise as well as providing motivation to project implementers. The Committee should consider developing case studies of particularly innovative solutions to help share these successes more easily and broadly. Case studies serve as concise, easy-to-share demonstrations for external partners to show a community's challenge with marine litter, explain why a certain project was identified to address that challenge, and describe what contributed to the success of the project. An example of a case study from a marine litter reduction project by the Commission for Environmental Cooperation (CEC) can be viewed at <http://www3.cec.org/islandora/en/item/11836-building-community-solutions-marine-litter-in-north-america-salish-sea-en.pdf>.

Global and regional organizations can play a vital role in supporting TFW program in individual countries or local communities, and organizers of a TFW program should use them as resources. For example, [The United Nations Environment Programme](#) (UNEP)¹² played a key role in implementing TFW Panama and TFW Jamaica (see fact sheet in Appendix). UNEP's permanent presence in the Latin America and Caribbean region allows it to connect to TFW projects with similar goals throughout the region and elsewhere. There are also other organizations in the NGO community and private sector that have similar interest to help solve the marine litter problem, including as Ocean Conservancy¹³, Circulate Capital¹⁴, Asia-Pacific Economic Cooperation¹⁵, and the Alliance to End Plastic Waste¹⁶. These organizations are seeking innovative solutions to the marine litter problem, especially solutions that can be replicated and scaled up. Therefore, it is beneficial to think more about broader impacts and solutions as the local TFW program progresses.

In closing, reduction of land-based sources of solid waste can effectively address the marine litter problem. Effective and environmentally sound solid waste management is key and should be emphasized in any TFW program. Otherwise, countries may be attracted to quick wins such as beach cleanups, while beneficial, only address the problem superficially and fail to focus efforts on the origin of the problem. A key factor in the success of a TFW program is the involvement of stakeholders and community leaders in the decision-making process. Strong alliances between the relevant government ministries, NGOs, and private sector fosters sustained cooperation and action needed to comprehensively address marine litter. When stakeholders are committed, communities can achieve their goals to address marine litter.



A pristine waterway in Central America

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APPENDIX

OUTLINE OF A SITUATIONAL ASSESSMENT

I. Introduction

- a. Background
- b. Purpose and Scope
- c. Background to the Country/Local Area
 - i. Geography
 - ii. Demographics

II. State of Marine Litter in national/sub-national context

- a. Sources of Litter
 - i. Land-based Sources
 - ii. Sea-based sources
- b. Types of Marine Litter found
 - i. Plastics
 - ii. Single-use Items
 - iii. Other
- c. Areas of Litter Accumulation
- d. Pathways of litter from source to sea zones

III. Waste Data and Information

- a. Waste data
 - i. Amount and type of waste (if applicable):
 - 1. Generated
 - 2. Recycled
 - 3. Composted
 - 4. Combustion with Energy Recovery
 - 5. Landfilling
 - 6. Dumping
- b. Litter Surveys and Trends
 - i. Government statistics
 - ii. Citizen Science data
 - iii. Academia

IV. Current efforts to prevent marine litter: Land and Sea-based Sources

- a. National level/Sub-national level
 - i. Regulatory actions
 - 1. Inter-ministerial committees, inter-governmental and private sector partnerships
 - 2. Policy instruments specific to waste prevention and management and marine litter specifically
 - 3. Laws and regulations specifically for solid waste management
 - ii. Voluntary/non-regulatory actions (education and awareness, non-regulatory interventions, etc.)
 - 1. Monitoring standards and programs
 - 2. Reporting and compliance, including standards (if applicable)
 - 3. Funds committed
 - 4. Economic incentives and other stakeholder engagement programs
 - iii. Capacity building
 - 1. Awareness programs focusing on:
 - a. Impact knowledge
 - b. Desired behavior change
 - c. Regulatory frameworks (e.g. deposit return schemes)
 - 2. Sectoral guidelines (food and beverage sector guidelines, tourism sector, etc.)
 - 3. Workshops and conferences

V. Conclusions

TRASH FREE WATERS JAMAICA QUESTIONNAIRE

PROFILE QUESTION

Gender: Male Female

Age Ranges: 18-35 36-55 56 and over

Number of Persons in your household: _____

KNOWLEDGE AND AWARENESS

What is Solid Waste/Garbage?		
	Yes	No
Food you throw away		
Old Tires		
Used Plastic Bottles		
Old Clothes		
Used Packaging and Containers (Paper, Plastic Bags, Cardboard, Styrofoam)		
Tree branches and grass clippings		
Old Furniture and Appliances		
Old Cell Phones and Electronics		
Sewage		

Do you think poor disposal of garbage causes?		
	Yes	No
Flooding		
Rats		
Mosquitoes		
Disease (Dengue, Chick V)		
Water Pollution		
Air Pollution		

Can solid waste/garbage be reused? Yes No

If yes, can you give one example? _____

Do you know what day your garbage is collected? Yes No

How often is your garbage collected? Daily Weekly Twice weekly Other Don't know

ATTITUDES

Which of the following do you believe has a role in the management of solid waste in your community?

You NSWMA Your Counsellor/Parish Council Your MP The Government/Ministry

Other

How should persons respond when garbage is not collected? Do nothing Protest

Take it to a large bin, skip or dump site Call NSWMA Call MP/Councillor

Other: _____

TRASH FREE WATERS JAMAICA QUESTIONNAIRE (Continued)

Do you agree or disagree with the following?		
	Agree	Disagree
I am only responsible for managing garbage in my own home		
All of us should play our part in keeping our community clean		
Getting involved in Solid waste management can help generate employment for persons in our community		
People throw garbage on the streets and in the drains and gullies because they have no other means of getting rid of (disposing of) their garbage.		
Public education about proper garbage management is one way to fix the garbage crisis.		

What would encourage you to improve your solid waste management practices?

- If we received more assistance from Government?
- If we got jobs, incentives, monies
- If the collection service was better
- If we knew more about reuse and recycling
- Other: _____

PRACTICES

How do you dispose of your garbage? Burn it Bury it Dump it Put it out to be collected

Other: _____

Where do you store your garbage before collection?

In your home In your yard on your street Other: _____

How do you dispose of items that are not collected by local waste management authorities, for e.g. furniture and large appliances?

Do you reuse any of your solid waste?

If yes, can you describe what you do? _____

Have you ever dumped garbage on the road or in a gully?

If yes, why have you? _____

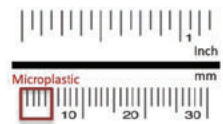
If not, why not? _____



Proyecto Aguas Libre de Basura / *Trash Free Waters Project*
Materiales encontrados / *Materials found*

SAN JUAN BAY ESTUARY PROGRAM TRASH FREE
 WATERS PROJECT: TRASH CHARACTERIZATION
 MATERIALS FOUND TEMPLATE

Artículos / <i>Items</i>	Cantidad / <i>Quantity</i>	Total	Artículos / <i>Items</i>	Cantidad / <i>Quantity</i>	Total
Plástico / <i>Plastic</i>			Aluminio / <i>Aluminium</i>		
Anillos de plástico / <i>6-packs plastic rings</i>			Latas de aerosol / <i>Aerosol cans</i>		
Artículos de higiene personal / <i>Personal hygiene products</i>			Latas de bebidas o sodas / <i>Beverage cans</i>		
Bolsas o sacos plásticos / <i>Plastic bags</i>			Materiales de construcción / <i>Construction materials</i>		
Botellas de bebidas / <i>Beverages bottles</i>			Pedazos y otros / <i>Pieces and others:</i> _____		
Botellas plásticas de otro uso / <i>Other plastic bottles</i>			Goma (caucho) / <i>Rubber</i>		
Boyas / <i>Buoys</i>			Chancletas o sandalias / <i>Flip flops</i>		
Colillas de cigarrillo / <i>Cigarette butts</i>			Gomas, neumáticos o llantas / <i>Tires</i>		
Encendedores / <i>Lighters</i>			Guantes / <i>Gloves</i>		
Envoltorios de comida / <i>Food packagings</i>			Pedazos y otros / <i>Pieces and others:</i> _____		
Flotadores / <i>Floatation devices</i>			Tela / <i>Fabric</i>		
Guantes / <i>Gloves</i>			Cuerdas, sogas (no plástico) / <i>Ropes (non plastic)</i>		
Juguetes / <i>Toys</i>			Guantes / <i>Gloves</i>		
Materiales de pesca / <i>Fishing materials</i>			Ropa o zapatos / <i>Clothing or shoes</i>		
Envases o contenedores de poliestireno / <i>Foam containers</i>			Toallas / <i>Towels</i>		
Sogas o cuerdas (plásticas) / <i>Plastic ropes</i>			Otros / <i>Others:</i> _____		
Sorbetes / <i>Drinking straws</i>			Otras categorías / <i>Other categories</i>		
Tapas / <i>Caps</i>			Colchones / <i>Mattresses</i>		
Utensilios (cucharas, tenedores, etc.) / <i>Cutlery</i>			Materiales de construcción (cemento/bloque/acero) / <i>Construction materials (cement/blocks/iron)</i>		
Vasos / <i>Cups</i>			Electrodomésticos / <i>Home appliances</i>		
Pedazos y otros / <i>Pieces and others:</i> _____			Partes de vehículos de motor / <i>Motor vehicle parts</i>		
Papel, cartón / <i>Paper, cardboard</i>			Otros / <i>Others:</i> _____		
Bolsas o sacos / <i>Bags</i>			Microplásticos y pedazos / <i>Microplastics and pieces</i>		
Cartón / <i>Cardboard</i>			<i>Microplastics and pieces</i>		
Hojas / <i>Sheets</i>			Microplásticos / <i>Microplastics</i> >5mm*		
Servilletas / <i>Napkins</i>			Pedazos / <i>Pieces</i> 6mm a 30mm		
Pedazos y otros / <i>Pieces and others:</i> _____					
Vidrio / <i>Glass</i>					
Botellas de bebida / <i>Beverage bottles</i>					
Frascos o tarros / <i>Jars</i>					
Pedazos y otros / <i>Pieces and others:</i> _____					



*Microplásticos según definido por Ocean Conservancy
 *Microplastics as defined by Ocean Conservancy

SAN JUAN BAY ESTUARY PROGRAM TRASH FREE WATERS PROJECT: TRASH CHARACTERIZATION TEMPLATE

El Programa del Estuario de la Bahía de San Juan busca caracterizar los materiales encontrados en las limpiezas terrestres y subacuáticas con el fin de obtener información sobre el origen de la contaminación.

Actividad y lugar: _____

Fecha: _____ Hora de comienzo: _____ Hora de finalizada: _____

Nombre de anotador: _____ Correo electrónico: _____

Organización/grupo: _____

Tipo de limpieza: Terrestre Acuática Monitoreo de alcantarillado

Descripción del área

Municipio: _____ Coordinadas: _____

Área de muestreo: Laguna Quebrada Aljibe Playa Río Urbano

Condición del tiempo: Soleado Lluvioso Nublado

Distancia limpiada: _____ (Metros/Millas) Época del año: _____

Resumen de la limpieza

Cantidad de voluntarios _____ Total de libras de basura: _____

Cantidad de bolsas de basura: _____

Observaciones: _____



TRASH FREE WATERS JAMAICA AGENDA

February 14-16, 2017 • Kingston, Jamaica

Location: Ministry of Industry, Commerce, Agriculture and Fisheries

Workshop Objective: Harmonize and enhance ongoing efforts in Jamaica to prevent and reduce marine litter through improved solid waste management, and to develop an integrated strategy for stakeholder engagement that reflects priority issues and approaches, and identifies low-cost demonstration projects for funding that have high potential for showing a positive impact in communities.

AGENDA

Facilitator: Shereen Kandil, US Environmental Protection Agency

DAY 1

8:30 – 9:00 am **Arrival and Registration**

9:00 – 9:30 am **Welcome and Introductions**

NEPA – Peter Knight, CEO

UN Environment Caribbean Environment Program – Chris Corbin, Programme Manager

Peace Corps – Paul Sully, Peace Corps Country Director

9:30 – 10:00 am **Expectations for the Workshop and Ground Rules**

Facilitator: Shereen Kandil

The purpose of and expectations for the workshop and national and global policy efforts on marine litter, US EPA, UN Environment and PC partnership on Trash Free Waters. Short introductions of participants. End introductions with video(s).

10:00 – 10:45 am **The Trash Free Waters Story**

Speaker: Stephanie Adrian, U.S. Environmental Protection Agency

What is Trash Free Waters and how does it work? Highlight examples of successes and challenges faced by projects in the US and Jamaica and some current efforts to reduce and prevent marine litter e.g. Nuh Dutty Up campaign, videos of local projects, Peace Corps community-based solid waste projects.

10:45 – 11:00 am **Coffee Break**

11:00 – 12:30 pm **Jamaica's Story**

Facilitator: Shereen Kandil

Brief presentations of existing programs and policies in Jamaica working on marine litter prevention and reduction. Use matrix developed from information sent by stakeholders in advance. A template will be provided to participants in advance of the meeting to allow them to share examples of ongoing efforts that organizers can use to highlight during this session. The list does not need to be exhaustive but rather highlight where organizations are putting their resources. This will assist with a later exercise.

12:30 – 2:00 pm **Lunch**

TRASH FREE WATERS JAMAICA AGENDA (Continued)

2:30 – 4:30 pm **World Café [Technique to generate discussion on ongoing efforts, challenges and potential opportunities]**

Facilitator: Shereen Kandil

This session will draw out of stakeholders some of the key problems that exist in Jamaica regarding marine litter prevention and the challenges they experience that is preventing them from making as much progress as they would like. Stakeholders will identify challenges and gaps in solid waste management that prevent them from advancing. The groups will try to discuss what obstacles are surmountable by working together versus the ones that require larger financial investments or political involvement. Groups will report out after the World Café.

4:30 – 5:00 pm **Wrap Up and Expectations of Day 2**

Facilitator: Shereen Kandil

DAY 2

9:00 – 9:30 am **Recap of Day 1: Setting the stage for identifying collaborative efforts under TFW**

Facilitator: Shereen Kandil

9:30-10:00 am **UN Environment Plastics Initiative in Jamaica**

Speaker: Vincent Sweeny

UN Environment's plan for the Plastics Initiative in Jamaica and how Trash Free Waters can complement that effort.

10:00 – 10:30 am **Coffee Break**

10:30 – 12:30 pm **Ideas for Reducing and Preventing Marine Litter from Around the World**

Speaker: Andrew Horan

Presentation on projects, innovative solutions, applications, technology, and community-based efforts from around the world that are examples of low-cost, low-tech efforts for reducing and preventing land-based sources of trash.

12:30 – 2:00 pm **Lunch**

2:00 – 5:00 pm **Breakout: Designing projects and Prioritizing for Funding [Working Coffee Break included]**

Speaker: Chris Corbin/Stephanie Adrian

DAY 3

9:00 – 11:00 am **Presentation of final project designs and prioritization [working coffee break included]**

Facilitator: Shereen Kandil

TRASH FREE WATERS JAMAICA AGENDA (Continued)

11:00 am – 12:00 pm **Measuring Progress**

Speaker: Anthony Mackenzie

Identify goals/targets and how to measure. Discuss baseline data. Opportunity to discuss longer term strategy for TFW that could inform a broader marine litter coordinating committee. Roles and responsibilities of all stakeholders. Our 5-year Vision.

12:00 – 12:30 pm **Raising the visibility of Marine Litter in the Region through the Cartagena Convention and Land Based Sources Protocol – establishing Jamaica as a leader in the Region and Champion of TFW**

Speaker: Chris Corbin

12:30 – 1:00 pm **Wrap up and Next Steps**

Facilitator: Shereen Kandil

1:00 – 2:00 pm **Lunch**

2:00 – 4:30 pm **Field visit to a recycling facility**

4:30 pm **Adjournment**

TRASH FREE WATERS INVITATION



United Nations Environment Programme

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PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT • PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE
ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

Programa Ambiental del Caribe
Unidad de Coordinación Regional

Caribbean Environment Programme
Regional Co-ordinating Unit

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15 July 2016

Dear Colleagues,

On behalf of the United Nations Environment Program Caribbean Regional Coordinating Unit (CAR/RCU) and the Caribbean Sub-Regional Office, Peace Corps and the US Environmental Protection Agency, we would like to thank you all for meeting with us to introduce the new *Trash Free Waters Initiative* and to share with us your efforts to address solid waste and marine litter in Jamaica. As you know, the former Minister of Foreign Affairs Arnold Nicholson, gave his commitment to *Trash Free Waters* at the Our Ocean Conference in Chile in 2015. We know there are many efforts already underway to address this issue and we welcome your participation and enthusiasm in joining this initiative and we hope it can serve a useful purpose in helping coordinate and strengthen stakeholder efforts while bringing additional resources to the table.

During our meetings in June, we listened to many stakeholders involved in addressing marine litter through improving solid waste management, and conservation and outreach, and learned a great deal about your experiences in Jamaica. We appreciated learning about ongoing and proposed activities, as well as challenges and opportunities that exist.

We propose to officially launch *Trash Free Waters* on Thursday, August 18, during a kick-off ceremony that will publically confirm Jamaica's commitment to this joint effort. High level officials from NEPA, the National Solid Waste Management Authority (NSWMA), Ministry of Economic Growth and Job Creation, and all of your respective organizations will be invited to lend their support to *Trash Free Waters Jamaica* and help in introducing it to the public as an initiative that will help reduce and prevent marine litter in Jamaica. It will also help profile ongoing and new commitments the Government of Jamaica is taking to address this issue.

In advance of the launch of *Trash Free Waters Jamaica*, we would like to suggest announcing the formation of a *Trash Free Waters Steering Committee* that would drive the efforts under this initiative. Initially, we would propose that two national agencies/organizations co-chair this committee based on existing mandate and related activities. If your organization is interested in serving in this role, please let us know.



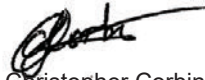
TRASH FREE WATERS INVITATION (Continued)

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Following the official launch this August, our Partnership will host a public participation workshop on marine litter involving key stakeholders from government and non-government sectors, including your organizations. The workshop will help prioritize needs and identify pilot projects that will address marine litter in Jamaica at the local community level.

We look forward to launching *Trash Free Waters Jamaica* and helping you to achieve the marine litter goals that keep Jamaica beautiful.

Sincerely,



Christopher Corbin
AMEP Programme Officer

LEVERAGING AND FUNDING SJBEP TFW ACTIVITIES (Continued)

December 2014 and identified actions and projects that could prevent or even eliminate the volume of aquatic trash and litter entering the watershed and the marine environment.

In January 2015, the SJBEP began implementation of the TFW through projects undertaken throughout the watershed. The SJBEP Executive Director, Dr. Javier E. Laureano, is also co-chair the PR Recycling Partnership's (PRRP) Trash Free Waters Committee.

SJBEP TFW Activities

In October 2014, the SJBEP hired a TFW coordinator to recruit volunteers, plan, organize, and implement TFW-related activities. From that point, SJBEP has championed some projects identified in the TFW PR Strategy, as well as developed and implemented additional key projects to support TFW activities:

- public service campaign in the mass media,
- educational posters for schools and businesses,
- stormwater pollution prevention pilot project in the Condado Lagoon,
- TFW educational exhibit and video,
- workshops and multi-sectorial meetings,
- cigarette butt and plastic bag litter prevention project in Old San Juan city,
- a citizen guide to improve the water quality of the San Juan Bay Estuary,
- creation of an arts and design center to reuse materials,
- coastal and watershed-based cleanups and inventories, and
- study and strategy to decrease microplastics in the watershed.



August 2016

Corporate partners have been an important part in the implementation of the SJBEP TFW activities. Banana Boat, MillerCoors, Walmart, and Dasani have all partnered and funded targeted cleanups within the SJBE watershed. Not only do these cleanups provide stakeholders and volunteers with an experience that galvanizes the need for the TFW

LEVERAGING AND FUNDING SJBEP TFW ACTIVITIES (Continued)

initiative in the SJBE watershed, it also allows for the data collection of the trash and litter picked up and disposed of.

On April 29, 2015, the SJBEP partnered with the San Juan International Airport to launch a recycling program with a goal to recover 500 tons of recyclable material of the 1,500 tons of total waste produced each month. The SJBEP also coordinated with the airport to develop and display an educational exhibit showcasing the TFW message at various locations throughout the airport.

Leveraging and Funding SJBEP TFW Activities

During the first year that SJBEP initiated and implemented TFW activities a \$35,000 budget was provided entirely by EPA's CWA Section 320 program. Of this, 70% of the budget supported the newly appointed TFW coordinator's salary. In addition to the TFW coordinator, the SJBEP hired and funded the stipend for an AmeriCorps VISTA volunteer in FY 16. This additional hire will allow for continued TFW coordination in conjunction with the SJBEP staff, partners, and volunteers.

An additional funding and leverage opportunity was provided by the Corporation for the National Community Services (CNCS) to support additional AmeriCorps VISTA volunteers. Because the majority of the SJBE watershed is considered an environmental justice community, the SJBEP is eligible to participate in the AmeriCorps VISTA program. Under this program, each AmeriCorps volunteer receives a stipend of \$15,000 per year. CNCS has provided the funds to cover the stipends for ten AmeriCorps VISTA volunteers to work on TFW-related activities since 2014.

- Partners

The SJBEP has also successfully partnered with several organizations and government agencies to leverage the TFW Initiative budget.

Government Partners	Private and NGO Partners
Corporation for the National Community Services	Banana Boat-Energizer
Martín Peña Enlace Project (community-based)	Crowley Maritime Corporation
NOAA- Marine Debris Program	Dasani
PR Aqueduct and Sewer Authority	El Nuevo Día Newspaper
PR Department of Natural and Environmental Resources	GFR Media
PR Environmental Quality Board	MillerCoors
San Juan Autonomous Municipality	PR Contemporary Art Museum
Sea Grant	PR Recycling Partnership's TFW Committee
The Cantera Peninsula Integral Development Company (community-based)	Scuba Dogs Society (International Coastal Cleanup)
UNEP Regional Office for North America (RONA)	SJBEP volunteers
University of Puerto Rico	Vieques History and Conservation Trust
	Walmart
	Yaguazo Corridor (wetland community-based NGO)

LEVERAGING AND FUNDING SJBEP TFW ACTIVITIES (Continued)

Of particular note is the Banana Boat donation of \$5,000 and the coordinated media tour they executed during the month of April 2015 to raise public awareness concerning the SJBEP TFW activities. As a result of Banana Boat's collaboration, the SJBEP was given coverage in newspapers, radio, and TV, in addition to a special, in-depth, full-color, four page article in the main island newspaper, *El Nuevo Día* (an estimated value of \$40,000 in free press for the article). MillerCoors joined the SJBEP TFW efforts with a donation of \$5,000 and coordinated a cleanup, monitoring, and a red mangrove-planting event in La Esperanza Peninsula in the San Juan Bay.



SJBEP TFW Progress

Since October 2014, when the first TFW coordinator joined SJBEP, the estuary program was able to complete a total of 63 TFW activities as part of their workplan, including:

- 18 cleanups (2 underwater and 16 land-based at 8 different sites with a total of 516 volunteers)
- 30 talks,
- 8 workshops,
- 15 solid waste stormwater monitoring activities,
- one survey,
- cleanups,
- recycling program,
- plastic bag ban outreach
- educational materials,
- media campaign, and
- one marine litter educational exhibition.



Cleanups

All cleanups included educational talks that explained the SJBEP TFW initiative and the importance of preventing trash and litter from reaching our waterbodies. As a result of these cleanups, a total of 20,839 items, with an additional 23,001 cigarette butts, were collected and

LEVERAGING AND FUNDING SJBEP TFW ACTIVITIES (Continued)

properly disposed of; nearly 2 tons of the waste collected will not become marine litter in the SJBE.

Workshops

The eight workshops were led by 10 trained SJBEP TFW spokespersons that completed 30 talks during the year. These talks were presented to school children in the Condado Lagoon area and various summer camps.

Educational Exhibition- The SJBEP TFW initiative developed a marine litter educational exhibition that included displays trash collected during underwater cleanups. These illustrative displays were first presented to the public during the World Environment Day activity held at the Plaza de Armas in Old San Juan. The exhibition consisted of multiple 4' x 2' acrylic display



boxes that showcased various examples of trash collected from the marine environment. The exhibition received a lot of media coverage, and over 500 children and adults visited the installation during the first 4 hours. The SJBEP TFW exhibition has been displayed at other locations within the SJBE watershed. The main objective of these displays is to present the real perspective of marine litter and its consequences in the ecosystems.

Another achievement of the SJBEP TFW initiative was the launch of the San Juan Municipality recycling program in Old San Juan. The municipality invested \$250,000 in the project with an overall goal to recover and recycle nearly 60% of the estimated 28,000 lbs of waste generated in the city per day.

SJBEP TFW Media Campaign

Since 2014 the SJBEP has maintained a media presence with features in TV interviews, radio programs, and the print media. In addition, the SJBEP has developed a series TFW of public service announcements. Over \$100,000 in free ads placement have appeared in the island's main newspapers.



The AmeriCorps VISTA program has also provided critical communication support to the TFW activities through photo

August 2016

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LEVERAGING AND FUNDING SJBEP TFW ACTIVITIES (Continued)

documentation and [SJBEP's TFW video](#) that have been used and/or published in SJBEP publications, the Web, YouTube and social media. The AmeriCorps VISTA volunteers (VISTAs) also have been involved in the graphic design of guides, documents, educational videos and posters, flyers, and other outreach materials needed to support the SJBEP's TFW activities. Additionally, several of the SJBEP TFW activities have been highlighted in the [SJBEP director's blog](#).

Educational Materials

Currently, the SJBEP is in the process of creating an interactive map using data gathered by VISTAs and SJBEP volunteers during clean up events to identify sites where the most cigarettes



butts have been collected. They also are preparing other maps within the SJBEP watershed to identify trash hotspots. These maps are used as educational materials during events such as field trips with students and meetings with citizens. The maps will be completed by the end of fiscal year 16.

Plastic Bag Ban Outreach

On October 31, 2015, the Governor of Puerto Rico signed an Executive Order to ban plastic bags. The legislature then passed a bill that the Governor signed into law (247-2015) on December 29, 2015. The ban took effect in mid-2016 and was preceded by a six-month educational campaign. To that effect the Municipality of San Juan began the process of the implementation of the law by reaching out to different organizations. The SJBEP provides education and outreach regarding the implementation of the law to businesses and general public in Old San Juan and other adjacent areas.

TRASH FREE WATERS COMMITTEE TERMS OF REFERENCE

1. Purpose

Marine litter is a major issue in Jamaica, and is seen accumulated on the island's beaches, coastline, and marine ecosystems. While a wide range of materials constitute marine litter, the majority is in the form of plastics, which persists in the marine environment for hundreds of years. Over time, due to prolonged sun exposure and other physical and chemical reactions, plastics deteriorate into numerous tiny fragments, which can easily enter the food web, thus posing threats to marine life, coral reefs, coastal ecosystems, and human health.

The Government of Jamaica, through the Ministry of Economic Growth and Job Creation (MEGJC) and National Environment and Planning Agency (NEPA), and in collaboration with the United Nations Environment Programme (UNEP) Caribbean Sub-Regional Office (CSRO), the UNEP Caribbean Regional Coordinating Unit (CAR/RCU), the United States (US) Peace Corps and US Environmental Protection Agency (EPA) is leading a partnership that supports measures to reduce land-based sources of waste including plastics from entering Jamaica's marine environment. This Partnership is under the Trash Free Waters Initiative which was launched in August 2016.

The Trash Free Waters Committee (TFWC) will oversee the implementation of projects and related activities and support other national efforts at reducing land-based sources of pollution, in particular from solid waste. The TFWC is a multi-stakeholder group that will support the national effort relating to the management of plastic litter.

2. Functions

The responsibilities of the TFWC include, but are not necessarily limited to the following:

- a. Co-ordinating and monitoring implementation progress of Trash Free Waters projects for both effectiveness and efficiency;
- b. Reviewing updates provided by respective agencies on on-going partnerships/collaborative agreements among stakeholders;
- c. Identifying opportunities for synergies with other solid waste programmes, projects and activities especially at the community level;
- d. Leveraging financial and/or technical support for community-based projects including replication and up-scaling of on-going efforts;
- e. Share best practices and experiences in solid waste management and policy that have been shown to effectively prevent and reduce marine litter.

3. Composition

The PAC will comprise the government agencies, development partners and non-governmental organizations that are directly involved in waste management at the local and national levels. The membership of the TFWC will include representatives of the agencies and institutions listed below:

- Ministry of Economic Growth and Job Creation
- Ministry of Local Government and Community Development
- Ministry of Health, Ministry of Tourism
- NSWMA
- NEPA
- Maritime Authority of Jamaica
- UNEP
- Recycle Partners of Jamaica
- Sandals Foundation
- WISYNCO Group
- Jamaica Environment Trust;
- UWI-Mona
- US-Peace Corps
- Alligator Head Foundation

TRASH FREE WATERS COMMITTEE TERMS OF REFERENCE (Continued)

4. Work of the Committee

Representatives from other organisations or individuals may from time to time be invited to attend meetings or be co-opted to sit on the TFWC or support its work as needed, for example through expert working groups or sub-committees that will facilitate stakeholder collaboration on crosscutting themes of special relevance to the mandate of the TFWC. Where such committees or working groups are established, they will function in an advisory capacity to the TFWC and operate with a specific remit and Terms of Reference.

5. Secretariat

The NEPA will provide the secretariat support to the Committee and will be responsible for communication and following up on actions to be undertaken by TFWC members.

6. Meeting Procedures

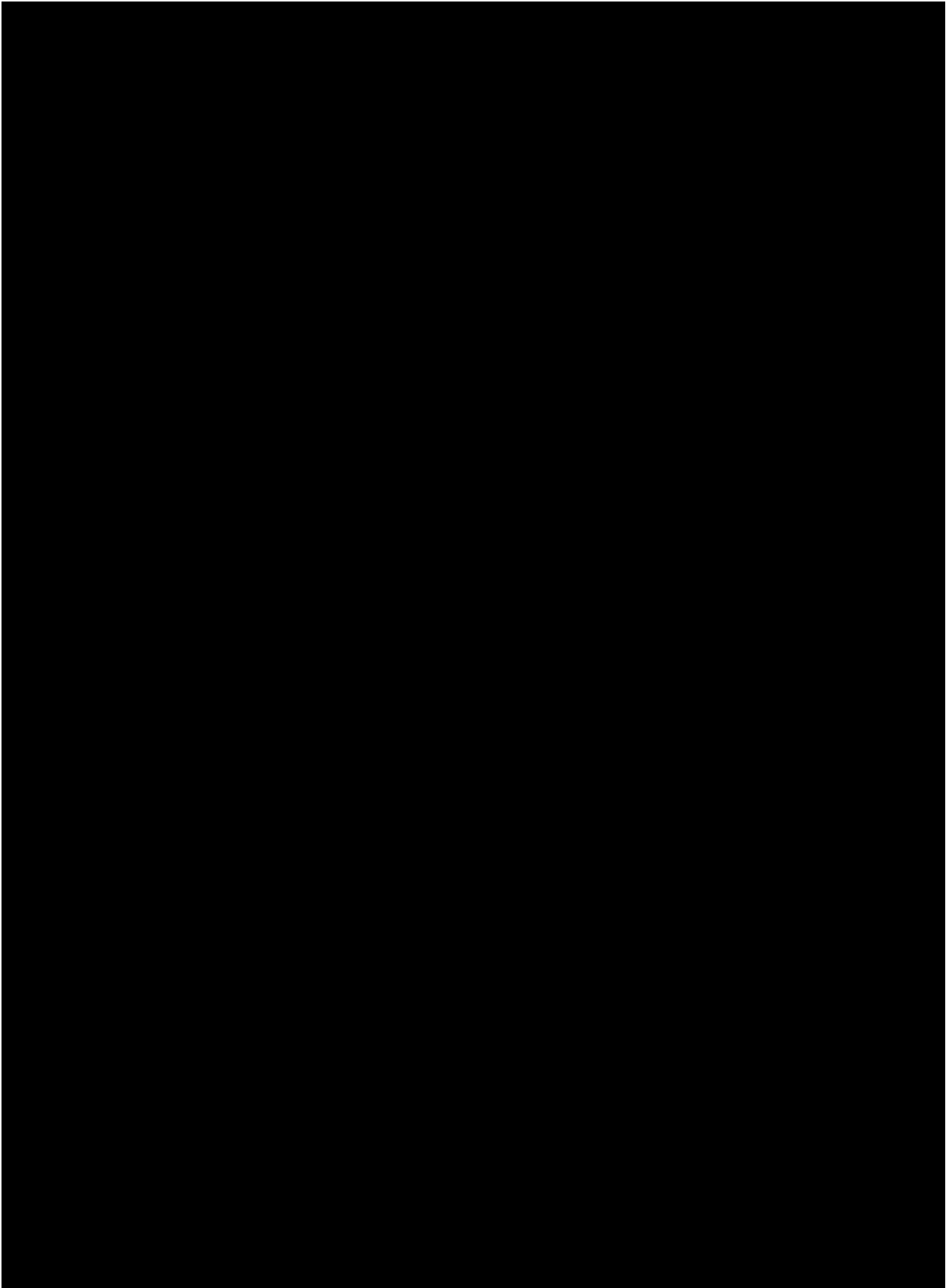
6.1 Frequency of Meetings

The TFWC will meet quarterly.

6.2 Quorum

Five members of the Committee constitute a quorum.

TRASH FREE WATERS FACT SHEET



TRASH FREE WATERS FACT SHEET (Continued)

PERU

Project: The project focused on job training in two communities within the municipality of Chincha for informal waste pickers and improved the connection between waste pickers and a regional recycling facility. As part of the formalization effort, our partner, Ciudad Saludable, implemented a source segregation and selective collection program that was expanded and now includes alliances with recycling associations. The project also identified litter leakage hot spots for Chincha to help prioritize removal efforts.

Partners: Ministry of Environment Peru; U.S. Embassy Peru; Ica Regional Government; Ciudad Saludable (NGO); Coca-Cola

Funding: EPA—\$75K; **Leveraged Funds:** Coca-Cola -\$300K; USAID - \$300K used to construct an additional regional collection facility for recyclable material

Metrics: 2 regional job trainings to formalize and register waste pickers; 16 hot spot sites identified, and a plan for regular waste removal



OUTREACH TO INTERNATIONAL PARTNERS

EPA has been working with priority countries and international partners to address marine litter by:

- **Leveraging action done by private sector and NGO partners including the Alliance to End Plastic Waste and the Ocean Conservancy, including through providing technical assistance to Ocean Conservancy's Urban Ocean initiative in pilot cities.**
- Leveraging Asia-Pacific Economic Cooperation (APEC) Projects through the Working Group on Marine Debris and through participation in APEC workshops to provide trainings on the TFW model.
- Working with multilateral development banks, including the World Bank and the Asian Development Bank to address marine litter in developing countries in Asia.
- Working trilaterally through ongoing Commission for Environmental Cooperation (CEC) marine litter projects in shared border watersheds with Canada and Mexico.
- Seeking opportunities for TFW International expansion under U.S. Free Trade Agreements, including in Central American and the Caribbean.
- Meeting bilaterally with priority countries in Asia at the G20 Environmental Ministerial Meeting to discuss collaboration on regional marine litter issues.



Administrator Wheeler meets bi-laterally with Vietnam's Deputy Minister for the Environment LE Cong Thanh

U.S. EPA'S TRASH FREE WATERS DOMESTIC NEWSLETTER



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This newsletter is intended to provide the latest information to all of our Trash Free Waters (TFW) partners and friends.

The Flow...of Trash Free Waters is our opportunity to highlight recent successes, as well as shine a spotlight on news and other related items. It is produced by the U.S. Environmental Protection Agency, with support from IEC. Mention of commercial products, publications, or Web sites in this newsletter does not constitute endorsement or recommendation for use by EPA, and shall not be used for advertising or product endorsement purposes.

HOW'S IT FLOWING?

Administrator Wheeler Discusses Marine Litter During Visit to Brazil

In February, U.S. Environmental Protection Agency (EPA) Administrator Andrew Wheeler became the first Administrator to visit the Amazon. He participated in a variety of events in Manaus, Brazil to increase awareness around recycling and projects that address marine litter. "Building partnerships to reduce marine litter is one of my priorities. EPA looks forward to developing collaboration with Brazil to reduce marine litter through the sharing of information and best practices," said Administrator Wheeler.



Administrator Wheeler, Minister Salles, Governor Lima, and Congressman Ramos participate in a beach cleanup event.

Among other activities, Administrator Wheeler met with Minister of the Environment Ricardo Salles and Amazonas State Governor Wilson Miranda Lima to discuss shared environmental challenges including marine litter. He joined them to witness the

signature of a Brazilian decree to implement a national agenda on urban environmental quality, in partnership with the Amazonas state government. This program promotes stakeholder engagement to reduce the volume of

plastic waste transported by the rivers to the oceans.

Following the signing, Administrator Wheeler volunteered with other dignitaries and community members to clean up trash at Ponta das Lajes beach.

Philadelphia "Community Cans" Ribbon Cutting Event

On December 12th, 2019, a ribbon cutting press event was held in recognition of the ongoing Philadelphia Community Cans project. Community Cans is a public-private partnership program through which the City of Philadelphia partners with community organizations, commercial corridor managers, and businesses to increase public trash can coverage along Philadelphia commercial corridors. Community partners take responsibility for maintaining the cans, which are strategically

(continued on p.2)



Tiden Middle School students painting can lids for Southwest Philly.

Photo courtesy of the Partnership for the Delaware Estuary.

U.S. EPA'S TRASH FREE WATERS DOMESTIC NEWSLETTER (Continued)

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(continued from p.1)

placed to improve litter conditions along each specific corridor. The City consults with each participating group to determine the best location for each Community Can, using [City-wide Litter Index](#) data along with maps of existing trash can locations to place the Community Cans to most effectively reduce litter and illegal dumping.

The initiative was adopted under Clean PHL's Zero Waste and Litter Cabinet, which is working towards the ambitious city-wide goal of becoming zero waste and litter-free by 2035. The Partnership for the Delaware Estuary, the Philadelphia Water Department, and Mural Arts Philadelphia are additional partners. This project was supported by a 2018 EPA grant. Read more about this initiative at: <https://www.metro.us/news/local-news/philadelphia/trash-can-painted-art-installed-southwest-philly-juniata-park> and <https://cleanphl.org/portfolio-item/2018-progressreport/>.



Photo courtesy of the Partnership for the Delaware Estuary.

Trash Free Texas Adopt-a-Spot Program Expands

The Trash Free Texas (TFTx) Adopt-A-Spot site and online mapping tool works to foster a litter-free environment in Texas watersheds and track trash removal activities by connecting volunteers to litter cleanup opportunities. Locations from Waco, Texas have just been added to the Trash Free Texas network thanks to ongoing engagement with regional stakeholders and partners including affiliate chapters of Keep Texas Beautiful, the Texas Department of Transportation, the North Central Texas Council of Governments, and more.

New communities are coming on board each month as the initiative expands across the state. The TFTx team is currently developing a Communications and Outreach Strategy for the program to help enhance reach and solidify brand and messaging. This strategy will be complemented by new outreach material explaining the responsibilities of joining as a coordinator and helpful resources to get started. Learn more at: <https://www.trashfreetexas.org/volunteer>.

In addition, on April 15, 2020, TFTx Champions from the City of Fort Worth, Keep Texas

TRASH FREE TEXAS

Beautiful, and the host, Texas State University, held a webinar in which they explained the history, use and evolution of this important tool. Look for the archived webinar at: <https://www.epa.gov/trash-free-waters/trash-free-waters-webinar-series>.

Alaska Marine Debris Summit

On February 14th, 2020 the EPA Alaska Operations Office hosted a Marine Debris Summit, "Leveraging our Collective Efforts, Identifying Needs, and Moving Forward," to complement the [Alaska Forum on the Environment](#) hosted by the National Oceanographic and Atmospheric Administration (NOAA). The Summit attendees included other federal agency partners (e.g., NOAA, US Department of Agriculture, National Park Service), tribal representatives, local and state government representatives, academics, NGO partners, and representatives from Senator Sullivan's office.

The morning sessions characterized marine debris in Alaska and discussed

microplastics in the Arctic. The afternoon session, led by EPA Region 10, focused on marine debris disposal. A special emphasis of the meeting was on best practices, successes, challenges, needs, and case study lessons learned regarding the nexus of waste disposal and marine debris. Summit sessions worked to: 1) Characterize marine debris issues onshore/nearshore, reporting, and points of contact, 2) Discuss microplastics in the Arctic, 3) Cover marine debris disposal in Alaska through case studies and a discussion panel, 4) Identify action plan inputs, and 5) Discuss next steps.

The session on characterizing marine debris and reporting highlighted impediments to disposal and solutions to address these issues. Cost, lack

of transportation infrastructure, inaccessibility of shoreline, volume and weight of debris, contaminants/hazardous waste, and a large geographic area are all potential barriers to more efficient marine debris cleanups. Prevention efforts such as recycling education, reduced plastic consumption, and improved infrastructure for disposal of old fishing nets and gear were identified as strategies to reduce the impact of marine debris in the region. Clean up protocol training and assistance in navigating funding opportunities were identified as community needs moving forward.

—Layne Marshall,
EPA ORISE participant,
Marshall.Layne@epa.gov

U.S. EPA'S TRASH FREE WATERS DOMESTIC NEWSLETTER (Continued)

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Trash Capture in the Proctor Creek Watershed

Trash capture in the Proctor Creek watershed serves as an example of interagency collaboration and private sector engagement to advance clean, trash-free communities. The Proctor Creek Urban Waters Federal Partnership ambassador and the Region 4 Trash Free Waters coordinator work closely to leverage resources and reach goals within the community. Thanks in part to their advocacy, Coca-Cola has invested in the watershed to enhance trash capture efforts as part of their World Without Waste campaign. Coca-Cola has now funded two trash capture projects in six locations within the Proctor Creek Watershed. One project is being carried out in partnership with the Chattahoochee RiverKeeper and the other through the National Recreation and Park Association (NRPA) and City of Atlanta. Various trash capture

devices such as litter gitters have been installed both in the main spine of Proctor Creek and in several tributaries. They are placed in accessible and highly visible areas close to elementary schools, greenways, and pedestrian walking bridges where people can view firsthand the amount of in-stream trash being collected.

Other aspects of the projects include data collection using the EPA's Escaped Trash Assessment Protocol (ETAP) tool, continued maintenance training and workforce development, and outreach and education with schools and adult learning centers. This trash capture network is considered a demonstration project which can be used to provide information for parties domestically and abroad that could be interested in planning and designing a similar



Photo courtesy of Georgia Stand Up

Trash capture device in Proctor Creek, Atlanta.

system of traps to clean up waterbodies.

The Proctor Creek UWFP is currently discussing next steps for the project after it officially ends in December 2020.

Litter gitter technology has greatly expanded since the first test site in 2017. By the end of

March 2020, there will be a projected 29 total active litter gitter sites throughout the nation including 6 in the Dog River Watershed outside Mobile, AL and 3 in the Mill Creek Watershed outside Cincinnati, OH.

—Chris Plymale,
USEPA Region 4,
Plymale.chris@epa.gov

Stormwater & Litter Workshop

On February 10th, Clean Virginia Waterways hosted the 2020 Stormwater and Litter Workshop in Ashland, VA. The goal of the workshop was to help stormwater and litter-prevention professionals address urban trash pollution and implement strategies and engineered solutions to intercept trash. Topics included the connection between stormwater and our oceans, state legislative solutions to reducing litter, stormwater technology, using MS4 permits to monitor and control plastic pollution, and reducing littering behavior

through community-based social marketing. The second half of the workshop included a group discussion and exercise to help direct future trash interception efforts under the Virginia Marine Debris Reduction Plan. The Clean Virginia Waterways Stormwater & Litter Workshop has now become an annual event for professionals to gain insight and training.

Visit <http://www.longwood.edu/cleanva/stormwater.html> to view the workshop presentations.



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Update on Hayward Youth Based Capture Expansion

Under the San Francisco Bay Area storm-water permit, Hayward is one of 76 municipalities responsible for achieving a 100% reduction in trash discharges into the Bay by 2022. From 2015- 2019, the City of Hayward installed three large trash capture devices treating over 1,000 acres of the city's watersheds, with the goal of preventing over 20,000 gallons of trash from entering San Francisco Bay per year. EPA's

San Francisco Bay Water Quality Improvement Fund provided the funding to support this project. A fourth trash capture device will be implemented this fall in another high trash-generating area. The scope of this project includes not only capturing trash, but also characterizing and quantifying the trash collected and implementing actions to engage the public (specifically youth) to prevent littering. Hayward is continuing to

implement a 1st-through-12th grade trash reduction curriculum in all schools during the project period in partnership with public and private schools and college interns. High school curricula will include more sophisticated aspects of trash reduction, including trash capture design and attending trash capture device installation and/or clean-outs. Learn more [here](#).

New Story Map Highlighting Marine Debris Clean Up in Samish Traditional Territory

A GIS story map tool was recently developed by the Samish Indian Nation Department of Natural Resources (DNR) with support provided by EPA Region 10. Over the past six years, the Samish DNR partnered with the Washington Department of National Resources, Washington Conservation Corps, Veterans Conservation Corps, and EarthCorps to remove over 76,000 pounds of treated wood and other marine debris (equivalent to 18,000 gallons of chemical creosote) from public and private shorelines of Skagit County, Island County, Southern Whatcom County and the San Juan Islands within the San Juan Archipelago off the coast of mainland Washington. Projects highlighted in the story map include removing creosote treated wood and other debris like plastic and Styrofoam that washes onto beaches, lagoons, and estuaries, as well as removing derelict shoreline structures.

The story map highlights which shorelines were addressed under the cleanup project each year. In 2017, the Samish DNR

decided to survey the region for marine debris before sending out cleanup crews. They found that over 325 creosote or marine debris sites were present within the San Juan Islands and used imagery, GPS coordinates, and size of debris to expedite the process and prioritize highly contaminated shorelines. Pre-cleanup data collection was used to make informed decisions about where to allocate resources for efficient cleanup and removal efforts. In 2019, the team resurveyed the 2017 survey area and found 141 fewer contaminated sites.

The Samish DNR and its partners plan to continue their cleanup efforts this summer. Restoring the Samish Territory ensures the protection of the Samish People's cultural identity which is deeply connected to the Salish Sea coastal environment. Check out the Creosote Marine Debris Data Summary Report Story Map here: <https://storymaps.arcgis.com/stories/907423ba45d84895b769db1dbd061502>



A creosote piling being removed from Lopez Island, WA.

Photo from the Samish Indian Nation story map.

U.S. EPA'S TRASH FREE WATERS DOMESTIC NEWSLETTER (Continued)

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Salish Sea Hydrodynamic Model for Microplastics Hotspots

In 2018, EPA hired the Pacific Northwest National Laboratory (PNNL) to use their Salish Sea Hydrodynamic Model to examine transport and accumulation patterns of waste plastics entering the Salish Sea, the complex fjord system shared by Washington State and British Columbia. The southern part is frequently referred to as Puget Sound. Coast Salish people in the region use the term Salish Sea for these waters, north and south, to highlight their longstanding stewardship of it and the cross-border interconnections. The increasing level of escaped plastic trash in the Pacific Northwest has been identified as a significant concern to the health of the Salish Sea marine ecosystem.

The Salish Sea Model (SSM) was developed through a collaborative effort between PNNL and state and federal agencies to model water circulation and transport throughout the Salish Sea watershed. The 2018 Trash Free Waters study sought to answer four questions: 1) If microplastics were uniformly entering the Salish Sea, where would they accumulate? 2) How is the micro plastic load from wastewater treatment plants expected to travel in the

Salish Sea? 3) How great is the potential for microplastics to accumulate in regions where shellfish beds are located? and 4) Where would macro trash (greater than 5 mm) accumulate if it was uniformly entering the Salish Sea watershed?

When the questions were posed, the uniform entry of microplastics seemed unlikely, and the model run was proposed to better understand comparative factors between scenarios. Since the model run, EPA has become aware of findings that indicate that tire particle wear, a normal part of tire use, may be releasing microplastics in what is indeed a broad scale across the landscape and that storm water is bringing those particles into waterways such as the Salish Sea.

While the SSM is geographically specific, there are similar hydrodynamic models in other waterways. Using them for studies like this help us all determine where to focus our efforts. For more information on the Salish Sea Model, visit <https://salish-sea.pnnl.gov/SSM/projects/marine-pollution/microplastic-transport.stm>.



Salish Sea Model Domain (from website)

Coastal Heartland NEP "Trash Tackle" Cleanup Event

The Coastal & Heartland National Estuary Partnership (CHNEP) held a 'Trash Tackle' on Saturday, February 29th, in partnership with Keep Charlotte Beautiful and to celebrate #EmbraceTheGulf2020 and Great American Cleanup month. CHNEP staff educated the 33 volunteers about single use plastics and microplastics. Volunteers and staff then picked up marine debris out of the mangroves and shoreline along Charlotte Harbor in Punta Gorda, FL. This event was part of a monthly volunteer event series that CHNEP offers to educate and equip citizens to protect and restore the natural resources in their own communities.



Volunteers at the CHNEP cleanup event (photo courtesy of CHNEP)

U.S. EPA'S TRASH FREE WATERS DOMESTIC NEWSLETTER (Continued)

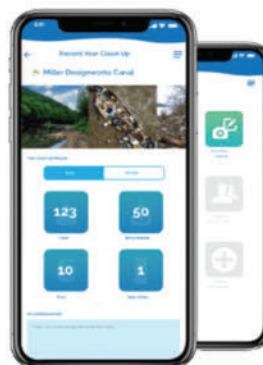
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THE FLOW OF...TRASH FREE WATERS

Schuylkill CleanSweep App

The new and improved Schuylkill CleanSweep App (Streets and Walkways Education and Enforcement Program) is officially up and running. CleanSweep is a free tool which can be used to find and record cleanup efforts, register cleanup events and teams, and report and adopt litter hotspots. The expansion of the CleanSweep App was designed to help volunteer cleanup coordinators document and record team successes within the watershed. The app is complemented by a "Guidebook for Leading Litter Cleanups." Project sponsors include the

Schuylkill Action Network, Partnership for the Delaware Estuary, Schuylkill River Greenways, and William Penn Foundation. This litter data collection system expansion was supported by a 2018 EPA Urban Waters grant. Metrics and photos uploaded through the app will also be displayed on the Schuylkill CleanSweep website here: <https://schuylkill-cleansweep.org/>. This app will serve to enhance the ongoing work being done in the Schuylkill watershed to connect people, science, and nature for a healthy Delaware River and Bay.



Schuylkill CleanSweep app and manual.

The Rapids: News Drops

NEWS

Gulf of Mexico Trash Free Waters Grant Program

On September 24th, 2019, EPA announced the availability of grant funding for innovative projects focused on reducing the amount of trash in our waterways through trash prevention and/or removal in the Gulf of Mexico. Overall, EPA's Gulf of Mexico Division received just over 40 grant applications. Final awards are expected by June 2020. For updates, visit the Trash Free Waters website at: <https://www.epa.gov/trash-free-waters>

Save Our Seas 2.0

On January 9th, the Senate unanimously passed the Save Our Seas 2.0 Act (SOS 2.0). The related bill in the House is still in committee. The legislation seeks to help reduce the creation of plastic waste, find uses for the plastic waste that already exists to keep it from entering the oceans, spur innovation, and tackle the problem on a global scale. It builds on the initial progress of the Save Our Seas Act of 2018.

NOAA Announces Release of 2020 Florida Marine Debris Reduction Plan

The 2020 Florida Marine Debris Reduction Plan was created through the voluntary, collaborative effort of 41 organizations to address marine debris in Florida through coordinated actions. This Reduction Plan encompasses work that will be undertaken in the next five years (2020-2025) and establishes a comprehensive framework for strategic action to help ensure that Florida and its coasts, people, and wildlife are free from the impacts of marine debris. Learn more at: <https://marinedebris.noaa.gov/regional-action-plan/florida-marine-debris-reduction-plan>

Nurdle Patrol Update

In February 2020, Nurdle Patrol volunteers removed 8,524 nurdles from beaches primarily around the Gulf of Mexico. (Nurdles are small round plastic pellets that are the base material used to manufacture most plastic items.) The [Shedd Aquarium](#) in Chicago is now partnering with Nurdle Patrol, and will be holding education programs and spreading the word in the Great Lakes region. This makes 28 Nurdle Patrol partners to date. In addition, The [Nurdle Patrol methodology paper has been published](#) and is open access. Facebook page [Nurdle Patrol](#) now has 2,162 followers. Visit www.nurdlepatrol.org for more information.

—Jace Tunnell, Mission-Aransas National Estuarine Research Reserve, jace.tunnell@austin.utexas.edu

U.S. EPA'S TRASH FREE WATERS DOMESTIC NEWSLETTER (Continued)

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FUNDING OPPORTUNITIES

National Science Foundation Proposal: Micro- and Nano-plastics

The National Science Foundation seeks proposals that tackle some of the fundamental scientific questions underlying micro- and nano-plastic characterization, behavior, and reactivity in the environment, as well as their elimination from land and water systems. NSF is considering proposals in a wide range of research having to deal with chemistry, toxicity and the geoscience, ecological and evolutionary science interactions of micro- and nano-plastics as well as solutions regarding engineering, innovation, and education around the topic. Learn more at: https://www.nsf.gov/pubs/2020/nsf20050/nsf20050.jsp?WT.mc_ev=click&WT.mc_id=USNS-F_25&utm_medium=email&utm_source=GovDelivery

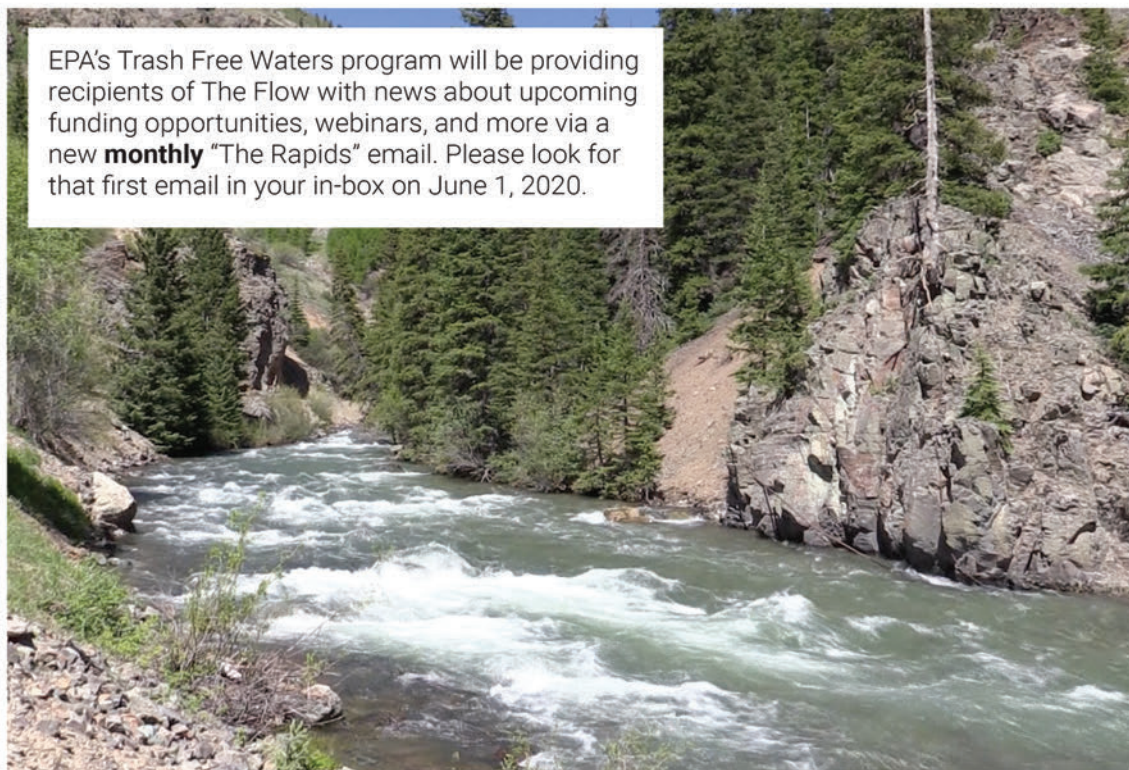
WEBINAR

Webinar: Plastics or Planet? Moving Beyond Plastics

June 4, 2020 at 1pm Eastern/10am Pacific/5pm UTC

Judith Enck of Beyond Plastics will explore the environmental, economic, and health implications of plastic production, use, and disposal, and will discuss the latest plastic reduction laws. The webinar is co-hosted by the EBM Tools Network and OCTO. To register, visit: https://zoom.us/webinar/register/WN_-tb3QBx7TJi-9rCik7w4aJg

EPA's Trash Free Waters program will be providing recipients of The Flow with news about upcoming funding opportunities, webinars, and more via a new **monthly** "The Rapids" email. Please look for that first email in your in-box on June 1, 2020.



Have a TFW Story to Share?

The Flow is always looking for TFW articles, news and event information. Contact the editor at mayio.alice@epa.gov for submission deadlines.

STAKEHOLDER DIALOGUE EVALUATION FORM

CEC Meeting-Participants Survey

*Building community solutions to prevent land-based litter from entering
the Tijuana River watershed 4 May 2018 Imperial Beach, CA*

Meeting Content

Please rate the statements in the table below on a scale of 1 to 5 as follows:

5—Strongly agree; 4—Agree; 3—Neither agree nor disagree; 2—Disagree; 1—Strongly disagree

	Statements	Rating (1 to 5)	Comments
1.	The agenda was balanced		
2.	The facilitator(s) clearly explained the meeting objectives and methodology		
3.	Presenters spoke clearly and were engaging		
4.	Presenters gave about the right amount of detail		
5.	The presenters answered questions well		
6.	The time allocated for questions was sufficient		
7.	Documentation and PowerPoint presentations were useful		
8.	The discussion topics were appropriate		
9.	The meeting was productive and the objectives of the meeting were met		
10.	The meeting was well organized and ran smoothly		
11.	The meeting met my objectives/expectations		
12.	I felt comfortable contributing to the meeting		
13.	The information presented was useful to my work		

Please continue on the next page.



Thank you for taking the time to complete this survey!

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STAKEHOLDER DIALOGUE EVALUATION FORM

(continued)

CEC Meeting-Participants Survey
*Building community solutions to prevent land-based litter from entering
 the Tijuana River watershed 4 May 2018 Imperial Beach, CA*

14.	I foresee implementing some changes in my work as a result of what I learned at this meeting		
15.	I foresee being able to share with others in my work environment what I learned at this meeting		

Meeting Logistics

Please rate the elements in the table below on a scale of 1 to 5 as follows:
5—Excellent; 4—Above average; 3—Average; 2—Below average; 1—Poor

Logistic Elements	Rating (1 to 5)	Comments
Overall preparation by CEC Secretariat		
Meeting destination		
Accessibility of meeting facilities		
Quality of meeting facilities		
Room set-up		
Food during the meeting		
Interpretation services		
Audio visual equipment		
Shuttle Service		

Feel free to provide additional comments here, including questions and suggestions you may have for the experts or CEC staff regarding this type of events:



Thank you for taking the time to complete this survey!



BATTELLE

The design work and presentation was made possible through collaboration under a cooperative agreement between the U.S. Environmental Protection Agency and Battelle via Grant # 83617201.