

Huron River Watershed Council: Microplastic Reduction Program Evaluation Report

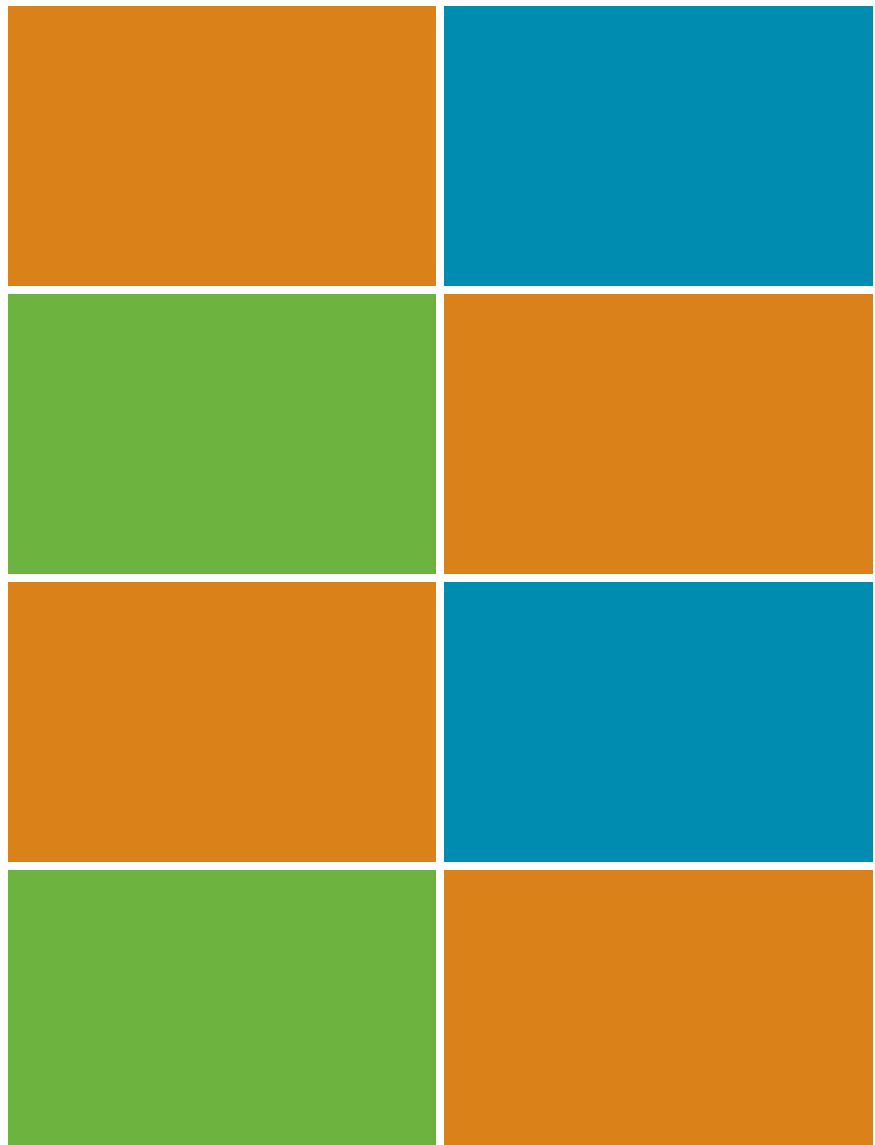
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Contents

- Background 1
 - Purpose 1
 - Covid-19 1
- Methodology..... 1
 - Sample..... 1
 - Cora Ball Survey 2
 - Washing Machine Filter Interviews 2
- Results..... 2
 - Cora Ball Survey 2
 - Behaviors 2
 - Issues with the Cora Ball..... 3
 - Communication through Social Networks 3
 - Usefulness of Cora Ball Instructions and Shopper’s Guide..... 5
 - Values..... 5
 - Washing Machine Filter Interviews 6
 - Motivations 6
 - Installation and Maintenance 6
 - Communication through Social Networks 6
 - Usefulness of the Shopper’s Guide 7
- Summary 7
- Recommendations 8
 - Communication Channels 8
 - Cora Ball Strategy Table 9
 - Washing Machine Filter Strategy Table 10
 - Natural Clothing (Shopper’s Guide) Strategy Table 11
- Implementation 12
 - Citywide Roll Out..... 12
 - Control Groups..... 12
 - Message Delivery Methods..... 12
 - Evaluation..... 13
 - Combining Behavioral Messages with Existing Programs..... 14
 - Publicity..... 14
 - Program Delivery Steps..... 15
 - Example Timelines 16
 - Direct Mail Implementation..... 16
 - In-Person Implementation 18

Table of Tables

Table 1. How Often Do You Use the Cora Ball?	2
Table 2. What Kinds of Things Did You Find in the Cora Ball?	3
Table 3. Did You Have Any Issues with the Cora Ball?	3
Table 4. Did You Talk to Anyone about the Cora Ball?	3
Table 5. Would You Recommend the Cora Ball to Others?	4
Table 6. Reasons Respondents Would Recommend the Cora Ball.....	4
Table 7. Reasons Respondents Would Not Recommend the Cora Ball.....	4

Table of Figures

Figure 1. How Useful Did You Find the Following Materials?.....	5
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Background

Purpose

Two surveys were conducted to evaluate a pilot microplastics reduction outreach program which took place in June 2021. Residents in two neighborhoods in Ann Arbor, Michigan were offered a Cora Ball, a washing machine filter, or both. The objective of the surveys was to assess residents' willingness to use the two products and to inform recommendations for ongoing microplastic outreach.

Survey objectives:

1. Assess residents' perceptions of the effectiveness of the Cora Ball, the washing machine filter, and the accompanying outreach materials;
2. Evaluate residents' motivations and attitudes towards participating in behaviors that reduce microplastics in local waterways; and
3. Inform recommendations for outreach methods, strategies, and materials for the Huron River Watershed Council's outreach program.

Covid-19

The outreach and evaluation research activities for this project were conducted during the Covid-19 pandemic. It is unknown the true impact, positive or negative, of the pandemic on resident's behavior and subsequent outcomes of this project. However, it should be acknowledged that the pandemic caused significant disruption to the daily lives of all Americans. The effect on this program likely came in the form of reduced willingness to engage in previously simple in-person activity, such as answering the door. Outreach and research methods were modified to accommodate the potential concerns of residents and keep outreach staff safe, however, immeasurable impacts remain.

Methodology

Sample

The sample for the evaluation included the 145 households that received a Cora Ball and 22 households that received a washing machine filter. Twenty of the twenty-two households who received a washing machine filter also received a Cora Ball and therefore, were in both samples.

There were 708 households in the original sample across the two neighborhoods (Miller = 306 households; and Stadium = 402 households). The neighborhoods were selected for the outreach conducted in June 2021 because they are all single-family homes and have high owner-occupancy rates. Those attributes were essential in selecting the neighborhoods since installation of the washing machine filter necessitates permission from the homeowner. The neighborhoods were identified using demographic data from the census and addresses were collected using a program called Tapestry. HRWC staff knocked on each door in these neighborhoods to request participation in a clipboard survey, and ask if they wanted a Cora Ball, a washing machine filter, or both. There were 174 households that responded by providing answers to the clipboard survey. Of those, 147 requested a Cora Ball, 76 stated they would be interested in a filter if it were free or a low cost, and an additional 45 stated they would be interested in a filter only if it were free.

Two different methodologies were used to evaluate response to receiving the Cora Ball and washing machine filter. They are explained below.

Cora Ball Survey

A mixed-mode postcard survey was used that combined a mail survey with a web link (URL) and QR code providing an option to complete the survey online. For implementation, we utilized the Tailored Design Method (Dillman et al, 2014), a research-based approach for maximizing response rates. The mailing protocol included:

1. A pre-notification postcard;
2. A mailed survey that included a stamped return postcard;
3. A reminder postcard to non-responders; and
4. A second survey to non-responders.

The survey took place between November 27th and December 20th, 2021 and was sent to 145 households in Miller and Stadium neighborhoods who received a Cora Ball in June. A total of 76 surveys were completed (57 mailed surveys and 19 web surveys) for a response rate of 52%.

Washing Machine Filter Interviews

Twenty-two residents received a filter between October 18th and December 2nd, 2021. In-depth interviews were conducted to evaluate residents' motivations for installing the filter and attitudes towards the filter. The interviews took place between December 1st and December 14th, 2021, and 20 residents (91% of the sample) participated in the interview.

Results

Cora Ball Survey

Behaviors

Respondents were asked how often they use the Cora Ball, how many people in their household do laundry, and if everyone who does laundry uses the Cora Ball.

Table 1. How Often Do You Use the Cora Ball?

	Frequency	Percent
Every time you do laundry	49	64%
More than half the time you do laundry	10	13%
Less than half the time you do laundry	8	11%
Rarely/never	9	12%
Total	76	100%

N=76.

Two-thirds of respondents, 64% (N=49), stated they use the Cora Ball *Every time they do laundry*. Similar numbers of respondents reported using the Cora Ball *More than half the time* (13%, N=10), *Less than half the time* (11%, N=8), and *Rarely or never* (12%, N=9). Eighty percent (80%) of respondents (N=61)

stated that everyone who does laundry uses the Cora Ball, and the number of people who do laundry in each household ranged from 1 to 4.

Respondents were asked what kinds of things they found in the Cora Ball. The question was open-ended, and responses were coded into the categories in the table below. The respondents who stated *Nothing* were removed, and the frequencies of the remaining responses were calculated separately.

Almost half of respondents (46%, $N=32$) reported finding nothing in the Cora Ball since they started using it. Of the respondents who did find something in the Cora Ball, 78% found thread and fibers, 30% found hair, and 28% found lint.

Table 2. What Kinds of Things Did You Find in the Cora Ball?

	Frequency	Percent
Thread/Fibers	31	78%
Hair	12	30%
Lint	11	28%
Nothing	32	46%

$N=70$. Respondents could choose more than one response; therefore, percentages will not sum to 100%.

Issues with the Cora Ball

Respondents were asked if they had any issues using the Cora Ball and what the issues were.

Table 3. Did You Have Any Issues with the Cora Ball?

	Frequency	Percent
Yes	19	25%
No	57	75%

$N=76$.

Three-quarters of respondents (75%, $N=57$) stated they do not have any issues with the Cora Ball. The most common issues respondents had with the Cora Ball were that the Cora Ball tore or got tangled in clothes (64%, $N=12$) and that the Cora Ball didn't collect anything (26%, $N=5$).

Communication through Social Networks

Respondents were asked if they had talked to anyone about the Cora Ball and if they would recommend it to anyone. The respondents who stated they *did not talk to anyone* were removed, and the frequencies of the remaining responses were calculated separately.

Table 4. Did You Talk to Anyone about the Cora Ball?

	Frequency	Percent
Family	27	73%
Friends	23	62%
Coworkers	2	5%
Did not talk to anyone	38	51%

$N=75$. Respondents could choose more than one response; therefore, percentages will not sum to 100%.

Fifty-one percent (51%) of respondents stated they did not talk to anyone about the Cora Ball. Of the respondents who did talk about the Cora Ball, 73% (N=27) talked to their family and 62% (N=23) talked to their friends.

Table 5. Would You Recommend the Cora Ball to Others?

	Frequency	Percent
Yes	50	75%
No	17	25%

N=67.

Most respondents, 75% (N=50), stated they would recommend the Cora Ball to others. The reasons why respondents would or would not recommend the Cora Ball are listed in the table below.

Table 6. Reasons Respondents Would Recommend the Cora Ball

	Frequency	Percent
It's an easy thing to do	12	43%
It helps the environment	9	32%
I would recommend it even though I haven't seen any results	4	14%
I would only recommend it to people who wear synthetic clothing	3	11%

N=28.

Table 7. Reasons Respondents Would Not Recommend the Cora Ball

	Frequency	Percent
It doesn't catch anything	15	65%
It damages clothing	8	35%

N=23.

The main reasons respondents would recommend the Cora Ball are *It's an easy thing to do* (43%, N=12) and *It helps the environment* (32%, N=9). The reasons respondents would not recommend the Cora Ball are *It doesn't catch anything* (65%, N=15) and *It damages clothing* (35%, N=8).

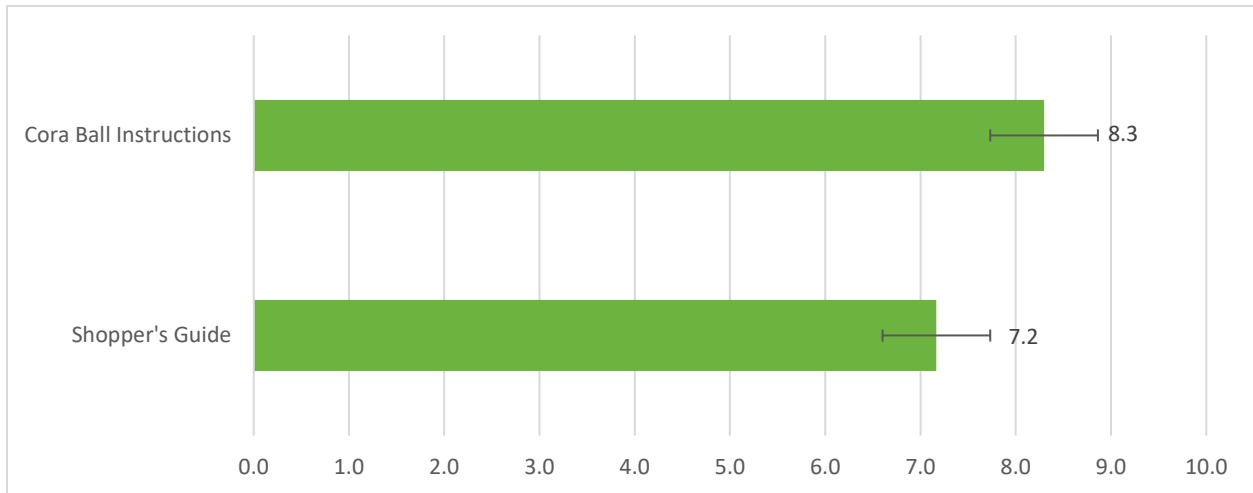
Usefulness of Cora Ball Instructions and Shopper's Guide

Respondents who received a Cora Ball were given two accompanying outreach pieces:

1. Instructions on how to use the Cora Ball; and
2. A shopper's guide which had information on how to buy clothes that don't shed microplastics in the wash cycle.

Respondents were asked to rate how useful they found the materials on a scale from 0 (not at all useful) to 10 (extremely useful).

Figure 1. How Useful Did You Find the Following Materials?



N=74 and *N*=66, respectively.

The average rating for the Cora Ball instructions was 8.3, and the average rating for the shopper's guide was 7.2.

Values

Respondents were asked how important it is for them to participate in behaviors that keep microplastics out of local waterways on a scale from 0 (not at all important) to 10 (extremely important). **The average score was 9.2**, with 95% of respondents (*N*=72) in the 7 to 10 range.

Washing Machine Filter Interviews

Motivations

Respondents were asked what motivated them to have the filter installed. The responses fell into three main categories:

1. Concern for the environment and water quality;
2. Wanting to do their part to keep the environment clean and healthy; and
3. They were approached by HRWC, and it seemed like a good and easy thing to do.

All the residents we spoke to had never heard of the filter and didn't realize it was an option until they had an interaction with HRWC. Many respondents had already been using a nylon over their washing machine hose to catch fibers and were happy to find out a solution like the washing machine filter existed. Some residents didn't know their clothing shed microplastics during the wash cycle but were eager to take advantage of the opportunity to learn more and receive a filter.

Installation and Maintenance

Almost all residents stated the installation process was very easy. The only issues they encountered were with tube sizes and leaks, but those were fixed immediately by the installer. Most residents were shown or told how to clean out the filter and were given a business card if they had any questions.

Although most residents stated they received all the information they needed, a few residents mentioned that it would be helpful to have a link to a website with more information on the filter. One resident who wasn't sure how to clean out her filter stated she found a video online and thought it would've been helpful if the filter came with an instructional video.

Most residents have not yet cleaned out their filters, but many stated that they can already see things building up in the filter.

Communication through Social Networks

Many residents have talked to their friends and family about the filter, and some have posted about it on social media. Almost everyone stated they would recommend the filter for the following reasons:

- It's an easy and simple way to help the environment. The filter doesn't require much effort, it's easy to install, and it doesn't interfere with the wash cycle. If it's simple and helps keep plastics out of the watershed, then why not have a filter?
- It's very effective. Even after a few washes, it's apparent that the filter is collecting things. It helps to see the immediate effects of the filter, and residents can tell that it's working.

Two residents stated they would recommend the filter if it wasn't so expensive. They were excited to take advantage of the free program but were not sure if they would have the filter installed if they had to pay for it themselves.

Usefulness of the Shopper's Guide

Residents were given a shopper's guide with their filter and were asked how useful they found it on a scale from 0 (not at all useful) to 10 (extremely useful). Most residents did not find the shopper's guide useful for the following reasons:

- They already knew the information;
- They are unwilling to change their purchases (e.g., they need to buy fleece in the winter); and
- They prefer online resources to pieces of paper.

Many residents already purchase clothing with natural fibers, and therefore had no need for the shopper's guide. However, the shopper's guide would be useful for individuals who don't already participate in these types of behaviors.

Summary

- The response rates for the Cora Ball survey (52%) and filter evaluations (91%) were very high, which tells us the residents in these neighborhoods are interested in behaviors that help protect the local waterways. Having received a free Cora Ball or filter likely influenced the response rate, as well, out of a sense of obligation.
- Most respondents (64%) reported using the Cora Ball every time they do laundry. However, about half of respondents (46%) haven't found anything in the Cora Ball yet.
- Most respondents were motivated to receive the filter out of a concern for the environment and water quality and because they were approached by HRWC, and it seemed like a good thing to do.
- Some residents suggested that they would like to have access to online resources and videos about the washing machine filter.
- Residents had a better response to the filter and were more likely to recommend it over the Cora Ball since they could see the physical results of things collecting in the filter and because the filter doesn't interfere with the wash cycle.
- Some respondents found the shopper's guide useful while others either already knew the information on the guide or they were unwilling to change their shopping behaviors.

Recommendations

Overall, there is a need to increase knowledge of the microplastics problem in our waterways. Residents stated they believed a lot of people would be interested in using a Cora Ball or installing a washing machine filter, but they don't know microplastics is a problem and that a solution that exists. In addition, the data suggest there are opportunities to use social norms to drive favorable behavior changes. Recommendations for communication channels, and outreach to engage residents in Cora Ball use and installation of washing machine filters are detailed below.

Communication Channels

In-person communication. One-on-one conversations were key to residents agreeing to use the Cora Balls, but more importantly, to installing the washing machine filters. Residents reported that their conversations with HRWC staff and volunteers convinced them to install the filters. While the filters were offered at a low cost or free, having a plumber come into your house and install a bulky device is not an easy ask, so conversations are essential for this behavior. In addition to door-to-door outreach, community events could be used to talk to residents. An event would be ideal for setting up a vivid demonstration of how the device works and how much is captured in the filter in a short period of time.

Social networks. Use social networks to increase installation of the filters. Several residents stated in the evaluation interviews that they told family and friends about the installation and some even posted photos on social media. Provide residents who install a filter with a postcard or other information they can give to friends and family to encourage them to install a filter. The information they are provided should get them straight to the product, potential cost share, and a qualified plumber.

Direct mail. Direct mail may be an effective method for Cora Ball engagement. Test direct mail versus in-person communication and compare results.

Cora Ball Strategy Table

In the strategy table below, we link evaluation results to relevant social science and marketing tools and suggest pathways for operationalization.

Evaluation Outcome	Tools	Strategy Options/Operationalization
<p>Lack of visual feedback that it is effective or working.</p>	<p>Education Associate with other common behaviors. Social Norms Credible Sources</p>	<ul style="list-style-type: none"> • Equate using the Cora Ball to another behavior that is common that does not give visual feedback, but you still do it because you know it has a positive impact. For example, many people take vitamins which likely does not provide immediate visual or physical results, but they continue to take the vitamins. • Show aggregate impacts. For example: <i>If everyone in X neighborhood used a Cora Ball, after a month, the amount collected and kept out of the river would be the size of a baseball or football (as appropriate).</i> From the Shopper’s Guide: <i>If everyone in Ann Arbor uses a Cora Ball or installs a washing machine filter, we will reduce 26% to 87% of the microplastic pollution from our washing machines’ wastewater.</i> • Testimonials from nearby residents. • Provide information about impacts from trusted, credible sources. Meaning, even though fibers are slow to show visible evidence, the device is working. Equate to seeing them in the nearby river – you don’t see them, but you know they are there because of testing from reliable sources.
<p>Some residents reported entanglements with straps and draw strings.</p>	<p>Education Social Norms Prompt</p>	<ul style="list-style-type: none"> • Enhance the instructions to include practical solutions to avoid clothing entanglements. • Promote that delicate strappy clothing will last longer if placed in a clothing bag. This is not a step they are taking only because of the Coral Ball; it is better for the clothing regardless. • Get specific testimonials from residents about how they avoid entanglements. • Take the Cora Ball out of the washing machine for some loads. • Get specific testimonials from residents about how they remember to put the ball back in the washing machine after having it out for a wash cycle. • Provide a prompt to remind residents to use the Cora Ball.
<p>Unaware of the problem.</p>	<p>Education Vivid + Credible Communication</p>	<ul style="list-style-type: none"> • Introduce outreach with simple and clear educational message on the existence, extent, and impacts of microplastic fiber pollution. • Link impacts to the local area of the Huron River. • Communicate by using vivid information.

Washing Machine Filter Strategy Table

In the strategy table below, we link evaluation results to relevant social science and marketing tools and suggest pathways for operationalization.

Research Outcome	Tools	Strategy Options/Operationalization
Visual feedback was satisfying.	Education Social Norms Social Diffusion	<ul style="list-style-type: none"> Use messages that amplify the motivating effect of seeing what the filters catch from the wastewater. Recruit well-respected and well-known residents to create testimonials about visual satisfaction of using the filter, motivation to use the filter to prevent clogs, and strong desire to protect the river from microplastic pollution.
Residents shared their installation with their social networks.	Social Diffusion	<ul style="list-style-type: none"> Provide residents with a postcard to share with neighbors and family members that communicates program messages, as well as how to purchase and install a filter. Provide residents with suggested social media language that communicates program messages, as well as how to purchase and install a filter.
Cost of product and installation.	Incentives	<ul style="list-style-type: none"> Provide free or low-cost filter or installation. Work with plumber to provide reduction on installation for groups of neighbors.
Forget to or improper maintenance.	Prompt	<ul style="list-style-type: none"> Create a prompt that reminds respondents when to clean their filter. Include QR code that links to short instructional video. Include brief instructions on where to place debris (not down the drain, back into the wastewater). Provide plumber with educational postcard to leave with residents. Consider pairing with a prompt to use cold water for some loads.
Uncertainty about impact and unaware of the problem.	Education Vivid + Credible Communication	<ul style="list-style-type: none"> Introduce outreach with simple and clear educational message on the existence, extent, and impacts of microplastic fiber pollution. Link impacts to the local area of the Huron River. Communicate using vivid and credible information.

Natural Clothing (Shopper’s Guide) Strategy Table

In the strategy table below, we link evaluation results to relevant social science and marketing tools and suggest pathways for operationalization. The Shopper’s Guide includes credible instructions and motivating messages; however, additional messages could be used to address the concerns of residents identified in the evaluation.

Research Outcome	Tools	Strategy Options/Operationalization
Residents don’t link use of natural fibers to a reduction in microplastic pollution.	Education Vivid + Credible Communication	<ul style="list-style-type: none"> • Introduce outreach with simple and clear educational message on the existence, extent, and impacts of microplastic fiber pollution. • Link impacts to the local area of the Huron River. • Communicate using vivid and credible information.
Need fleece for warmth. Need microfiber clothing for athletics.	Education Social Norms Social Diffusion	<ul style="list-style-type: none"> • In communications, give residents permission to use fleece or athletic appropriate fabrics when needed, but for all other purposes, purchase cotton or blends. • Promote ways that these families can engage in microplastic reduction behaviors with use of Cora Ball or installation of a washing machine filter. • Promote cold-water wash for fleece and athletic clothing. • Promote hanging clothes to dry.

Implementation

When implementing a program there are a lot of decisions to make. Below are recommendations, as well as considerations, to discuss prior to widespread implementation.

Citywide Roll Out

Citywide implementation is achievable using a phased approach, but it takes time and resources. One of the first considerations is the match between the behavior and audience. Begin by mapping out by census block (or other organized process) the proportion of households that are appropriate to each behavior. A phased roll out is detailed in the timeline tables at the end of this section. The following are additional questions to guide a citywide roll out:

- Are there different areas that have lower pollution impacts on the river?
- Are you prioritizing neighborhoods with homes that are likely to have high impact on the desired behaviors?
- If you roll out to multifamily homes, how will you gain access to the buildings (in-person) and address lists (mail).
- How much staff time do you have to dedicate to the roll out?
- How much funding do you have to dedicate to the roll out?
- What other sustainability programs are being rolled out in the same timeframe?

Control Groups

Control groups are an important evaluation component and should be used to demonstrate that the program is having an effect. However, since the use of Cora Balls and installation of washing machine filters currently have fairly low engagement, the control group does not need to be as significant a portion of the households used for implementation. Below are a few questions to discuss about the need for control groups:

- Do you need to demonstrate that the program is working (to management, grant funding sources, etc.)?
- How are the populations of interest different (single vs. multifamily, high vs. low income, old vs. new construction, etc.)? Make sure the control groups are representative of the target population.
- Can you do a phased roll out? You can use a small portion of the population as a control group, then after evaluation, roll out to that group.

Message Delivery Methods

Distribution by HRWC staff and volunteers

Below are additional delivery method considerations:

- Are there certain areas that need the program more than others? If so, focus resources on the in-person delivery for those areas.

- Are there language barriers that are better overcome through conversations rather than translated mailings?
- Are there gated communities that would rather not be visited at the door?
- Are the people delivering the materials representative of the neighborhoods they are visiting?

Distribution by Plumbers

Consider working with local plumbers to distribute the filter education materials when installing new water heaters or dealing with clogged pipes. Plumbers have the distinct advantage of being inside the home. At the time of installation, they can make a simple statement that communicates the program message and leave behind the program materials for the resident.

One-person plumbing companies may be more likely to cooperate because the program message is consistent with their values and practices, and they alone control the exchange with residents. For larger companies, the thought of training and distributing the messages and materials to multiple employees seems an arduous task. Consider if HRWC could discuss the program with two or three local companies to see if the plumbers have any concerns.

Evaluation

Evaluate your program to identify the need for program adjustments and measure progress toward your goals. Although direct observation of the targeted behaviors is best, in-home behaviors are often the most difficult to measure. The project pilot utilized a follow-up mail survey to evaluate self-reported behaviors. Self-reported measures are often unreliable as they can be inflated, especially when asking about socially desirable behaviors.

Direct Observation

Below are ways of directly measuring **filter installation** behavior changes:

- Create a resident portal and ask residents to snap a photo of their filters.
- Work with local plumbers to track coupons or promotions for installations.

Self-Report

Self-reported measures can be collected through in-person or intercept surveys, as well as a mail-survey format. Survey questions need to be worded carefully to ensure measurement of the desired behavior.

Program Awareness

Measuring program awareness is not a substitute for measuring behavior change. However, there are often existing opportunities for gauging overall program awareness. Below are a few questions to consider:

- Are there ongoing city-wide telephone or mail surveys that can include questions about the program? These questions would not be tied to program participants but would gauge program awareness.

- Are there ongoing community events that can include questions about the program? Like above, these questions would not be tied to program participants but would gauge overall program awareness.

Combining Behavioral Messages with Existing Programs

Include information and ways for residents to access complementary programs to elevate the reach of your program message and reduce resident confusion. Multiple programs can exist under one unifying program or brand. However, care must be taken to ensure materials are appropriate for the target audiences and are not sending mixed messages. It may be that the individual program materials do not need to change but a new communication piece is needed to unify and guide.

Here are some tasks that may help with the integration:

- Identify the target audience for each program (e.g., make sure you are not sending materials appropriate to single-family households to multi-family households or to renters instead of homeowners).
- Evaluate the materials for overlapping goals, asks, or conflicting information.
- Communicate how engaging in other HRWC behaviors are congruent with the microplastic reduction program.
- Promote shared benefits and goals.
- Provide residents with clear steps to participation.

Publicity

Publicity was not included in the pilot and on its own, is unlikely to encourage behavior changes. However, publicity can achieve increases in *awareness* of environmental initiatives and identification of HRWC as taking positive actions toward local water quality goals. Publicize the program to build awareness about the role that program behaviors and local jurisdictions have in helping to reach water quality goals. Below are a few questions to discuss when considering publicizing the program:

- How would you publicize it?
- What would you tell residents to do?
- If a resident wants materials, where would they get them?
- Would publicizing the program justify the staff resources required?

Program Delivery Steps

The following section describes how to implement a pilot program with a control and treatment group. There are 12 main steps in completing the program delivery. These steps include an evaluation of behavior changes. Think of these 12 steps as the *ingredients* of program delivery. What follows this section are the details need to complete each step, as well as estimated timeframes. There are two tables, one for in-person and the other for direct-mail outreach methodologies.

1. Identify appropriate target neighborhoods in which to conduct the program.
2. Select a messenger. Is cobranding appropriate?
3. Produce the outreach materials.
4. Produce the materials for the pre-notification postcard (treatment groups only).
5. Send the pre-notification postcards (treatment groups only).
- 6 – a. Produce the materials for in-person outreach: Scripts, maps, address lists (treatment groups only).
- 6 – b. Produce the materials for mailing (treatment group only).
7. Conduct in-person or direct-mail outreach (treatment group only).
8. Prepare Evaluation Survey (treatment and control groups).
9. Send the evaluation survey.
10. Track completed survey returns and post office returns in the tracking file.
11. Enter the evaluation survey data in the database.
12. Evaluate: analyze your data. Look at the control and treatment groups separately, and then compare the groups.

Example Timelines

The basic program tasks and associated timeframes are displayed below. This table displays timeframes for a phased rollout, including evaluation. Assumptions are explained in notes in the table. The tasks below are estimated using 500 addresses in the mail condition and 500 in the in-person condition.

Direct Mail Implementation

Task Details	Timeframe Cora Ball
<p><input type="checkbox"/> Create a communication calendar.</p> <ul style="list-style-type: none"> • Include outreach to appropriate community and neighborhood events. • Include social media posts. <p>Note: this outreach plan includes use of phased implementation which means that one group of residents is used as a temporary control group. Therefore, we can assume all residents will be equally exposed to events and social media posts. Social media posts should be released based on staff resources and the seasonality of the behavior.</p>	Determined by HRWC
<p><input type="checkbox"/> Identify target areas (by census block or another systematic process – consult your GIS staff).</p>	Determined by HRWC
<p><input type="checkbox"/> Create household groups by census block for a phased implementation. A phased implementation allows for ongoing evaluation and adjustments to be made, if necessary. For example, if three blocks are selected, block 1 receives no outreach, conduct block 2 implementation, and block 3 implementation follows in the appropriate timeframe. Comparisons are made between block 1 and block 2, then blocks 1, 2, and 3. If differences are detected, conduct the outreach with block 1.</p> <ul style="list-style-type: none"> • Randomly assign each block to the implementation phase. 	1 week
<p><input type="checkbox"/> Create sample address spreadsheet (becomes tracking sheet).</p> <ul style="list-style-type: none"> • Obtain addresses in the target area neighborhood. • Place all addresses in an Excel spreadsheet. • Create ID numbers for your block groups. If you utilize a self-report evaluation survey, the ID numbers will allow you to differentiate between the block groups when you analyze the data. • Using the address spreadsheet, create the direct-mail outreach and evaluation tracking spreadsheets for each block group. 	1 week
<p><input type="checkbox"/> Finalize the outreach materials.</p> <ul style="list-style-type: none"> • Update materials, as needed. 	4 weeks
<p><input type="checkbox"/> Produce the direct-mail outreach materials.</p> <ul style="list-style-type: none"> • Print materials for direct mailing. 	2 weeks

Task Details	Timeframe Cora Ball
<p><input type="checkbox"/> Outreach Mailing #1: Send outreach pre-notification postcard.</p> <ul style="list-style-type: none"> • Prepare with address label and physical stamp. 	Week 1
<p><input type="checkbox"/> Outreach Mailing #2: Prepare and send direct-mail outreach packets.</p> <ul style="list-style-type: none"> • Hand-address envelopes and use physical stamp. • Fold and insert the cover letter, flyer, and other materials. 	Week 2
<p><input type="checkbox"/> Track postal returns (outreach packets only).</p> <ul style="list-style-type: none"> • Use tracking sheet to record undelivered packets. 	Ongoing
<p><input type="checkbox"/> Prepare evaluation materials. (This section is optional.)</p> <ul style="list-style-type: none"> • Create the pre-notification postcard. • Create evaluation postcard survey, including introductory and instructional text. • Print evaluation postcard surveys with ID numbers from sample/tracking file. Note: distinguish between mailing #2 and #4 with a leading A or B. • Acquire postage for send and return. 	Weeks 1 – 4
<p><input type="checkbox"/> Create data entry database for survey responses.</p>	Week 5
<p><input type="checkbox"/> Evaluation Mailing #1: Send pre-notification postcard.</p> <ul style="list-style-type: none"> • Prepare with address label and physical stamp. 	Week 8
<p><input type="checkbox"/> Evaluation Mailing #2: Send postcard survey.</p> <ul style="list-style-type: none"> • Prepare with address labels and physical stamps. 	Week 9
<p><input type="checkbox"/> Evaluation Mailing #3: Send reminder postcard.</p> <ul style="list-style-type: none"> • Prepare with address label and physical stamp. 	Week 11
<p><input type="checkbox"/> Evaluation Mailing #4: Send second postcard survey.</p> <ul style="list-style-type: none"> • Pull undeliverable and completed surveys from this mailing. • Prepare with address labels and physical stamps. 	Week 12
<p><input type="checkbox"/> Evaluate self-reported behaviors using the postcard survey.</p> <ul style="list-style-type: none"> • Enter data. • Analyze data. • Evaluate results. 	Week 14
<p>Deploy to Block Group 3</p>	~ 1 month after block 2 complete

Task Details	Timeframe Cora Ball
Deploy to Block Group 1	~ 1 month after block 3 complete

In-Person Implementation

Task Details	Timeframe Filter Installation
<input type="checkbox"/> Create a communication calendar. <ul style="list-style-type: none"> • Include outreach to appropriate community and neighborhood events. • Include social media posts. <p>Note: this outreach plan includes use of phased implementation which means that one group of residents is used as a temporary control group. Therefore, we can assume all residents will be equally exposed to events and social media posts. Social media posts should be released based on staff resources and the seasonality of the behavior.</p>	Determined by City
<input type="checkbox"/> Identify target areas (by census block or another systematic process – consult your GIS staff).	Determined by City
<input type="checkbox"/> Create household groups by census block for a phased implementation. A phased implementation allows for ongoing evaluation and adjustments to be made, if necessary. For example, if three blocks are selected, block 1 receives no outreach, conduct block 2 implementation, and block 3 implementation follows in the appropriate timeframe. Comparisons are made between block 1 and block 2, then blocks 1, 2, and 3. If differences are detected, conduct the outreach with block 1. <ul style="list-style-type: none"> • Randomly assign each block to the implementation phase. 	1 week
<input type="checkbox"/> Create sample address spreadsheet (becomes tracking sheet). <ul style="list-style-type: none"> • Obtain addresses in the target area neighborhood. • Place all addresses in an Excel spreadsheet. • Create ID numbers for your block groups. If you utilize a self-report evaluation survey, the ID numbers will allow you to differentiate between the block groups when you analyze the data. • Using the address spreadsheet, create the direct-mail outreach and evaluation tracking spreadsheets for each block group. 	1 week
<input type="checkbox"/> Finalize the outreach materials. <ul style="list-style-type: none"> • Update materials, as needed. 	4 weeks
<input type="checkbox"/> Produce the in-person outreach materials. <ul style="list-style-type: none"> • Print materials for in-person outreach. 	2 weeks
<input type="checkbox"/> Determine outreach protocol. <ul style="list-style-type: none"> • Visit home a second or third time? 	3 weeks

Task Details	Timeframe Filter Installation
<ul style="list-style-type: none"> • Leave materials behind if no one is home? • Teams made up of HRWC staff only? • Schedule dates and time of day. <p>Note: staffing (for a 5-minute interaction – two-person teams, two teams for two days can reach approximately 300 homes)</p>	
<p><input type="checkbox"/> Prepare materials and train staff.</p> <ul style="list-style-type: none"> • Schedule staff. • Train staff. • Organize materials (flyer, carry letter, other outreach materials, map, and tracking sheet). 	Week 1
<p><input type="checkbox"/> Send outreach pre-notification postcard.</p> <ul style="list-style-type: none"> • Prepare with address label and physical stamp. 	Week 2
<p><input type="checkbox"/> Conduct outreach.</p> <ul style="list-style-type: none"> • Teams track outcomes (dispositions) on tracking sheet. • Update electronic tracking sheet with outcomes. • Utilize this updated file for evaluation survey implementation (below). <p>Note: assumes 500 households.</p>	Weeks 3 – 4
<p><input type="checkbox"/> Conduct follow-up calls to schedule installations.</p> <ul style="list-style-type: none"> • Teams track outcomes (dispositions) on tracking sheet. • Update electronic tracking sheet with outcomes. • Utilize this updated file for evaluation survey implementation (below). <p>Note: assumes 500 households.</p>	Weeks 5 – 8 (depends on outcomes)
<p><input type="checkbox"/> Conduct installations.</p> <ul style="list-style-type: none"> • Teams track outcomes (dispositions) on tracking sheet. • Update electronic tracking sheet with outcomes. • Utilize this updated file for evaluation survey implementation (below). <p>Note: assumes 500 households.</p>	Weeks 6 – 12 (can overlap with follow-up calls, dependent upon plumber availability)
<p><input type="checkbox"/> Prepare evaluation materials. (This section is optional.)</p> <ul style="list-style-type: none"> • Create the pre-notification postcard. • Create evaluation postcard survey, including introductory and instructional text. • Print evaluation postcard surveys with ID numbers from sample/tracking file. Note: distinguish between mailing #2 and #4 with a leading A or B. • Acquire postage for send and return. 	Week 1 – 4

Task Details	Timeframe Filter Installation
<input type="checkbox"/> Create data entry database for survey responses.	Week 5
<input type="checkbox"/> Evaluation Mailing #1: Send pre-notification postcard. <ul style="list-style-type: none"> • Prepare with address label and physical stamp. 	Week 10
<input type="checkbox"/> Evaluation Mailing #2: Send postcard survey. <ul style="list-style-type: none"> • Prepare with address labels and physical stamps. 	Week 11
<input type="checkbox"/> Evaluation Mailing #3: Send reminder postcard. <ul style="list-style-type: none"> • Prepare with address label and physical stamp. 	Week 13
<input type="checkbox"/> Evaluation Mailing #4: Send second postcard survey. <ul style="list-style-type: none"> • Pull undeliverable and completed surveys from this mailing. • Prepare with address labels and physical stamps. 	Week 14
<input type="checkbox"/> Evaluate self-reported behaviors using the postcard survey. <ul style="list-style-type: none"> • Enter data. • Analyze data. • Evaluate results. 	Week 16
Deploy to Block Group 3	~ 1 month after block 2 complete
Deploy to Block Group 1	~ 1 month after block 3 complete