Public Education & Outreach

Behavior Change Campaign Evaluation & Report

Conducted to Meet NPDES MS4 Permit Requirements

£ Phase I WWA S5.C.11.a.vi £ Phase II WWA S5.C.2.a.ii.(e)

 £ Phase II EWA S5.B.1.b.

Study Title

Insert Project Related Image Here

Date Report Completed

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Jurisdiction

Department

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Template Instructions

This template was developed to assist permittees in meeting the Public Education and Outreach (E&O) section of the Municipal Separate Stormwater System (MS4) Permit (MS4 Permit) requirements for evaluation and reporting on the understanding and adoption of a targeted behavior. Specifically, the following MS4 Permit sections: Western Washington (WWA) Phase I S5.C.11.a.vi-vii and WWA Phase II S5.C.2.a.ii.(e)-(f). As discussed in Section 1.1 of the Evaluation Guidance Manual, Eastern Washington (EWA) Phase II MS4 Permit requirements for Education and Outreach are different than the WWA requirements. Since the EWA MS4 Permit deadline for evaluating and reporting on E&O programs has passed guidance specific to the EWA MS4 Permit was not included in this document however this resource may still be useful for EWA Permittees to meet future E&O MS4 Permit requirements. Chapter 1 of the Evaluation Guidance Manual provides more discussion about the E&O MS4 Permit requirements relevant to this document.

The use of this template is not required to meet MS4 Permit requirements. The template was developed to streamline report writing by identifying what information is required by the MS4 Permit, providing suggestions for content, and highlighting the basic information Ecology would like included in permittees final report (shown below). The suggestions for content and the basic information Ecology would like included because they are common steps that can help permittees meet their MS4 Permit requirements. For these sections, if a particular study does not have information to populate the section, then either note “Not applicable” or “Relevant information was not collected”.

Items highlighted in this template are as follows:

* Blue text in a green box refers to items that are required by the MS4 Permits along with the specific permit section denoted in [brackets].
* Text shown in **Bold** are defined in the glossary of this document.
* **Red** text denotes the beginning of an example.

Except for the section headers, all text in this document are instructions ori suggestions for content. Before finalizing this document, these items should be deleted and replaced with the information that is relevant to the study that is the focus of this report. In addition, pages ii to iv and the glossary should also be deleted.

An Evaluation Guidance Manual was developed as a companion to this document. The Manual provides Permittees with additional guidance regarding common evaluation methods and additional resources. References to the Manual are included throughout this template where additional guidance can be found.

The basic information Ecology would like included is as follows:

* Discussion regarding how Permittees went through social marketing practices such as **Community Based Social Marketing** (CBSM) or similar approach.
* An overview of the **campaign/strategy** that was developed or expanded as well as how the **campaign/strategy** was implemented.
* A description of what is known about the **water quality problem** that the campaign was developed to improve.
* Identify the **target behavior** and **target audience** marketed in the campaign.
* Describe what is known about the **barriers** and **motivators** of the **targeted behavior**.
* Discussion regarding the methods used to evaluate changes in the **target audiences’** understanding and **adoption** of the **targeted behavior** as well as a summary of the results.
* Describe recommended changes to make the **campaign** more effective as well as strategies and the planned process to achieve these results.
* It is optional to include raw data and other supporting documents (e.g., campaign materials and instruments used to evaluate change) in the report appendix however, this information should be identified/described in the report and available upon request.

REPORT TEMPLATE Information

This report template was developed using funds from the Stormwater Action Monitoring (SAM) by the authors noted below. The authors were advised and supported by a technical advisory group (TAC) made up for Phase I and Phase II Permittees from Eastern and Western Washington as well as Ecology Staff. Electronic copies of this document can be accessed at the following weblink: add weblink. When the template is used for a specific study, this section should be deleted from the report.

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# Executive Summary

The **executive summary** is a brief (300-500 word) non-technical summary of the project that is typically written for a more general audience and includes the “key” elements of the report. This may include the following:

* Describe the **behavior change** **campaign** and the **strategy** developed.
* Identify the target audience and the target behavior
* Note where the evaluation was conducted (location) and duration of the evaluation.
* Describe the evaluation goal(s) and objectives as well as how those objectives were accomplished.
* Note the type of **instruments** (i.e., survey, interviews, observations, etc.) used to measure changes in the **target audience’s** understanding and **adoption** of **behavior change.**
* Note the type of data collected (i.e., **pre**, **post**, or **control data**) and how much data was collected (i.e., **sample size**).
* Provide an overview of the evaluation results regarding changes in **behavior understanding** and **adoption** of the targeted behavior.
* Recommended changes to the **campaign** to be more effective.
* Provide an overview of the implementation plan for the campaign post evaluation.

# Behavior Change Campaign

This section only focuses on the campaign, information about the evaluation plan should be included in Section 4.

## Behavior Change Campaign Background

This section describes the **behavior change campaign**. After reading this section, the reader should understand *what* factors were considered while developing the **behavior change campaign,** *where* the **campaign** was implemented, and *who* was responsible for developing and/or implementing the **campaign**. Suggestions for content include the following items:

[WWA Phase I: S5.C.11.a.iv.] & [WWA Phase II: S5.C.2.a.ii.(c).]

Describe the Community-Based Social Marketing (CBSM) or Social Marketing (SM) strategy that was developed and briefly describe the strategy.

* Describe how this was determined to be the best strategy, and how the strategy addressed the **barriers** and **motivators** that prevented and/or encouraged participation from the **target audience.**
* Provide an overview of the behavior change campaign including how the campaign was implemented and tailored to the community.
* Note whether the campaign was existing or new.
* If the campaign was existing, note how it was more effectively implemented or expanded for a new target audience and/or BMP.
* Introduce the Permittee(s) and/or organization that developed and implemented the **campaign**.
* Note where the campaign was implemented and briefly describe how the location(s) was selected in relation to the **campaign**. Provide maps, photos and/or diagrams to identify boundaries of these locations (Figure 2-1).
* More information about the CBSM and SM approach are detailed in Chapter 2 of the Evaluation Guidance Manual.

[WWA Phase I: S5.C.11.a.] & [WWA Phase II: S5.C.2.a.]

Identify what is known about the **water quality problem** that the campaign is designed to target and explain how the **water quality problem** was identified as a high priority.

**FOR EXAMPLE**, water quality data or TMDL information was used to identify a pollutant of concern in receiving water bodies. Alternatively, observations may also be used to identify a water qualify problem: a Permittee’s maintenance crew may observe an increase of fats, oils, and grease in the stormwater system that discharges to receiving waters. This may drive the Permittee to select employees of fast-food restaurants as the target audience and the selected subject area may be proper dumpster management.

* Explain how changes in the target audience’s behavior could reduce the water quality problem.

Insert map of area where the campaign was implemented

Figure 2-1 Area(s) Where the Campaign Was Implemented

## Target Audience

This section introduces the audience that the campaign was designed to target. After reading this section, the reader should understand *who* the **target audience** is and *how* the audience was selected. Suggestions for content include the following items:

[WWA Phase I: S5.C.11.a.] & [WWA Phase II: S5.C.2.a.]

Identify and describe the **target audience’s** characteristics and demographics.

List any languages (besides English) used by the **target audience**.

* Describe community land uses where the **target audience** is located related to the **campaign**. ***For example****: residential, industrial, or commercial land uses.*
* Describe other characteristics of the **target audience** as it relates to the MS4 Permit such as whether the audience is homeowners, teachers, school aged children, overburdened communities, businesses, engineers, construction contractors, developers, development review staff, land use planners, etc.
* If the **campaign** was designed to target multiple populations, briefly describe each population as they relate to the **campaign**.

[WWA Phase I: S5.C.11.a.] & [WWA Phase II: S5.C.2.a.] Describe how the **target audience** was selected as a high priority group that contributes to the **water quality problem**.

* Identify what is known about the size of the **target audience.**
* Discuss how **audience research** (if any) was conducted that helped inform the **campaign** **strategy**.
* Describe what was known about the **target audience’s** relevant stormwater perceptions before the evaluation including the basis or source determining their perceptions. ***For example****, note if their perceptions were determined from information collected during focus groups, public comments, survey results, etc.*

## Target Behavior and BMPs

This section will introduce readers to the **target behavior** that the **behavior change campaign** aims to have the **target audience** adopt and the **BMP** that was implemented to effect behavior change. ***AN EXAMPLE*** *of a* ***BMP*** *compared to a target behavior is if the* ***target behavior*** *is to stop illicit discharges, a spill kit would be the BMP.* This section introduces *how* target behaviors and BMPs were identified and described. Suggestions for **target behavior** content include the following items:

[WWA Phase I: S5.C.11.a.ii.] & [WWA Phase II: S5.C.2.a.ii.]

Describe the preferred **BMPs** and the **target behavior** intended for the **target audience** to adopt in accordance with the **campaign**.

Reference Figure 1-1 in the Evaluation Guidance Manual for a list of potential BMPs.

* Describe how the **target behavior** was identified and why it was selected.
* Describe the key **barriers** and **motivators** for the **target audience** that inhibited or strengthened **adoption** of the **target behavior**. Describe how the **barriers** and **motivators** were identified.
* If a literature search was conducted to identify **barriers** and/or **motivators** of the **target behavior**, briefly summarize those findings here including citations for the sources and include references in Section 8.0.

## Behavior Change Campaign Strategy

This section will help readers understand *how* the **behavior change campaign** was developed and *what* **materials** were used to advertise the **campaign**. After reading this section, the reader should understand the strategy to implement the **behavior change campaign**. Suggestions for content include the following items:

* Describe any **materials** (e.g., fliers, postcards, brochures, stickers, spill kits, radio ad script, etc.) associated with the **campaign** and describe the process for selecting these materials. Providing a copy of the **materials** in Appendix 9.2 is optional, however, the documents should be available upon request from Ecology.
* If the **materials** were included in the appendix, reference that appendix section here.
* Explain how the **materials** were used to support the **campaign** **strategy**.
* Describe how the **campaign** was implemented including the type of media (e.g., radio, newspaper, social media, commercials, etc.) used to disseminate the **materials**/message.
* Note if the **behavior change campaign** materials were developed in more than one language.

[WWA Phase I: S5.C.11.a.] & [WWA Phase II: S5.C.2.a.]

Identify if any of the **behavior change campaign** **materials** were produced in more than one language.

# Evaluation Plan Overview

This section focuses on the evaluation that was conducted to measure changes in understanding and **adoption** of the **targeted behaviors**.

## Evaluation Goals and Description

After reading this section, readers should understand *what* the goal(s) were for the **behavior change campaign** evaluation and how the goals were accomplished. Suggestions for content include the following items:

* Define the evaluation goal(s) (i.e., the reason(s) the evaluation was conducted). ***EXAMPLE(S)*** *of a goal relevant to MS4 Permit Requirements includes:*
* Measure the target populations changes in the understanding and adoption of targeted behaviors resulting from the implementation of the strategy.
* Recommend changes to the campaign to be more effective
* Use evaluation results to continue to direct effective methods and implementation of the ongoing behavior change program.
* Generally, describe how the evaluation goals were accomplished (*a more detailed discussion of the evaluation methods should be included in Section 4.0*). Suggestions for content include the following items:
* Provide a short description of how the evaluation was conducted
* If the evaluation was conducted in multiple phases, provide a short description of each phase including if **pilot testing** was conducted or if this study is considered a **pilot test**.
* Provide a list of the evaluation objectives. An objective is a measurable statement that includes an action verb that defines how the project goal(s) will be accomplished. Once all the objectives are complete, the study goal should be achieved. ***EXAMPLES*** *include:*
	+ - Develop and implement a behavior change campaign
		- Developed and disseminate a survey to the target population
		- Analyze data collected to determine if there is change between the pre and post (or control) data sets.
		- Developed a final report and implementation plan (this document)

## Evaluation Location(s) and Target Population

After reading this section, readers should understand the locations *where* the evaluation was conducted (test site and if applicable, control sites), *what* the demographics of the **target population** were, and *why* the **target population** was selected. If these details are the same as the **campaign** as described in Section 2.2, state that here and reference that section rather than repeat the information here. Suggestions for content include the following items:

* Explain if there are any characteristics unique to the **target population** that are different than the **target audience. *FOR EXAMPLE****: restaurant employees within city limits may be the target audience for a behavior change campaign, while the target population for the evaluation may be more specifically fast-food restaurant employees along a highly trafficked road.*
* Identify the approximate **target population** size and describe why this **sample size** was selected. If possible, describe how the sample size is representative of the entire **target audience.** A more detailedexplanation about how to determine **sample size** is described in Chapter 3 of the Evaluation Guidance Manual.

[WWA Phase I S5.C.11.a.] & [WWA Phase II S5.C.2.a.]

Based on the target audience’s demographic, the Permittee shall consider delivering its selected messages in languages other than English, as appropriate for the target audience.

* Note if the target population speaks languages other than English and if there are any differences in the language preference between the target audience and the target population.
* Note if there are any known media preference by the target population
* Identify the locations where the evaluation occurred.
* Note where the evaluation was implemented and briefly describe how the location(s) was selected. Provide maps, photos and/or diagrams to identify boundaries of these locations (Figure 3-3).

INSERT MAP OF evaluation area

Figure 3-3 Evaluation Area

## Key Project Members: Roles and Responsibilities

This section identifies key team members of the project team, decision-makers, and/or stakeholders (i.e., material distributer, data collector, data verifier, auditor, research assistant, QA/QC lead, etc.). Suggestions for this section include:

* List the key team members’ names and roles who were involved in developing and implementing the **campaign** as well as conducting the evaluation. A table format is preferred. See Table 3‑1 for an example of how to list key project team members and their roles and responsibilities.

***EXAMPLE***

Table 3‑1 Key Project Team Members: Roles & Responsibilities

|  |  |
| --- | --- |
| KEY TEAM MEMBERS | Role |
| Name, Entity | Project Manager |

## Evaluation Schedule and Budget

After reading this section, readers should understand the schedule of when evaluation tasks occurred along with the evaluation budget.

Suggestions for the schedule content include:

* Describe when data collection occurred and for how long. Include information about when data collection occurred in relation to when the campaign was implemented.
* The schedule may include details of the tasks, the expected start and end dates of each task, deliverables, and deliverable deadlines that took place throughout the **campaign**. Documenting these details in table format is preferred. An example is provided in Table 3‑2.

***EXAMPLE***

Table 3‑2: Proposed Behavior Change Campaign & Evaluation Timeline

|  |  |
| --- | --- |
| Task and Deliverables | 2023 |
| J | F | M | A | M | J | J | A | S | O | N | D |
| Task 1. Name | X | X | X | X | X | X | X | X | X | X | X | X |
| Task 2. Name | X | X | X |  |  |  |  |  |  |  |  |  |
| Task 3. Name |  |  |  | X | X | X |  |  |  |  |  |  |
| Task 4. Name |  |  |  |  |  |  | X | X | X |  |  |  |
| Task 5. Name |  |  |  |  |  |  |  |  |  | X | X | X |

If a budget is included, suggestions for the content include:

* Organize the budget into a table and separate the budget by tasks and subtasks that took place. A table format is preferred. See Table 4‑3 for an example.
* Include items such as labor for preparing and validating the **instruments**, collecting data, special training needs, distributing educational **materials**, and any specialized contracting contributed (data **validation** and verification, **social marketing** firms, or other specialized services).

***EXAMPLE***

Table 4‑3: Summary of Fees by Task

|  |  |  |
| --- | --- | --- |
| Task # | Task Title  | Fees |
| 1 | Project Management | $$ |
| 2 | Task 2 |  |

# Evaluation Methods

This section focuses on the data collected, the **instruments** used to collect data, and the methods used to evaluate changes in the **target audiences** understanding and adoption of the target behavior. Discussion regarding the results should be included in Section 5.0. Guidance for conducting the evaluation is located in Chapters 4, 5, and 6 of the Evaluation Guidance Manual. *Note: the level of detail included in this section is based on recommendations from a SAM Study and exceeds what is needed to meet Ecology’s annual report requirements.*

## Data Overview

After reading this section, the reader should understand what data was collected to meet the study objectives including items such as: type of data including whether the data was pre, post, or control, source of data, frequency of collection, number of samples collected, location of sampling, purpose of data, etc. A table format is preferred and Table 4‑1 provides an example of how to organize the information.

**EXAMPLE**

Table 4‑1: Data Needed to Meet Each Objective

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data Type & Instrument used to Collect Data | Sample size Planned | Sample Size Actual | How Data Was Collected | Purpose |
| List of Businesses and Contact information | 50 | 45 | Google Maps & Bing Maps cross referencing | Identifies the **target population** of the evaluation; contact information will be used to schedule site visits |
| Baseline Observation Inspection | 45 | 40 | In-person site visit to collect data | Rule out social desirability bias |
| Baseline Survey Data | 35 | 32 | In-person site visit | Identify target audience barriers |
| Follow-Up Survey Data | 35 | 28 | In-person site visit | Measure **adoption** of targeted behaviors |
| Follow-Up Observational Inspection | 45 | 42 | In-person site visit to collect data | Rule out social desirability bias; help determine if behaviors have been adopted, ultimately proving the effectiveness of the evaluation |

## Instruments Used to Measure Change

After reading this section, readers should understand the different **instrument(s)** that were used during the evaluation to measure change, including how they were designed, validated, and the process during which they were used. In the context of E&O studies, **instruments** are a measurement device (i.e., a survey, test, observation log, interview questions, etc.) used to collect data which is analyzed to measure changes in the **target audiences** understanding and **adoption** of **target behaviors.** A more detailed discussion regarding how to select **instruments** to measure **behavior change** is described in Chapter 4 of the Evaluation Guidance Manual.

### Instrument Design

This section describes how each **instrument** was designed. For a more detailed description about selecting and designing **instruments**, see Chapter 4 in the Evaluation Guidance Manual. Suggestions for content include the following items:

* Describe the **instruments** used to measure change including how they were designed and developed to measure change in the understanding and adoption of the target behavior. Including a copy of the **instruments** as an appendix is optional, however, the documents should be available upon request from Ecology.
* Note why these **instruments** (e.g., survey, interview questions, observational checklist, etc.) were selected for the target audience.

### Instrument Validation

This section describes the process that was employed to validate the **instruments**. **Validation** is the process to verify the **instrument** measures what it was intended to measure and produces consistent results. Suggestions for content below are specific to the **validation** method used, include only information that applies to the methods used on the project. If **instruments** were not validated for the project, that should be noted here. A more detailed discussion regarding **validation** methods is described is Chapter 4 of the Evaluation Guidance Manual.

* Note if **instruments** used were from similar studies that have already been validated. Include the name of the other studies, citations and references to these documents, and the **validation** methods that were used.
* Note if the **instruments** were **field tested** using focus groups, **pilot testing**, etc. and if so, describe how the results from this testing were used to refine the **instrument(s)** before it was implemented for the project.

### Data Collection Protocol

This section should define the procedures used to collect the various types of data collected from each **instrument**. Defining these procedures and following them consistently minimizes errors and supports the integrity of the collected data. **Standard operating procedures (SOPs)** are the procedures that define specifically how to conduct an activity. **SOPs** should provide sufficient detail such that the activity is repeatable and can be reproduced by an individual (i.e. third party) unfamiliar with the evaluation.

**SOPs** for **Behavior Change Campaign** Evaluations may include:

* How the **instruments** were disseminated to the **target population** (i.e., mailer, email, web-based polls, social media, list-serve, one-on-one or group interview, etc.).
* How surveys were conducted including a summary of the instructions provided to the participant before they took the survey.
* How interviews were conducted including a summary of the instructions provided to the participant before starting an interview; how the participant’s questions were addressed during the interview; and how **prompting** and/or **priming** participants was addressed.
* If the **SOP**s are detailed and long, consider putting a brief overview of the SOPs and including the actual **SOP**s in the Appendix.

## Data Analysis Methods

After reading this section, readers should understand the process and methods that were used to analyze the data and address the **campaign** goals outlined in Section 3.1. There are different methods that can be used based on type of data (**qualitative**, **quantitative**, etc.) and the complexity of the analysis. Assistance for selecting data analysis methods is provided in Chapter 5 of the Evaluation Guidance Manual.

### Qualitative Data Analysis Methods

This section describes the process and methods that will be used to analyze **qualitative** data. This typically includes (Schutt, 2011):

* Organizing the data into spreadsheets and categorizing the data into **codes** and **themes**
* Note if a **peer debriefing** process was used to validate the **codes** and **themes**.

### Quantitative Data Analysis Methods

Describe the data analysis method(s) used for all types of **quantitative** data. Suggestions for content include:

* Summary of methods including equations that were used to analyze the data
* Summary of methods used to compare data sets
* A description regarding how multiple-choice, yes/no questions, or scaled survey responses were converted to numerical values such as a **Likert scale**

***EXAMPLE****:* ***Basic statistics*** *was used to calculate the percent change before and after the campaign for multiple choice and yes/no questions. This included dividing the total responses by the yes and no responses.*

### Hypothesis Testing

**Hypothesis testing** is a statistical analysis used to test predictions (hypotheses) about the outcome of an evaluation. This analysis determines whether the difference between two data sets (pre and post data) are meaningful (significant) by determining the odds that the results happened by chance. Additional information about how to perform **hypothesis testing** is described in Chapter 6 of the Evaluation Guidance Manual. *If hypothesis testing was conducted, suggestions for content to include in this section are as follows:*

* Describe the testing method conducted and explain why this method was selected.
* Identify the data sets that were included in the hypothesis testing.
* List the null and alternative hypothesis for each data set with respect to whether a change was measured between the data sets.
* Note the selected confidence interval(s) the testing is based upon.

# Results & Discussion

After reading this section, the reader should understand the results from the analysis, whether the behavior change campaign was effective, as well as any challenges that occurred during the study that may have affected the results.

## Changes to Understanding and Adoption of Target Behavior

This subsection describes whether there was a change in understanding and **adoption** of the **target behavior**. Suggestions for content include the following items:

[WWA Phase I S5.C.11.a.vi.a.] & [WWA Phase II S5.C.2.a.ii.e.1.]

Evaluate and report on the changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy.

* Provide a brief description regarding whether the **target populations** understanding of the **target behavior** increased, decreased, or stayed the same. Explain your reasoning.
* Provide a brief description regarding whether the **target population’s** **adoption** of the **target behavior** increased, decreased, or stayed the same. Explain your reasoning.
* For **quantitative** data, discuss the pre and post **campaign** data, and/or **control population** data as well as the differences between the data sets.
* For **qualitative** data, provide a summary of the common **themes** found in the pre and post data and discuss how the **themes** changed between the **pre** and **post data**, and/or **control data.**
* Where possible, summarize results into figures, tables, charts, etc.
* Include a copy of the **raw data** in tables in an appendix (optional).
* If hypothesis testing was used to measure the change in understanding or adoption of the targeted behavior, state if there was a **statistically significant** **difference** between the pre and post data or control data. A more detailed description about conducting a statistical analysis is described in Chapter 6 of the Evaluation Guidance Manual.

***EXAMPLE*** *of the hypothesis results in a table format is shown in Table 5‑1.*

* Provide an explanation if the result of the statistical analysis makes sense and why

***EXAMPLE****: The results of the statistical analysis indicated a decrease in commercial car wash use. The decrease in* ***adoption*** *appears to be a market trend, caused by Covid-19 impacts, that has been observed by commercial car washes throughout the nation.*

Table 5‑1: Hypothesis Testing Results

|  |  |  |
| --- | --- | --- |
| Topic for Comparison | P Value | Statistically Significant Difference? (P-value < 0.05) |
| Commercial Car Wash **BMP** **Adoption** | 0.010 | Yes1 |
| Residential Car Wash **BMPs** **Adoption** | 0.153 | No |

## Challenges Identified During the Evaluation

This subsection will allow readers to understand *what* challenges may have impacted the evaluation and *what* steps could be taken in the future to reduce the impact of these challenges. Suggestions for content include the following items:

* Identify and discuss challenges that potentially impacted the **campaign**, **instruments**, schedule, or budget. Documenting the challenges in a table format is recommended.

***EXAMPLE*** *of challenges identified in a table format shown in Table 5‑2.*

* Describe steps (mitigation approach) taken to address the challenges identified during the evaluation and note how or if they were resolved.

Table 5‑2: Challenges and mitigation approach

|  |  |
| --- | --- |
| Challenges | Mitigation Approach |
| Limited availability of staff to conduct the study | Other jurisdictions assisted with field work and other duties  |
| **Target audience** unwillingness to complete the survey | Incentives was offered upon the completion of the survey |

# Future Action Recommendations

After reading this section, the reader should understand *what* future action recommendations are based on the results of the evaluation. Based on the recommendations, suggestions for content include the following:

[WWA Phase I S5.C.11.a.iii.] & [WWA Phase II S5.C.2.ii.b.]

Evaluate and report on any changes to the campaign in order to be more effective; describe the strategies and process to achieve the results.

* Document lessons learned and recommendations for which **campaign’s** **strategy** and schedule will more effectively be implemented based on discussion from Section 5.0.
* Discuss how the lessons learned can be applied to future studies.
* Consider recommendations that:
	+ - Increase E&O material outreach to the **target audience**. If any E&O **materials** were translated into a different language other than English, consider strategies to reach that demographic.
		- Increase **campaign** participation
		- Improve campaign instruments
* Conduct a literature search to identify recommendations and strategies to achieve the recommendations
* ***EXAMPLE*** *of a recommendation: Sending E&O* ***materials*** *with utility bill to increase* ***E&O program*** *reach to the* ***target audience.***

[WWA Phase I S5.C.11.a.vii.] & [WWA Phase II S5.C.2.f.]

Use the results of the **campaign** evaluation to direct effective methods for implementation and E&O resources effectively.

* Describe the strategies and process to implement changes to the **campaign** to be more effective.
* If the desired results were not achieved state how this will be resolved in the future.

***EXAMPLE****: There was no or only a small measurable difference between the pre and post data that indicated a change in the target audiences understanding and adoption of targeted behaviors. The strategy will be re-evaluated through pilot testing and revised based on the results.*

***EXAMPLE****: There was a low response rate from the community who first languages was other than English. For future evaluations, the Permittee will strive to increase the response rate by hosting focus groups with these communities to identify alternatives methods for disseminating campaign materials.*

* Develop and describe an implementation plan to execute changes to the **behavior change program**. The plan should include what the recommendations are, how they were identified, when the recommendations will be implemented, and what is needed to implement the recommendations, such as budget and staff.
* Documenting the implementation plan in a table format is preferred.

***EXAMPLE*** *of an implementation plan is shown in Table 6‑1. The text in the table is example entries and should be replaced by the lead or participating entity with their preferred recommendations.*

Table 6‑1: Implementation plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Recommendations | Budget  | Budget Source | Staff  | Implementation Time Frame  |
| Focus on face-to-face distribution of **behavior change campaign** **materials** at the State Fair  | $100 | Jurisdiction | Stormwater Staff | State Fair 2023 |
| Revise **behavior change campaign** material to increase interaction with posts and education material.  | N/A | N/A | Webmaster/Public Relations staff | January 2023 |

# Glossary

**Adoption**: Also referred to as behavior adoption. *See Section 2, 5, and 7*. The action (or inaction) of participating in the target behavior; adoption levels are measurable using evaluation instruments and analysis.

**Alternative hypothesis:** *Section 6*.A prediction that is accepted if the null hypothesis is rejected through hypothesis testing.

**Audience research:** Investigating the target audience’s characteristics, habits, pre-existing beliefs, etc. prior to the behavior change campaign taking place that will divulge useful information to improve the campaign effectiveness.

**Barriers**: Any physical, spiritual, or societal obstacles preventing a target audience from adopting a target behavior.

**Basic statistics**: Quick methods of analyzing the difference between data sets that often does not require the use of complex statistical software. Evaluating the differences between measures of central tendency (mean, median, and mode) of two or more data sets are common examples of basic statistics. For example, calculating the average pre and post data response to compare differences.

**Behavior change**: Similar to behavior adoption, behavior change is the act of adopting new BMPs in lieu of not participating in them.

**Behavior change campaign**: A portion of the E&O program that is directed to a target audience to change a specific behavior that negatively impacts water quality of the downstream watershed.

**Behavior understanding**: The target audiences understanding of why preferred BMPs should be adopted including the negative implications of not adopting the BMPs.

**Best management practices (BMPs)**: The schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

**Codes**: To analyze open ended data, it is grouped by like-items, and then like-items are given a name that is referred to as a code. Codes are used as a way to organize data to quickly pull assumptions about a group of similar data. Coded data is then organized into themes. Reference the Themes definition for more details.

**Campaign:** References to the campaign are referring to the behavior change campaign. See behavior change campaign.

**Community-based social marketing (CBSM)**: Community-based social marketing (CBSM) blends social marketing with social and environmental psychology to develop tools that foster lasting behavior change. (McKenzie-Mohr, 2011)

**Control data**: This data is what was collected from the control population, who has not had any exposure of the behavior change campaign, that provides comparable variable to provide information of the target audiences understanding and adoption of the targeted behaviors. Control data is often collected when it is not possible to collect pre (baseline) or post (follow-up) data. See control populations for additional information.

**Control populations**: The sample group that produces control data resulting from no changing variables and can be compared against the target population data which has had changing variables, meaning they have not been exposed to the behavior change campaign. The control population typically has similar characteristics as the target population but may be in a different geographic region. For example, if an existing behavior change campaign is the focus on the evaluation it would not be possible to collect baseline data from the target audience. Instead, baseline data is collected from a control population and compared to the post data collected from the target population to measure the change in understanding and adoption of targeted behaviors.

**Education and outreach (E&O) program**: The overall MS4 Permit requirement to provide stormwater education and measure a behavioral change campaign to a selected target audience, as to provide stewardship opportunities to the general public.

**Executive summary**: A a non-technical summary of the project that is typically written for a more general audience and includes the “key” elements of the report.

**Field testing**: One or more methods of validating the behavior change campaign methods and instruments should be conducted before broad implementation of the overall behavior change campaign or evaluation. Some examples of field testing include pilot testing or peer review.

**Hypothesis testing**: A **s**tatistical analysis used to test predictions (hypotheses) about the outcome of an evaluation. This analysis determines whether the difference between two data sets (pre and post data) are meaningful (significant) by determining the odds that the results happened by chance.

**Instruments**: A measurement device (i.e., a survey, test, observation log, interview questions, etc.) used to measure changes in the target audiences understanding and adoption of target behaviors.

**Likert Scale:** often represented as descriptive answer options that can be easily quantified and analyzed: “Always, Frequently, Sometimes, Never” is one example of a Likert scale.

**Materials**: Physical items that are used to encourage participation or seen as educational tools used for the behavior change campaign.

**Motivators**: Incentives for the target audience to take part in the target behavior. These may be tangible items distributed from participating jurisdictions or monetary, socially desirable, or esteem-boosting incentives.

**Null hypothesis**: A prediction that is assumed to be true unless there is strong evidence against it which is determined through hypothesis testing.

**Peer debrief:** A technique used in qualitative research where staff who are familiar with the topic that is being evaluated meet to review and discuss the coding that were developed by the researcher for the purpose of validating (through agreement) the coding.

**Pilot testing**: A quality control method to validate the data collection methods, instruments, and/or campaign on a selected group of the target audience during a practice-round before broadly implementing the campaign and conducting the follow up evaluation. The group who took part in the pilot test will not be used for the target population during an evaluation for the same campaign.

**Post data**: Also commonly referred to as *follow-up data*. This data is what was collected after the behavior change campaign was implemented that provides information of the target audiences understanding and adoption of the targeted behaviors.

**Pre data**: Also commonly referred to as *baseline data*. This data is what was collected before the behavior change campaign was implemented that provides information of the target audiences preexisting understanding and adoption of targeted behaviors.

**Priming**: Also known as prompting. This is a method of intentionally or unintentionally leading the respondent to the desired response through advanced training on the desired response before asking the question.

**Prompting**: Also known as priming.This is a method of intentionally or unintentionally leading the respondent to the desired response through coerced or particularly worded questioning.

**Qualitative**: Data that is presented through descriptions or words and is not representative of mathematically applicable values (Takona, 2002).

**Quantitative**: Numerically significant data values of which mathematical operations of addition, subtraction, multiplication, and division can apply without needed conversion (Takona, 2002).

**Raw data**: Collected data that has not gone through any flagging, coding, or analysis.

**Regional collaboration**: Collective jurisdictions and/or agencies combining efforts to achieve MS4 Permit requirements.

**Sample size**: The portion of the target audience that data will be collected from (see target population). The sample size is set to gather a representative understanding of the target audience as a whole. This size is determined using several methodologies described in Chapter 3 of the Evaluation Guidance Manual.

**Social marketing (SM)**:A process that applies marketing principles and techniques to create, communicate, and deliver value in order to influence target audience behaviors that benefit society (public health, safety, the environment, and communities) as well as the target audience (Lee & Kotler, 2011).

**Standard operating procedures (SOPs)**: The procedures that define specifically how to conduct an activity such as an interview or how surveys were deployed; SOPs should provide sufficient detail such that the activity is repeatable and can be reproduced by an individual (i.e. third party) unfamiliar with the evaluation.

**Statistically significant difference**: A detectable change between data sets that can be calculated based on a predetermined confidence interval.

**Strategy**: A method for targeting the preferred behaviors and discouraging the undesirable behaviors.

**Study area:** The geographical location that behavior change measurements took place.

**Target audience**: The group that the behavior change campaign is directed towards who participate in the behavior that impacts stormwater quality.

**Target behavior**: The behavior aimed for the target audience to adopt by implementing a BMP which could improve a water quality issue. See BMP.

**Target population**: A subgroup of the target audience that includes all members of the ideal sample size. This subgroup of the target audience should of a size that represents the understanding and behaviors of the target audience as a whole.

**Themes**: Coded data can be grouped together based on the interpretated meaning to narrow down open-ended and/or qualitative data into select categories or themes. For example, barriers which may be filtered into common codes which were organized into primary themes may include: convenience, cost, space, or lack of knowledge.

**Validation**: The process to verify the instrument measures what it was intended to measure and produces stable results (Guba, 1981).

**Water quality problem**: Stormwater related pollutant(s) that is triggering the need for the behavior change campaign. This is identified by previous data or observations known to contribute to poor water quality in water bodies.

# References

Guba, E. G. (1981). Criteria for Assessing the Trustworthiness of Naturalistic Inquiries. *ERIC/ECTJ Annual Review Paper, 29*(2), 75-91.

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McKenzie-Mohr, D. (2011). Introduction: Fostering Sustainable Behavior. *Fostering Sustainable Behavior-Community Based Social Marketing.*, 1-11.

QuestionPro. (2022). *Quantitative Data: Definition, Types, Analysis and Examples*. Retrieved from QuestionPro Survey Software.

Takona, J. (2002). *Educational Research: Principles and Practice.* Lincoln, Nebraska: Writers Club Press.

# Appendices

## Evaluation Schedule

Provide a range of dates for when the tasks and subtasks for developing, implementing, and evaluating the **campaign**. A table format is preferred.

EXAMPLE

Table 9‑1 Evaluation Timeline

|  |  |  |
| --- | --- | --- |
| Task & Deliverable | Start Date | Completion Date |
| Task 1:  |  |  |
| Subtask |  |  |

## Campaign Materials

It is optional to include supporting documents such as campaign materials in the appendix however, this information should be identified/described in the report and available upon request. Delete this section if these documents are not included.

## Instruments

It is optional to include supporting documents such as instruments used to evaluate change in the report appendix however, this information should be identified/described in the report and available upon request. Delete this section if these documents are not included.

## Raw Data

It is optional to include raw data in the report appendix however, this information should be identified/described in the report and available upon request. Delete this section if these documents are not included.