

## **STATEMENT OF CONFIDENTIALITY AND OWNERSHIP**

All of the analyses, findings, data, and recommendations contained within this report are the exclusive property of the Massachusetts Bays Estuary Association.

As required by the Code of Ethics of the National Council on Public Polls and the United States Privacy Act of 1974, The Center for Research & Public Policy maintains the anonymity of respondents to surveys the firm conducts. No information will be released that might, in any way, reveal the identity of the respondent.

Moreover, no information regarding these findings will be released without the express written consent of an authorized representative of Massachusetts Bays Estuary Association.

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# 1 INTRODUCTION

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The Center for Research & Public Policy (CRPP) is pleased to present the results to a Community Study designed to assist the Massachusetts Bays Estuary Association (“MBEA”) in understanding levels of awareness, knowledge and behaviors related to stormwater runoff and its impact on coastal waters.

This report summarizes statistics collected from a telephone survey conducted among residents of fifty different towns located on or near the coast of Massachusetts between April 5 and April 13, 2005. The Massachusetts Bays Estuary Association commissioned this study to independently and objectively collect resident views in the fifty town geographic area.

Areas for investigation within the survey included:

- Awareness of issues related to the environment, nature and coastal waters;
- Awareness of the Massachusetts Bays Estuary Association;
- Awareness of the Massachusetts Bays Program;
- Measure respondent knowledge and awareness of coastal water impact from stormwater runoff;
- Collect preferred recreation activities taking place on or near the water;
- Awareness of beach closures along the coast of Massachusetts;
- Respondents’ practices on disposing of oil products, pesticides, paints, paint thinners and varnishes;
- Willingness to take certain actions, to help reduce pollution in coastal waters;
- Willingness to pay increased taxes in an effort to reduce pollution to coastal waters;
- Preferred vehicles for receiving information; and
- Demographics.

Section II of this report discusses the methodology used in the study while Section III includes highlights based on an analysis of the findings. Section IV is a summary of findings while Section V is an appendix containing copies of the survey instrument, the composite aggregate data and a crosstabulation table.

## METHODOLOGY

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Using a quantitative research design, CRPP completed 404 telephone interviews among residents of fifty towns located on or near the coast of Massachusetts. All interviews were conducted between April 5 and April 13, 2005

Survey design at CRPP is a careful, deliberative process to ensure fair, objective and balanced surveys. Staff members, with years of survey design experience, edit any bias. Further, all scales used by CRPP (either numeric, such as one through ten, or wording such as strongly agree, somewhat agree, somewhat disagree or strongly disagree) are balanced evenly. Additionally, placement of questions is carefully accomplished so that order has no impact.

All population-based surveys conducted by CRPP are proportional to population contributions within states, towns, and known census tract, group blocks and blocks. This distribution ensures truly representative results without under or over representation of various geographic or demographic groups within a sampling frame. During this particular study, CRPP and MBEA officials made a joint decision to reduce the number of surveys conducted throughout the city of Boston in an effort to increase sample sizes within the remaining towns.

CRPP utilizes a “super random digit sample” which derives a working telephone sample of both listed and unlisted telephone numbers. This method of sample selection eliminates any bias toward only listed phone numbers. Additionally, the process allows randomization of numbers, which equalizes the probability of telephone households being included in the sampling frame.

One survey instrument was utilized to elicit information from all residents. Skip patterns were developed within several survey sections.

All respondents reported to be one of the heads of their household and eighteen years of age or older.

Training of telephone researchers and a pre-test of the survey instrument occurred on April 5, 2005.

CRPP’s researchers and senior staff completed all facets of the Community Survey. These aspects include survey design, sample design, pre-test, computer programming, fielding, coding, data entry, validation and logic checks, computer analysis, analysis, report writing and presentations.

All telephone interviews were conducted from CRPP headquarters in Trumbull, Connecticut. Residential research was conducted primarily during the hours of 5:00 p.m. and 9:00 p.m. weekdays and 10:00 a.m. and 4:00 p.m. on weekends.

Completion rates are a critical aspect of any telephone survey research. Because one group of people might be easier to reach than another group, it is important that concentrated efforts be made to reach all groups to an equal degree.

A high completion rate means that a high percentage of the households within the original sample were actually contacted and that the resulting sample is not biased toward one potential audience. CRPP maintained a 72% completion rate on all residential calls made.

Readers of this report should note that any survey is analogous to a snapshot in time and results are only reflective of the time in which the survey was undertaken. Should concerted public information or public relations campaigns be undertaken during or shortly after the fielding of the survey, the results contained herein could be expected to change and should be, therefore, carefully interpreted and extrapolated.

Furthermore, it is important to note that all surveys contain some component of “sampling error.” Error that is attributable to systematic bias has been significantly reduced by utilizing strict random probability procedures. This sample was strictly random in that selection of each potential respondent was an independent event, based on known probabilities.

Each qualified resident had an equal chance of participating in the study. Statistical random error, however, can never be eliminated but may be significantly reduced by increasing sample size.

Statistically, a sample of 404 completed telephone interviews represents an accuracy level of +/-5% at a midpoint of a 95% confidence level.

In theory, a sample survey of residents living within the fifty towns would differ no more than +/-5% than if all residents were contacted and included in the survey. Further, if the survey were to be replicated, the statistics would fall within the margin for error 95 out of 100 times.

# HIGHLIGHTS

## ON AWARENESS...

- When describing their level of concern on four different issues related to the environment and nature in their local area, respondents provided the highest level of concern for “coastal water quality” (92.3%).
  - Fish and shellfish from local waters are safe to eat (91.3%)
  - Beaches are safe for swimming (89.6%)
  - Pollution of coastal waters from “stormwater runoff” (88.4%)
- When read a list of four different statements concerning coastal waters, significant percentages of respondents agreed with the following statements:
  - “What people do on land can potentially pollute coastal waters” (97.2%)
  - “Fertilizers and pesticides used on your property can pollute coastal waters even if those coastal waters are not next to your property” (86.4%)
  - “Pet waste can be a source of pollution for nearby coastal waters” (84.7%)
  - “Water that goes down storm drains is treated at water treatment plants before it is released in the nearest water body” (61.1%)
- When asked, less than one fifth of all respondents, 19.1%, reported to be “very” or “somewhat aware” of the Massachusetts Bays Estuary Association (MBEA). A similar percentage of respondents, 18.7%, also reported to be either “very” or “somewhat aware” of the Massachusetts Bays Program.
- There appeared to be some confusion among respondents on the actual differences between a “storm drain” and a “sewer drain.” When asked, 30.2% suggested storm and sewer drains were the same thing (18.8%) or they were unsure (11.4%). The majority, 69.8%, did believe they were different.
- Among those respondents who believed the two drain types to be different, less than three quarters, 70.1%, reported to researchers to be “very” or “somewhat confident” in explaining the differences between a “storm drain” and a “sewer drain” if asked.

## ON KNOWLEDGE...

- A majority of all respondents, 83.4%, suggested they were “very” (49.8%) or “somewhat aware” (33.7%) that “stormwater runoff” is “water that runs off the land and picks up contaminants such as animal waste, fertilizers, chemicals and other pollutants which make their way into coastal waters.”
- Just over three quarters of all respondents, 76.2%, reported to be either “very aware” (49.8%) or “somewhat aware” (26.5%) of which larger body of water the “stormwater runoff” flows into when it rains in or around their neighborhood.
- Interestingly, while more than three quarters of all respondents, 80.4%, reported to be either “very concerned” (44.3%) or “somewhat concerned” (36.1%) with “stormwater runoff” and its potential pollution impact to coastal waters, another 17.6% reported to be “somewhat unconcerned” (8.7%) or “not at all concerned” (8.9%).

## ON RECREATION HISTORY...

- Respondents reported the top 3 recreational activities they enjoy which take place on or near the water as: “swimming” (50.4%), “beach leisure time” (24.8%) and “boating on a sailboat” (19.1%).
- The body of water used most frequently among respondents participating in activities on or near the water is the “beach/ocean” (45.7%).

## ON THE MARKET...

All respondents were read a list of ten different activities and asked which they currently did, which they would be willing to do and which of the activities they were unwilling to do, in an effort to potentially help the environment and reduce pollution to coastal waters.

Among all respondents, significant numbers were currently reporting participation in the following activities:

- Taking household hazardous waste to special collection day/location (77.5%)
- Regular maintenance of lawn and landscaping equipment such as sharpening mower blades and trying to reduce spills and leaks (62.8%)
- Cleaning leaves and debris from sewers and storm drains near your home (55.9%)

Moderate levels of participation were recorded for the following:

- Monitor the amount of water used when watering your lawn (48.8%)
- Landscape practices utilizing native vegetation (43.2%)
- Clean up your pets' waste during walks (35.9%)
- Use organic fertilizers (34.0%)

And, low levels of participation were recorded in the following areas:

- Seek out a carwash which recycles their wash water (12.9%)
- Recycle rainwater through the use of a rain barrel (12.0%)
- Participate in a carpool (6.4%)

### ON FUNDING FOR PROTECTION...

- More than half of all resident respondents, 55.9%, suggested being “very willing” (25.5%) or “somewhat willing” (30.4%) to pay up to \$100 more per year in taxes to help reduce pollution in coastal waters.
- Resident respondents reporting to be “unsure,” “somewhat unwilling” or “not at all willing” to pay \$100 more per year in taxes were asked for how willing they would be to pay \$75 more per year in taxes to help reduce pollution in coastal waters. An additional 2.2% suggested they would then be “very willing” (0.2%) or “somewhat willing” (2.0%) to pay the increased taxes per year. The new cumulative total moved from 55.9% willing to 58.1% willing, at \$75.00.
- Resident respondents still reporting to be “unsure,” “somewhat unwilling” or “not at all willing” to pay \$75 more per year in taxes were asked how willing they would be to pay \$50 more per year in taxes to help reduce pollution in coastal waters. An additional 3.7% suggested then being “very willing” (1.0%) or “somewhat willing” (2.7%) to pay the increased taxes per year. The new cumulative total moved from 58.1% willing to 61.8% willing at \$50.00.

The table below illustrates the potential range of willingness to pay increased taxes in an effort to reduce pollution in coastal waters. The “floor” is determined as those respondents who report they are “very willing” to pay a particular amount in increased taxes. The “ceiling” includes those individuals who suggest they were “somewhat willing” to pay a particular amount in increased taxes.

<i>Choice factors... (Among Massachusetts Resident Respondents)</i>	<i>Very Willing</i>	<i>Very &amp; Somewhat Willing</i>
Willingness to pay \$100 more per year in taxes directly used to help reduce pollution in coastal waters	25.5%	55.9%
Willingness to pay \$75 more per year in taxes directly used to help reduce pollution in coastal waters	25.7	58.1
Willingness to pay \$50 more per year in taxes directly used to help reduce pollution in coastal waters	26.7	61.8

### ON HOUSEHOLD WASTE...

- A large percentage of respondents, when extrapolated on the total population (6.6%) still dispose of motor oils, paints, thinners, and other harmful products by pouring them down the drain, on the ground, into storm drains, onto streets, into trash or put them in storage.
- In declining order, respondents reported the top 3 ways in which they dispose of products such as motor oil, paints, paint thinners, cleaners, pesticides and varnishes are:
  - “Bring them to a hazardous waste day” (47.3%)
  - “Bring them to a transfer/dumping station” (45.3%)
  - “Place them in the trash” (4.5%)
- And, 15.1% of respondents reported they change oil in their cars by themselves from time to time.

## ON THE NEXT STEP...

- Impressively, the clear majority of all respondents, 98.3%, reported they would be either “very likely” or “somewhat likely” to change their behavior if they learned something they were doing was unhealthy for coastal waters.
- In addition, nearly three quarters of all respondents, 70.0%, reported they would be either “very interested” or “somewhat interested” in receiving information about how to improve their yard, auto and home care practices in an effort to reduce the amount of polluted stormwater runoff.

## ON INFORMATION AND COMMUNICATION...

- The top five ways, in declining order, for reaching residents of coastal Massachusetts with information and topics of concern about coastal waters were reported to be:
  - Newspaper (36.1%)
  - Direct mailing (34.7%)
  - Television (21.0%)
  - Email/Internet (12.9%)
  - Radio (12.4%)
- In an effort to test potential campaign messages, all respondents were read a list of five different taglines and asked to rate which one they believed would work best for a campaign designed to educate residents on how to reduce the environmental effects of “stormwater runoff.” In declining order of preference, the entire list of taglines is presented below.
  - “Clean water starts with you” (37.6%)
  - “A healthy ocean begins with you” (29.7%)
  - “The ocean begins in your neighborhood” (16.1%)
  - “Stormwater – Your ocean connection” (5.7%)
  - “Clean stormwater for the Bays” (3.2%)

# 4 SUMMARY OF FINDINGS

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Readers are reminded this section summarizes the statistics collected from a survey used to interview 404 Massachusetts residents on behalf of the Massachusetts Bays Estuary Association.

## AWARENESS

All respondents were initially read a list of issues related to the environment and nature in their local area and asked to indicate if they were very concerned, somewhat concerned, somewhat unconcerned or not at all concerned about each issue.

The following table presents the cumulative totals collected for those reporting to be either “very concerned” or “somewhat concerned.”

<i>Issue (Total Concerned)</i>	<i>2005</i>
Coastal water quality	92.3%
Fish and shellfish from local waters are safe to eat	91.3
Beaches are safe for swimming	89.6
Pollution of coastal waters from “stormwater runoff”	88.4

Respondents were then read a short list of statements concerning coastal waters and asked to indicate if they strongly agree, somewhat agree, somewhat disagree or strongly disagree with each statement as it was read to them.

The following table presents the cumulative totals for those suggesting they “strongly agree” or “somewhat agree” with the statement as it was read.

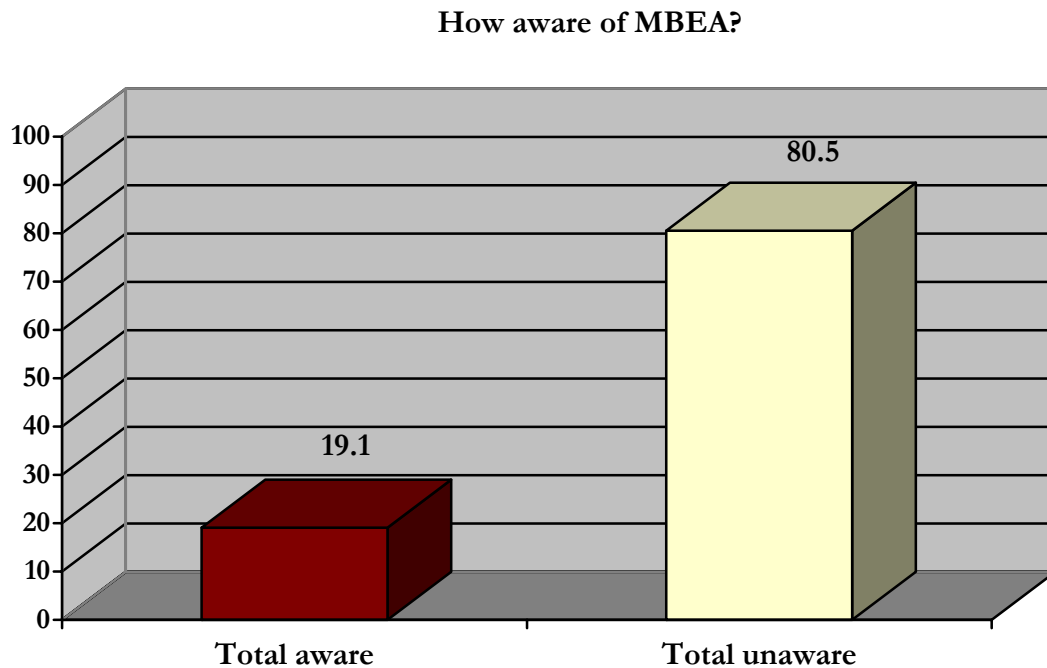
<i>Statement (Total Agree)</i>	<i>2005</i>
What people do on land can potentially pollute coastal waters	97.2%
Fertilizers and pesticides used on your property can pollute coastal waters even if those coastal waters are not next to your property	86.4
Pet waste can be a source of pollution for nearby coastal waters	84.7
Water that goes down storm drains is treated at water treatment plants before it is released in the nearest water body	61.1

In an effort to test awareness of various organizations, all respondents were asked by researchers to indicate how aware they are of a Massachusetts based non-profit organization called the Massachusetts Bays Estuary Association (MBEA).

As presented in the table below, less than one fifth of all respondents, 19.1%, reported to be either “very aware” or “somewhat aware” of the Massachusetts Bays Estuary Association in 2005.

<i>Aware of MBEA?</i>	<i>2005</i>
Very aware	4.0%
Somewhat aware	15.1
Somewhat unaware	7.2
Not at all aware	73.3
Don't know/Unsure	0.5
<b><i>Total Aware</i></b>	<b><i>19.1</i></b>
<b><i>Total Unaware</i></b>	<b><i>80.5</i></b>

The chart below also presents the cumulative totals for MBEA awareness levels.



Following, respondents were asked to indicate how aware they were of a State agency in Massachusetts called the Massachusetts Bays Program.

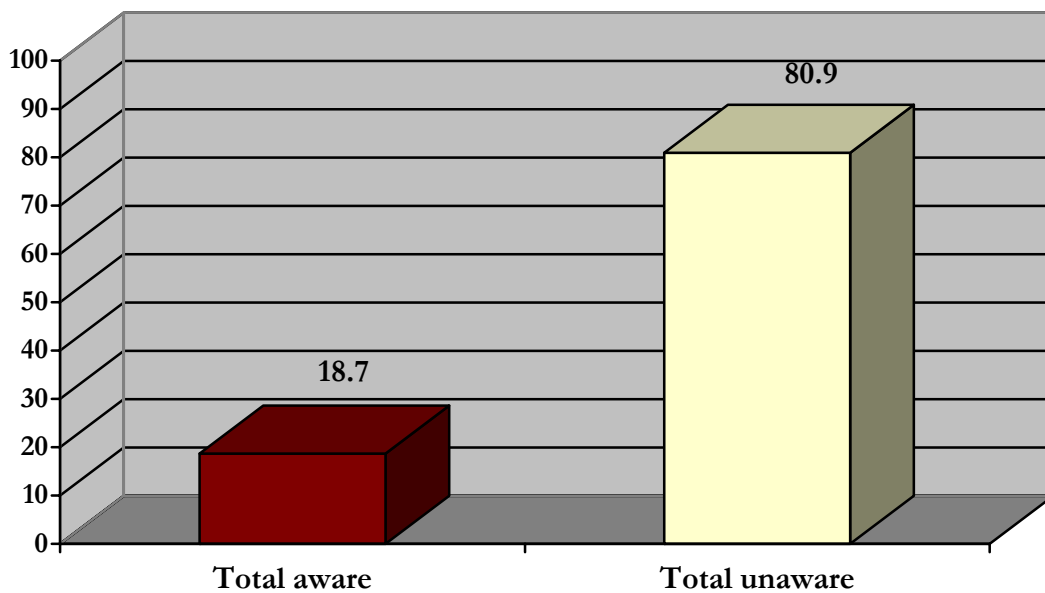
Again, slightly less than one fifth of all respondents, 18.7%, reported to be either “very aware” or “somewhat aware” of the Massachusetts Bays Program.

Detailed findings may also be found in the table below.

<i>Aware of Massachusetts Bays Program?</i>	<i>2005</i>
Very aware	6.7%
Somewhat aware	11.9
Somewhat unaware	4.0
Not at all aware	76.9
Don't know/Unsure	0.5
<b><i>Total Aware</i></b>	<b><i>18.7</i></b>
<b><i>Total Unaware</i></b>	<b><i>80.9</i></b>

The chart below also presents the cumulative totals for Massachusetts Bays Program awareness levels.

**How aware of Massachusetts Bays Program?**



Researchers read all respondents a list of area organizations and asked them to indicate if they were aware of each.

The highest level of awareness among respondents was reported for the “Cape Cod Commission” (43.6%).

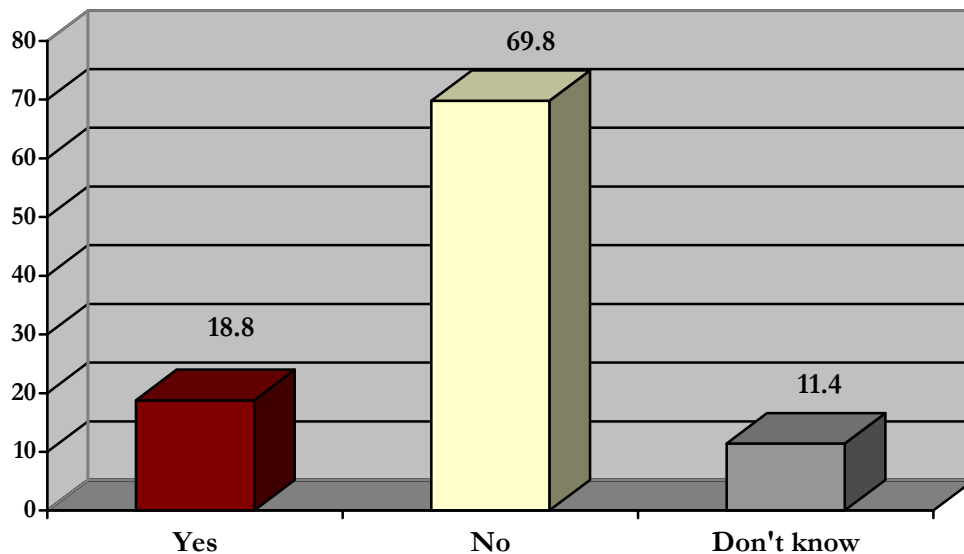
A complete list of area organizations and frequency of mention for each is presented in the table below.

<i>Aware of...</i>	<i>Yes</i>
Cape Cod Commission	43.6%
North & South Rivers Watershed Association	21.3
Salem Sound Coastwatch	13.1
Eight Towns and the Bay	5.4

All resident respondents were asked the following: *“Please tell me if you believe that a “storm drain” and a “sewer drain” are the same thing?”*

Nearly one fifth of all respondents, 18.8%, believe a “storm drain” and a “sewer drain” are in fact the same thing, while another 69.8% did not believe the two drain types to be the same. Remaining respondents, 11.4%, reported to be “unsure.”

**Do you believe a "storm drain" and a "sewer drain" are the same thing?**



Those respondents (81.2%) reporting a “storm drain” and a “sewer drain” to be different types of drains and also those who reported to be unsure were asked by researchers how confident they would be in describing the differences between the two drain types.

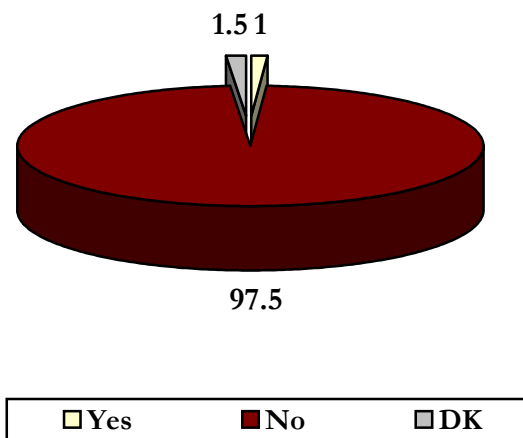
The following table presents the results as collected.

<i>How confident in describing differences between a “storm drain” and a “sewer drain?”</i>	<i>2005 N=328</i>
Very confident	37.2%
Somewhat confident	32.9
Somewhat unconfident	10.7
Not at all confident	14.9
Don't know/Unsure	4.3
<b>Total Confident</b>	<b>70.1</b>
<b>Total Unconfident</b>	<b>25.6</b>

Researchers asked all respondents the following: *“Please tell me if you place things such as leaves, motor oil, cigarette butts or grass clippings in storm drains near your home?”*

As the chart below indicates, the clear majority of respondents, 97.5%, do not report placing any such items in the storm drains near their homes.

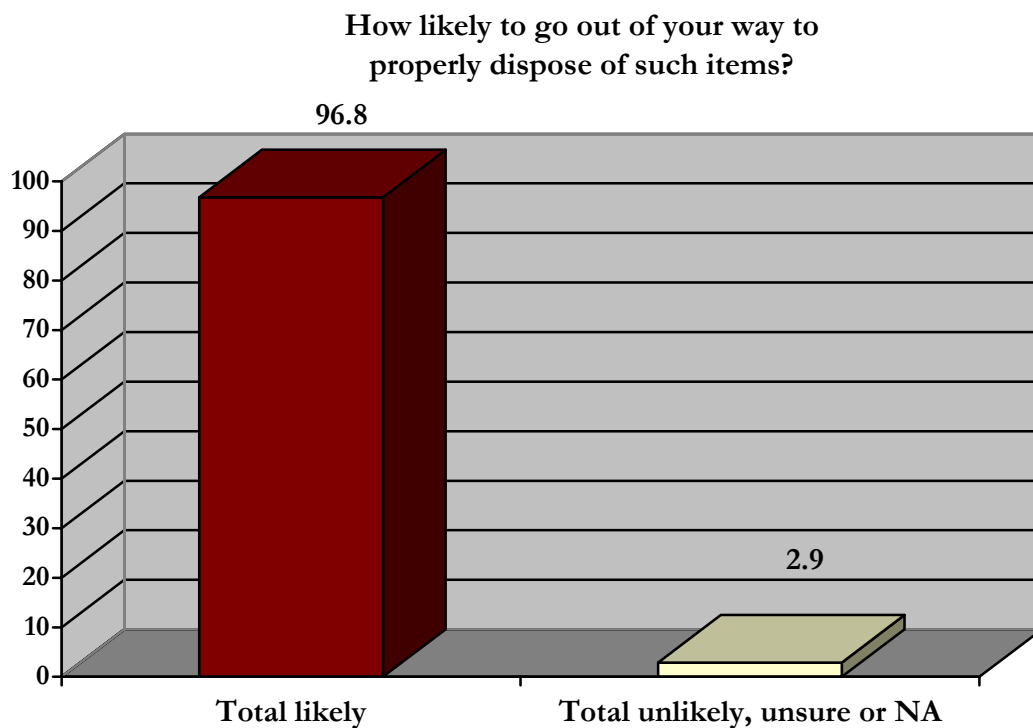
**Do you place leaves, motor oil, cigarette butts or grass clippings in storm drains near your home?**



All respondents were asked how likely they might be to go out of their way to properly dispose of such things as cigarette butts, coffee cups, food wrappers, bottles and cans in an effort to reduce litter near their home.

As presented in the table below, the large majority of respondents, 96.8%, reported to be either “very likely” or “somewhat likely” to go out of their way to dispose of such items.

<i>How likely to go out of your way to properly dispose such items?</i>	<i>2005</i>
Very likely	78.7%
Somewhat likely	18.1
Somewhat unlikely	0.2
Not at all likely	1.0
Don't know/Unsure	0.2
Don't litter/NA	1.7
<b><i>Total Likely</i></b>	<b><i>96.8</i></b>
<b><i>Total Unlikely, Unsure or NA</i></b>	<b><i>2.9</i></b>

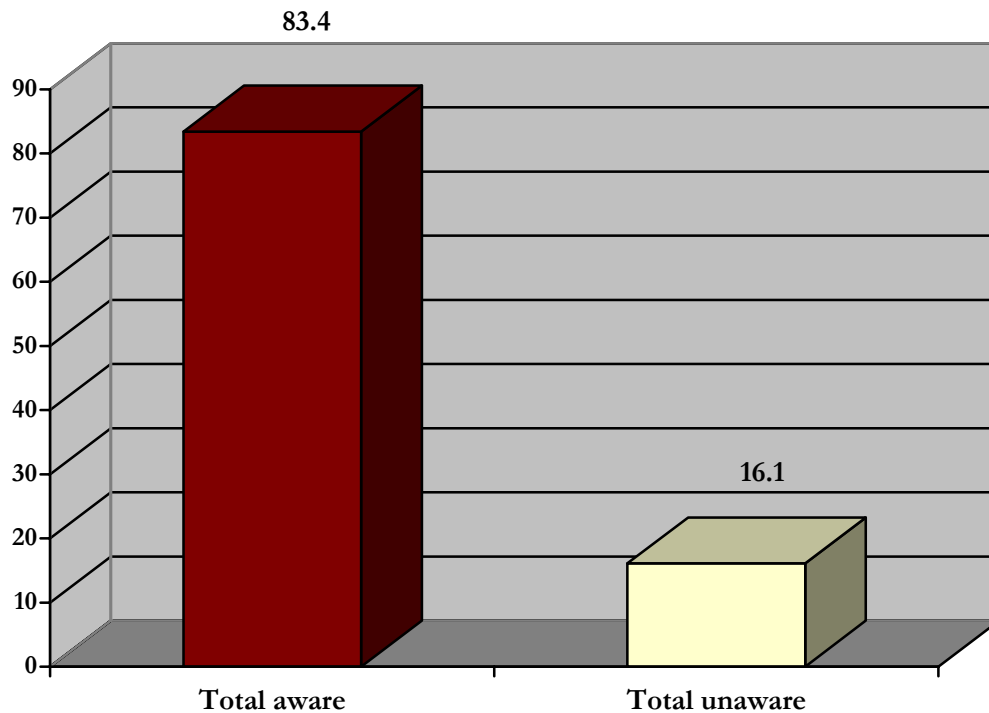


## KNOWLEDGE

All respondents were read the following by researchers: *“For our purposes this evening, “stormwater runoff” is defined as “water that runs off the land and picks up contaminants such as animal waste, fertilizers, chemicals and other pollutants which make their way into coastal waters.” Prior to my call this evening, please tell me how aware you were of “stormwater runoff” as it has been described?”*

While the majority of all respondents, 83.4%, suggested being “very aware” (49.8%) or “somewhat aware” (33.7%) of “stormwater runoff” as it was described, another 16.1% reported to be “somewhat unaware” (6.7%) or “not at all aware” (9.4%).

**How aware of "stormwater runoff" as described?**



Further, all respondents were asked by researchers, when it rains in or around their neighborhood, how aware they were of which larger body of water the “stormwater runoff” flows into.

The following table presents the results as collected.

<i>Aware of which body of water “stormwater runoff” flows into?</i>	<i>2005</i>
Very aware	49.8%
Somewhat aware	26.5
Somewhat unaware	5.7
Not at all aware	15.8
Don’t know/Unsure	2.2
<b><i>Total Aware</i></b>	<b><i>76.2</i></b>
<b><i>Total Unaware</i></b>	<b><i>21.5</i></b>

In a similar question, researchers asked all respondents, during a rainstorm, how concerned they were about “stormwater runoff” and its potential pollution impact concerning coastal waters.

While more than three quarters of all respondents, 80.4%, did report to be either “very concerned” (44.3%) or “somewhat concerned” (36.1%) with “stormwater runoff” and its potential pollution impact to coastal waters, another 17.6% reported to be “somewhat unconcerned” (8.7%) or “not at all concerned” (8.9%).

Detailed findings are presented in the table located below.

<i>Your concern with “stormwater runoff” and its potential pollution impact to coastal waters?</i>	<i>2005</i>
Very concerned	44.3%
Somewhat concerned	36.1
Somewhat unconcerned	8.7
Not at all concerned	8.9
Don’t know/Unsure	2.0
<b><i>Total Concerned</i></b>	<b><i>80.4</i></b>
<b><i>Total Unconcerned</i></b>	<b><i>17.6</i></b>

## **RECREATION HISTORY**

All respondents were asked to report which activities, if any, they enjoy participating in which take place on or near the water.

The question was asked in an open-ended format and provided the following responses. Readers should note multiple responses were accepted.

<b><i>Activities</i></b>	<b><i>2005</i></b>
Swimming	50.4%
Beach leisure	24.8
Boating (sailboat)	19.1
Fishing	17.4
Other	16.1
Boating (powerboat)	13.6
Kayaking	7.2
Canoeing	5.7
None	5.2
Water skiing	4.0
Jet Ski	1.2

All respondents were then asked, when participating in activities on or near the water, to indicate the water body type used most frequently.

The table below summarizes results collected.

<b><i>Body of water used most frequently?</i></b>	<b><i>2005</i></b>
Ocean/Beach	45.7%
Bay/Harbor	19.1
Lake	10.4
River	7.2
Pond	2.7
Other	10.2
None	4.7

All resident respondents were asked by researchers to indicate how aware they were of beach closures along the coast of Massachusetts occurring over the last year.

While the majority of all respondents, 82.4%, suggested being “very aware” (46.0%) or “somewhat aware” (36.4%) of beach closures along the coast of Massachusetts, another 16.8% reported to be “somewhat unaware” (6.2%) or “not at all aware” (10.6%).

The table below presents the results as collected.

<b><i>Aware of beach closures along the coast of Massachusetts over the last year?</i></b>	<b><i>2005</i></b>
Very aware	46.0%
Somewhat aware	36.4
Somewhat unaware	6.2
Not at all aware	10.6
Don't know/Unsure	0.7
<b><i>Total Aware</i></b>	<b><i>82.4</i></b>
<b><i>Total Unaware</i></b>	<b><i>16.8</i></b>

In a follow-up question, researchers read the following: *“When beaches are closed due to contamination, is it your opinion that the contamination primarily stems from sewage spills or runoff from homes and local businesses?”*

As presented in the table below, resident respondents offered mixed opinions as to whether contamination leading to beach closures stems from sewage spills or runoff from homes and local businesses.

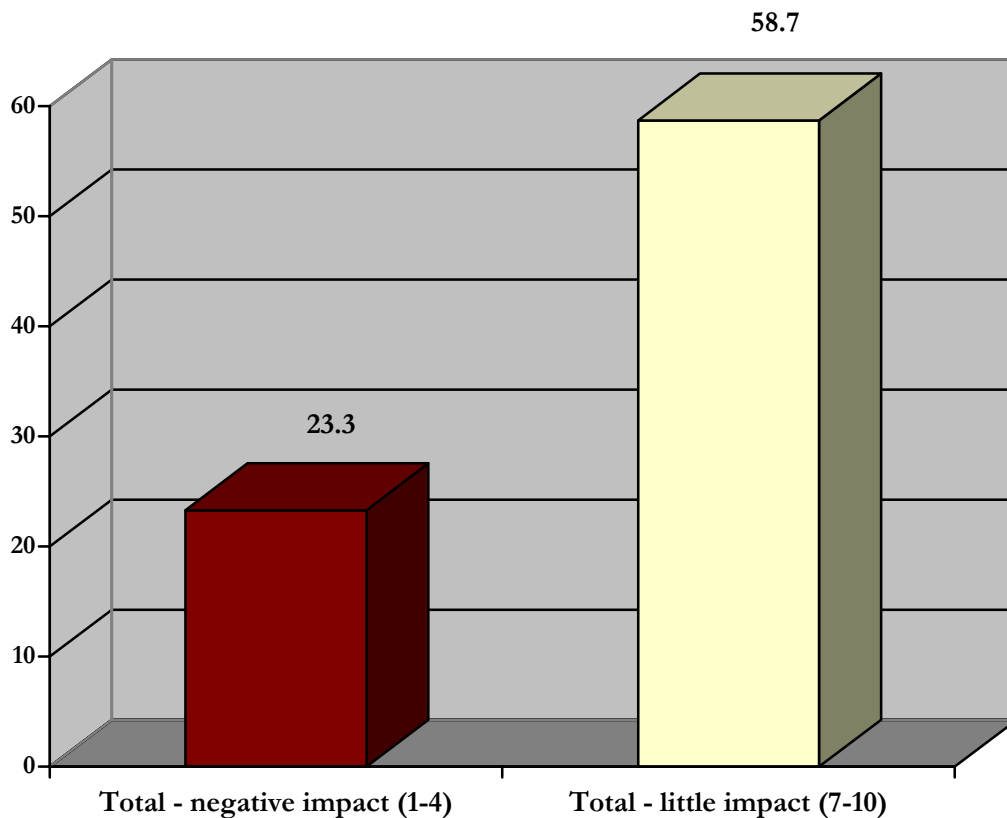
<b><i>When beaches are closed, in your opinion, is it sewage spills or runoff from homes and local businesses?</i></b>	<b><i>2005</i></b>
Sewage spills	15.8%
Runoff from homes and local businesses	10.9
Combination of both (sewage and runoff)	58.9
Don't know/Unsure	14.4

All resident respondents were read the following: *“Please think for a moment about beach closures that have occurred in Massachusetts over the past year. Please rate your feelings towards these beach closures by using a scale of one to ten where one means the closures have had a very negative impact on you and ten means the closures have had no impact on you whatsoever.”*

Nearly one quarter of all respondents, 23.3%, suggested the beach closures have had a very negative impact on them (cumulative rating of 1-4 on the ten-point scale), while another 58.7% suggested the beach closures have had little impact whatsoever on them (cumulative rating of 7-10 on the ten-point scale).

Results may also be found in the chart located below.

**Rate feelings towards beach closures having impact on you?**



## THE MARKET

Researchers asked all respondents who, in their household, takes care of the lawn care duties.

The following table summarizes the results collected.

<i>Who in your household takes care of the lawn care duties?</i>	<i>2005</i>
Yourself	37.1%
A family member	20.0
Don't have a lawn	29.5
Landlord/Building owner	5.4
Other	7.2
Don't know/Unsure/It varies	0.7

Respondents were then read a list of activities and asked which of them they currently do, which of them they were willing to do and which of them they were not willing to do, in an effort to potentially help the environment and reduce pollution to coastal waters.

The following table summarizes the results collected.

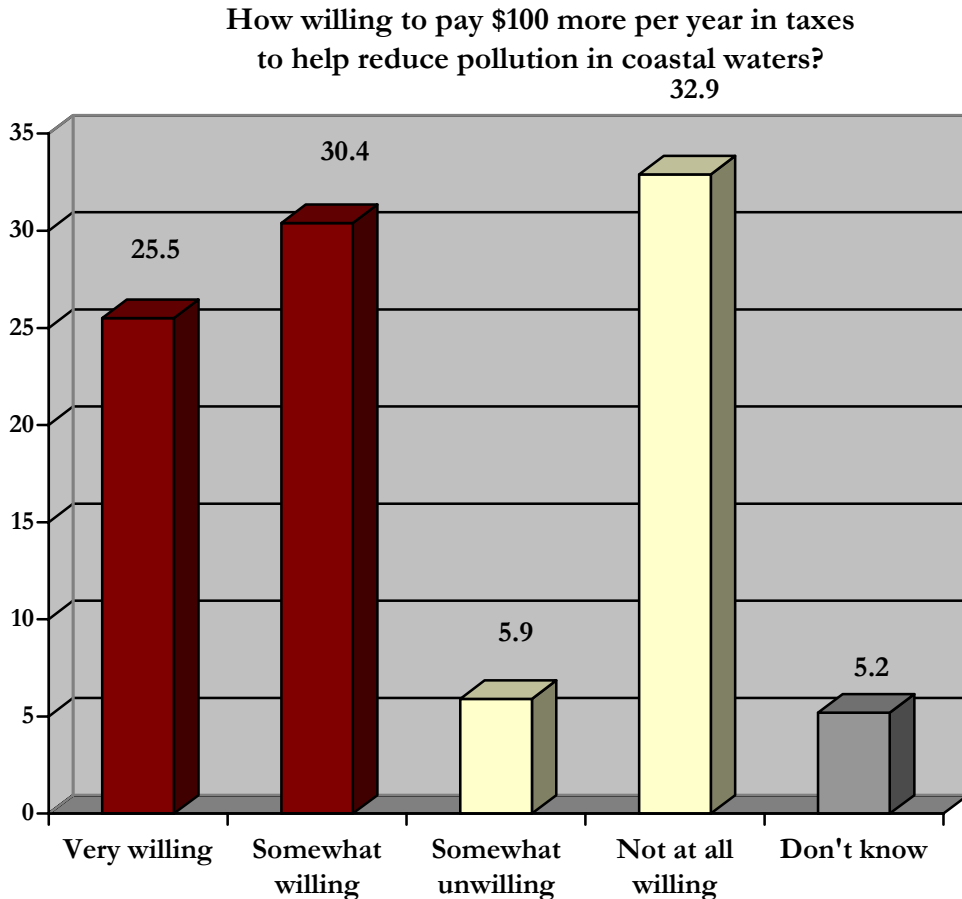
<i>Activities (Composite)</i>	<i>Currently Do</i>	<i>Willing to Do</i>	<i>Unwilling to Do</i>
Recycle rainwater through the use of a rain barrel	12.0%	<b>41.2</b>	28.2
Seek out a carwash that recycles their wash water	12.9	<b>41.1</b>	15.1
Participate in a carpool	6.4	<b>31.9</b>	28.5
Use organic fertilizers	34.0	<b>30.5</b>	8.4
Landscape practices utilizing native vegetation	43.2	<b>24.2</b>	5.6
Cleaning leaves and debris from sewers and storm drains near your home	55.9	<b>20.8</b>	4.5
Monitor the amount of water used when watering your lawn	48.8	<b>18.2</b>	7.7
Regular maintenance of lawn and landscaping equipment such as sharpening mowers blades and trying to reduce spills and leaks	62.8	<b>14.0</b>	3.2
Take your household's hazardous waste to a special collection day/location	77.5	<b>12.6</b>	2.2
Clean up your pets' waste during walks	35.9	<b>8.2</b>	4.2

## FUNDING FOR PROTECTION

Massachusetts residents were read the following: *“Based on all you know or may have heard about coastline water issues in Massachusetts, please tell me how willing you might be to pay up to \$100 more per year in taxes directly used to help reduce pollution in coastal waters?”*

More than half of all resident respondents, 55.9%, suggested being “very willing” (25.5%) or “somewhat willing” (30.4%) to pay up to \$100 more per year in taxes directly used to help reduce pollution in coastal waters.

More than two fifths, 44.0%, indicated being “somewhat unwilling” (5.9%), “not at all willing” (32.9%) or “unsure” (5.2%) of their willingness to pay up to \$100 more per year in taxes.



Those respondents (44.0%) previously reporting to be “somewhat unwilling,” “not at all willing” or “unsure” were then asked: “*And, how willing might you be to pay up to \$75 more per year in taxes directly used to help reduce pollution in coastal waters?*”

An additional 2.2% of respondents suggested they would be “very willing” (0.2%) or “somewhat willing” (2.0%) to pay up to \$75 more per year in taxes directly used to help reduce pollution in coastal waters. **Together with those willing to pay \$100.00, the new total is 58.1%.**

Another 41.9% continued to report “somewhat unwilling” (4.2%), “not at all willing” (32.7%) or “unsure” (5.0%).

The breakdown of results is also presented in the table below.

<i>How willing to pay up to \$75 more per year in taxes directly used to help reduce pollution in coastal waters?</i>	<i>% gained</i>
Very willing	0.2%
Somewhat willing	2.0
Somewhat unwilling	4.2
Not at all willing	32.7
Don't know/Unsure	5.0

Remaining respondents (41.9%) still reporting to be “somewhat unwilling,” “not at all willing” or “unsure” were asked a second follow-up question that read: “*And, how willing might you be to pay up to \$50 more per year in taxes directly used to help reduce pollution in coastal waters?*”

An additional 3.7% of respondents suggested they would be “very willing” (1.0%) or “somewhat willing” (2.7%) to pay up to \$50 more per year in taxes directly used to help reduce pollution in coastal waters. **Together with those willing to pay \$100.00 or \$75.00, the new cumulative total is 61.8%.**

Another 38.1% continued to report “somewhat unwilling” (3.0%), “not at all willing” (30.9%) or “unsure” (4.2%).

The table below presents the breakdown of results.

<i>How willing to pay up to \$50 more per year in taxes directly used to help reduce pollution in coastal waters?</i>	<i>% gained</i>
Very willing	1.0%
Somewhat willing	2.7
Somewhat unwilling	3.0
Not at all willing	30.9
Don't know/Unsure	4.2

The table below illustrates the potential range of willingness to pay increased taxes in an effort to reduce pollution in coastal waters.

The “floor” is determined by those respondents who only report they are “very willing” to pay a particular amount in increased taxes.

The “ceiling” includes those individuals who suggest they are “very willing” or “somewhat willing” to pay a particular amount in increased taxes.

<i>Choice factors... (Among Massachusetts Resident Respondents)</i>	<i>Very Willing</i>	<i>Very &amp; Somewhat Willing</i>
Willingness to pay \$100 more per year in taxes directly used to help reduce pollution in coastal waters	25.5%	55.9
Willingness to pay \$75 more per year in taxes directly used to help reduce pollution in coastal waters	25.7	58.1
Willingness to pay \$50 more per year in taxes directly used to help reduce pollution in coastal waters	26.7	61.8

## **HOUSEHOLD WASTE**

Researchers asked all respondents how often they or anyone in their household changes the oil in their car while at the house as opposed to having it done professionally.

The table below presents the results as collected.

<i>Frequency in which you change the oil in your car at home as opposed to having it done professionally?</i>	<i>2005</i>
All the time	9.9%
Some of the time	2.2
Seldom	3.0
Never	83.7
Don't know/Unsure	1.2

In an open-ended format question, all respondents were asked how they typically dispose of products such as motor oil, paints, paint thinners, cleaners, pesticides and varnishes.

The following table holds all results collected.

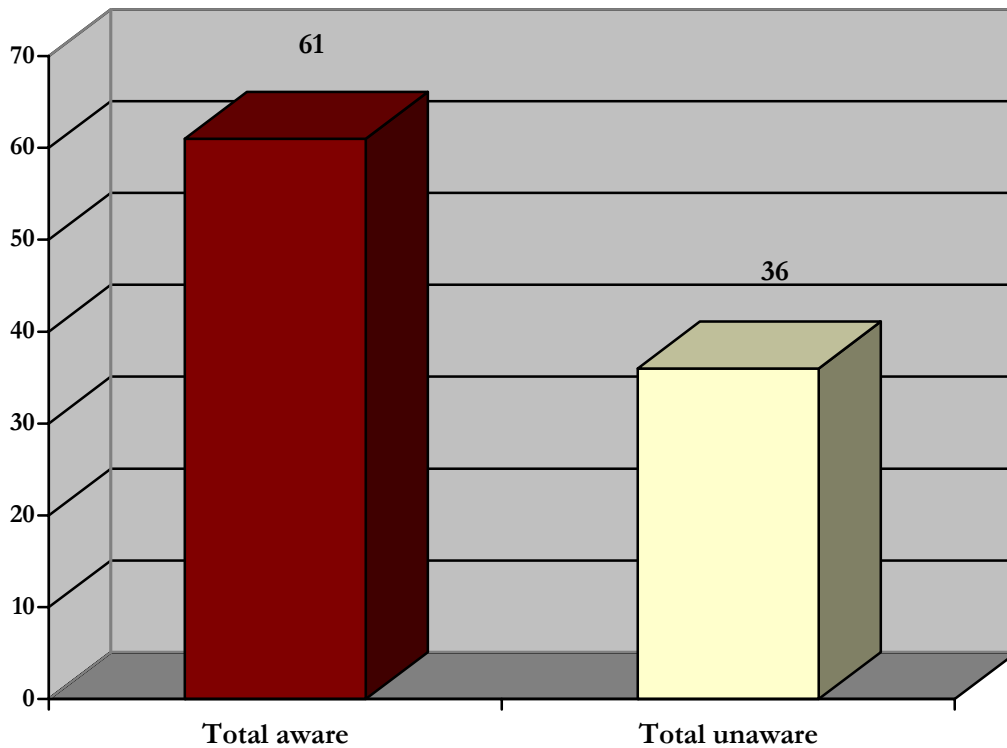
<i>How do you dispose of products such as motor oil, paints, paint thinners, cleaners, pesticides and varnishes?</i>	<i>2005</i>
Bring them to a hazardous waste day	47.3%
Bring them to a transfer/dumping station	45.3
Don't use such products	7.4
Place them in the trash	4.5
Don't know/Unsure	3.5
Other	2.0
Use them until they are finished	1.5
Pour down the drain	0.7
Pour in the street	0.7
Store them	0.5
Pour down a storm drain	0.2

Respondents were all read the following: *“Please tell me how aware you are of household hazardous waste days or transfer/dumping stations located in your area for disposing of products such as motor oil, paints, paint thinners, cleaners, pesticides and varnishes?”*

While nearly two thirds of all respondents, 61.0%, suggested to be either “very aware” (49.0%) or “somewhat aware” (12.0%) of the hazardous waste days, more than one third, 36.0%, indicated being “somewhat unaware” (4.0%) or “not at all aware” (32.0%).

Remaining respondents, 3.0%, did not know or were “unsure.”

**How aware of household hazardous waste days?**



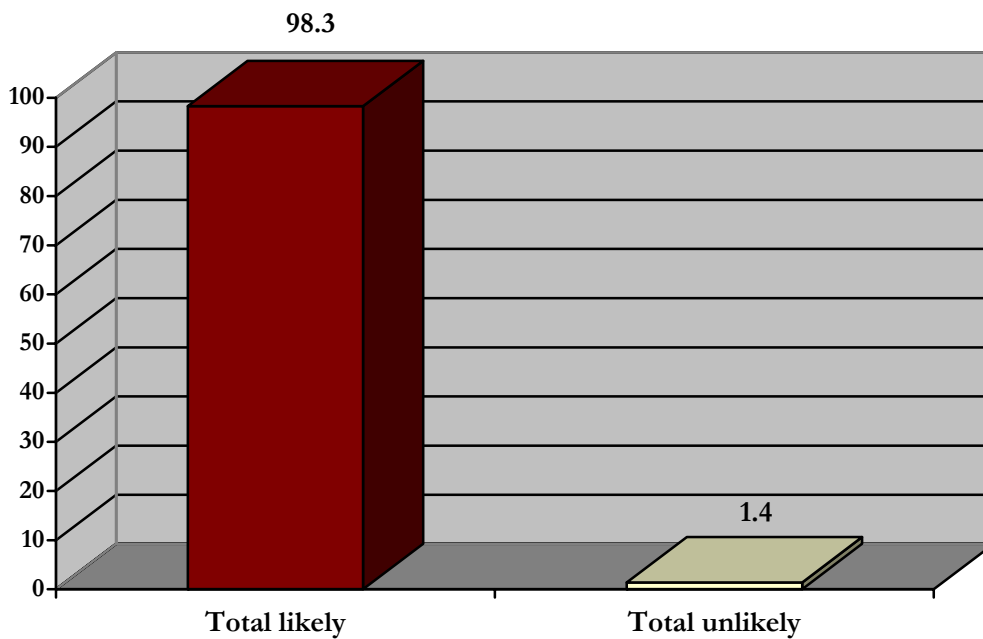
## THE NEXT STEP

Researchers read all respondents the following: *“If there was something you were doing which you learned was unhealthy for coastal waters, please tell me how likely you would be to change your behavior?”*

While the clear majority of all respondents, 98.3%, suggested to be either “very likely” (81.4%) or “somewhat likely” (16.8%) to change their behavior, a few, 1.4%, indicated being “somewhat unlikely” (0.7%) or “not at all likely” (0.7%) to change their behavior even if they learned something they were doing was unhealthy for coastal waters.

Remaining respondents, 0.2%, did not know or were “unsure.”

**If you were doing something unhealthy for coastal waters,  
how likely would you be to change your behavior?**



Those respondents suggesting to be unlikely to change behavior even if they learned something they were doing was unhealthy for coastal waters were asked to provide the reason for their response.

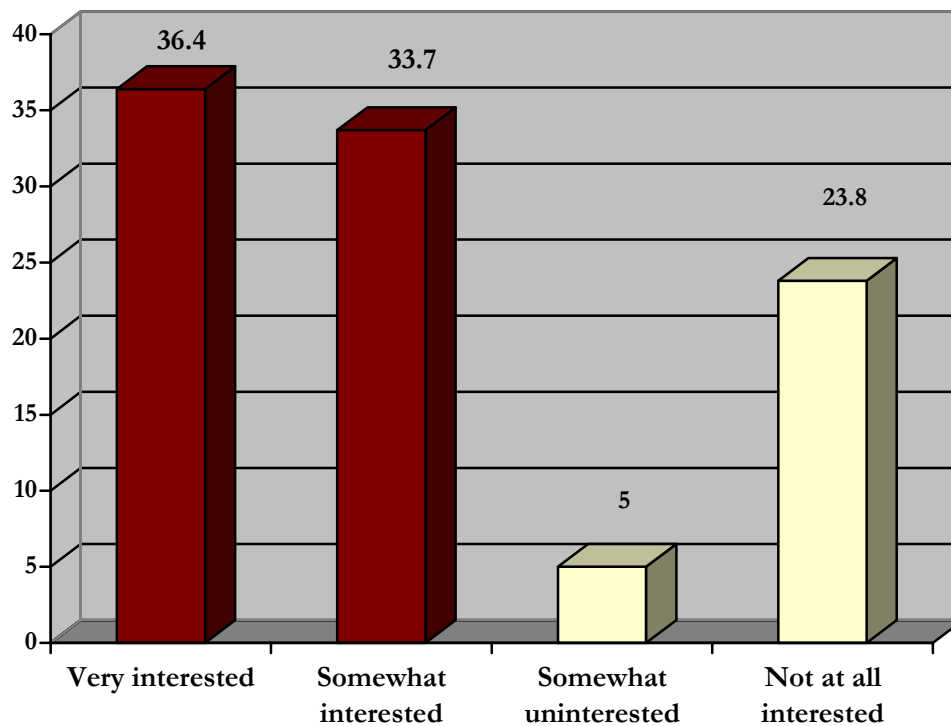
The following table depicts the results collected.

<i>Please tell me why you are unlikely to change behavior?</i>	<i>2005 N=7</i>
What I do is healthy/doing the right thing	57.1%
Can't do any more than I am already doing	14.3
Depends on ramifications	14.3
I'm into oceanography	14.3

All respondents were asked how interested they might be in receiving information about how to improve your yard, auto and home care practices in an effort to reduce the amount of polluted stormwater runoff.

The chart below presents the results as collected.

**Interest in receiving information on how to improve home care practices to reduce polluted stormwater runoff?**



## INFORMATION AND COMMUNICATION

Respondents were all asked to report the best way to reach them with information and topics of concern about coastal waters.

The following table presents the results as collected. Readers should note multiple responses were accepted.

<i>Best ways to reach you with information and topics of concern about coastal waters?</i>	<i>2005</i>
Newspaper	36.1%
Direct mailing	34.7
Television	21.0
Email/Internet	12.9
Radio	12.4
Brochures	4.7
Other	4.0
Don't know/Unsure	3.5
Personal telephone call	3.0
None	1.7
Public Places such as MBTA (public transportation)	1.0
Word of mouth	1.0
Library	0.7
Local Watershed Association	0.5
Local meetings/seminars	0.5
Retail stores/point of purchases	0.2

All respondents were read the following statement: “The following are a number of slogans or taglines for a new campaign designed to help educate residents on how to reduce the environmental effects of “stormwater runoff.” Which of the following slogans or taglines do you think would work best for accomplishing this goal? I will now read you the list and ask you to choose only one. I’ll be happy to repeat the list if you need me to.”

More than one third of all respondents, 37.6%, suggest the slogan or tagline best accomplishing the education goal is “Clean water starts with you.”

A complete list of slogans along with frequency of mention is presented in the table below.

<b><i>Which of the following slogans or taglines do you think would work best?</i></b>	<b><i>2005</i></b>
“Clean water starts with you”	37.6%
“A healthy ocean begins with you”	29.7
“The ocean begins in your neighborhood”	16.1
“Stormwater – Your ocean connection”	5.7
“Clean stormwater for the Bays”	3.2
<b>None of these appeal to me</b>	<b>5.2</b>
<b>Don’t know/Unsure</b>	<b>2.5</b>

Earlier in the survey, all respondents were read a statement (pre-test) and asked if they strongly agreed, somewhat agreed, somewhat disagreed or strongly disagreed with the statement as it was read. Towards the very end of the survey, researchers repeated the same question (post-test) to see if there was any movement in the results after discussing many topics related to pollution of coastal waters.

As presented in the table below, data for the same question asked in the beginning of the survey and at the end of the survey shows movement among those “strongly agreeing.”

<b><i>What people do on land can potentially pollute coastal waters?</i></b>	<b><i>Pre-Test</i></b>	<b><i>Post-Test</i></b>
<b>Strongly agree</b>	<b>83.5%</b>	<b>87.1%</b>
Somewhat agree	13.7	11.6
Somewhat disagree	0.5	---
Strongly disagree	1.0	0.5
Don’t know/Unsure	1.3	0.7
<b>Total Agree</b>	<b>97.2</b>	<b>98.8</b>
<b>Total Disagree</b>	<b>1.5</b>	<b>0.5</b>

**DEMOGRAPHICS**

**Do you own a dog?**

Yes.....27.7 %  
No.....72.3 %

**How far away is coastal water from your property?**

Less than 1 mile.....47.3 %  
1 to 5 miles .....39.6 %  
5 to 20 miles.....10.6 %  
More than 20 miles away.....0.7 %  
Don't know/Unsure .....1.7 %

**What type of dwelling is your home?**

Single family freestanding home .....65.8 %  
Multifamily home .....13.9 %  
Apartment .....12.1 %  
Other .....8.2 %

**Do you currently rent?**

Rent.....21.0 %  
Own.....74.0 %  
Own as part of a condominium.....3.2 %  
Unsure.....1.7 %

**Do you utilize a lawn care service?**

Yes.....14.2 %  
No.....85.3 %  
Depends.....0.5 %

**Age**

Less than 25 .....	3.7 %
26 to 35 .....	6.9 %
36 to 45 .....	18.1 %
46 to 55 .....	22.0 %
56 to 65 .....	19.6 %
66 or older .....	25.7 %
Refused .....	4.0 %

**How long have you lived at present address?**

Less than 1 year .....	6.2 %
1 to less than 4 years .....	12.4 %
4 to less than 6 years .....	8.4 %
6 to less than 10 years .....	9.7 %
10 to less than 15 years .....	14.9 %
15 or more years .....	46.8 %
Refused .....	1.7 %

**Income**

Under \$20,000 .....	3.2 %
\$20,000 to less than \$40,000 .....	6.9 %
\$40,000 to less than \$60,000 .....	10.9 %
\$60,000 to less than \$80,000 .....	10.7 %
\$80,000 to less than \$100,000 .....	7.2 %
\$100,000 to less than \$120,000 .....	3.5 %
\$120,000 to less than \$140,000 .....	2.0 %
\$140,000 to less than \$160,000 .....	0.5 %
\$160,000 or more .....	3.0 %
Refused .....	52.1 %

**Education**

No High School .....	0.2 %
Some High School .....	3.5 %
Graduated High School .....	19.1 %
Some College .....	16.1 %
Graduate from College .....	31.9 %
Post-Graduate study .....	5.4 %
Post-Graduate Degree .....	18.6 %
Refused .....	5.2 %

**Race**

White.....	87.9 %
Hispanic.....	3.0 %
African American.....	2.7 %
Asian.....	0.2 %
Other.....	1.5 %
Refused.....	4.7 %

**Total vehicles owned by household residents?**

None.....	8.4 %
One.....	38.1 %
Two or more.....	51.2 %
Don't know/Unsure.....	2.2 %

**Do you belong to any conservation or environmental groups?**

Yes.....	23.3 %
No.....	74.4 %
Don't know/Unsure/Refused.....	2.2 %

**Gender**

Male.....	43.8 %
Female.....	56.2 %

# 5 APPENDIX

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## *Interpretation of Aggregate Results*

The computer-processed data for this survey is presented in the following frequency distributions. It is important to note that the wordings of the variable labels and value labels in the computer-processed data are largely abbreviated descriptions of the Questionnaire items and available response categories.

The frequency distributions include the category or response for the question items. Responses deemed not appropriate for classification have been grouped together under the “Other” code.

The “NA” category label refers to “No Answer” or “Not Applicable”. This code is also used to classify ambiguous responses. In addition, the “DK/RF” category includes those respondents who did not know their answer to a question or declined to answer it. In many of the tables, a group of responses may be tagged as “Missing” – occasionally, certain individual’s responses may not be required to specific questions and thus are excluded. Although when this category of response is used, the computations of percentages are presented in two (2) ways in the frequency distributions: 1) with their inclusion (as a proportion of the total sample), and 2) their exclusion (as a proportion of a sample subgroup).

Each frequency distribution includes the absolute observed occurrence of each response (i.e. the total number of cases in each category). Immediately adjacent to the right of the column of absolute frequencies is the column of relative frequencies. These are the percentages of cases falling in each category response, including those cases designated as missing data. To the right of the relative frequency column is the adjusted frequency distribution column that contains the relative frequencies based on the legitimate (i.e. non-missing) cases. That is, the total base for the adjusted frequency distribution excludes the missing data. For many Questionnaire items, the relative frequencies and the adjusted frequencies will be nearly the same. However, some items that elicit a sizable number of missing data will produce quite substantial percentage differences between the two columns of frequencies. The careful analyst will cautiously consider both distributions.

The last column of data within the frequency distribution is the cumulative frequency distribution (Cum Freq). This column is simply an adjusted frequency distribution of the sum of all previous categories of response and the current category of response. Its primary usefulness is to gauge some ordered or ranked meaning.