Maine Healthy Beaches Program Survey

RESPONSE REPORT

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RESPONSE REPORT

We conducted the 2015 Maine Healthy Beaches (MHB) Program Survey to: (1) learn about why individuals, communities, and parks participate in the MHB program; (2) better understand how the MHB program works, and (3) obtain feedback from MHB participants about the program. We hope the results will help guide future program decisions and be of interest and assistance to program participants. In addition to helping the MHB program staff and participants, the results will allow our research team to continue studying the interactions among beach management, beach recreation and tourism, water quality, and public health. This response report provides an initial summary of responses to the 2015 Maine Healthy Beaches (MHB) Program Survey. We organized this response report to provide a description of survey responses by question. In subsequent publications, we will share findings from more extensive analyses of these survey responses, providing additional charts and information to help readers better understand these responses. We welcome suggestions for these future analyses; please share your ideas and suggestions with Professor Kathleen P. Bell, the leader of our research team.

SURVEY DESIGN AND IMPLEMENTATION

We designed and administered the 2015 Maine Healthy Beaches (MHB) Program Survey following scientific survey-research principles.[1] We developed the survey to collect information on Maine Healthy Beach (MHB) program participants' motivations for and experiences participating in the program, opinions and attitudes about the current program, suggestions for improving the program, and reactions to proposed changes to the program. We designed the survey instrument to gather responses using both open-ended and categorical question-response formats. We used a web-based survey as the primary mode of data collection and collected slightly different information from job-based and volunteer MHB participants. We administered the 2015 Maine Healthy Beaches (MHB) Program Survey in the fall of 2015. We contacted by email 150 potential respondents, a sample of current and past MHB participants, and asked them to complete our web-based survey. Our final completed sample includes 63 participants who completed the web-surveys (response rate of 42 percent). These 63 MHB Program Participants include 46 job-based and 17 volunteer participants and represent participants from 1 National Park, 1 Reserve, 3 State Parks, and 18 MHB communities.

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[1] Dillman, D., Smyth, J., & Christian, L. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method* (4th ed.). New Jersey: John Wiley & Sons.

ACKNOWLEDGEMENTS

SUMMARY OBSERVATIONS

(1) MHB Program Participation. MHB participants share common motivations for their participation in and satisfaction with the MHB program. Respondents noted interests in water quality (78%), public health (68%), and helping their community or park (65%) as strong motivations for participation. The majority also remarked that their participation was associated with their jobs (57%), learning about beaches in their community or park (54%), and interests in science (52%). When asked to explain MHB participation using their own words, respondents also expressed the importance of tracking beach and water conditions and educating the public. Finally, the majority of respondents (59%) are very satisfied with their current roles in the MHB program and feel fully supported in these roles. The most frequently mentioned actions to improve support of MHB participants include faster & improved water testing and more communication of results.

(2) MHB Program Benefits & Successes. MHB participants recognize the many ways in which their communities benefit from program participation, including greater protection of public health (86%), improved information for residents and visitors (81%) & local officials (75%), and improved water quality (62%). When asked directly, about 70 percent of respondents reported that MHB was completely (8%) or very (63%) successful at improving monitoring. A majority of respondents believed MHB were completely (10%), very (38%), or somewhat (35%) successful at protecting public health.

(3) Beach Advisory Decisions. MHB participants appreciate the challenge of beach advisory decision-making. Respondents shared thoughtful explanations of the tradeoffs and complexities of these decisions and of differences in decision-making across communities. Respondents are largely uncertain about proposed changes by US EPA to lower the safety limit/beach advisory threshold. Less than a majority (26%) approve the new US EPA guidance to lower the safety limit/beach advisory threshold, with many (41%) neither approving or disapproving of this guidance. Participants shared questions about the underlying scientific basis of this proposed change and noted the importance of considering public reactions to these types of program changes.

(4) Looking to the Future. If resources were to increase for the program, MHB participants have ideas about how to increase its successes. Respondents noted several potential changes as priority actions. Improved (faster) water testing and resources for municipalities to address water quality problems were both a high priority for 52 percent of respondents. Other potential changes noted as medium-high priorities included additional water testing, improved signage, web-based communication tools, and resources for scientific research. If resources were to increase, respondents also expressed encouragement for the MHB program to revisit the science behind the safety limit/beach advisory threshold and to consider new endeavors, such as addressing new management concerns, providing resources to track down sources of pathogen, and designing new trainings for participants.

BACKGROUND - LOCAL BEACHES

In your opinion, is summer visitation at the beaches you help monitor and/or manage as part of the Maine Healthy Beaches Program decreasing, staying the same, or increasing?
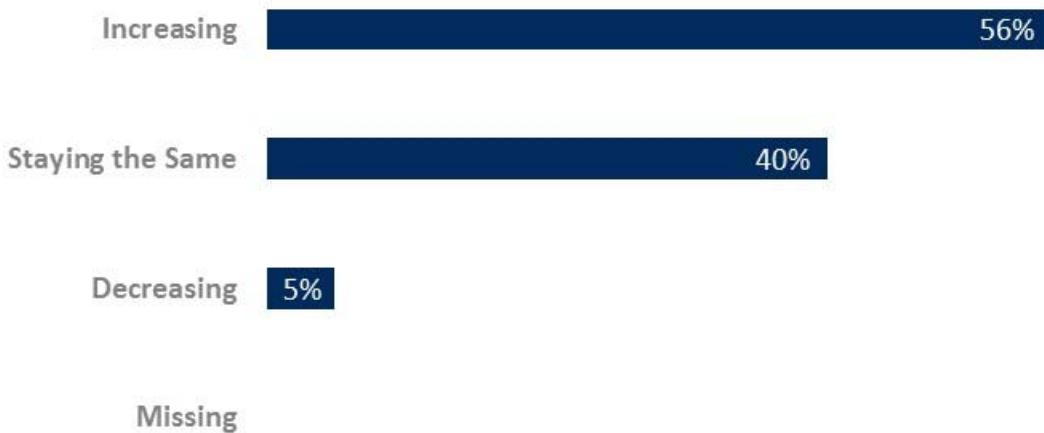
FIGURE 1. Summer visitation at the beaches you help monitor and/or manage

In your opinion, is the water quality at the beaches you help monitor and/or manage as a part of Maine Healthy Beaches Program getting worse, staying the same, or getting better?

Getting Better — 25%

Staying the Same — 62%

Getting Worse — 10%

Missing — 3%

FIGURE 2. Water quality at the beaches you help monitor and/or manage

What are the first three words or phrases that come to mind when you think about the beaches you monitor and/or manage as a part of the Maine Healthy Beaches Program?

FIGURE 3. Words and phrases that come to mind when you think about the beaches you monitor and/or manage (n=60)

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.

INDIVIDUAL MHB PROGRAM PARTICIPATION

For how many years have you participated in the Maine Healthy Beaches Program?
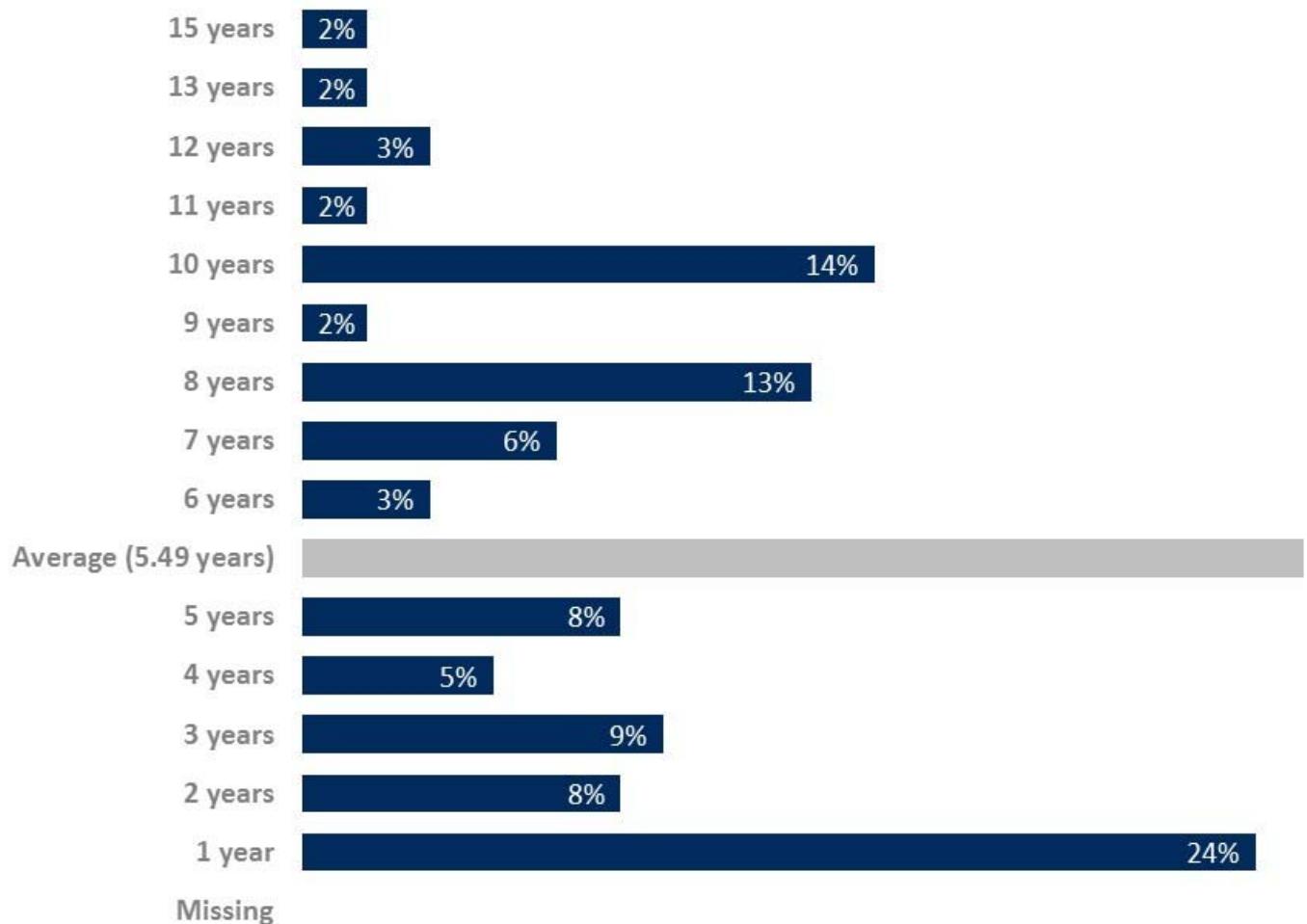
FIGURE 4. Years of participation in the Maine Healthy Beaches Program

In your own words, why do you participate in the Maine Healthy Beaches Program?

Care about water quality, public health, beaches, and community. Many respondents noted their care for beaches, water quality, public health, and community as motivations for program participation.

Part of the job. Many respondents remarked that their employment responsibilities drove their program participation.

Information. Several respondents stressed the importance of monitoring data to tracking beach and water conditions and educating the public.

FIGURE 5. Words and phrases describing why individuals participate in the Maine Healthy Beaches Program (n=60)

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.

Individuals participate in the Maine Healthy Beaches Program for different reasons. Which, if any, of these statements correspond with your motivations to participate in this program? (Please select all that apply)

Interested in water quality	78%
Interested in public health	68%
Enjoy helping my community or park	65%
Part of my job	57%
Enjoy learning about beaches in my community or park	54%
Interested in science	52%
Can teach others about coastal water quality	49%
Enjoy spending time at the beach	49%
Can meet people with similar interests	22%
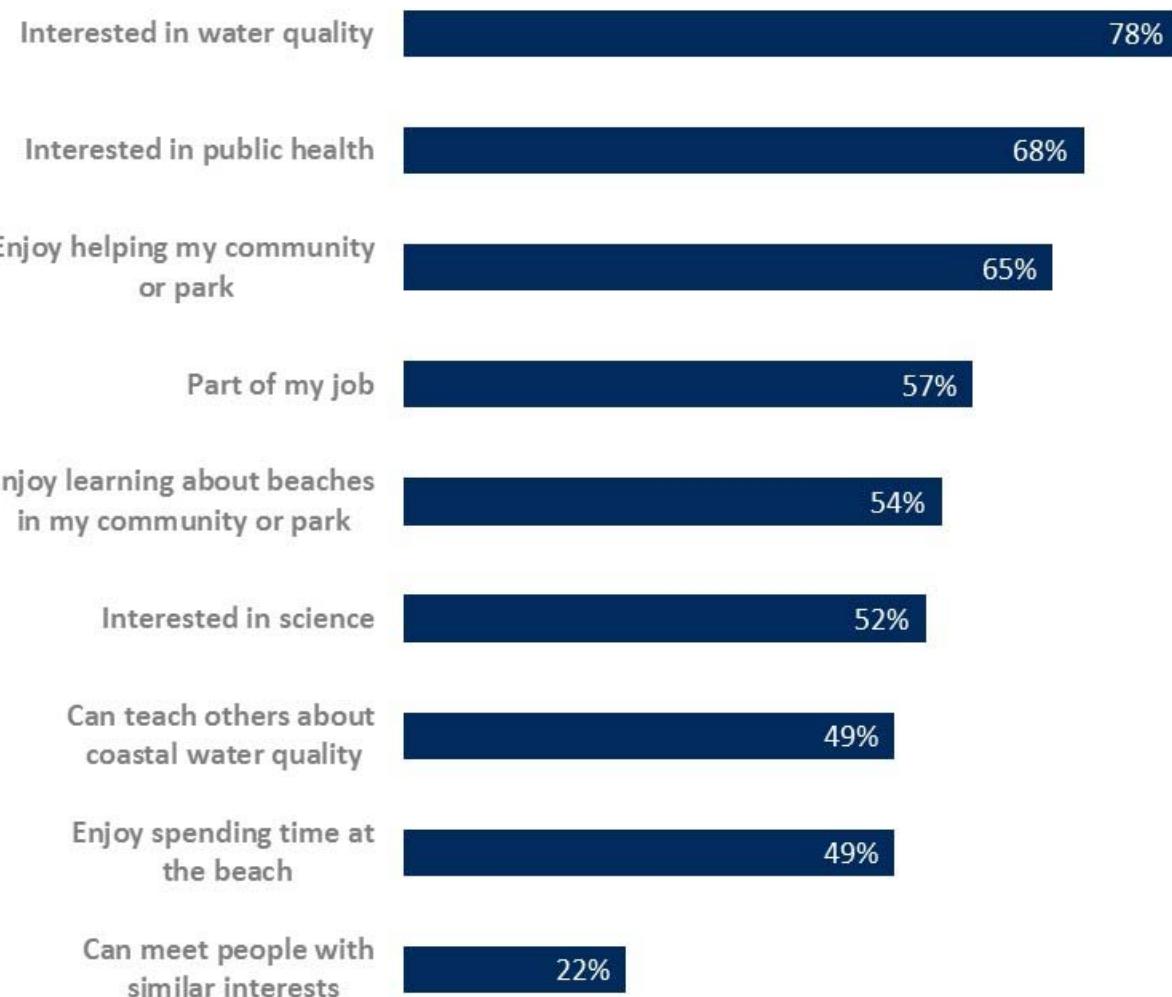
FIGURE 6. Motivations to participate in the Maine Healthy Beaches Program

Maine Healthy Beaches Program participants take on a variety of roles. What roles have you undertaken as a part of the Maine Healthy Beaches Program? (Please select all that apply)
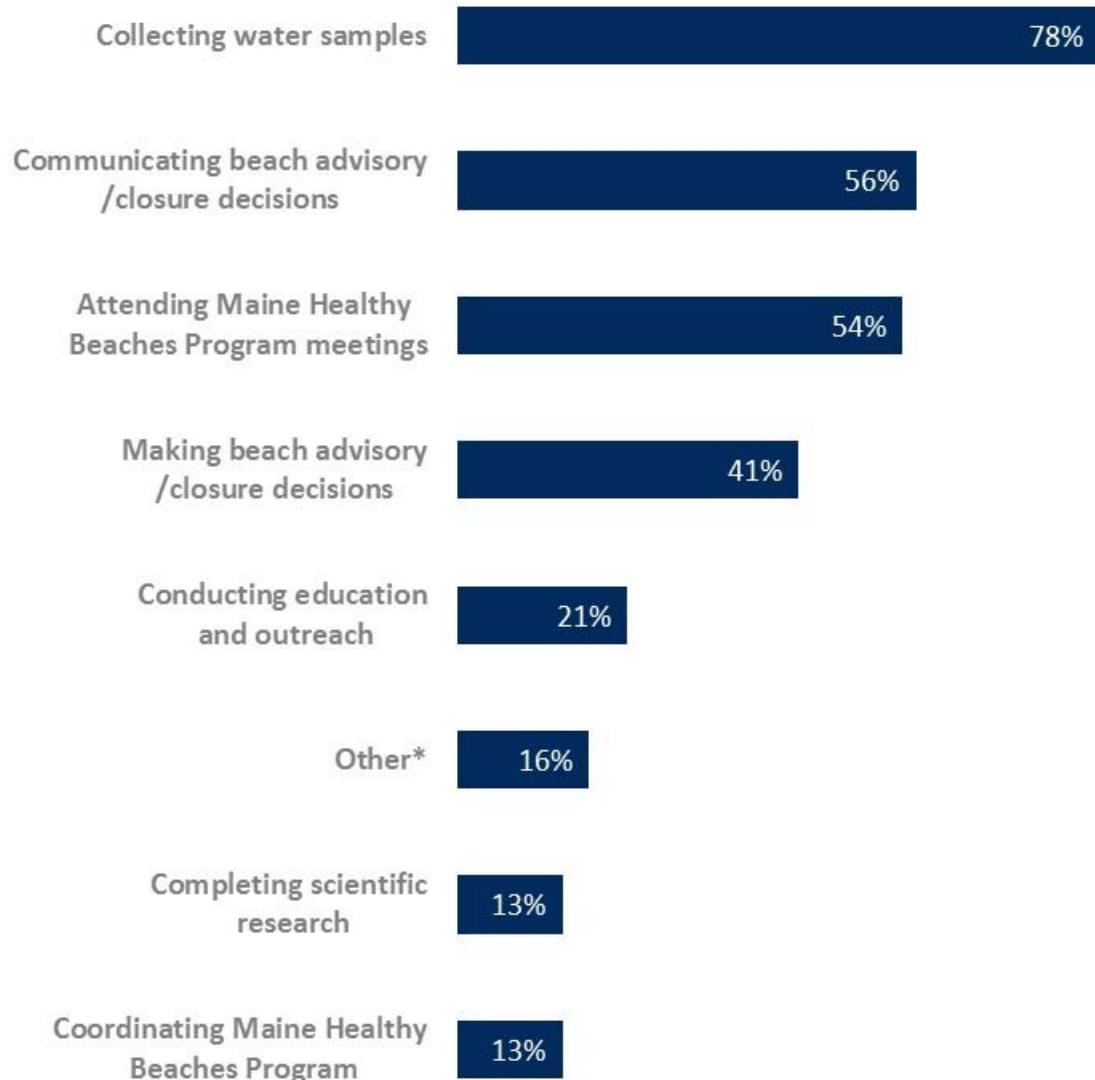
FIGURE 7. Roles Undertaken By Maine Healthy Beaches Program Participants

Other responses included: Advocating with the Town to fix the problems and keep it healthy; Alerting public and municipal officials to a severe pollution problem which they were ignoring; Beach cleaning; Coordinating Lab Analyses, Running water samples, managing data; Educating beach goers; Explaining water sampling to curious passers-by; Informing the public what we are doing and why; Provide community service opportunity for high school students; and Water sample analysis.

How satisfied or dissatisfied are you with your current role(s) in the Maine Healthy Beaches Program?

Very Satisfied — 59%
Somewhat Satisfied — 22%
Neither satisfied nor dissatisfied — 14%
Somewhat dissatisfied — 2
Very dissatisfied — 2
Missing — 2
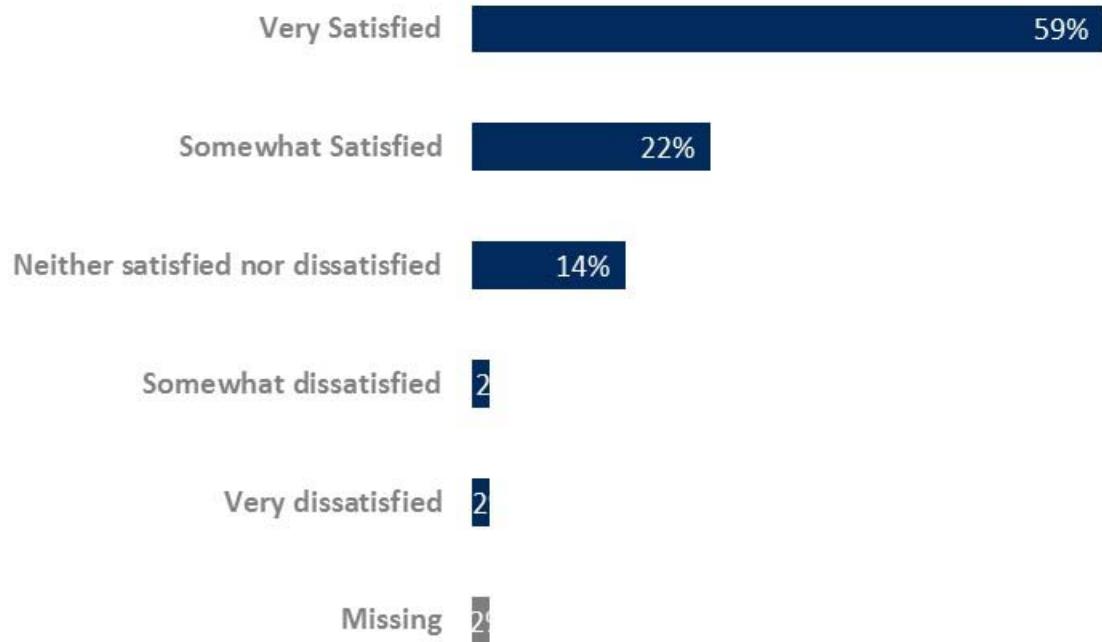
FIGURE 8. Satisfaction with current role(s) in the Maine Healthy Beaches Program

What, if anything, could the Maine Healthy Beaches Program do to better support your current role(s) in the program?

Full support provided. Many respondents noted that they felt fully supported by the MHB program and therefore had no suggestions to improve support of their current role(s).

Demand for improved testing and communication. The most frequently mentioned actions to improve support of MHB participants included faster, improved water testing, and more communication of results across MHB participants and with the general public(s).

FIGURE 9. Words and phrases describing how Maine Healthy Beaches Program could better support participant roles (n=44)

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.

COMMUNITY MHB PROGRAM PARTICIPATION

Maine communities and parks participate in the Maine Healthy Beaches Program for different reasons. In your opinion, why does your community or park participate in the Maine Healthy Beaches Program?

Protecting public health by maintaining or improving water quality. Many respondents noted that they felt their community or park participated to protect public health or safety.

Beach tourism. Respondents frequently mentioned the importance of beach tourism to regional economies as a driver of community or park participation.

Water quality information and education. Respondents frequently noted the ability to track water quality and share this information with visitors as an explanation for community participation.

FIGURE 10. Words and phrases describing why communities and parks participate in the Maine Healthy Beaches Program (n=59)

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.

Communities and parks benefit from participating in the Maine Healthy Beaches Program in different ways. In your opinion, which, if any, of these benefits accrue to your community or park from participating in the program? (Please select all that apply).
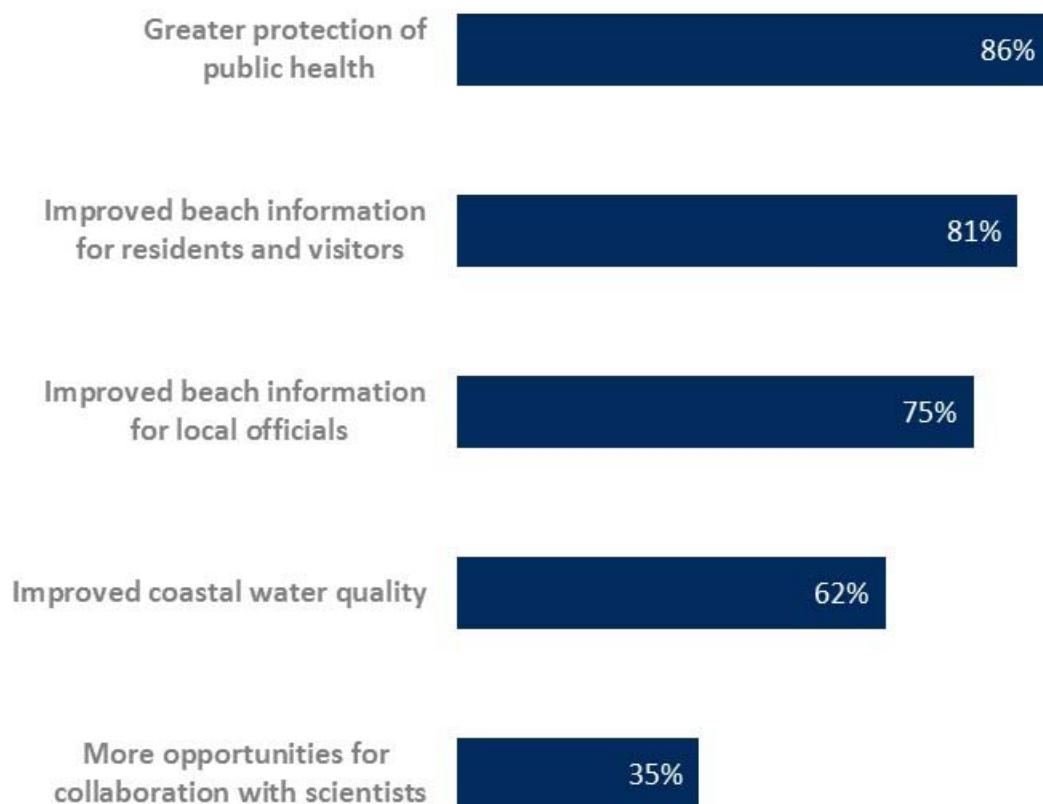
FIGURE 11. Benefits accruing to communities and parks from participating in the Maine Healthy Beaches Program

In your opinion, if funding for the Maine Healthy Beaches Program ended, how likely or unlikely is it that your community or park would continue monitoring water quality at its beaches?
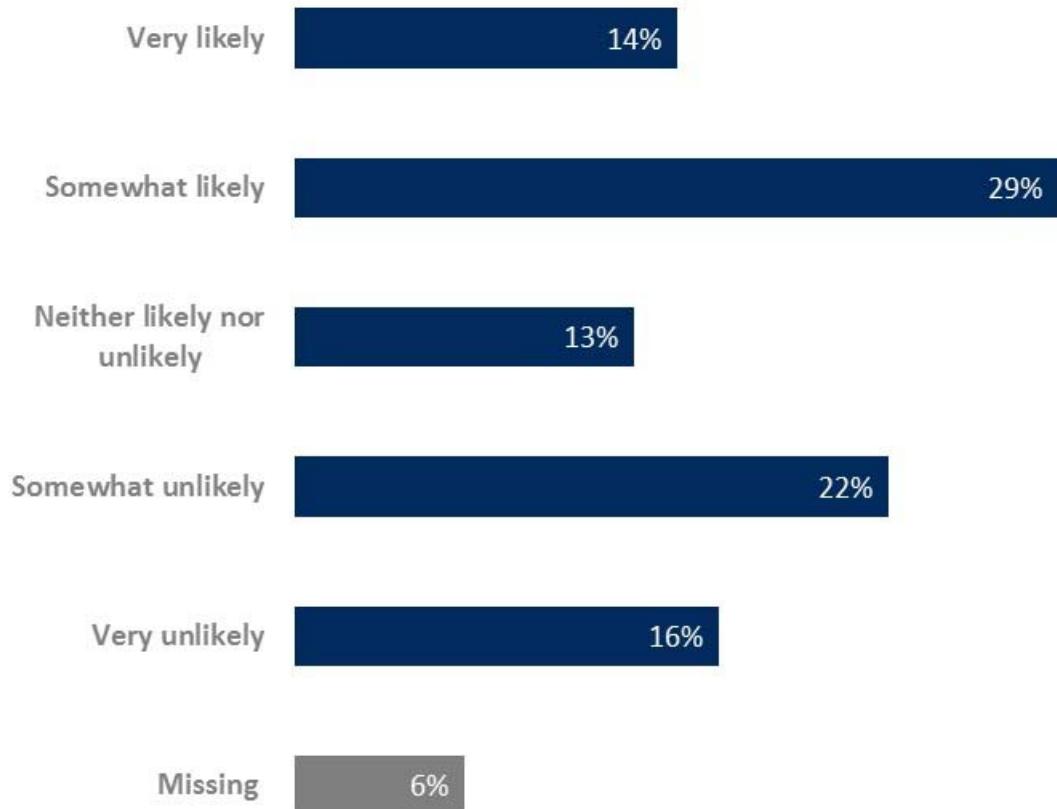
FIGURE 12. Likelihood of continuing to monitor water quality without Maine Healthy Beaches Program funding

Beach managers in the Maine Healthy Beaches Program balance many competing factors when making decisions to post advisories. Thinking across the many communities and parks involved in the Maine Healthy Beaches Program, how important do you believe these factors are to managers, generally, when making beach advisory decisions?

Very Important | Somewhat Important | Slightly Important | Not at all Important | Missing

Factor	Very Important	Somewhat Important	Slightly Important	Not at all Important	Missing
Public health risks	67%	24%	2%		8%
Extent test result exceeds safety limit	60%	22%	10%	2%	6%
Tourism impacts	56%	16%	10%	10%	10%
Community impacts	51%	37%	3%	2%	8%
Local business impacts	40%	21%	21%	11%	8%
MHB Guidance	40%	35%	13%	3%	10%
Media coverage	32%	25%	19%	13%	11%
MHB Risk Assessment Matrix	29%	35%	21%	6%	10%
US EPA Guidance	24%	35%	22%	8%	11%

FIGURE 13. Importance of factors to beach managers when making beach advisory decisions

In your own words, how do you think beach managers generally make decisions to post a beach advisory?

Tradeoffs. Respondents frequently noted the tradeoffs beach managers have to formulate when making decisions to post a beach advisory.

Test results, MHB safety limit, and rainfall. Respondents frequently noted test results, MHB safety limit/guidance, and rainfall when describing how they think beach managers generally make decisions to post a beach advisory.

FIGURE 14. Decisions by beach managers to post a beach advisory

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.

Generally, do you believe beach managers pay attention to the beach advisory posting behavior of neighboring communities?

Yes	48%
No	48%
Missing	5%

FIGURE 15. Believe managers pay attention to the beach advisory posting behavior of neighboring communities

The Maine Healthy Beaches Program recommends posting beach advisories after all high bacteria tests (water quality tests that exceed the safety threshold of 104 MPN/100mL). To what extent do you approve or disapprove of this recommendation?
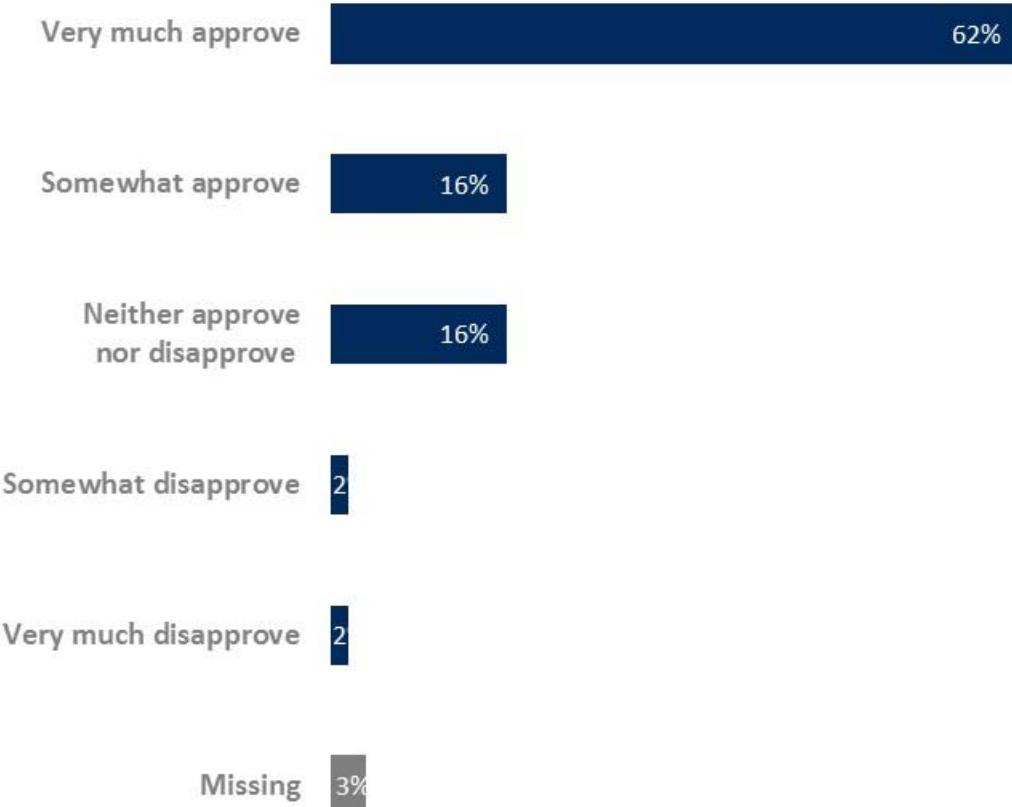
FIGURE 16. Approval of Maine Healthy Beaches Program's recommendation to post after all exceedances of 104 MPN/100mL safety threshold

Community and park officials in the Maine Healthy Beaches Program respond differently to high bacteria test results and therefore post advisories at their beaches differently. Which, if any, of these factors do you believe explain these differences in posting behavior? (Please select all that apply).
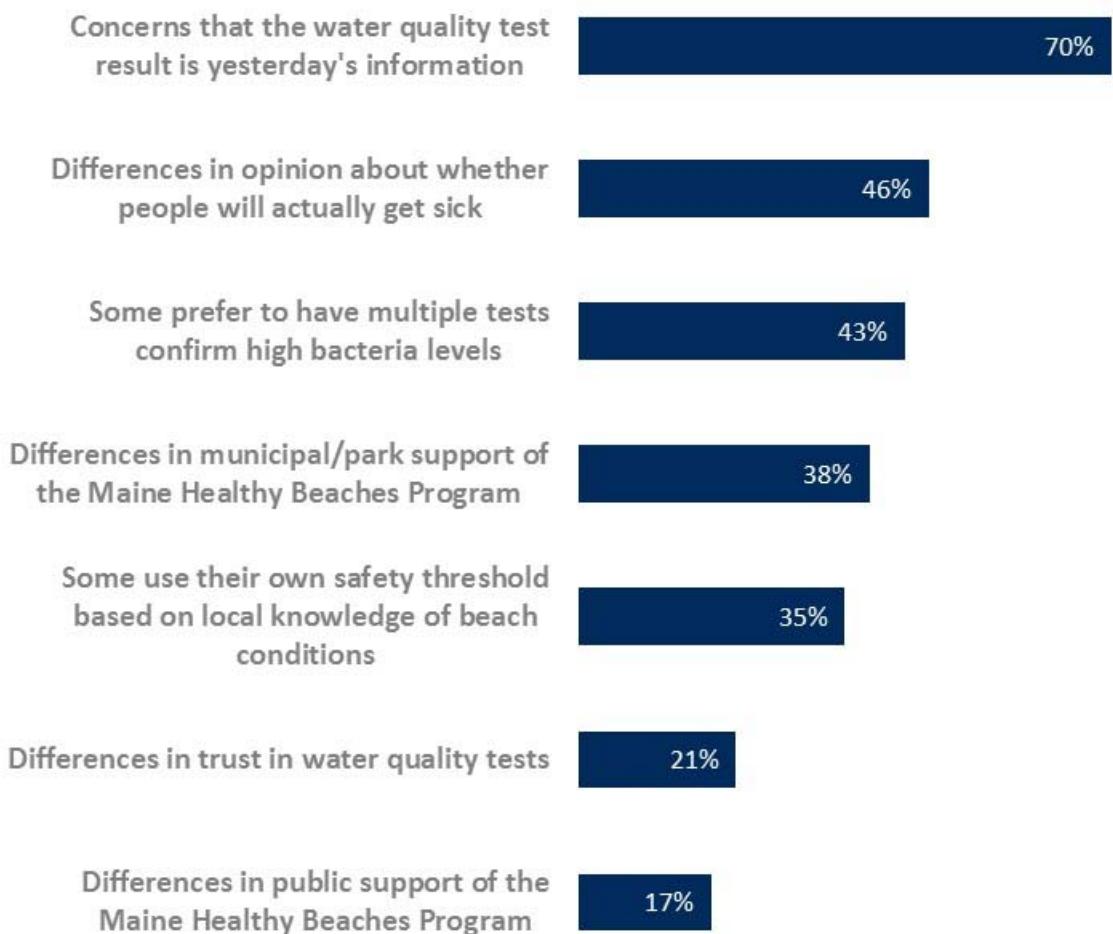
FIGURE 17. Differences in posting behaviors across MHB communities and parks

The Maine Healthy Beaches Program has recommended posting precautionary beach advisories after excessive rainfall events (for example, if more than 1 inch of rain falls in 24 hours). To what extent do you approve or disapprove of this recommendation?
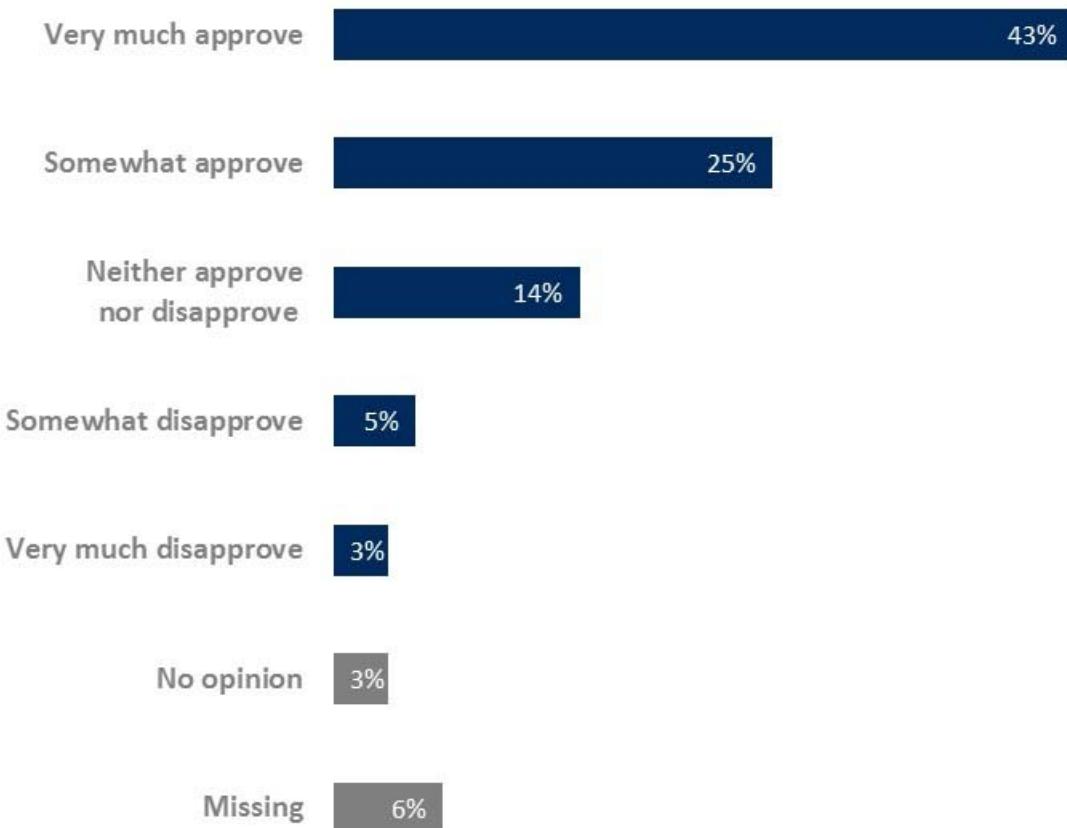
FIGURE 18. Approval of Maine Healthy Beaches Program's recommendation to post precautionary beach advisories after excessive rainfall events

Why do you think some communities and parks have decided to post precautionary rainfall advisories and others have opted not to post such advisories?

Differences in beaches and beach communities matter. Respondents frequently associated differences in posting of precautionary rainfall advisories with differences in beaches and (beach) communities.

Values and circumstances. Many respondents suggested that differences in values and circumstances explain why some communities opt to post these precautionary advisories and others do not.

Local knowledge. Respondents frequently remarked on the critical importance of local knowledge of beach use, sickness rates, and biophysical systems to these posting decisions.

FIGURE 19. Opting to post precautionary rainfall advisories (n=48)

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.

MHB PROGRAM SUCCESS & US EPA GUIDANCE

In your opinion, how successful do you feel the Maine Healthy Beaches Program has been at improving the monitoring of water quality at public beaches?
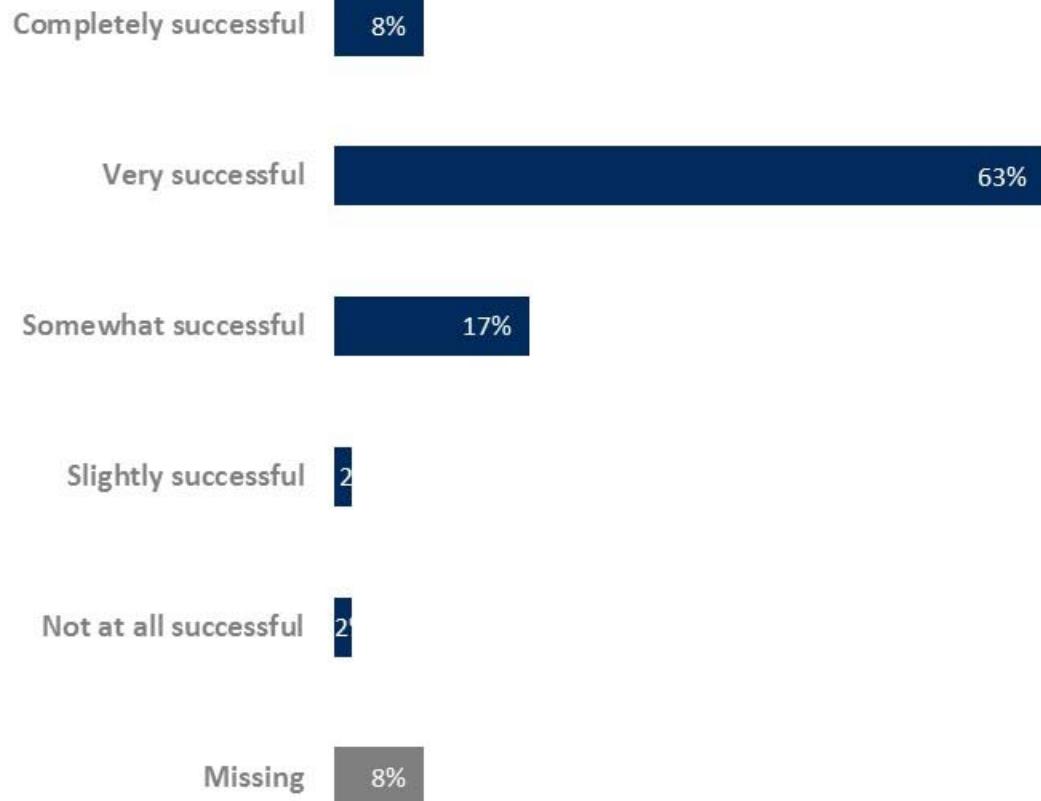
FIGURE 20. Success of Maine Healthy Beaches Program at improving water quality monitoring at public beaches

**In your opinion, how successful do you feel the Maine Healthy Beaches Program has been at protecting the public health of beachgoers?**
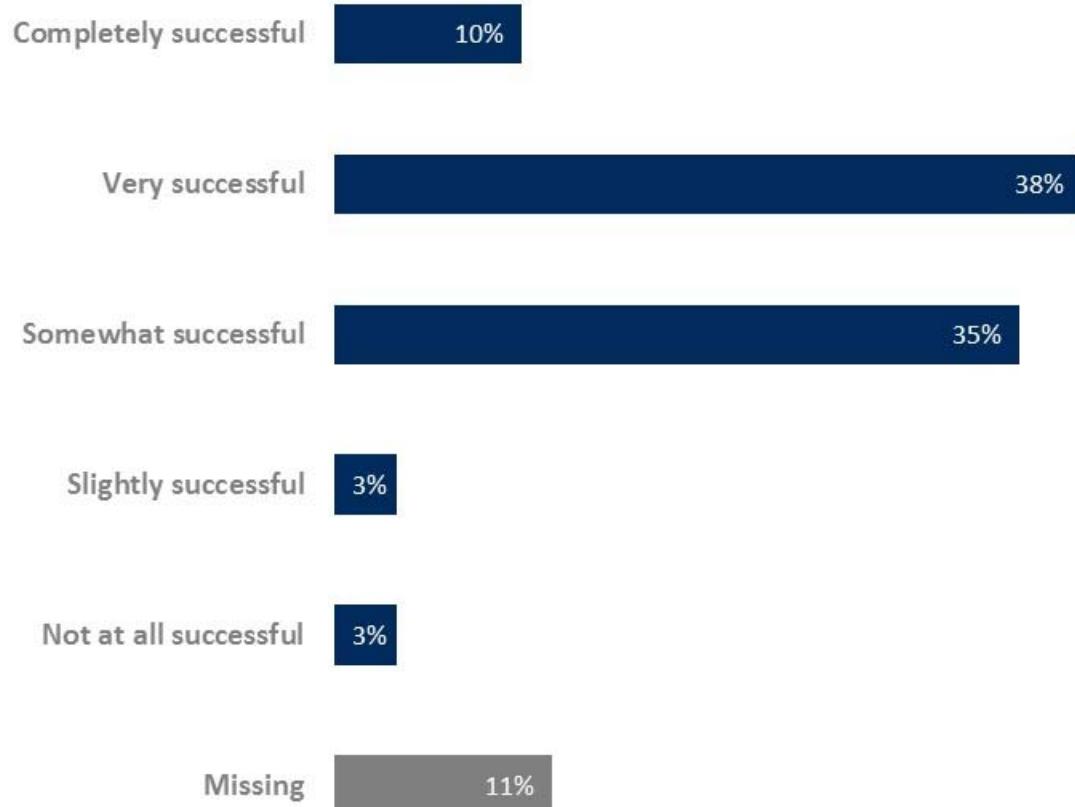

FIGURE 21. Success of Maine Healthy Beaches Program at protecting the public health of beachgoers

The US Environmental Protection Agency (USEPA) recently published new beach management guidance. Under the guidance, states participating in beach monitoring and management programs could be asked to change their safety limit/beach advisory threshold to 70 or 60 enterococci MPN/100 mL. The Maine Healthy Beaches Program currently uses a safety limit/beach advisory threshold of 104 enterococci MPN/100 mL. If the safety limit/beach advisory threshold is lowered from 104 to 70 (or 60), this could potentially mean more exceedance events (i.e. high bacteria counts in the water tests) and advisories at Maine beaches.

To what extent do you approve or disapprove of the new US EPA guidance to lower the safety limit/beach advisory threshold?
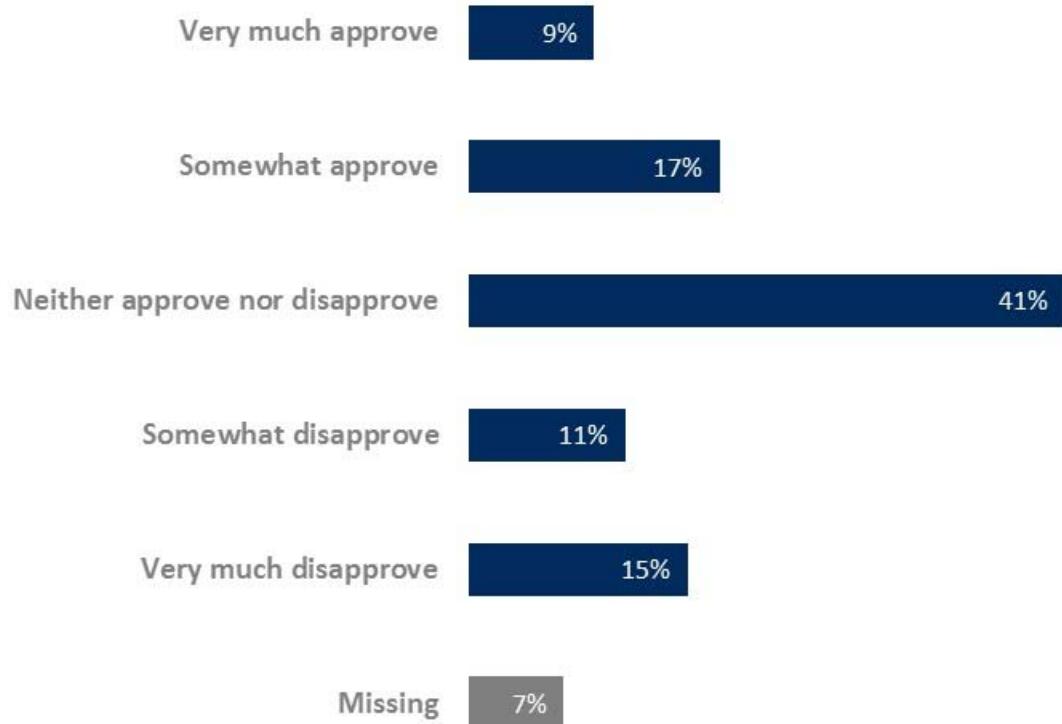
FIGURE 22. Approval of new US EPA guidance to lower the safety limit/beach advisory threshold

* only asked MHB "job" participants n=46 *

If the Maine Healthy Beaches Program adopted a new safety limit/beach advisory threshold of 70 enterococci MPN/100 mL, how successful do you feel the Maine Healthy Beaches Program would be at protecting the public health of beachgoers?

Category	Percentage
Completely successful	4%
Very successful	35%
Somewhat successful	22%
Slightly successful	11%
Not at all successful	9%
Not Sure	13%
Missing	7%
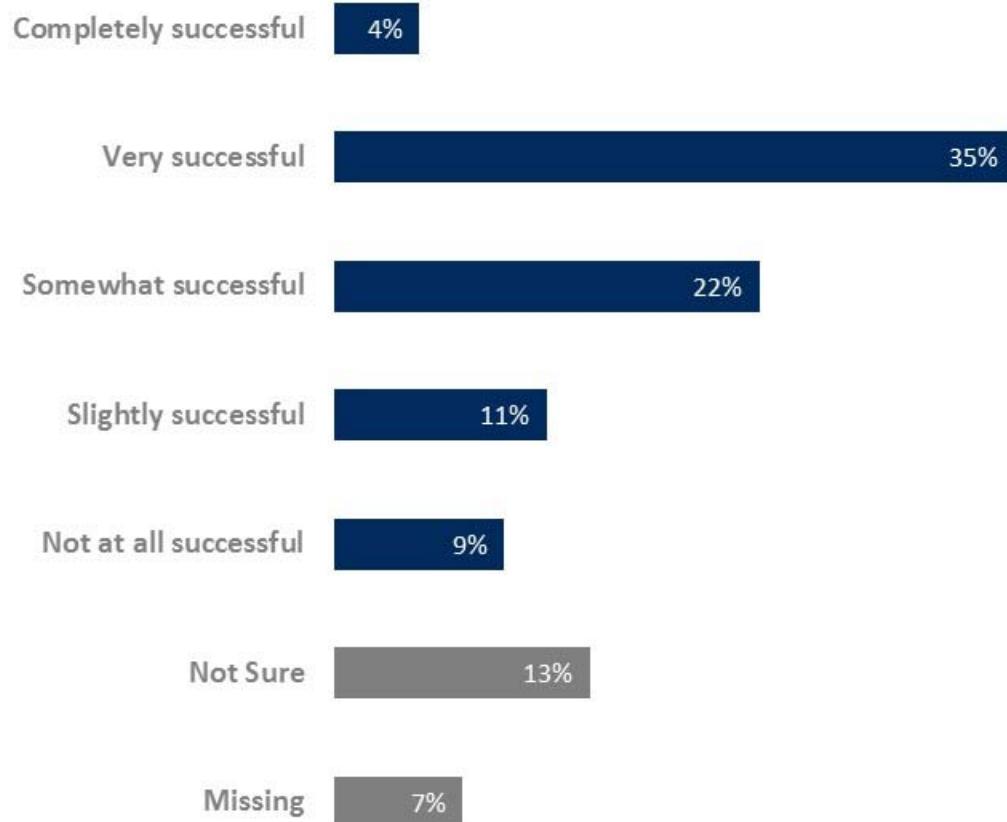
FIGURE 23. Maine Healthy Beaches Program success at protecting the public health of beachgoers under new safety limit/beach advisory threshold of 70 enterococci MPN/100 mL

* only asked MHB "job" participants n=46 *

104 MPN/100 mL   **70 MPN/100 mL**

|	104 MPN/100 mL	70 MPN/100 mL
Completely successful	7%	4%
Very successful	43%	35%
Somewhat successful	33%	22%
Slightly successful	4%	11%
Not at all successful	2%	9%
Not Sure		13%
Missing	11%	7%
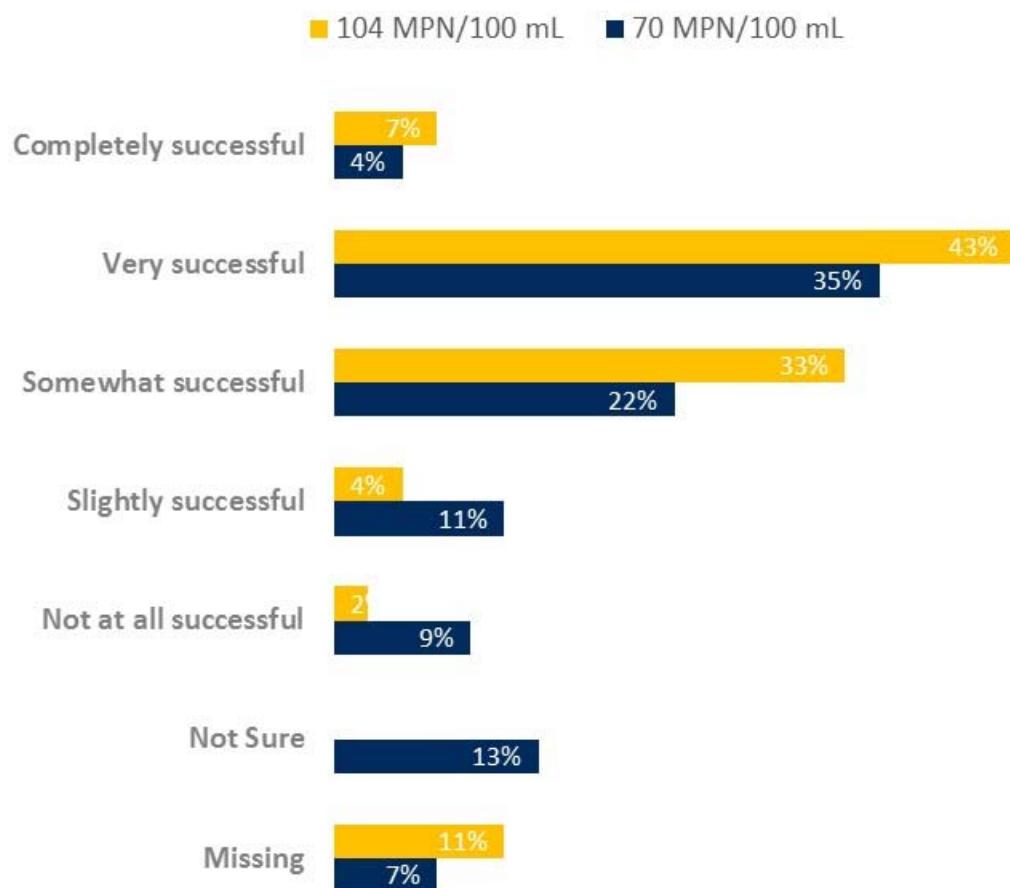
FIGURE 24. Perceptions of Maine Healthy Beaches Program success at protecting the public health of beachgoers under the current (104) and proposed (70) safety limit/beach advisory thresholds

* only comparing MHB "job" participants n=46 *

Comparing responses describing how successful the Maine Healthy Beaches Program would be at protecting the public health of beachgoers using the current (104) and proposed new (70) safety limits of enterococci MPN/100 mL reveals at least two interesting patterns in responses. First, respondents hold varied perceptions about the current and proposed safety limit. Many perceive greater success under the current limit as compared to the proposed new safety limit. Secondly, several respondents are not sure about the impacts of the new limit specifically and the success of both limits more generally.

In your own words, why do you believe or not believe that changing from a safety limit/beach advisory threshold of 104 to 70 MPN/100mL would affect the Maine Healthy Beaches Program's success at protecting the public health of beachgoers? (n=38; only asked 49 "job" participants)

Mixed support for proposed US EPA advisory threshold and other guidance. Respondents expressed mixed support for the new US EPA guidance, including the new, lower safety limit.

Scientific Basis. Many respondents shared concerns and questions about the underlying scientific basis of this new safety limit/beach advisory threshold.

Public reactions to more frequent advisories. Numerous respondents noted the importance of public reactions to additional exceedances and advisories and linked these reactions with changes in program success at protecting public health.

FIGURE 25. Impacts of new safety limit/beach threshold on protection of public health (n=38)

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.

If the Maine Healthy Beaches Program adopted a new safety limit of 70 enterococci MPN/100mL, how likely or unlikely would it be that your current community continues to participate in the program?
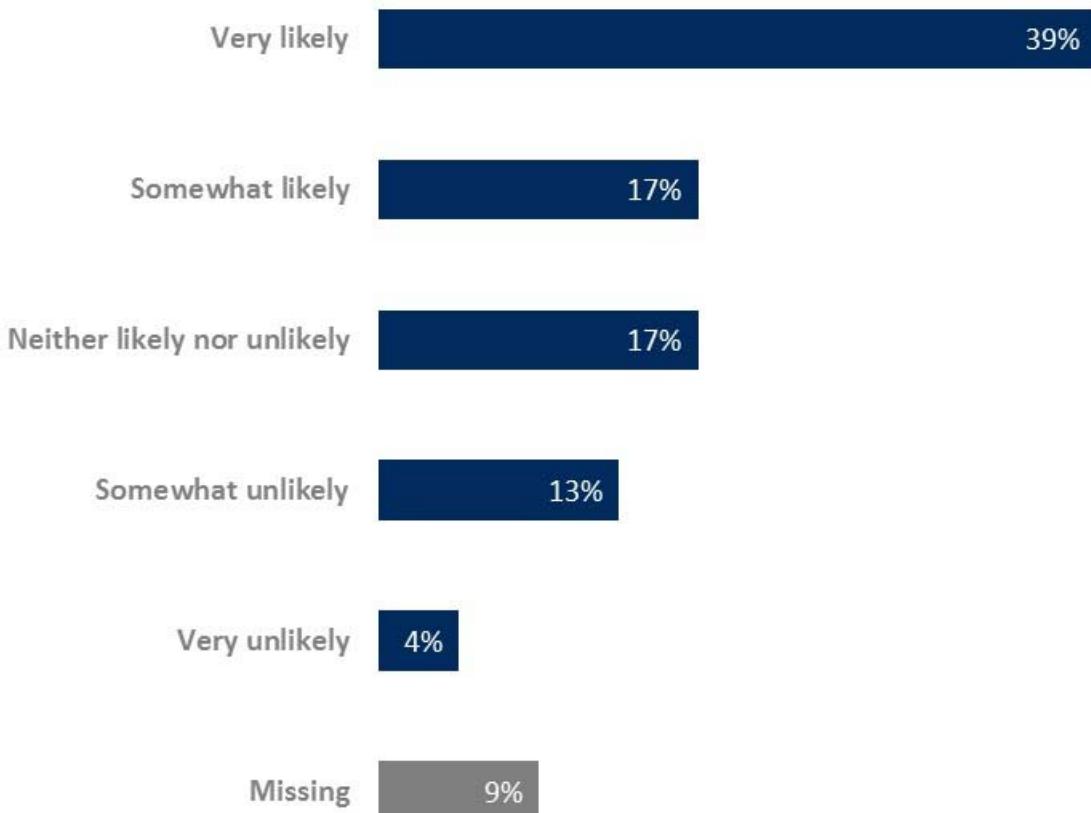

FIGURE 26. Likelihood that communities or parks continue with the Maine Healthy Beaches Program if the proposed safety limit/beach of 70 MPN/100 mL is adopted

* only asked MHB "job" participants n=46 *

Maine Healthy Beaches Program staff shared information about their response to this guidance at the Spring regional program meetings and trainings. Would you like to know more information ? Please share any questions, comments or concerns you have about this new US EPA guidance in the space below.

Additional information about the US EPA guidance. Respondents expressed some interest in additional information about the US EPA guidance.

Scientific basis of proposed changes. Respondents specifically expressed an interest in the scientific basis of the change in guidance. Respondents shared questions about the linkages to illness and public health and requested more background details about how the new safety threshold was determined.

FIGURE 27. Questions about and interest in the new US EPA Guidance (n=16)

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.

only asked 46 MHB "job" participants

GUIDING THE FUTURE OF THE MHB PROGRAM

If the Maine Healthy Beaches Program were given more resources, how would you prioritize changes to the program to improve its success?

High Priority | Medium Priority | Low Priority | Not at all a Priority | Missing

Category	High Priority	Medium Priority	Low Priority	Not at all a Priority	Missing
Improved (faster) water testing	52%	27%	5%	3%	13%
Resources for municipalities to address water quality problems	52%	29%	5%	2%	13%
Additional water testing	29%	32%	25%	3%	11%
Improved signage at beaches	27%	35%	21%	3%	14%
Web-based tools to communicate advisories to the public	25%	46%	19%		10%
Resources for municipalities and program staff…	22%	40%	16%	11%	11%
Web-based tools to communicate water test results…	17%	43%	21%	5%	14%
More Maine Healthy Beaches Program staff	11%	29%	29%	14%	17%
Improved communication and networking across sites	5%	40%	35%	6%	14%

FIGURE 28. Priorities for future changes to the Maine Healthy Beaches Program to improve its success

What suggestions, if any, do you have to improve the Maine Healthy Beaches Program?

Improved testing and communication. Respondents frequently suggested better, faster water testing and additional public education & communication as suggested improvements.

New endeavors. Respondents also called for new scrutiny of the program's underlying scientific model, consideration of new management concerns (i.e., seaweed), resources to track down sources of pathogens, and new training for participants.

History of success. Many respondents remarked on the program's success.

FIGURE 29. Suggestions to improve the Maine Healthy Beaches Program (n=33)

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.

DEMOGRAPHICS

How old are you? (Please enter your age in years below)

Average age of respondents was **52 years** (Standard Deviation=19).

Respondents ranged in age from **16 to 81 years**.

For how many years have you lived seasonally and/or year-round in Maine?

Average seasonal residence was **23 years** (Standard Deviation=20).
Seasonal residencies ranged in length from **0 to 69 years**.

Average year-round residence was **30 years** (Standard Deviation=19).
Year-round residencies ranged in length from **0 to 68 years**.

Are there any children under the age of 18 currently living in your household?

Yes	19%
No	75%
Missing	6%

What is the highest degree or level of schooling you have completed? (Please select one response).

- Less than high school diploma: 2%
- High school diploma/GED: 5%
- Some college but no degree (or Associate degree): 22%
- College degree (Bachelor degree or equivalent): 38%
- Advanced degree (Master's, Doctorate, Law or other advanced degree): 27%
- Missing: 6%
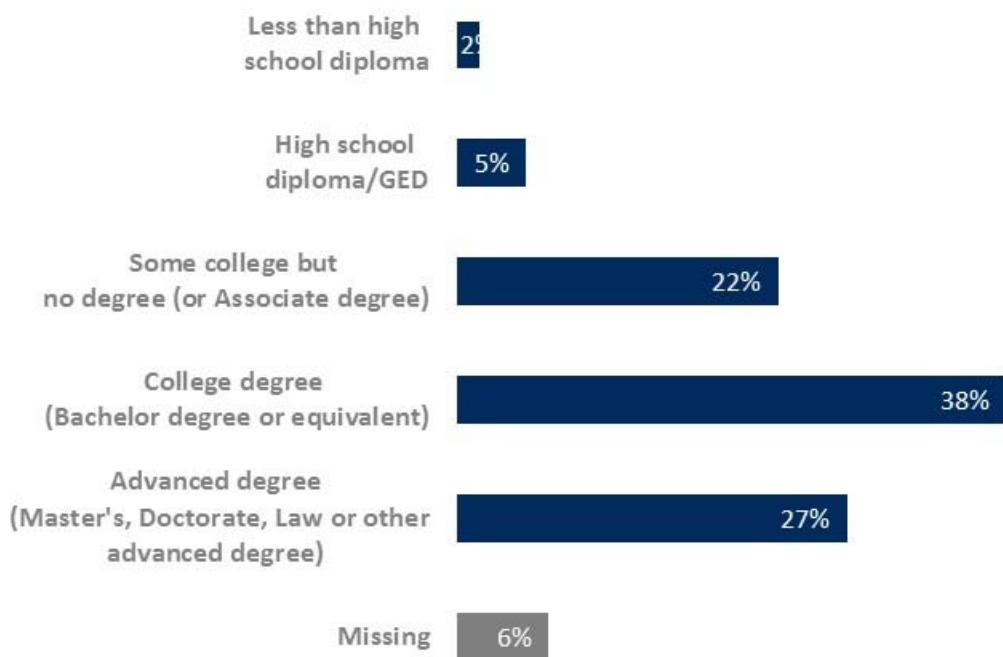
Which of the following best describes your current employment status? (Please select one response)

- Student: 10%
- Employed full-time: 52%
- Employed part-time: 6%
- Homemaker: 2%
- Unemployed: 2%
- Retired (not working): 22%
- Missing: 6%
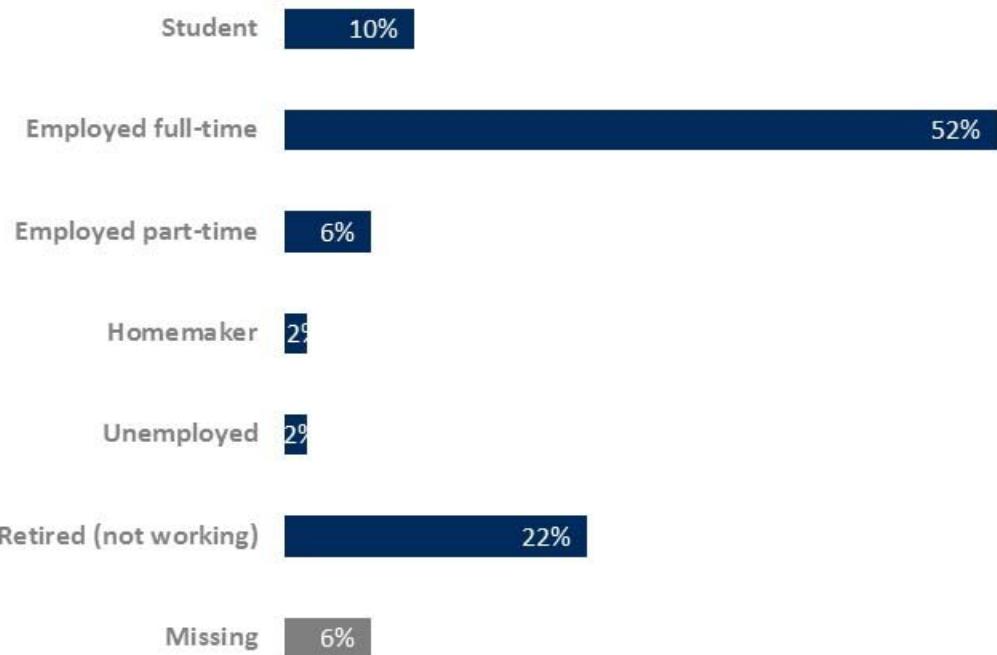
FEEDBACK ON THE SURVEY

Thank you for completing our survey and for participating in the Maine Healthy Beaches Program! In the space below, please feel free to share any additional comments you may have.

Expressions of thanks. Respondents sharing feedback on our survey expressed thanks to our team for doing the survey and to the MHB program for its important work.

Sharing survey results. Respondents also asked for us to share the survey results with participants.

FIGURE 30. Feedback on the survey (n=9)

Image source: Word cloud created using Wordle. Relative size of text reflects the relative frequency of the word.