

Public Research Institute, San Francisco State University
California Coastal Commission

Boating Clean and Green Campaign

Pre and Post-Campaign Surveys of California Boaters

April 2000

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Executive Summary

This study was conducted by the Public Research Institute at San Francisco State University in collaboration with the California Coastal Commission. The study is comprised of a series of three surveys of California boaters before and after the California Coastal Commission's 1999 Boating Clean and Green education campaign. The surveys are as follows, in chronological order:

- ❖ The 1998 pre-campaign telephone survey--A pre-campaign study was conducted in 1998 by PRI and the California Coastal Commission, surveying 1001 motorized boat owners from 15 counties throughout California about their boat maintenance practices and perceptions of the environmental impact that such practices have on California's waters.
- ❖ The 2000 pre-education boat show surveys--To supplement the original data, an additional pre-campaign survey was conducted in early 2000 at two northern California boat shows; one in San Mateo and one in Sacramento. These surveys measured boaters' beliefs about the environmental impact of recreational boating in California as well as their boat maintenance practices.
- ❖ 2000 post-campaign follow-up survey--A post-campaign survey was conducted in April 2000 to interview selected participants from both of the pre-campaign surveys, assessing the effectiveness of the education that they received through the Boating Clean and Green education campaign.

Purpose

The purpose of the study was to assess the effectiveness of the California Coastal Commission's Boating Clean and Green Campaign, and the California Free Boater Kits used to supplement the campaign, in educating California boaters about the environmental hazards associated with recreational boating and promoting cleaner boating practices to prevent water pollution.

Content

The survey instruments for both the pre and post-campaign surveys were developed by PRI in collaboration with the California Coastal Commission. Both the 1998 pre-campaign and the boat show pre-education surveys included questions about respondents' oil changing procedures, fueling practices, and how they cleaned spills of fuel and oil, as well as items pertaining to their perceptions of the environmental impact of recreational boating in California. The post-campaign survey contained several items gauging: 1) the usefulness of the items in the boater kits; 2) the effectiveness of the items in delivering their messages about safe boating; 3) the effectiveness of the Coastal Commission's educational talk at the boat shows; 4) items measuring change in attitudes and awareness

about environmental impact of oil and fuel discharge from recreational boating; and 5) potential changes in behavior that may result from the education provided.

Methodology

PRI selected participants from the pre-campaign surveys who fit the selection criteria discussed below to receive boater kits and educational visits from the Coastal Commission and participate in the follow-up post-campaign survey. Respondents from the 1998 survey who were eligible for the follow-up survey were sent a California Free Boater kit through the mail. Participants in both of the boat show surveys were given a coupon to receive a boater kit and an educational visit with staff at the Coastal Commission Clean and Green Network booth. Respondents from the 1998 pre-campaign survey and those from the 2000 boat shows who were either 1) unaware of the environmental impact of oil and fuel discharge into the water from recreational boating, or who 2) did not practice ecologically sound boat maintenance, were selected for interviews in the post-campaign portion of the study. A total of 488 respondents (282 from the boat shows and 206 from the 1998 pre-campaign survey) were eligible for follow-up interviews in the post-campaign portion of the study. Of those who were eligible, 356 were called to attempt interviews, and 218 were contacted. A total of 196 post-campaign interviews took place (including 80 who received their boater kits through the mail and 116 from the boat shows), resulting in a response rate of 90%. Although the population parameters for the pre-campaign survey sample at the boat shows is unknown, because the sample from the 1998 telephone survey was a random sample of registered California boaters, the combined sample of both boat show and 1998 telephone respondents selected for the post-campaign survey can be reasonably treated as a random sample. The margin of error for the combined post-campaign sample is plus or minus seven percentage points at the 95% confidence level.

Principal Findings: Post-Campaign Survey

Respondent Characteristics

- ❖ Most of the respondents to the survey were white (84%).
- ❖ Almost half (49%) of those interviewed in the post-campaign survey have an annual income of \$50,000 or more.
- ❖ Eighty percent of the respondents owned inboard or outboard motorboats.
- ❖ Eighty-three percent of the respondents were male.

Usefulness of the Boater Kits

- ❖ Most respondents to the post-campaign survey had reviewed the contents of their boater kits at the time of the interview (85%).
- ❖ Of the respondents who had looked through their boater kits, two-thirds said that they would use the oil absorbing bilge pads included in the kit. Respondents who received their kits from the boat shows were more likely than those who received kits through the mail to say that they planned to use the pads.
- ❖ Seventy-eight percent of those who had looked at their boater kits had seen the 1-800-CLEANUP number on the kit; 52% had seen the number on the floating keychain or the plastic

plaque, and 62% of those who had seen the number remembered what information could be obtained from calling.

- ❖ The keychain and the plastic plaque were rated as useful by over 80% of the respondents.
- ❖ Sixty-seven percent of those interviewed said that they would use a tidebook if it were included in a future boater kit.

Awareness of Environmental Hazards from Recreational Boating

- ❖ In the post-campaign survey, more respondents who received kits and educational visits from the boat shows than those who received their kits in the mail said that they were already aware of the environmental hazards associated with recreational boating prior to the campaign.
- ❖ Respondents who received kits and educational visits at the boat shows were more likely than those who received kits through the mail to remember the type of information that can be obtained through the 1-800-CLEANUP number.
- ❖ While 58% of the respondents said that they were already aware of the environmental hazards associated with recreational boating, 41% said that they were made more aware of such hazards as a result of the materials in the boater kit.

Motivating Behavior Change

- ❖ Almost half (49%) of the respondents said that they were much more likely to take measures to protect the environment after being exposed to the materials in the boater kit.
- ❖ Boaters who received kits and educational visits from the boat shows were more likely than those who received kits through the mail to say that they would recycle their used oil filters in the future.
- ❖ Thirty-two percent said that they would be more likely to recycle used oil as a result of the information in the boater kit.
- ❖ All of the respondents who admitted topping off their fuel tank while fueling in the water in the pre-campaign survey said in the post-campaign survey that they were likely to take precautions to prevent fuel spills in the future.
- ❖ Although 30% of the respondents in the pre-campaign survey said that they have used soap to clean oil and fuel from their boat and bilge, 82% of those in the post-campaign survey knew that using absorbents or enzyme-based cleaner were the most ecologically sound methods of cleaning oil and fuel spills. All respondents who reported using soap to clean oil and fuel from the bilge in the pre-campaign survey said in the post-campaign survey that absorbents were the best way to clean oil and fuel spills.
- ❖ Sixty-two percent of the respondents gave the correct answer (one pint) when asked how much oil discharge into the water would significantly harm the environment; most of those who gave the correct answer (69%) had read the "Oil and Water Don't Mix" brochure.
- ❖ In general, the boater kits and educational visits were effective in encouraging boaters who do not currently practice environmentally sound boat maintenance to do so in the future; specifically, boaters were encouraged to take precautions to prevent fuel spills (including not topping off their fuel tanks in the water) and recycle used oil and filters.

Effectiveness of California Coastal Commission Staff

- ❖ Eighty percent of the respondents in the post-campaign survey who had spoken to a Coastal Commission staff member at the boat show said that they were very informative in delivering the message of clean and green boating; 68% also said that the staff members were very effective in encouraging environmentally sound boating practices.

Conclusions

- ❖ The education provided by the Boating Clean and Green Campaign seemed to be most effective in encouraging boaters to consider more safe methods of boat maintenance, while those who were the most misinformed about the dangers of oil and fuel in the pre-campaign survey did not become measurably more aware of such hazards.
- ❖ In the future, outreach efforts targeting boaters (such as educational visits at marinas where boaters use their boats) who are isolated from current information about environmental hazards may be the most useful practice to increase awareness of environmental risks associated with recreational boating.
- ❖ A follow-up study would be useful to determine whether the Boating Clean and Green Campaign actually resulted in behavioral changes in those who said that they were more likely to practice environmentally safe boating.

Social Desirability

As with all research in which participants must answer questions regarding ecological behavior, the effects of social desirability were a concern in conducting this study. Social desirability effects occur when respondents are aware of a moral or social norm and feel pressured to behave in accordance with that norm, often exaggerating or falsifying their described behavior in order to create the appearance of adhering to the perceived expectations of the researcher(s). In designing the survey instruments for this study, PRI and the Coastal Commission took several recommended steps to reduce the effects of social desirability and obtain more accurate results.

Participants in the paper and pencil surveys at the California boat shows were assured that their answers would be kept confidential. Each respondent was given a coupon that corresponded to his or her survey on which to provide his or her personal information so that only the researchers would have access to his or her answers. In addition, several items on the survey were worded in order to encourage accurate responses, even if the most accurate response was not the most ecologically sound answer possible. For example, we know that over half of the lubricating oil sold to the public in California is not recycled; however, in previous studies gauging recycling behavior, recycling was overreported to such an extent that the results of the study were questionable. In the boat show questionnaire, respondents were asked to report their recycling behavior in the following manner:

“Most people dispose of their used oil and filters in the garbage. How do you dispose of your used oil?”

Theoretically, boaters who read the question in those words are assured that they are not less ecologically responsible than most of their peers if they do not recycle their boat oil and filters. Less than 4% of the boaters in the pre-campaign survey admitted that they do not recycle their used oil when asked this question.

However, when asked why they may not have recycled their used oil in the past, respondents were asked:

“Many people do not recycle used motor oil because they do not know where to do so conveniently. Is this one reason why you have not recycled used motor oil?”

This question provides a reasonable explanation for not having recycled used oil, so that respondents may feel more comfortable giving a “yes” answer. Forty-two percent answered the above question affirmatively, indicating that their answer to the question, “How do you dispose of your used oil?” may not be the most accurate description of their habitual recycling behavior. Responses to this question indicate that lack of convenience is a problem for many do-it-yourselfers in recycling used oil; when compared to responses to the former question, it appears that most respondents reported what they want to do, but also acknowledge that lack of convenience keeps them from doing so consistently. Respondents also appear hesitant to describe their habitual behavior as non-recycling, but are more willing to say that they sometimes have not recycled used oil.

In the telephone survey, respondents were reminded that their answers were only helpful to the Coastal Commission if they were accurate and truthful to the best of their knowledge.

The California Free Boater Kit

An integral part of the Coastal Commission's Boating Clean and Green Campaign was the distribution of boater kits containing educational materials such as brochures, coupons for clean boating products, and an oil absorbing pad to clean spills in the bilge or in the water. A durable, waterproof plastic plaque ideal for hanging in boats was included in the kit, listing 99 tips for clean and green boating, including tips for disposing of hazardous waste and sewage, preventing fuel spills, and ecologically sound cleaning of boats and oil/fuel spills. A floating keychain and a magnet with the hotline for information on disposing of hazardous waste (1-800-CLEANUP) were also important elements of the kit.

Pre-Campaign Surveys

The pre-campaign surveys were conducted to establish baseline data to which the results from the post-campaign survey could be compared. The 1998 telephone survey measured baseline data of boaters' perceptions of environmental risks of recreational boating and maintenance practices, awareness of environmental laws, and boaters' willingness to practice environmentally sound boat maintenance.

Participants in the boat show surveys were asked questions about their specific knowledge of the environmental hazards associated with recreational boating and best practices for preventing environmental harm. Doing so not only allows us to test the efficacy of having a face-to-face education discussion with the Coastal Commission staff, but also allows us to compare boat show respondents to those participants from the 1998 survey who simply received educational materials (in the boater kits) through the mail.

1998 Telephone Survey

In 1998, PRI, in collaboration with the California Coastal Commission, conducted a survey of 1001 randomly selected California boat owners. The study was funded by the California Integrated Waste Management Board, the California Coastal Commission, the Marin County Stormwater Pollution Prevention Program, the Orange County Department of Environmental Health, the San Francisco Hazardous Water Management Program, the San Joaquin County Department of Public Works, and the Santa Clara County Department of Environmental Health. Respondents were asked a series of questions gauging their practices in regard to changing and disposing of their boat oil, fueling practices, and their perceptions of the environmental risks associated with their particular maintenance practices. The primary purpose of the study was to provide useful information to guide the California Coastal Commission's development of the Boating Clean and Green education program and materials for the campaign, conducted in 1999.

Using the results from the 1998 survey, PRI selected participants for the post-campaign survey based on the following criteria: 1) those who said that they changed their own boat oil but did not recycle their oil and/or filters; 2) those who did not take precautions to prevent fuel spills in the water; 3) those who reported cleaning oil and fuel spills with soap, and 4) those who were not aware of the environmental impact of oil and fuel discharge into the water. From the 1001 boaters interviewed in 1998, a total of 206 respondents were selected for inclusion in the post-campaign sample.

• Table 1- Responses to Items in the 1998 Pre-Campaign Survey Used to Select Participants for the Post-Campaign Survey

	Frequency	Percent
If you change your own boat oil, what method do you use?		
<i>Drain the oil into the bilge</i>	11	1%
<i>Use a pump to extract into an open container</i>	121	23%
How do you dispose of your used oil?		
<i>Throw it into the garbage</i>	7	1%
<i>Bury it</i>	2	<1%
How about your used oil filters?		
<i>Throw them in the garbage</i>	181	34%
<i>Bury them</i>	2	<1%
<i>Other, not recycle</i>	2	<1%
Have not recycled used oil because:		
<i>Never considered recycling</i>	39	27%
<i>Did not know where to take it</i>	19	18%
<i>No place to recycle</i>	21	19%
<i>Too inconvenient</i>	14	13%
Do not think that throwing used oil filters in the trash poses a risk to the environment	145	80%
Use soap to clean oil and fuel from the bilge	11	10%
Top off fuel tank	70	19%

The California Coastal Commission mailed a California Free Boater Kit to each of the 206 eligible boaters from the 1998 survey. Addresses from the same 1997 Department of Motor Vehicles file of registered boaters that was used for the original 1998 survey sample were used.

Surveys at the San Mateo and Sacramento Boat Shows, February/March 2000

In addition to the boaters surveyed by telephone in 1998, PRI and the California Coastal Commission created a paper and pencil survey to distribute at the San Mateo boat show in February 2000 and Sacramento boat show in March 2000. Similar to the 1998

telephone survey, the 2-sided boat show survey included questions about respondents' boat maintenance practices (including oil changing and fueling). The boat show survey also included items measuring boaters' awareness of the extent of environmental damage caused by oil discharge into the water from recreational boating and knowledge of best maintenance practices to prevent environmental damage. See Appendix B for the complete listing of the questionnaire items and responses.

Data were collected using the intercept method, in which interviewers were stationed at a location that boat show attendees would approach before they approached the Coastal Commission's Clean Boating Network booth. Each attendee passing by was asked if he or she was currently a boat owner; if s/he replied affirmatively, s/he was asked to fill out the questionnaire. Attached to each questionnaire was a coupon corresponding to the questionnaire, redeemable at the Coastal Commission booth for a California Free Boater Kit. Respondents were asked to provide their names, addresses and phone numbers on the coupons before turning them in at the booth, but their personal information was not required in order to redeem the coupon for a boater kit. At the Coastal Commission booth, most participants were engaged in an educational discussion with a staff member about environmentally sound boating.

PRI entered the data from the surveys, as well as the personal information provided by the respondents. Those respondents who answered one or more of the questions on the pre-survey indicating that they were either unaware of the environmental impact of oil discharge into the water, that they did not take precautions to prevent fuel spills in the water, that they cleaned oil and fuel spills with soap, that they did not recycle used oil ad/or filters, or that they had not heard of the 1-800-CLEANUP number were selected for inclusion in the post-campaign survey sample. Responses to questions from which the post-campaign sample was selected are as follows:

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• Table 2 - Responses to Items in the Pre-Education Boat Show Surveys Used to Select Participants for the Post-Campaign Survey

	Frequency	Percent
How do you think oil and fuel discharge from recreational boating in California affects the environment?		
<i>Probably does not harm the environment very much</i>	46	11%
If you change your own boat oil, what method do you use?		
<i>Drain the oil into an open container</i>	31	12%
<i>Use a pump to extract into an open container</i>	26	10%
How do you dispose of your used oil?		
<i>Throw it into the garbage</i>	8	3%
<i>Bury it</i>	4	1%
<i>Other (not recycle)</i>	2	6%
How about your used oil filters?		
<i>Throw them in the garbage</i>	59	20%
<i>Bury them</i>	2	1%
<i>Other, not recycle</i>	3	1%
Many people do not recycle used motor oil because they do not know where to do so conveniently. Is this one reason why you have not recycled used motor oil?	100	42%
In California, how do you think used motor oil is classified?		
<i>General Waste</i>	8	2%
<i>Exempt Waste</i>	15	4%
<i>Unregulated waste</i>	17	4%
<i>Don't know</i>	42	11%
If you fuel your boat in the water, do you practice any of the following:		
<i>Top off the fuel tank</i>	9	4%
How have you cleaned oil that spilled into the bilge?		
<i>Soap or soap-based cleaner</i>	26	30%
<i>Didn't do anything</i>	2	2%

How do you normally prevent oil from dirtying your bilge and/or the bottom of your boat?

Soap or soap-based cleaner 33 10%

Don't clean at all 16 5%

In your estimation, what percent of oil discharge into the water comes from small sources such as cars, boats, and households (as opposed to industry)?

Less than 20% 133 34%

21% to 40% 110 28%

41% to 60% 82 21%

Have you heard of the 1-800-CLEANUP hotline to find out where to recycle used oil or dispose of hazardous waste in your area?

No/Don't know 275 68%

Based upon their answers to the above questions, a total of 282 respondents from the boat show surveys were selected for the post-campaign survey sample. See Appendix B for a complete listing of answers to the pre-education boat show survey.

Post-Campaign Survey

Data Collection and Methodology

In collaboration with the California Coastal Commission, PRI developed a telephone survey to measure the effects of the Boating Clean and Green Campaign on respondents' awareness of the environmental impact of oil discharge, the usefulness of the California Free Boater Kits, the effectiveness of their discussion with the staff members of the California Coastal Commission at the boat shows, and respondents' willingness to change their boating maintenance practices to those that are more environmentally sound.

The sample was selected from those participants in the pre-campaign surveys who answered key questions indicating that they were unaware of the environmental impact of oil discharge into the water or reported ecologically unsound boat maintenance practices (see "pre-campaign surveys" section of this report for details).

Data for the post-campaign survey were collected at PRI's Computer Assisted Telephone Interviewing (CATI) facility between March 26 and April 6, 2000. The survey was programmed and conducted using WinQuery software. Interviews took place between 4:00 and 9:00 p.m. on Monday through Friday, and from 12:00 p.m. to 6:00 p.m. on Sunday. Interviews averaged 10 minutes in duration. The interviewers for this survey were given time to familiarize themselves with the content of the boater kits and ask questions about boating terminology. Each interviewer completed 5 practice interviews before attempting to complete a legitimate interview with a respondent from the sample.

Up to 10 attempts were made to contact respondents in the sample.

Table 3 lists the possible outcome of an initial call, showing which outcomes are followed by an additional contact attempt.

• Table 3 - Call Outcome Possibilities

Outcome	Additional Contact Attempted
No Answer	Yes
Busy telephone	Yes
Answering machine	Yes, and a message was left on the answering machine
Initial refusal (soft refusal)	Yes
Hang up/Hard refusal	No
Language problem	No
Business/Government	No
Disconnected number	No
Wrong number	No
Computer/Fax tone	No

Attempts to persuade persons who initially "soft refuse" to complete the interview are standard practice; the most productive and persuasive interviewers were assigned to call potential respondents who had previously "soft refused". Interviewers were trained to code a refusal as "soft" if they thought there was at least a 50% chance the potential respondent

would complete the interview if called at a later time. A refusal was coded as “hard” if the potential respondent hung up, the interviewer did not feel that there was at least 50% chance that an interview could be completed at a later time, or a potential respondent who had previously been coded as a “soft refusal” declined a second time.

Table 4 shows the number and percentage in our sample that resulted in each possible outcome.

Table 4 - Final Call Outcomes

Outcome	Number	Percentage
Completed interviews	196	55%
No answer/answering machine	90	25%
Busy telephone	6	2%
Initial refusal (soft refusal)	14	4%
Hang up/Hard refusal	8	2%
Language problem	1	<1%
Business/Government	18	5%
Disconnected number	11	3%
Computer/Fax tone	2	<1%
Callbacks/not available	10	3%
Total	356	100%

In order to ensure that each respondent was qualified to take the survey, s/he was asked at the beginning of the interview if s/he was the person who received the California Boater Kit at the boat show or in the mail. If the person who answered the phone was not the person who received the kit, the interviewer asked to speak to the member of the household who did receive the kit.

In order to compare the responses to the pre-campaign and post-campaign surveys, the respondent was asked if s/he was the person who completed the pre-campaign survey at the boat show or by telephone in 1998. Seventy-two percent stated that they were the household member who received the boater kit and participated in the pre-campaign survey. Fifteen percent said that they did not remember if they participated in the previous survey.

Results

Overall, the results showed that the Boating Clean and Green campaign was successful in encouraging boaters to practice more environmentally sound boat maintenance. Although oil recycling was likely overreported in this study, as in others conducted previously (see “social desirability” section for details), respondents’ reports that they are more likely to recycle used oil and filters and take precautions to prevent fuel spills in the water as a result of the campaign are hopeful. The educational materials in the boater kit, particularly the plastic plaque with 99 tips for clean boating, the keychain, and the “Oil and Water Don’t Mix” brochure, received high ratings for usefulness by those who had looked in the boater kit.

Respondent Characteristics

Half of the respondents owned inboard motorboats, with another 32% owning outboard boats.

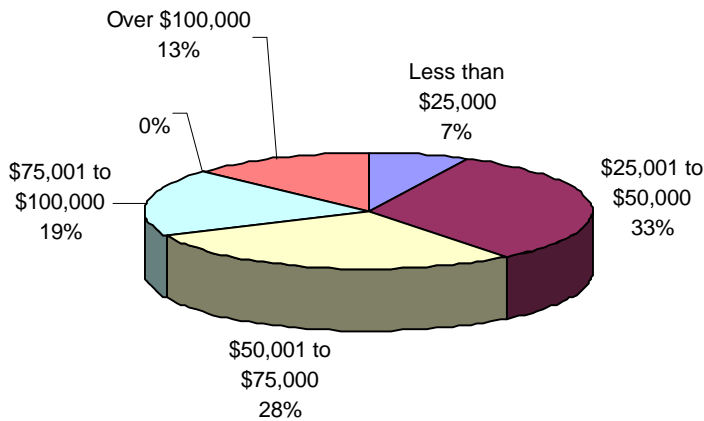
Boat Type	Frequency	Percent
Sailboat	12	6%
Outboard	61	31%
Inboard	96	49%
Jet	10	5%
Other	16	8%
Total	195	99%

Due to rounding, total percent may not equal 100%.

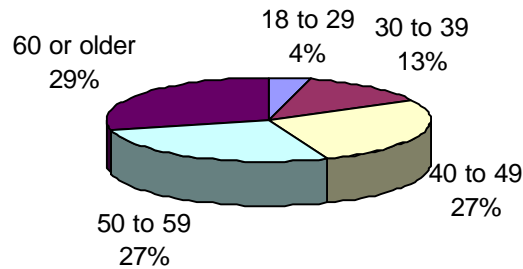
Forty-one percent of the respondents interviewed had received the boater kit through the mail and had answered the pre-campaign survey in 1998; the remaining 59% had filled out a pre-campaign survey and received their boater kit from the San Mateo or Sacramento boat show.

Pre-Campaign Survey	Frequency	Percent
Telephone (1998)	80	41%
San Mateo boat show	35	18%
Sacramento boat show	81	41%
Total	196	100%

Respondents to the survey were primarily white and middle aged or older. Of those who reported their income, 60% made more than \$50,000 in 1999 annual income.

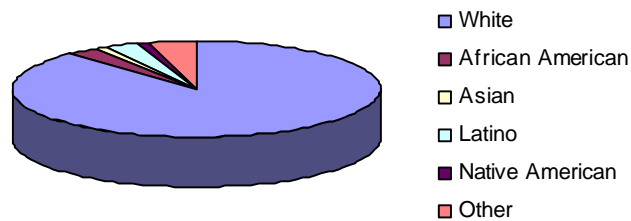


• Figure 1 - Respondent Income



• Figure 2 - Age of Respondents

Most of the boaters we interviewed (84%) were white.



• Figure 3 - Race of Respondents

Eighty-three percent of those who completed interviews were men, and 17% women.

Usefulness of the Boater Kits

Most of the respondents who received a boater kit had already looked through the contents at the time of their interview (85%). Of those who had not looked at the kit, 57% said that they planned to look through the kit in the future. Slightly more respondents who had received their kits through the mail (89%) than those who obtained the kits from the boat shows (82%) had already looked through the kit, possibly because they had been mailed the kit before the boat shows took place.

Nearly two-thirds of those who had seen the materials in the kit said that they would use the oil absorbing bilge pad included in the kit (62%) or have already used the pad (4%). Respondents who had received their kits and the educational visit from the boat show were more likely to say that they would use the bilge pads, although the difference was slightly below the level of statistical significance (.057). Of those who had used the bilge

pad or were planning to use it, 60% thought that they would buy more bilge pads and 7% had bought more already.

Use of Bilge Pads	Mail	Boat show	Total
Will you use the bilge pad included in the kit?			
Yes	54%	69%	62%
No	30%	14%	21%
Maybe	11%	16%	13%
Have already used	5%	1%	4%
Total	165		100%

Differences are not statistically significant.

Over three-quarters (78%) of the respondents remembered seeing the 1-800-CLEANUP number in or on the boater kit. Those who had received their kits in the mail (77%) were equally likely as those who had received their kits at the boat show (79%) to remember having seen the number.

Those who had seen the number were asked where on the kit they had seen it. Although 27% had forgotten where in the boater kit they had seen the number, many remembered the number from the keychain and the plastic plaque (see the "California Free Boater Kit" section of this report for details). Respondents who had received their kits through the mail were more likely than those from the boat show to have seen the number on the plastic bag holding the contents of the kits (23% compared to 9%).

On what part of the kit did you see the number?	Frequency	Percent
	Of the 78% who had seen the number:	
Keychain	34	28%
Plastic plaque	29	24%
Dolphin magnet	2	2%
Oil brochure	13	10%
Plastic bag	11	9%
Don't remember	33	27%
Total	122	100%

Of the 78% of respondents who had seen the 1-800-CLEANUP number in or on the boater kit, 62% also said that they remembered the type of information that could be obtained by calling the number. More respondents from the boat shows (69%) than those receiving kits in the mail (55%) remembered the type of information that could be obtained by calling the number.¹

¹ Although this difference was not statistically significant (.18), the difference in percentages is large enough to be notable.

What type of information can be obtained by calling the 1-800-CLEANUP number?	Frequency	Percent
	Of the 62% who remembered the information:	
<i>Where to recycle used oil</i>	11	15%
<i>Where to dispose of hazardous waste</i>	54	72%
<i>Don't know/Don't remember</i>	10	13%
Total	76	100%

Most respondents said that they would use the floating keychain included in the boater kit (72%). Similarly, 81% said that they found the keychain very useful or somewhat useful for remembering the 1-800-CLEANUP number. The plastic plaque with tips for clean boating was also considered very useful or somewhat useful by most respondents.

Usefulness of Items in the Boater Kit	Very useful	Somewhat useful	Not very useful	Not at all useful
<i>Keychain</i>	56%	25%	6%	10%
<i>Magnet</i>	20%	26%	14%	16%
<i>Plastic plaque</i>	43%	41%	7%	5%

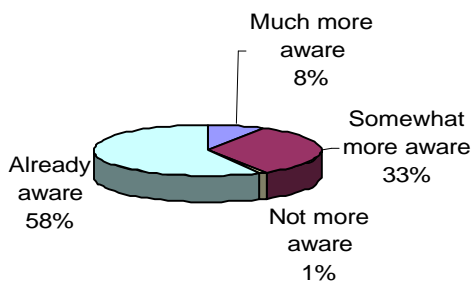
Two-thirds of the respondents reported having read the "Oil and Water Don't Mix" brochure in the boater kit (66%). Of those who had read the brochure, almost all found it at least somewhat informative. Mail and boat show respondents were equally likely to have read the brochure; however, more of those who had received kits from the boat show stated that the brochure was informative.

How informative was the "Oil and Water Don't Mix" brochure?	Of the 66% who had read the brochure:		
	Mail	Boat show	Total
<i>Very informative</i>	42%	57%	52%
<i>Somewhat informative</i>	42%	43%	43%
<i>Not very informative</i>	16%	0%	5%

A majority (67%) of respondents said that they would use a tidebook if it were included in a future California Boater kit; 6% said that they might use a tidebook, and 27% stated that they would not use a tidebook.

Awareness Changes as a Result of the Campaign

In the post-campaign survey, respondents were asked whether the boater kits and/or educational visits had helped them to become more aware of the environmental hazards associated with recreational boating. Fifty-eight percent of the respondents said that they were already aware of such hazards. Of the remaining boaters who had looked in the boater kits, most said that they felt more aware.



• Figure 4 - Awareness of Environmental Hazards as a Result of the Boater Kits

Boaters in the pre-campaign survey were asked how they normally clean oil and fuel spills from their boat and/or bilge. A majority, 67%, said that they maintain their engine to prevent spills and leakage. Eleven percent said that they used oil absorbing pads to clean spills. Ten percent reported that they normally use soap to clean their bilge, and 5% reported doing nothing to clean oil from their boat and bilge. When asked how they have cleaned oil and fuel spills in the past, 20% reported that they had used soap at some point to clean spills. In the post-campaign survey, all of those who said that they had used soap in the past to clean oil and fuel spills knew that using absorbents was the most ecologically safe way to clean spills. Only 3% of respondents in the post-campaign survey said that using soap was the best way to clean spills.

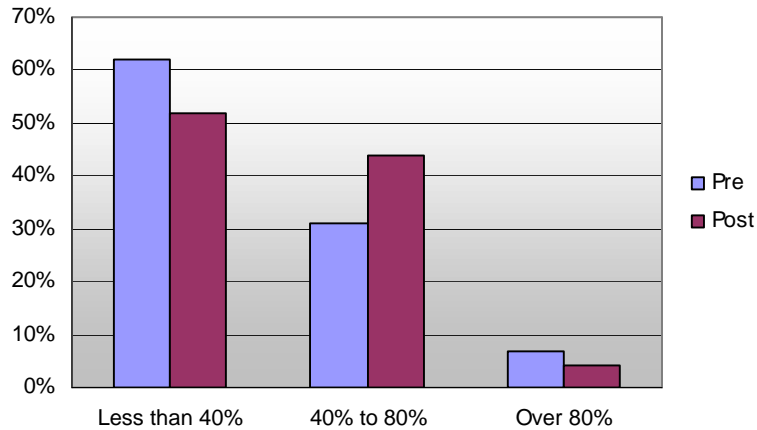
What do you think is the most environmentally sound way to clean oil and fuel spills from the bottom of your boat and the bilge?	Frequency	Percent
<i>Absorbents</i>	130	78%
<i>Soap</i>	5	3%
<i>Bio bilge cleaner</i>	7	4%
<i>Spray with water</i>	1	1%
<i>Other (most said "have it done")</i>	24	14%
Total	167	100%

Respondents who received boater kits through the mail were asked in the 1998 telephone survey whether or not they were aware of any law that prohibits spraying soap on an oil spill; 84% said that they did not know of any such law. Those in the post-campaign survey were no more likely to be aware of such laws, even though they knew that using soap to clean oil and fuel is not environmentally sound.

Respondents were asked whether they were aware of the percentage of oil discharge into California water that comes from small sources, such as recreational boating². In the pre-campaign survey (only asked of those who received their kits at the boat shows), 7% said that they thought over 80% of oil discharge came from small sources such as recreational

² Response options differed between surveys; in the original pre-campaign survey, respondents were given the following options: less than 30%, 30% to 40%, 40% to 50%, 50%, to 60%, 60% to 70%, 70%, to 80%, and over 80%. In the second pre-campaign survey, the categories were collapsed as follows: less than 20%, 21% to 40%, 41% to 60%, 61% to 80%, and over 80%. In the post-campaign survey, the response options were: over 20%, over 40%, over 60%, and over 80%. The changes in response options may have contributed to the inconclusive nature of the results.

boaters (as opposed to industrial or household sources), whereas in the post-campaign survey, 4% of those who had received their kits from the boat show gave the accurate response. Respondents' answers shifted in the right direction but overall they were still unaware of the extent of oil discharge into the water that comes from non-industrial sources such as recreational boating in California. Including the mail respondents, 13% of the post-campaign respondents answered the question correctly. Overall, respondents still underestimate the extent to which non-industrial sources contribute to the overall oil discharge into California's waters.



• Figure 5 - Pre and Post Survey Responses: "In your estimation, what percent of oil discharged into the water comes from small sources such as recreational boating as opposed to industrial sources?" (Boat show respondents only)

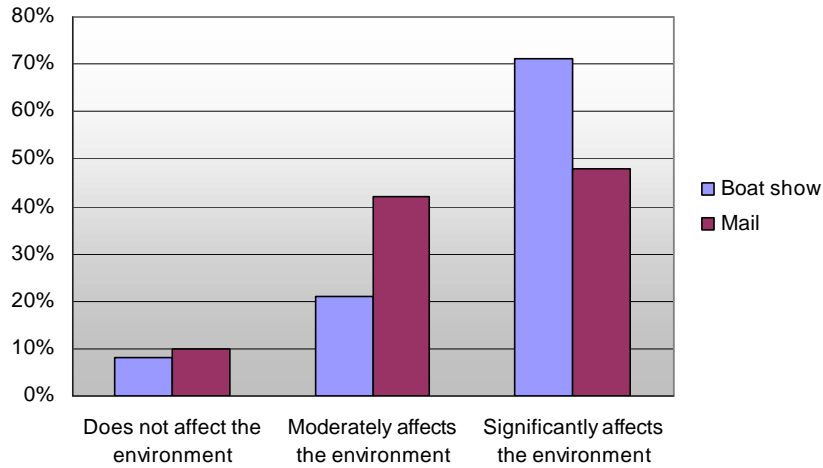
Boaters who participated in the pre-education survey at the boat show were asked whether they thought used oil was considered general, exempt/unregulated, toxic, or hazardous waste. Most respondents, 80%, knew that used oil is considered hazardous waste. In the post-campaign survey, both boat show and mail respondents were asked the same question after receiving the boater kits and/or educational visit. Similarly, 82% of those in the post-campaign survey were aware that used oil is classified as a hazardous waste. Boat show respondents were not more likely than mail respondents to know the correct answer, although slightly more mail respondents (16% compared to 9% of boat show respondents) said that they didn't know the correct classification for used oil.

To gauge respondents' comprehension of the information presented to them in the boater kit, they were asked to estimate the amount of oil discharge in the water it would take to seriously harm the environment. The answer to this question (one pint) appeared in 2 important pieces in the boater kits; on the plastic plaque and in the "Oil and Water Don't Mix" brochure. A majority chose the correct response, "only one pint." Because this question did not appear on the pre-campaign survey, we cannot directly attribute the high incidence of correct answers to the education provided by the boater kit; however, 69% of those who selected the correct answer had read the brochure, so it is reasonable to assume that the kit provided most of the respondents with the correct information.

How much oil discharge into the water do you think it takes to seriously harm the environment?	Frequency	Percent
<i>Only one pint</i>	122	63%
<i>At least one quart</i>	13	7%
<i>Only one gallon</i>	27	14%
<i>Several gallons</i>	9	5%
<i>Don't know</i>	19	10%
Total	190	100%

Boaters who received their kits from the boat shows were asked in the pre-education survey whether they thought that oil discharge from recreational boating does not impact the environment very much, impacts the environment some, but not as much as commercial boats, or if it severely impacts the environment even in small amounts. In the pre-campaign survey, 11% of these boaters said that it probably does not affect the environment very much. These answers remained stable in the post-campaign survey, indicating that most boaters did not change their opinions about how oil discharge affects the environment. Interestingly, 90% of the small group of those who said that oil discharge does not impact the environment very much also said that they were already aware of the environmental hazards of recreational boating.

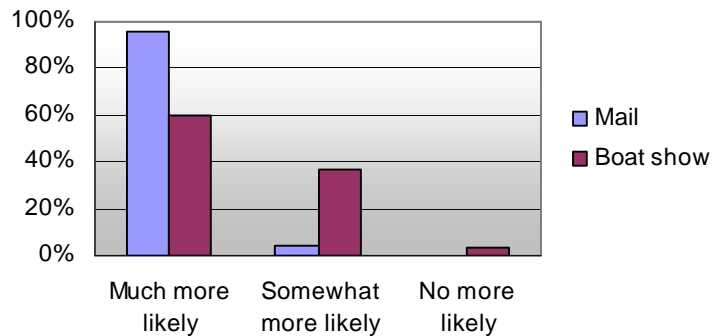
How severely do you think discharge of oil and fuel from recreational boating impacts the environment?	Pre-campaign	Post-campaign
	Boat show respondents only:	
<i>Does not affect the environment very much</i>	11%	10%
<i>Moderately affects the environment</i>	39%	42%
<i>Significantly affects the environment (even in small amounts)</i>	50%	48%
Total	406	108



• Figure 6 - "How do you think oil discharge from recreational boating affects the environment?"—Post-Campaign Answers

Motivating Behavior Changes

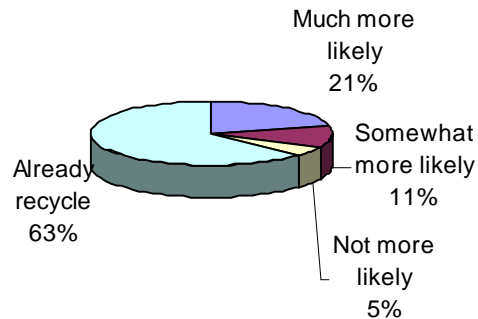
Although many boaters said that they were already aware of the environmental hazards associated with recreational boating, less said that they already take precautions to protect the environment while they're boating. Ninety-six percent of those who had received boater kits through the mail and did not already take precautions to protect the environment said that they were much more likely to do so in the future; 60% of those who received kits at the boat show said the same.



• Figure 7 - Likelihood of Taking Precautions to Protect the Environment as a Result of the Boater Kit

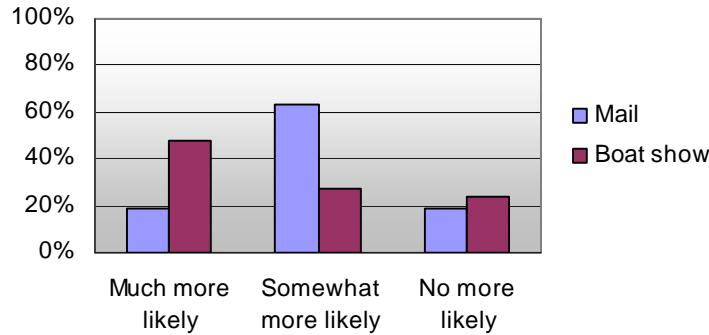
Respondents who had completed their pre-campaign surveys at the boat show were more likely than those who had completed the telephone survey in 1998 to say that they already took precautions to protect the environment from damage during recreational boating (50% compared to 12% of those who had received their kit through the mail).

Eighty-six percent of the respondents who change their own oil reported recycling their oil on the pre-campaign survey; 42% said that they had not recycled their oil in the past because they did not know where to take it conveniently. When asked whether they were more likely to recycle their oil after seeing the materials in the boater kit, 63% said that they already recycled their oil. Thirty-two percent said that they were more likely to recycle as a result of what they learned in the boater kit. Mail and boat show respondents answered the question in equal proportions.



• Figure 8 - Likelihood of Recycling Used Oil as a Result of the Boater Kit

Recycling used oil filters was reported much less than recycling used oil, although it was likely overreported by respondents (90% of used oil filters in California are not recycled; half of the respondents in this study said that they recycle used oil filters). Several respondents said that the curbside recycling service would not pick up filters, or that they did not know where to take them for recycling. In the pre-campaign survey, half said that they recycled used oil filters, and half threw them away. Also, 69% of those in the pre-campaign did not know that they could call the 1-800-CLEANUP number to find out where to dispose of filters in their area. When asked whether they were more likely to recycle their filters after seeing the materials in the boater kit, respondents were evenly split between much more likely and somewhat more likely, leaving 10% who said that they were not more likely to recycle used oil filters. More boat show respondents than those who received kits through the mail said that they were much more likely to recycle their used oil filters after receiving the boater kit and educational talk at the boat show.



• Figure 9 - Likelihood of Recycling Used Oil Filters as a Result of the Boater Kit

Respondents were also asked whether they learned from the boater kit that absorbents used to clean oil or fuel should be disposed of in the same manner as other hazardous waste. While 63% reported that they were already aware of this requirement, 32% said that they did learn of the proper disposal as a result of the boater kit and/or the discussion with the Coastal Commission staff at the boat show. Only 5% said that they did not learn of the proper disposal of absorbents after the boater kits and boat show visit.

Fifty-five percent of those in the pre-campaign survey reported that they fuel their boats in the water. Of those who fuel in the water, almost all reported taking one or more precautions to prevent fuel spills; however, 19% also reported topping off their fuel tank.

Do you take precautions to prevent fuel spills?	Frequency	Percent
Of the 55% who fuel in the water:		
<i>Wipe fuel spills with rags or paper towels</i>	89	83%
<i>Fuel slowly to prevent spills</i>	62	59%
<i>Have a fuel spill prevention device (boat show respondents only)</i>	4	2%

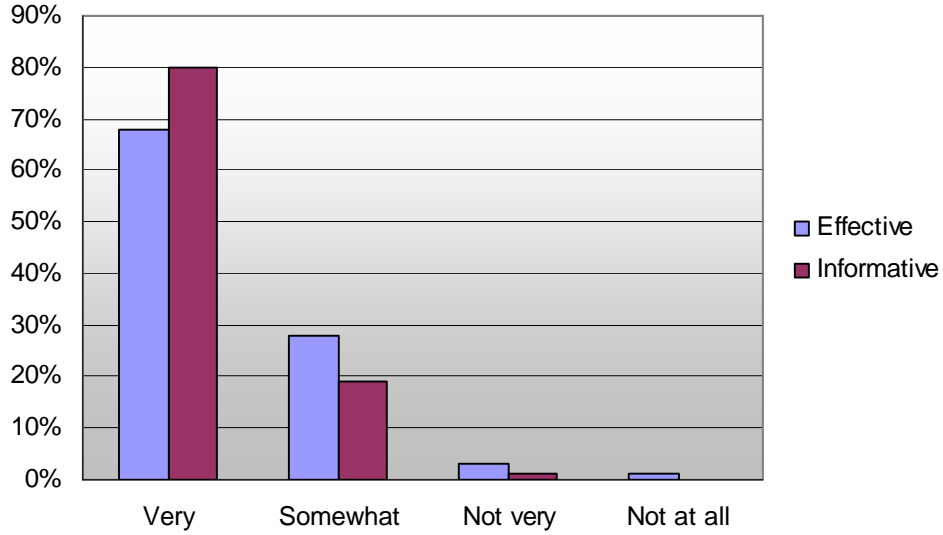
When asked whether the boater kit had encouraged them to take more precautions to protect the environment from fuel spills, half of the respondents who fuel their boats in the water said that they already take such precautions. Thirty percent said that they were much more likely to take precautions in the future after seeing the materials in the boater kit, and another 16% said that they were somewhat more likely to take precautions. Only 2% thought that they were no more likely to try and prevent fuel spills. Of those respondents who reported topping off their fuel tanks in the pre-campaign surveys, 100% said that they were much more likely or somewhat more likely to take precautions to protect the environment while fueling in the water.

Effectiveness of Coastal Commission Staff

For those respondents who had participated in a discussion with the staff members at the Coastal Commission’s Clean and Green booth at the boat shows, the experience was almost exclusively rated as a worthwhile one. Most respondents who spoke with a staff member at the Coastal Commission’s Boating Clean and Green booth said that they were

very effective in encouraging the boaters to practice environmentally sound boating. Eighty percent said that the staff were very informative and 19% said that they were somewhat informative; only 1 respondent stated that the staff was not very informative. Ninety-two percent thought that that staff were very effective or somewhat effective.

Respondents who said that the discharge of oil and fuel into the environment is not harmful were the least likely to say that the staff was informative or effective.



• Figure 10 - Ratings of the Effectiveness of Coastal Commission Staff in Encouraging Boaters to Practice Ecologically Sound Boating

Conclusions

In general, boaters responded with interest to the California Free Boater Kits and the educational talks at the Coastal Commission Clean Boating Network booth. The boater kits were described as useful and were effective in motivating behavioral changes, and boaters who were not already aware of the environmental risks of recreational boating described themselves as more aware as a result of the campaign.

Usefulness of Boater Kits

For the most part, respondents reported that the items in the boater kits were useful and informative. Over 80% thought that the keychain and the plastic plaque in the kits were useful for obtaining information about environmentally safe boating; 66% read the “Oil and Water Don’t Mix” brochure, and 95% of those who read it described it as informative. A majority of those who looked at the kits said that they planned to use the oil absorbing bilge pads or had already used the pads.

Motivating Behavior Changes

The boater kits, coupled with the educational visits at the boat shows, were also successful in relaying information about the 1-800-CLEANUP number as well as encouraging behavioral changes in California boaters. Seventy-four percent of respondents in the post-campaign survey remembered seeing the 1-800-CLEANUP number, and 89% of those who had seen the number remembered its purpose. While many respondents stated that they already took general precautions to protect the environment, 62% said that they were either much more likely or somewhat more likely to take such precautions in the future. Thirty-two percent of those who did not already recycle used oil said that they were more likely to do so as a result of the information in the boater kit; similarly, 36% said that they were more likely to recycle used oil filters in the future. A follow-up study to ascertain whether behavior changes actually took place would be useful in determining the efficacy of boater education in terms of actual behavior changes.

Awareness Changes

Awareness changes as a result of the boater kits and educational visits were reported by respondents; 42% of the respondents who had looked at the boater kits said that they were more aware of environmental hazards associated with recreational boating as a result of the boater kits, while only 1% said that they were no more aware. However, when comparing responses from the pre and post-campaign surveys, responses to the question “How do you think oil discharge impacts the environment?” were not measurably different; about 10% of respondents did not think that oil discharge is harmful to the environment regardless of campaign efforts.

When asked to estimate the percentage of oil discharge into California waters from small sources such as recreational boating, few respondents from either the pre or post-surveys gave the accurate answer (over 80%).

Most respondents (95%) knew that using absorbents or enzyme-based cleaner was the most environmentally sound way to clean oil and fuel spills from the bilge, although less

than 15% were aware of any laws prohibiting the use of soap to clean oil from the water in either the pre or post survey.

Most of the respondents who completed pre-educational surveys at the boat shows (80%) knew that used oil is considered hazardous waste; in the post-campaign survey, mail and boat show respondents (82%) were both aware of this classification, although no more aware than in the pre-campaign survey.

Sixty-three percent of respondents knew that only one pint of oil could significantly harm the environment; because this fact appeared on the plastic plaque and the "Oil and Water Don't Mix" brochure, and most who gave the correct answer had read the brochure, we can assume that many learned this fact as a result of the campaign.

Respondents who participated in the pre-educational surveys at the boat shows were more likely to say that they were aware of environmental risks associated with recreational boating before the campaign; however, they were not more likely than those who received kits through the mail to say that they already recycled oil and filters or took precautions to protect the environment while boating. In the post-campaign survey, respondents who received their kits at the boat shows were more likely to say that they were already aware of environmental problems involving the discharge in oil and fuel into the water while boating, but weren't more likely than those who received kits through the mail to say that they already took precautions to prevent discharge.

Educational Visits at the Boat Shows

The efficacy of the educational visits with boat show attendees was measured by asking respondents who received the visit how effective and informative the staff at the Boating Clean and Green Network booth were. Almost all respondents (99%) who had participated in the visit said that the staff members were informative; 92% also said that the staff was effective in encouraging ecologically sound boating. Boaters who received educational visits were more likely to remember the purpose of the 1-800-CLEANUP number and were more likely to say that they would recycle oil filters in the future (both points emphasized by the staff during the visits). Respondents from the boat shows were also more likely to say that they would use the oil absorbing bilge pads included in the kits (also encouraged by boat show staff). Because boaters who attended the boat shows were more likely than those who simply received kits in the mail to say that they were already aware of environmentally safe boating practices, outreach efforts (specifically educational visits) targeting boaters at the waterfront where they use their boats (and reaching those who might be more isolated from current information sources) could prove to be effective in encouraging hard-to-reach populations to practice ecologically sound boating. While the educational visits at the boat shows seemed to provide encouragement to practice more environmentally sound boating, outreach to less informed boaters may prove successful in increasing awareness of the environmental impact of oil and fuel discharge as well as motivating behavioral change.

Conclusions

While many of the boaters interviewed in the post-campaign survey said that they were made aware of the environmental hazards associated with recreational boating, it appears that there is a small percentage of those who resist the message that recreational boating can be significantly harmful to the environment. Because those who think that oil and fuel discharge does not harm the environment also say that they are aware of environmental hazards and that they already practice what they consider safe boat maintenance,

educational efforts seem to have been resisted by this group (about 10% in this survey). Additional studies of educational efforts targeting boaters who are resistant to the message that oil and fuel discharge are significant risks to the environment may produce further information about this group and more ideas about how to encourage them to practice environmentally sound behavior; however, since a majority seem more receptive to the messages in the campaign, such efforts may not be worth the small portion of the population to whom they would be targeted.

Because many boaters admitted in the pre-campaign surveys that lack of convenience has prevented them from recycling used oil and filters, funding for recycling programs that are convenient (such as curbside pick-up and recycling centers located at marinas) coupled with outreach to inform boaters of such programs would be the most appropriate plan to encourage boaters to recycle; however, since most boaters were not aware of the 1-800-CLEANUP number at the time of the pre-campaign survey and most learned of the number through the campaign, continued efforts to promote the use of the hotline are recommended.

In conclusion, the education provided by the Boating Clean and Green Campaign seemed to be most effective in encouraging boaters to consider more environmentally safe methods of boat maintenance, while those who were the most misinformed about the dangers of oil and fuel discharge did not become measurably more aware of such hazards. Efforts (particularly educational visits) to increase awareness of the impact of oil and fuel discharge on California waters may be most useful if practiced in locations where boaters use their boats, such as marinas. Distribution of free boater kits was described as useful by respondents who received them, and effective in motivating boaters to practice environmentally safe boating; therefore, including boater kits as part of future boater education campaigns is recommended.

Appendix A: Responses to the 2000 Post-Campaign Survey

**1. Are you the person who completed our interview [by telephone in 1998?]
[at the San Mateo Boat show?]
[at the Sacramento boat show?]**

	Frequency	Percent	Total
Yes	140	71.61	71.61
No	26	12.90	84.52
Don't know	30	15.48	100.00
Total	196	100.00	

2. What kind of boat do you currently own?

	Frequency	Percent	Total
Sailboat	12	5.93	5.93
Outboard	61	31.36	37.29
Inboard	96	49.15	86.44
Jet	10	5.08	91.53
Other type	16	8.47	100.00
Total	195	100.00	

3. Did you talk with one of the staff members at the Coastal Commission's Clean Boating Network booth when you received the kit?

	Frequency	Percent	Total
Yes	108	93.52	93.52
No	5	4.63	98.15
Someone else did	2	1.85	100.00
Total	115	100.00	

4. Have you looked at what's in the California Boater Kit?

	Frequency	Percent	Total
Yes	166	84.81	84.81
No	16	8.23	93.04
No, plan to	12	6.33	99.37
Don't know	1	0.63	100.00
Total	195	100.00	

5. Do you think that you will use the oil absorbing bilge pad that's in the boater kit?

	Frequency	Percent	Total
Yes	103	61.94	61.94
No	35	20.90	82.84
Maybe	22	13.43	96.27
Already used	5	2.99	99.25
Don't know	1	0.75	100.00
Total	166	100.00	

6. If you find that using the bilge pads is useful, will you purchase them in the future?

	Frequency	Percent	Total
Yes	64	60.38	60.38
No	7	6.60	66.98
Maybe	26	24.53	91.51
Already bought more	7	6.60	98.11
Don't know	2	1.89	100.00
Total	106	100.00	

7. Do you remember seeing the 1-800-CLEANUP number anywhere in the boater kit?

	Frequency	Percent	Total
Yes	123	73.88	73.88
No	31	18.66	92.54
Maybe	4	2.24	94.78
Don't know	8	5.22	100.00
Total	166	100.00	

8. On what part of the boater kit did you see the number?

	Frequency	Percent	Total
Keychain	34	28.00	28.00
Plastic plaque	29	24.00	52.00
Dolphin magnet	2	1.33	53.33
Oil brochure	13	10.67	64.00
Plastic bag	11	9.33	73.33
Don't know	33	26.67	100.00
Total	122	100.00	

9. Do you remember what type of information can be obtained by calling the 1-800-CLEANUP number?

	Frequency	Percent	Total
Yes	76	61.76	61.76
No	45	36.27	98.04
Don't know	2	1.96	100.00
Total	123	100.00	

10. What kind of information was that?

	Frequency	Percent	Total
Where to recycle used oil	11	14.29	14.29
Where to dispose of hazardous	54	71.43	85.71
Other	9	11.11	96.83
Don't know	1	1.59	98.41
Refused	1	1.59	100.00
Total	76	100.00	

11. Will you use the floating keychain included in the Boater Kit?

	Frequency	Percent	Total
Yes	120	72.39	72.39
No	43	26.12	98.51
Don't know	2	1.49	100.00
Total	166	100.00	

12. How useful do you find the keychain for helping you remember the 1-800-CLEANUP number?

	Frequency	Percent	Total
Very useful	67	55.56	55.56
Somewhat useful	30	25.25	80.81
Not very useful	7	6.06	86.87
Not at all useful	12	10.10	96.97
Don't know	4	3.03	100.00
Total	120	100.00	

13. How useful do you find the magnet in the boater kit?

	Frequency	Percent	Total
Very useful	33	20.15	20.15
Somewhat useful	43	26.12	46.27
Not very useful	24	14.18	60.45
Not at all useful	27	16.42	76.87
Don't know	38	23.13	100.00
Total	165	100.00	

14. How useful is the plastic reference plaque with 99 tips for clean and green boating included in the kit?

	Frequency	Percent	Total
Very useful	71	42.62	42.62
Somewhat useful	68	40.98	83.61
Not very useful	11	6.56	90.16
Not at all useful	8	4.92	95.08
Don't know	8	4.92	100.00
Total	166	100.00	

15. Did you read the "Oil and Water Don't Mix" brochure included in the kit?

	Frequency	Percent	Total
Yes	109	65.56	65.56
No	50	30.00	95.56
Maybe	7	4.44	100.00
Total	165	100.00	

16. How informative was the "Oil and Water Don't Mix" brochure?

	Frequency	Percent	Total
Very informative	54	49.15	49.15
Somewhat informative	43	40.68	89.83
Not very informative	6	5.08	94.92
Don't know	6	5.08	100.00
Total	109	100.00	

17. As a result of the information in the boater kit, how much more aware are you of the environmental hazards associated with recreational boating?

	Frequency	Percent	Total
Much more aware	13	7.78	7.78
Somewhat more aware	55	33.33	41.11
Not more aware	2	1.11	42.22
I was already aware	94	56.67	98.89
Don't know	2	1.11	100.00
Total	166	100.00	

18. And, as a result of the information in the boater kit, how much more likely are you to take precautions to protect the environment from damage while you are boating?

	Frequency	Percent	Total
Much more likely	81	48.91	48.91
Somewhat more likely	22	13.04	61.96
No more likely	2	1.09	63.04
Already take precautions	61	36.96	100.00
Total	166	100.00	

19. As a result of the information in the boater kit, how much more likely will you be to recycle your used oil?

	Frequency	Percent	Total
Much more likely	25	14.93	14.93
Somewhat more likely	14	8.21	23.13
Not more likely	6	3.73	26.87
Already recycle	77	46.27	73.13
Do not change my boat oil	39	23.88	97.01
Don't know	5	2.99	100.00
Total	166	100.00	

20. How about recycling used oil filters?

	Frequency	Percent	Total
Much more likely	25	14.84	14.84
Somewhat more likely	25	14.84	29.69
Not more likely	14	8.59	38.28
Already recycle	74	44.53	82.81
Don't know	25	14.84	97.66
Refused	3	2.34	100.00
Total	166	100.00	

21. As a result of the boater kit, how much more likely will you be to take measures to prevent fuel spills in the water?

	Frequency	Percent	Total
Much more likely	50	29.85	29.85
Somewhat more likely	26	15.67	45.52
No more likely	4	2.24	47.76
Fuel out of the water	86	52.24	100.00
Total	166	100.00	

22. What do you think is the environmentally sound way to clean oil and fuel spills from the bottom and bilge of your boat?

	Frequency	Percent	Total
Use rags or absorbents	130	66.46	66.46
Use soap	5	2.53	68.99
Enzyme/bio bilge cleaner	7	3.80	72.78
Just spray it with water	1	0.63	73.42
Other	24	12.03	85.44
Don't know	21	10.76	96.20
Refused	7	3.80	100.00
Total	195	100.00	

23. Are you aware of any law that prohibits spraying soap on an oil spill in the water?

	Frequency	Percent	Total
Yes	46	23.36	23.36
No	145	73.83	97.20
Don't know	5	2.80	100.00
Total	196	100.00	

24. In your estimation, what percent of oil discharge into the water comes from small sources such as cars, boats, and households, as opposed to large industrial sources and oil tanker spills?

	Frequency	Percent	Total
Over 20%	72	36.71	36.71
Over 40%	38	19.62	56.33
Over 60%	25	12.66	68.99
Over 80%	21	10.76	79.75
Don't know	38	19.62	99.37
Refused	1	0.63	100.00
Total	195	100.00	

25. In California, how do you think used motor oil is classified?

	Frequency	Percent	Total
General Waste	2	1.02	1.02
Exempt Or Unregulated Waste	4	2.50	3.52
Hazardous Waste	161	82.14	85.66
Toxic Waste	9	4.59	90.25
Don't Know	20	10.20	100.00
Total	196	100.00	

26. As a result of the information you received in the boater kit, did you learn that oil or fuel soaked absorbents such as rags and bilge pads should be disposed of at a location that accepts hazardous waste?

Yes	51	30.56	30.56
No	8	4.63	34.26
Already knew that	97	58.33	92.59
Don't Know	10	6.48	100.00
Total	166	100.00	

27. How severely do you think discharge of oil and fuel from recreational boating in California impacts the environment?

	Frequency	Percent	Total
Doesn't impact the environment very much	17	8.86	8.86
Moderately harms the environment	61	31.01	39.87
Significantly harms the environment	104	53.16	93.04
Don't know	14	6.96	100.00
Total	196	100.00	

28. Can you estimate how much oil discharge in the water it takes to significantly harm the environment?

	Frequency	Percent	Total
One pint	122	62.24	44.94
At least one quart	13	6.63	65.19
Only one gallon	27	13.78	83.54
Several gallons	9	4.59	89.87
Don't know	19	9.69	99.37
Refused	1	0.63	100.00
Total	191	100.00	

29. How effective was the Coastal Commission booth and staff at the boat show in encouraging boaters to practice environmentally sound boating?

	Frequency	Percent	Total
Very effective	71	65.82	65.82
Somewhat effective	29	26.58	92.41
Not very effective	3	2.53	94.94
Not at all effective	1	1.27	96.20
Don't know	3	2.53	98.73
Refused	1	1.27	100.00
Total	108	100.00	

30. How informative were the staff people at the Coastal Commission booth?

	Frequency	Percent	Total
Very informative	84	77.91	77.91
Somewhat informative	20	18.60	96.51
Not very informative	1	1.16	97.67
Don't know	3	2.33	100.00
Total	108	100.00	

31. If a tidebook was included in a future California Boater Kit, would you use it?

	Frequency	Percent	Total
Yes	130	66.46	66.46
No	53	27.22	93.67
Maybe	11	5.70	99.37
Don't know	1	0.63	100.00
Total	195	100.00	

32. What was your 1999 annual income before taxes?

	Frequency	Percent	Total
Less than \$25,000	11	5.70	5.70
\$26,000 to \$50,000	51	25.95	31.65
\$51,000 to \$75,000	45	22.78	54.43
\$76,000 to \$100,000	30	15.19	69.62
more than \$100,000	21	10.76	80.38
Don't know	10	5.06	85.44
Refused	28	14.56	100.00
Total	196	100.00	

33. What is your age?

	Frequency	Percent	Total
18 to 29	9	4.43	4.43
30 to 39	26	13.29	17.72
40 to 49	54	27.85	45.57
50 to 59	45	22.78	68.35
60 or older	58	29.75	98.10
Refused	4	1.90	100.00
Total	196	100.00	

34. We would also like to know your racial or ethnic group.

	Frequency	Percent	Total
Caucasian	164	83.54	83.54
African American	5	2.53	86.08
Asian	2	1.27	87.34
Latino	5	2.53	89.87
Native American	2	1.27	91.14
Other race	8	3.80	94.94
Refused	10	5.06	100.00
Total	196	100.00	

35. Gender

	Frequency	Percent	Total
Male	162	82.89	82.89
Female	34	17.11	100.00
Total	196	100.00	

Appendix B: Responses to the 2000 Pre-Education Boat Show Survey

1. For which activities do you use your boat?

	Frequency	Percent	Total
Pleasure cruising	213	51.07	51.07
Water skiing	161	38.60	89.67
Sailing	26	62.35	151.97
Fishing	289	69.30	221.27
Total	689	221.27*	

*Number exceeds 100% since respondents were asked to "check all that apply."

For what other activities do you use your boat?

	Frequency	Percent	Total
Water Boarding	3	11.54	11.54
Air Chairing	2	7.69	19.23
Scuba Diving	5	19.24	38.47
Relaxation	5	19.24	57.71
Exploring	2	7.69	65.40
Training	1	3.85	69.25
Camping	2	7.69	76.94
Hunting	5	19.24	96.18
Cruising	1	3.85	100.00
Total	26	100.00	

2. How do you think oil and fuel discharge from recreational boating in California affects the environment?

	Frequency	Percent	Total
Probably does not impact the environment	46	11.33	11.33
Some impact, but not as much as commercial boats	157	38.67	50.00
Even a small quantity has significant impact	203	50.00	100.00
Total	406	100.00	

3. If you change your own boat oil, what method do you use?

	Frequency	Percent	Total
Drain the oil into the bilge	1	0.40	0.40
Drain oil into an open container	31	12.40	12.80
Drain the oil into a closed container	87	34.80	47.60
Use a pump to extract oil into an open container	26	10.40	58.00
Use a pump to extract oil into a closed container	105	42.00	100.00
Total	250	100.00	

4. Most people dispose of their used oil and filters in the garbage. How do you dispose of your used oil?

	Frequency	Percent	Total
Throw it in the garbage	8	2.72	2.72
Gas station or other oil collection facility	150	51.02	53.74
Take it to a hazardous waste collection facility	85	28.91	82.65
Bury it	4	1.36	84.01
Take it to the used oil container at the Marina	25	8.50	92.52
Not applicable	22	7.48	100.00
Total	294	100.00	

How about your used oil filters?

	Frequency	Percent	Total
Throw them in the garbage	59	19.80	19.80
Gas station or other oil collection service	118	39.60	59.40
Hazardous waste collection facility	66	22.15	81.54
Bury them	2	0.67	82.21
Used oil container at the Marina	23	7.72	89.93
Not applicable	30	10.07	100.00
Total	298	100.00	

5. Many people do not recycle used motor oil because they do not know where to do so conveniently. Is this one reason why you have not recycled used motor oil?

	Frequency	Percent	Total
No	137	57.81	57.81
Yes	100	42.19	100.00
Total	237	100.00	

6. In California, how do you think used motor oil is classified?

	Frequency	Percent	Total
General waste	8	2.02	2.02
Exempt or unregulated waste	17	1.77	3.79
Hazardous waste	315	79.55	83.33
Toxic waste	24	6.06	89.39
I don't know	42	10.61	100.00
Total	396	100.00	

7. If you fuel your boat in the water, have you ever noticed fuel spilled into the water?

	Frequency	Percent	Total
No	105	26.52	26.52
Yes	150	37.88	64.39
I don't fuel in the water	141	35.61	100.00
Total	396	100.00	

8. If you fuel your boat in the water, do you practice any of the following:

	Frequency	Percent	Total
Fill slowly	226	88.62	88.62
Have a fuel spill prevention device	80	31.37	119.99
Wipe spills with a towel or rag	142	55.69	175.68
Top off the fuel tank	9	3.52	179.20
Total	457	179.20*	

*Number exceeds 100% since respondents were asked to "check all that apply."

9. Have you ever had fuel or oil spilled into the bilge?

	Frequency	Percent	Total
No	297	77.95	77.95
Yes	84	22.05	100.00
Total	381	100.00	

IF YES, how did you clean the spill?

	Frequency	Percent	Total
Pump out facility	5	5.68	5.68
Enzyme based or "bio" bilge cleaner	12	13.64	19.32
Soap or soap based bilge cleaner	26	29.55	48.86
Oil absorbent pads	16	18.18	67.05
Rags or paper towels	27	30.68	97.73
Didn't do anything	2	2.27	100.00
Total	88	100.00	

10. How do you normally prevent oil from dirtying your bilge and/or the bottom of your boat?

	Frequency	Percent	Total
Maintain the engine to prevent leaks	237	67.33	67.33
Enzyme based or "bio" bilge cleaner	11	3.12	70.45
Soap or soap based cleaner	33	9.38	79.83
Oil absorbent pads	39	11.08	90.91
Steam clean	12	3.41	94.32
Contractor	4	1.14	95.45
Don't clean at all	16	4.55	100.00
Total	352	100.00	

11. In your estimation, what percent of oil discharge into the water comes from small sources such as cars, boats, and households (as opposed to industry)?

	Frequency	Percent	Total
Less than 20%	156	39.90	39.90
21% to 40%	113	28.90	68.80
41% to 60%	65	16.62	85.42
61% to 80%	37	9.46	94.88
Over 80%	20	5.12	100.00
Total	391	100.00	

12. Have you heard of the 1-800-CLEANUP hotline to find out where to recycle used oil or dispose of hazardous waste in your area?

	Frequency	Percent	Total
No	275	68.58	68.58
Yes	126	31.42	100.00
Total	401	100.00	

Appendix C: 2000 Post- Campaign Survey Instrument

QUESTION 1

Hello, I'm calling from San Francisco State University on behalf California Coastal Commission. Our records show that you or a member of your household received a California Free Boater kit. We would like just a few minutes of your time to ask you some questions about the Boater Kit. The questions will take just 5 minutes of your time and your answers are completely confidential; they will only be used to evaluate the usefulness of the Boater Kits. Are you the household member who received the Boater Kit?

- <1> YES
- <2> NO
- <3> I HAVEN'T RECEIVED A BOATER KIT

QUESTION 2

Are you the person who completed our interview. . .

- [BY TELEPHONE IN 1998?]
- [AT THE SAN MATEO BOAT SHOW?]
- [AT THE SACRAMENTO BOAT SHOW?]

- <1> YES
- <2> NO
- <3> DON'T KNOW

Thanks for your help. Remember, your responses are only helpful to the Coastal Commission if they're accurate to the best of your knowledge.

QUESTION 3

What kind of boat do you currently own?

- <1> SAILBOAT WITH A GAS OR DIESEL MOTOR
- <2> OUTBOARD GAS OR DIESEL MOTOR BOAT
- <3> INBOARD/OUTBOARD MOTOR BOAT
- <4> JET PROPELLED BOAT
- <5> PERSONAL WATER CRAFT (JET SKI)
- <6> OTHER TYPE OF BOAT
- <7> I NO LONGER OWN A BOAT
- <8> DON'T KNOW
- <9> REFUSED

QUESTION 4

Did you talk with one of the staff members at the Coastal Commission's Clean Boating Network booth when you received the kit?

- <1> YES
- <2> NO
- <3> SOMEONE ELSE SPOKE WITH THEM

QUESTION 5

Have you looked at what's in the California Boater Kit?

- <1> YES
- <2> NO
- <3> NO, BUT I PLAN TO
- <4> DON'T KNOW
- <5> REFUSED

QUESTION 6

Do you think that you will use the oil absorbing bilge pad that's in the Boater Kit?

- <1> YES
- <2> NO
- <3> MAYBE
- <4> ALREADY USED IT
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 7

If you find that using the oil absorbing pads is useful, will you purchase the bilge pads in the future?

- <1> YES
- <2> NO
- <3> MAYBE
- <4> HAVE ALREADY BOUGHT MORE BILGE PADS
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 8

Do you remember seeing the 1800-CLEANUP number anywhere in the boater kit?

- <1> YES
- <2> NO
- <3> MAYBE
- <4> HAVE ALREADY USED THE NUMBER
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 9

On what part of the boater kit did you see the number?

- <1> KEYCHAIN
- <2> PLASTIC PLAQUE
- <3> DOLPHIN MAGNET
- <4> OIL BROCHURE
- <5> PLASTIC BAG
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 10

Do you remember what type of information can be obtained from calling the 1800-CLEANUP number?

- <1> YES, I REMEMBER
- <2> NO, I DON'T REMEMBER
- <3> DON'T KNOW
- <4> REFUSED

QUESTION 11

What information was that?

- <1> WHERE TO RECYCLE USED OIL OR FILTERS IN MY AREA
- <2> WHERE TO DISPOSE OF HAZARDOUS WASTE IN MY AREA
- <3> OTHER
- <4> DON'T KNOW
- <5> REFUSED

QUESTION 12

Will you use the floating keychain included in the Boater Kit?

- <1> YES
- <2> NO
- <3> DON'T KNOW
- <4> REFUSED

QUESTION 13

How useful do you find the keychain for helping you remember the 1(800)CLEANUP number?

Do you find it very useful, somewhat useful, not very useful, or not at all useful?

- <1> VERY USEFUL
- <2> SOMEWHAT USEFUL
- <3> NOT VERY USEFUL
- <4> NOT AT ALL USEFUL
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 14

How useful do you find the magnet included in the boater kit? Do you find it very useful, somewhat useful, not very useful, or not at all useful?

- <1> VERY USEFUL
- <2> SOMEWHAT USEFUL
- <3> NOT VERY USEFUL
- <4> NOT AT ALL USEFUL
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 15

How useful is the plastic reference plaque with 99 tips for clean and green boating included in the boater kit? For information about environmentally safe boating, is it very useful, somewhat useful, not very useful, or not at all useful?

- <1> VERY USEFUL
- <2> SOMEWHAT USEFUL
- <3> NOT VERY USEFUL
- <4> NOT AT ALL USEFUL
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 16

Did you read the "Oil and Water Don't Mix" brochure included in the Boater kit?

- <1> YES
- <2> NO
- <3> MAYBE/DON'T REMEMBER
- <4> DON'T KNOW
- <5> REFUSED

QUESTION 17

How informative was the "Oil and Water Don't Mix" brochure? Was it very informative, somewhat informative, not very informative, or not at all informative?

- <1> VERY INFORMATIVE
- <2> SOMEWHAT INFORMATIVE
- <3> NOT VERY INFORMATIVE
- <4> NOT AT ALL INFORMATIVE
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 18

As a result of the information in the boater kit, how much more aware are you of the environmental hazards associated with recreational boating?

- <1> MUCH MORE AWARE
- <2> SOMEWHAT MORE AWARE
- <3> NOT MORE AWARE
- <4> I WAS ALREADY AWARE
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 19

And, as a result of the information in the boater kit, how much more likely are you to use precautions to protect the environment from environmental damage while you are boating? Are you much more likely, somewhat more likely, not more likely, or even less likely?

- <1> MUCH MORE LIKELY
- <2> SOMEWHAT MORE LIKELY
- <3> NOT MORE LIKELY
- <4> EVEN LESS LIKELY
- <5> I ALREADY TAKE PRECAUTIONS
- <6> DON'T KNOW
- <7> REFUSED

QUESTION 20

As a result of the information you received from the boater kit, will you be much more likely, somewhat more likely, neither more or less likely, or less likely to recycle your used motor oil? Remember, the most accurate response is the most helpful to us

- <1> MUCH MORE LIKELY
- <2> SOMEWHAT MORE LIKELY
- <3> NOT MORE LIKELY
- <4> EVEN LESS LIKELY
- <5> I ALREADY RECYCLE
- <6> DON'T KNOW
- <7> REFUSED

QUESTION 21

How about recycling your used oil filters? Do you think you will be much more likely, somewhat more likely, neither more or less likely, or less likely to recycle your used oil filters?

- <1> MUCH MORE LIKELY
- <2> SOMEWHAT MORE LIKELY
- <3> NOT MORE LIKELY
- <4> EVEN LESS LIKELY
- <5> I ALREADY RECYCLE THEM
- <6> DON'T KNOW
- <7> REFUSED

QUESTION 22

As a result of the information you received from the boater kit, will you be much more likely, somewhat more likely, neither more or less likely, or even less to take measures to prevent fuel spills in the water?

- <1> MUCH MORE LIKELY
- <2> SOMEWHAT MORE LIKELY
- <3> NOT MORE LIKELY
- <4> EVEN LESS LIKELY
- <5> I ALREADY FUEL OUT OF THE WATER
- <6> DON'T KNOW
- <7> REFUSED

QUESTION 23

What do you think is the environmentally sound way to clean oil and fuel spills from the bottom and bilge of your boat?

- <1> USE RAGS OR ABSORBENTS
- <2> USE SOAP
- <3> USE AN ENZYME OR BIO BILGE CLEANER
- <4> DON'T DO ANYTHING
- <5> JUST SPRAY IT WITH WATER
- <6> OTHER
- <7> DON'T KNOW
- <8> REFUSED

QUESTION 24

Are you aware of any law that prohibits spraying soap on an oil spill in the water?

- <1> YES
- <2> NO
- <3> DON'T KNOW
- <4> REFUSED

QUESTION 25

In your estimation, what percent of oil discharge into the water comes from small sources such as cars, boats, and households, as opposed to large industrial sources and oil tanker spills? Do you think it's over 20%, over 40%, over 60%, or over 80%?

- <1> OVER 20%
- <2> OVER 40%
- <3> OVER 60%
- <4> OVER 80%
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 26

In California, how do you think used motor oil is classified? Do you think it is considered general waste, exempt or unregulated waste, hazardous waste, or toxic waste?

- <1> GENERAL WASTE
- <2> EXEMPT OR UNREGULATED WASTE
- <3> HAZARDOUS WASTE
- <4> TOXIC WASTE
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 27

As a result of the information you received in the boater kit, did you learn that oil or fuel soaked absorbents such as rags and bilge pads should be disposed of at a location that accepts hazardous waste?

- <1> YES
- <2> NO
- <3> ALREADY KNEW THAT
- <4> DON'T KNOW
- <5> REFUSED

QUESTION 28

How severely do you think discharge of oil and fuel from recreational boating in California impacts the environment? Do you think that it probably does not impact the environment very much, moderately harms the environment, or that it significantly harms the environment?

- <1> DOES NOT IMPACT ENVIRONMENT VERY MUCH
- <2> MODERATELY HARMS THE ENVIRONMENT
- <3> SIGNIFICANTLY HARMS THE ENVIRONMENT
- <4> DON'T KNOW
- <5> REFUSED

QUESTION 29

Can you estimate how much oil discharge in the water it takes to significantly harm the environment? Do you think it takes only one pint, at least one quart, only one gallon, or several gallons to harm the environment?

- <1> ONE PINT
- <2> AT LEAST ONE QUART
- <3> ONLY ONE GALLON
- <4> SEVERAL GALLONS
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 30

How effective was the Coastal Commission booth and staff at the boat show in encouraging boaters to practice environmentally sound boating? Were they very effective, somewhat effective, not very effective, or not at all effective?

- <1> VERY EFFECTIVE
- <2> SOMEWHAT EFFECTIVE
- <3> NOT VERY EFFECTIVE
- <4> NOT AT ALL EFFECTIVE
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 31

How informative were the staff people at the Coastal Commission booth? Were they very informative, somewhat informative, not very informative, or not at all informative?

- <1> VERY INFORMATIVE
- <2> SOMEWHAT INFORMATIVE
- <3> NOT VERY INFORMATIVE
- <4> NOT AT ALL INFORMATIVE
- <5> DON'T KNOW
- <6> REFUSED

QUESTION 32

If a tidebook was included in a future California Boater Kit, would you use it?

- <1> YES
- <2> NO
- <3> MAYBE
- <4> DON'T KNOW
- <5> REFUSED

QUESTION 33

Finally, in order to classify your responses with others who have answered the survey, I need to ask you a few questions about yourself. What was your 1999 annual income before taxes?

- <1> LESS THAN \$25,000
- <2> \$26,000 TO \$50,000
- <3> \$51,000 TO \$75,000
- <4> \$76,000 TO \$100,000
- <5> MORE THAN \$100,000
- <6> DON'T KNOW
- <7> REFUSED

QUESTION 34

What is your age?

- <1> 18 TO 29
- <2> 30 TO 39
- <3> 40 TO 49
- <4> 50 TO 59
- <5> 60 OR OLDER
- <6> DON'T KNOW
- <7> REFUSED

QUESTION 35

We would also like to know your racial or ethnic group. Are you Caucasian, African American, Asian, Latino, Native American or another race?

- <1> CAUCASIAN
- <2> AFRICAN AMERICAN
- <3> ASIAN
- <4> LATINO
- <5> NATIVE AMERICAN
- <6> OTHER OR MIXED RACE
- <7> REFUSED

QUESTION 36

Gender of the respondent

- <1> MALE
- <2> FEMALE

That was my last question. The information that you provided will be very helpful to the California Coastal Commission. Thank you for your participation.

Appendix D: 2000 Boat Show
Pre-Education Survey
Instrument
