



**Communicating About Oceans:
Results of a National Survey**

**Conducted for
The Ocean Project**

**By
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and
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I. Introduction

Anne Platt McGinn illustrates in her book, *Safeguarding the Health of the Oceans*, the damage humanity has caused oceans and the potential destruction to come. Currently, most commercial fish species are fully or overexploited. More than half of the world's coastlines are threatened by development and pollution, and coral reefs are dying from cyanide poisoning, pollution, and global warming.

Ten years ago the Exxon Valdez spill focused public attention on the destruction humans can do to the oceans. However, at the moment, the American public is generally unaware of the condition of the oceans and does not perceive ocean health as an urgent issue. Increasing the saliency of ocean health in order to build commitment to protecting the health of the oceans is the task ahead for aquariums, zoos, and science museums.

In a national telephone survey for The OCEAN Project, Belden Russonello & Stewart (BRS), in collaboration with American Viewpoint, explored the public's connections, values, attitudes, and knowledge relating to the oceans. Our goal was to better understand what needs to be communicated to build awareness and to increase Americans' concerns about the health of the oceans.

Before embarking on the survey, BRS conducted six focus groups among people who have visited an aquarium, zoo, or science museum in the last two years. The focus group analysis, which identified values and beliefs that are decisive when discussing ocean protection, contributed greatly to our understanding of public attitudes and to the crafting of relevant questions for the poll.

The national survey for The OCEAN Project was conducted among 1,500 adults in the continental United States from July 24 to August 8, 1999. The margin of sampling error for the study is +/- 2.5 percentage points.

This report covers a wide range of public opinions on oceans, and begins with a summary of the key findings drawn from the survey analysis and strategic recommendations for communications. The recommendations are followed by detailed findings, based on cross-tabulation, factor, regression, and cluster analysis of the survey data. Specifically, we examine:

- The importance Americans place on ocean health and the potential for building greater saliency;
- The persuasiveness of specific messages that make the case for protecting the oceans;
- The level of public support for protecting the oceans; and
- A segmentation of the public based on attitudes toward the oceans, including a discussion of demographic characteristics of each attitudinal segment.

The detailed findings are followed by a full methodology and an appendix containing the survey questionnaire with response totals.

Tables included in the text of this report highlight selected relevant survey findings and are expressed in percentages. The base for each table is all respondents (n=1,500) unless otherwise noted. In reading these data, when the percent sign (%) appears at the top of a column, the numbers add vertically; when the % appears at the left of a row, the numbers add horizontally. An asterisk (*) indicates less than one percent; a double hyphen (--) indicates zero.

All figures have been rounded, so all tables may not add to 100%. This is due to weighting, rounding, omission of “don’t know,” or “refused,” and other responses, or, in the case of multiple response questions, percentages add to more than 100%.

II. Summary of Key Findings

The national survey of 1,500 adults across the United States from July 24 to August 8 asked Americans dozens of questions on their attitudes toward the oceans. This section provides an overview and summary of key analytical points of the survey.

As we found in the focus group phase of this research, aquariums, zoos, and science museums have a unique opportunity to educate the public about the importance of oceans. At the moment, Americans are not generally concerned about the health of the oceans, and we find the public possesses only a very basic understanding of the oceans, their functions, and their connections to human survival. However, communicating to the public with facts alone is not likely to increase the saliency of these issues. To raise concern and urgency, we must link factual information about the oceans and the threats to them with people's personal connection to the oceans, their values, and everyday lives.

Our analysis of the survey data identifies key points about public attitudes toward the oceans that will inform how aquariums, zoos, and science museums can strengthen commitment to ocean protection.

- 1. *Oceans are viewed as powerful, vast, relaxing, and fun.*** Large majorities of the general public connect the oceans with a number of positive words and phrases. As we heard in the focus groups, the oceans are viewed as: powerful; vast; relaxing; and fun. To a lesser extent, they are seen as important for emotional well-being and frightening.
- 2. *The public possesses little awareness of ocean health, especially of the oceans beyond the beach.*** When asked about the health of the open, deep oceans, close to half of the public report that they do not know enough about these oceans to give an opinion and slightly over a quarter say so for coastal waters. Americans who live within a two-hour drive of the ocean are more familiar with coastal waters, but four in ten of them are still unable to offer an opinion about the deep oceans.

3. ***Protecting the oceans is not an urgent issue.*** At the moment, the oceans are not perceived to be in immediate danger, and the need for action to protect the oceans is not readily apparent. Lack of urgency about oceans' health is demonstrated by the plurality of four in ten Americans who rate the health of coastal waters and ocean beaches as "only fair;" close to a quarter say it is good or excellent; and only one in ten says poor.

When we look at the seriousness of a number of environmental problems, damage to the oceans is considered a second tier environmental problem. Threats to the oceans are seen as less serious than air and water pollution and toxic waste, and about as serious as global climate change, species extinction, and overconsumption of resources in the U.S.

4. ***The public possesses only superficial knowledge of the oceans, their functions, and their connection to humans' well-being.*** In the focus groups, when asked why oceans are important, many participants responded simply, "we can't live without them." In the survey, three-quarters of Americans strongly agree that the health of the oceans is essential to human survival.

However, the public's understanding of the oceans' importance and the damage now being done to them is superficial. The survey asked five questions to judge knowledge of the oceans and their functions. Americans on average fail to answer half correctly. The mean correct answer on this five-point knowledge scale is 1.9. Looking at individual responses, we find that only about one in ten Americans answers four or five of the questions correctly. About four in ten are able to give correct answers to only one or fewer of the five questions.

Of the five questions, a majority correctly answers that humans are the main cause of extinction of plant and animal life in the oceans and that the oceans affect the climate and rainfall. However, large majorities of Americans do not know that the plant life in the oceans produces more oxygen than plant life in forests and that runoff from yards, pavement, and roads is the cause of most ocean pollution.

5. ***Oceans are viewed as vulnerable to lasting damage, but the public does not see individual actions as having a great impact.*** The survey results show that some of the currents of opinion found problematic in the focus groups are not widespread when measured across the nation. For example, the view that the oceans are vast was a reason to hold a low concern for ocean health among some of the focus group participants. The survey indicates that this is not a problem for majorities of Americans, who believe both that oceans are vast and that they are vulnerable.

The public may not know a great deal about how the oceans do their work, but large

majorities have a sense that human actions can cause lasting damage, and that we should not rely on either technology or mother nature entirely to ensure the health of the oceans. This belief in general responsibility, however, does not translate into widespread personal responsibility, as the public is split over whether individual actions can make a difference to ocean health.

Therefore, humans generally are thought to be doing harm to the oceans, but individuals are not considered the main source of pollution or damage. Americans are more likely to see industry as the culprit.

6. *Currently low levels of personal importance placed on protecting oceans.* Low levels of awareness of ocean health and lack of personal responsibility for the oceans' health lead to relatively small numbers of Americans who place very high personal importance on "protecting the environmental quality of the oceans."

Those Americans most concerned about ocean health at the outset of the survey include: women, blacks and Hispanics, Americans with low levels of education and income, residents of the Northeast, and those who live near the ocean.

7. *Facts alone will not increase concern for oceans' health.* An analysis of attitudes indicates that association with the oceans as fun, relaxing, and important to emotional well-being are decisive in building concern for the oceans. On the other hand, knowledge of the oceans' functions and qualities is less predictive of concern, and therefore, facts about the oceans on their own are less useful in building commitment to ocean protection.

8. *Values framework: Balance of nature.* In raising awareness of the oceans, communications need to speak to the values that underlie the public's concerns about the oceans. In the survey, we examined the strength of four values frameworks in raising concerns about the oceans -- responsibility to future generations, balance of nature, human survival, and the beauty of the oceans. The balance of nature as a reason to protect the oceans speaks most directly to Americans. We also find that as with many other environmental issues, the values that motivate ocean concerns include a desire to protect oneself and family and a responsibility to future generations. The least useful value to call upon in building broad commitment to ocean protection is an appreciation of the beauty of the oceans, although this is a very strong attraction for a small segment of the public.

9. *Effective messages: recreation, responsibility, and future.* In addition to examining the values that underlie concern for the ocean, we also looked at key messages that can assist in building the case for ocean protection. The messages can be broken-down into three groups.

The first group contains the most convincing statements for ocean protection. These describe the recreational uses of the ocean, individual responsibilities, and the future uses of the oceans.

Slightly less convincing of the need to protect oceans are statements about the special qualities and functions of the oceans -- production of oxygen and the amount of life in the oceans. The least useful messages in appealing broadly to Americans about the need to protect the oceans are those which highlight the dangers of coastal development and loss of jobs in the fishing industry.

10. *Most salient threat: pollution.* Embedded within some of the message statements are the threats to ocean health -- pollution, overfishing, destructive fishing practices, and coastal development. Of these threats, pollution is the most likely to engender concern about the oceans. To a lesser degree, development and destructive fishing practices help to raise concerns about ocean health.

In the focus groups, after we explained the impacts of coastal development and harmful fishing practices that are wasteful and destructive, these practices were viewed among the most egregious examples of damage to the oceans. Coastal development and destructive fishing practices are areas about which zoos, aquariums, and science museums need to provide more information and educate the public if they are to be used effectively in building commitment for ocean protection. At the moment, the public does not know enough about the impacts of these practices to engender strong feelings.

11. *Americans may sacrifice to protect the oceans.* The data suggest that protecting the oceans is considered a fundamental responsibility by Americans, even though they are unaware of ocean conditions. Large majorities of Americans say they are willing to support actions to protect the oceans even when the tradeoffs of higher prices at the supermarket, fewer recreational choices, or more government spending are presented. The next step for zoos, aquariums, and science museums is to make this issue urgent and increase the saliency of ocean health.

III. Recommendations

The survey indicates that the biggest barriers to increasing commitment to ocean protection are Americans' lack of awareness of the condition of the oceans and of their own role in damaging the oceans. Most people do not have daily exposure to the oceans. The oceans -- especially open, deep oceans -- are distant and the threats to them long term. The public values the oceans, but its understanding of why we need the oceans is superficial. Consequently, while many Americans express an appreciation for the oceans, awareness and concern about the oceans' health are low and need to be raised.

The survey data, together with the focus group research, point the way toward a number of openings through which aquariums, zoos, and science museums can build greater understanding and raise awareness and concerns about the oceans.

The Task: Need to increase the urgency of ocean protection. Large majorities of Americans agree that the oceans are an integral part of human survival, but most have only a general idea of how the oceans and human well-being are connected. Communications need to convey the urgency of these issues and expand on the links the public already makes.

The Communication Strategy:

1. ***Combine emotion and information.*** Meeting the challenge of increasing concern for the oceans will require communications that combine emotion and information. The survey analysis indicates that ocean knowledge alone does not translate into greater concern for ocean health. Emotional connections to the oceans are strong predictors of concern. Therefore, creating and building upon this emotional bond between individual and ocean is a key task for communications. For zoos, aquariums, and museums, this means recreating emotional connections to oceans, as places of fun, relaxation, and emotional well-being.

- 2. *Communications start with values.*** The data point to a message that emphasizes the prominent role oceans play in the balance of nature. The oceans evoke the imagery of the circle of life for many Americans because oceans themselves are habitats. This is a strong image to project and build upon, because it speaks to a value -- the balance of nature -- that Americans find compelling.

Connecting oceans to the values of protecting the environment for future generations and for our own survival also can play useful communications roles in building commitment to ocean protection.

- 3. *Appeal to individual responsibility:*** The data reveal that building a sense of individual responsibility for ocean health is key to creating greater concern for oceans. Communications can use the balance of nature theme to demonstrate how oceans and humans and all life are connected, and how these connections lead to individual responsibility for ocean health. Illustrating the specific impact that individual actions have on ocean health will be key.
- 4. *Connect values to messages of recreation and healthy futures.*** Communications need to support these values with specific messages that demonstrate how humans rely on oceans for recreation and for a healthy future, and how each one of us holds some responsibility for ocean destruction. Most important is to link informational and emotional messages to oceans' role in the balance of nature. Every message should begin by defining oceans as the linchpin in the balance of nature and describe how this connects to our lives, both in terms of benefits and human responsibility for problems.
- 5. *Areas in need of further education: destructive fishing practices and coastal development.*** The focus group discussions identified harmful fishing practices and coastal development as promising issues to help increase concern about oceans' health. However, the survey shows that unless these threats are fully explained, they prove less effective than examples of individual pollution (such as individual dumping of motor oil or decreases in recreational uses) to increase commitment to ocean protection. Consequently, we need to inform Americans about the destruction caused by these actions and link them to the values underlying concern for ocean health when they are used in communications.
- 6. *Targets: women, blacks and Hispanics, and those who live near the ocean.*** The survey analysis indicates that the most likely targets of support for a campaign on the oceans include women, blacks and Hispanics, and those who live near the ocean. In particular, these groups express a strong emotional connection to the oceans. The cluster analysis presented in section E provides us with a detailed segmentation of the public, according to attitudes on oceans.

7. ***Three elements of a message on oceans:*** Zoos, aquariums, and science museums may best educate and communicate to the American public by using a three-pronged approach:

- Recreate and reinforce the positive connections many Americans already have to the oceans, especially recreational and emotional connections.
- Use the values framework of the balance of nature when presenting information about the oceans and their functions.
- Educate people about the threats to the oceans, while emphasizing individual responsibility and the harm individuals can do.

This approach should help to educate the public about oceans and their functions, as well as increase concern and commitment for protection.

IV. Detailed Findings

A. Setting the Context: Awareness of Ocean Health and Connections to Oceans

When we look at Americans' connections to and attitudes toward the oceans, we find the oceans are likely to generate more positive than negative emotions. However, despite these positive feelings, Americans largely lack awareness of ocean health and a sense of urgency that oceans need protecting. Awareness is especially low for the deep, open oceans.

1. Environment as a priority

The OCEAN Project begins its work at a time when environmental issues compete with many other causes for the attention of the American people. The top priority for Americans is improving education, with nearly half of Americans (46%) saying it is an extremely high priority. Following closely are improving health care (37%), lowering crime rates (36%), and preserving social security (35%). Protecting the environment, while considered a top priority by about a third of the public (32%) takes somewhat of a backseat to these more immediate concerns.

Protecting the environment is a higher priority for women, younger Americans (<45), blacks, residents of the Northeast and Midwest, and those who have visited a zoo, aquarium, or science museum in the last year than their counterparts in society.

Four in 10 (38%) Americans have visited a zoo in the last year, and three in 10 have visited an aquarium (30%) or science museum (28%). Visitors to zoos, aquariums, and science museums are more likely than the population as a whole to be younger (<45), to have children, to have high household incomes, high levels of education and to work in white collar or professional jobs.

Priorities for the Country

Q1-Q5. Here are some issues the country will be facing over the next few years. I'd like to ask you how big of a priority each issue should be. Let's start with _____. Should it be an extremely high priority, a high, a middle, a low, or an extremely low priority for the country to address?

| | Extrmly high priority | High priority | Middle priorit y | Low priority | Extrmly low priority |
|-----------------------------------|--------------------------|------------------|------------------------|-----------------|-------------------------|
| Improving public education | 46% | 43 | 9 | 1 | 1 |
| Improving the health care system | 37% | 46 | 13 | 3 | 1 |
| Lowering crime rates | 36% | 45 | 16 | 3 | * |
| Preserving social security | 35% | 48 | 14 | 2 | 1 |
| Protecting the environment | 32% | 46 | 18 | 3 | 1 |

Protecting the Environment

Q5. Here are some issues the country will be facing over the next few years. I'd like to ask you how big of a priority each issue should be. Should it be an extremely high priority, a high, a middle, a low, or an extremely low priority for the country to address: protecting the environment?

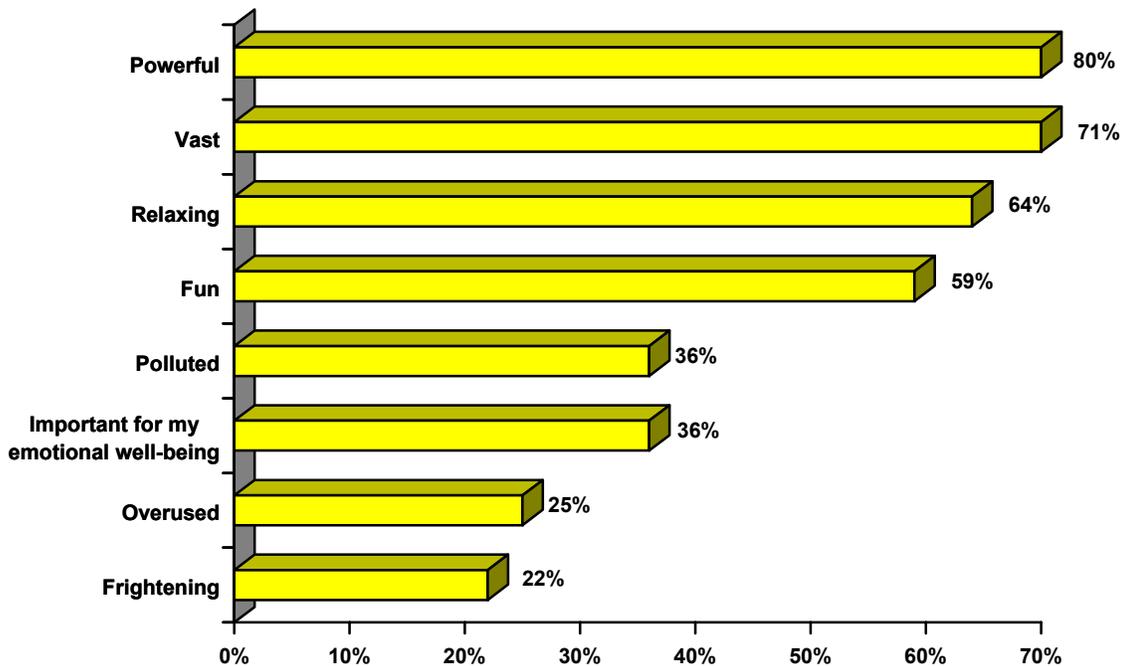
| | Extrmly high priority | High priority | Middle priority | Low priority | Extrmly low priority |
|-------------------------|--------------------------|------------------|--------------------|-----------------|-------------------------|
| Total | 32% | 46 | 18 | 3 | 1 |
| Male | 27% | 47 | 20 | 4 | 2 |
| Female | 36% | 46 | 16 | 1 | 1 |
| 18-29 | 39% | 44 | 16 | 2 | * |
| 30-44 | 35% | 45 | 17 | 2 | 2 |
| 45-59 | 29% | 45 | 21 | 3 | 1 |
| 60+ | 23% | 53 | 19 | 4 | 1 |
| White | 30% | 46 | 19 | 3 | 1 |
| Black | 39% | 47 | 12 | 1 | -- |
| Hispanic | 34% | 49 | 17 | -- | 1 |
| Northeast | 36% | 48 | 14 | 2 | 1 |
| Midwest | 37% | 41 | 19 | 3 | * |
| South | 29% | 48 | 18 | 3 | 1 |
| West | 26% | 49 | 21 | 2 | 2 |
| Zoo Visitors | 33% | 46 | 18 | 3 | 1 |
| Aquarium Visitors | 36% | 44 | 15 | 2 | 1 |
| Science Museum Visitors | 34% | 46 | 17 | 2 | 1 |
| Non-visitors | 28% | 48 | 20 | 2 | 1 |
| Near Ocean | 33% | 50 | 14 | 2 | 1 |
| Not near ocean | 31% | 44 | 21 | 3 | 1 |

2. Oceans are viewed as powerful, vast, relaxing, and fun

Focus groups revealed that the oceans evoked many emotions and images for people, and that often these emotional connections underlie concern for ocean health. When these feelings are measured in the national survey, we find large majorities of the general public connect the oceans with a number of positive words and phrases. The oceans are viewed as: powerful (80% describes very well); vast (71%); relaxing (64%); and fun (59%).

To a lesser extent they are seen as: important for emotional well-being (36%), polluted (36%), frightening (22%), or overused (25%).

Descriptions of the Oceans
% saying describes very well



Q20-Q27 People use different terms and phrases to describe how they feel about the oceans. Please tell me if each of the following words or phrases describes the oceans for you personally very well, somewhat, not very well, or not at all? The oceans are ...

In the focus groups, men and women described their attachments to the oceans somewhat differently, and in the survey, women are more likely than men to express an emotional connection to oceans and to associate the oceans with relaxation and their emotional well-being.

Blacks and Hispanics, less-educated Americans, and those who live near the ocean are also more likely than others to find the oceans important for their emotional well-being.

Younger and middle-aged Americans (under 60), those who live near the ocean, and those who boat, fish, or visit the beach are also more likely than others to describe the oceans as fun and relaxing. Residents of the Midwest are less likely than others to consider the ocean fun or relaxing.

Oceans are Important for Emotional Well-being

Q22. People use different terms and phrases to describe how they feel about the oceans. Please tell me if each of the following words or phrases describes the oceans for you personally very well, somewhat, not very well, or not at all? The oceans are ... important for my emotional well-being

| | Very well | Somewht | Not very well | Not at all | DK/Ref |
|-----------------|------------|-----------|---------------|------------|----------|
| Total | 36% | 32 | 12 | 18 | 2 |
| Male | 32% | 34 | 13 | 19 | 2 |
| Female | 41% | 30 | 11 | 17 | 1 |
| White | 33% | 33 | 13 | 19 | 2 |
| Black | 42% | 27 | 10 | 21 | -- |
| Hispanic | 48% | 32 | 6 | 10 | 4 |
| Less than HS/HS | 42% | 26 | 10 | 20 | 3 |
| Some College | 33% | 38 | 11 | 16 | 1 |
| College/Grad | 33% | 33 | 15 | 17 | 1 |

Oceans are Relaxing

Q20. People use different terms and phrases to describe how they feel about the oceans. Please tell me if each of the following words or phrases describes the oceans for you personally very well, somewhat, not very well, or not at all? The oceans are ...relaxing

| | Very well | Somewht | Not very well | Not at all | DK/Ref |
|-----------------|------------|-----------|---------------|------------|----------|
| Total | 64% | 26 | 4 | 4 | 2 |
| Male | 60% | 29 | 3 | 5 | 3 |
| Female | 67% | 23 | 4 | 4 | 1 |
| 18-29 | 66% | 28 | 1 | 4 | 1 |
| 30-44 | 68% | 26 | 2 | 2 | 1 |
| 45-59 | 63% | 25 | 4 | 5 | 2 |
| 60+ | 55% | 26 | 7 | 7 | 5 |
| White | 62% | 27 | 4 | 5 | 2 |
| Black | 71% | 22 | 4 | 1 | 2 |
| Hispanic | 64% | 25 | 2 | 7 | 2 |
| Northeast | 68% | 22 | 4 | 5 | 1 |
| Midwest | 57% | 30 | 3 | 6 | 4 |
| South | 65% | 24 | 3 | 5 | 2 |
| West | 64% | 30 | 4 | 2 | -- |
| Boating | 75% | 22 | 2 | 1 | 1 |
| Fishing | 74% | 21 | 2 | 2 | 1 |
| Visit the Beach | 72% | 23 | 2 | 2 | 1 |
| Near Ocean | 68% | 23 | 4 | 3 | 1 |
| Not near ocean | 61% | 28 | 3 | 5 | 2 |

Oceans are Fun

Q26. People use different terms and phrases to describe how they feel about the oceans. Please tell me if each of the following words or phrases describes the oceans for you personally very well, somewhat, not very well, or not at all? The oceans are ... fun

| | Very well | Somewht | Not very well | Not at all | DK/Ref |
|-----------------|------------------|----------------|----------------------|-------------------|---------------|
| Total | 59% | 30 | 4 | 6 | 2 |
| Male | 59% | 31 | 3 | 5 | 2 |
| Female | 59% | 29 | 4 | 6 | 2 |
| 18-29 | 62% | 31 | 2 | 4 | 1 |
| 30-44 | 66% | 28 | 2 | 3 | * |
| 45-59 | 56% | 31 | 5 | 7 | 1 |
| 60+ | 50% | 29 | 6 | 10 | 5 |
| White | 59% | 30 | 4 | 6 | 2 |
| Black | 56% | 30 | 4 | 8 | 2 |
| Hispanic | 59% | 35 | 3 | 4 | -- |
| Northeast | 59% | 28 | 4 | 8 | 1 |
| Midwest | 52% | 33 | 3 | 5 | -- |
| South | 63% | 28 | 3 | 5 | -- |
| West | 60% | 31 | 4 | 3 | 1 |
| Boating | 74% | 22 | 1 | 2 | * |
| Fishing | 77% | 19 | 2 | 2 | -- |
| Visit the Beach | 68% | 27 | 2 | 3 | * |
| Near Ocean | 64% | 29 | 3 | 3 | 1 |
| Not near ocean | 56% | 30 | 4 | 7 | 2 |

3. Protecting the oceans is not an urgent issue. Little awareness of ocean health.

a. Oceans not perceived as in danger

The oceans are not currently perceived to be in immediate danger, and the need for action to protect the oceans is not readily apparent. Lack of urgency about the oceans' health is demonstrated by the nearly half of the public (46%) who report that they do not know enough about the open, deep oceans to give an opinion and the slightly over a quarter (27%) who lack opinions about coastal waters.

We also find a plurality of four in ten Americans (39%) rates the health of coastal waters and ocean beaches as "only fair;" close to a quarter (23%) say it is good or excellent, and only one in ten (10%) says poor.

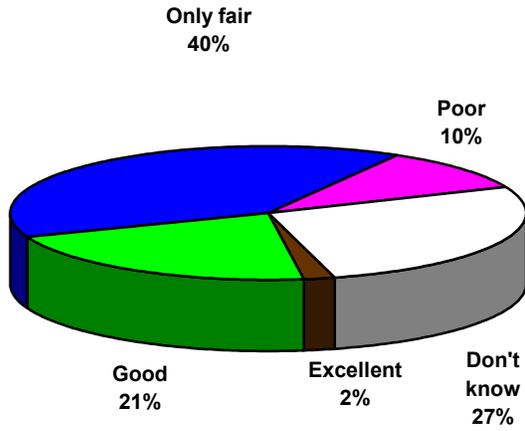
Perceptions of ocean health has not changed much since the 1997 Mellman study in which one in five (21%) Americans characterized the condition of the oceans as good or excellent, and four in ten (42%) characterized the quality of the oceans as "only fair."

Americans who live within a two-hour drive of the ocean are more familiar with coastal waters, but four in ten of them are still unable to offer an opinion about the deep oceans. Similarly, Midwesterners register more uncertainty about the health of coastal waters than do residents of other regions, but when the topic is the health of deep oceans, residents of all regions are about equally unsure.

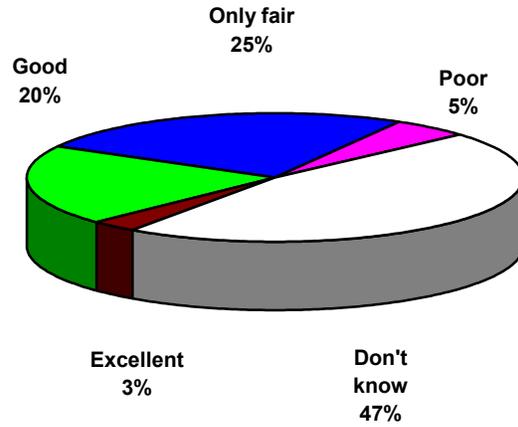
Those more likely than others to rate the oceans' health as excellent or good include:

- men;
- 30 to 59 year olds;
- college educated;
- professionals; and
- those with high household incomes.

Health of Coastal Waters



Health of Deep Oceans



Q17. Thinking about coastal waters and ocean beaches, would you rate their health as excellent, good, only fair, poor or don't you have an opinion on this?

Q18. Thinking about the open, deep oceans away from the coasts, would you rate their health as excellent, good, only fair, poor or don't you have an opinion on this?

Health of Coastal Waters and Ocean Beaches

Q17. Thinking about coastal waters and ocean beaches, would you rate their health as excellent, good, only fair, poor or don't you have an opinion on this?

| | Excellent | Good | Only Fair | Poor | No opinion/ DK/Ref |
|-----------------|-----------|-----------|-----------|-----------|-----------------------|
| Total | 2% | 21 | 39 | 10 | 27 |
| Male | 4% | 23 | 39 | 10 | 24 |
| Female | 1% | 20 | 39 | 11 | 30 |
| 18-29 | 1% | 18 | 41 | 10 | 31 |
| 30-44 | 3% | 24 | 40 | 10 | 22 |
| 45-59 | 3% | 24 | 41 | 11 | 21 |
| 60+ | 1% | 19 | 31 | 12 | 37 |
| White | 2% | 22 | 39 | 10 | 27 |
| Black | 1% | 19 | 42 | 14 | 24 |
| Hispanic | 2% | 20 | 30 | 12 | 37 |
| Less than HS/HS | 2% | 18 | 35 | 10 | 35 |
| Some College | 3% | 18 | 41 | 12 | 26 |
| College/Grad | 2% | 28 | 41 | 9 | 19 |
| Northeast | 5% | 23 | 39 | 12 | 21 |
| Midwest | 1% | 21 | 34 | 8 | 36 |
| South | 2% | 21 | 39 | 10 | 27 |
| West | 1% | 21 | 44 | 13 | 22 |
| Near Ocean | 2% | 24 | 43 | 13 | 17 |
| Not near ocean | 2% | 20 | 36 | 9 | 33 |

Health of Deep Oceans

Q18. Thinking about the open, deep oceans away from the coasts, would you rate their health as excellent, good, only fair, poor, or don't you have an opinion on this?

| | Excellent | Good | Only Fair | Poor | No opinion/ DK/Ref |
|-----------------|-----------|-----------|-----------|----------|-----------------------|
| Total | 3% | 20 | 25 | 5 | 46 |
| Male | 4% | 22 | 26 | 5 | 43 |
| Female | 2% | 18 | 24 | 6 | 50 |
| 18-29 | 2% | 16 | 25 | 5 | 52 |
| 30-44 | 3% | 26 | 26 | 4 | 40 |
| 45-59 | 4% | 22 | 29 | 6 | 39 |
| 60+ | 2% | 14 | 20 | 5 | 58 |
| White | 3% | 21 | 23 | 5 | 48 |
| Black | 3% | 23 | 29 | 6 | 39 |
| Hispanic | 2% | 9 | 35 | 5 | 48 |
| Less than HS/HS | 2% | 15 | 25 | 5 | 52 |
| Some College | 2% | 21 | 23 | 6 | 47 |
| College/Grad | 5% | 25 | 27 | 4 | 38 |
| Northeast | 4% | 23 | 25 | 5 | 43 |
| Midwest | 2% | 20 | 25 | 6 | 47 |
| South | 4% | 19 | 25 | 6 | 46 |
| West | 2% | 19 | 26 | 6 | 46 |
| Near Ocean | 3% | 24 | 26 | 6 | 40 |
| Not near ocean | 3% | 18 | 24 | 5 | 50 |

b. Oceans a second-tier environmental problem

When Americans consider the seriousness of a number of environmental problems, damage to the oceans is a second tier problem. The survey asked about concern for oceans from three perspectives: damage to open, deep oceans; to coastal waters; and to ocean beaches. Two in ten (18%) Americans report that damage being done to the open, deep oceans is an extremely serious problem. A quarter (24%) reports that damage to coastal waters is extremely serious and two in ten (22%) report the same for damage to ocean beaches.

These threats to the oceans are seen as less serious than air (31%) and water (36%) pollution and toxic waste (36%), and about as serious as global climate change (21%), species extinction (23%), and overconsumption of resources in the U.S. (24%).

Those Americans most concerned about threats to the oceans include:

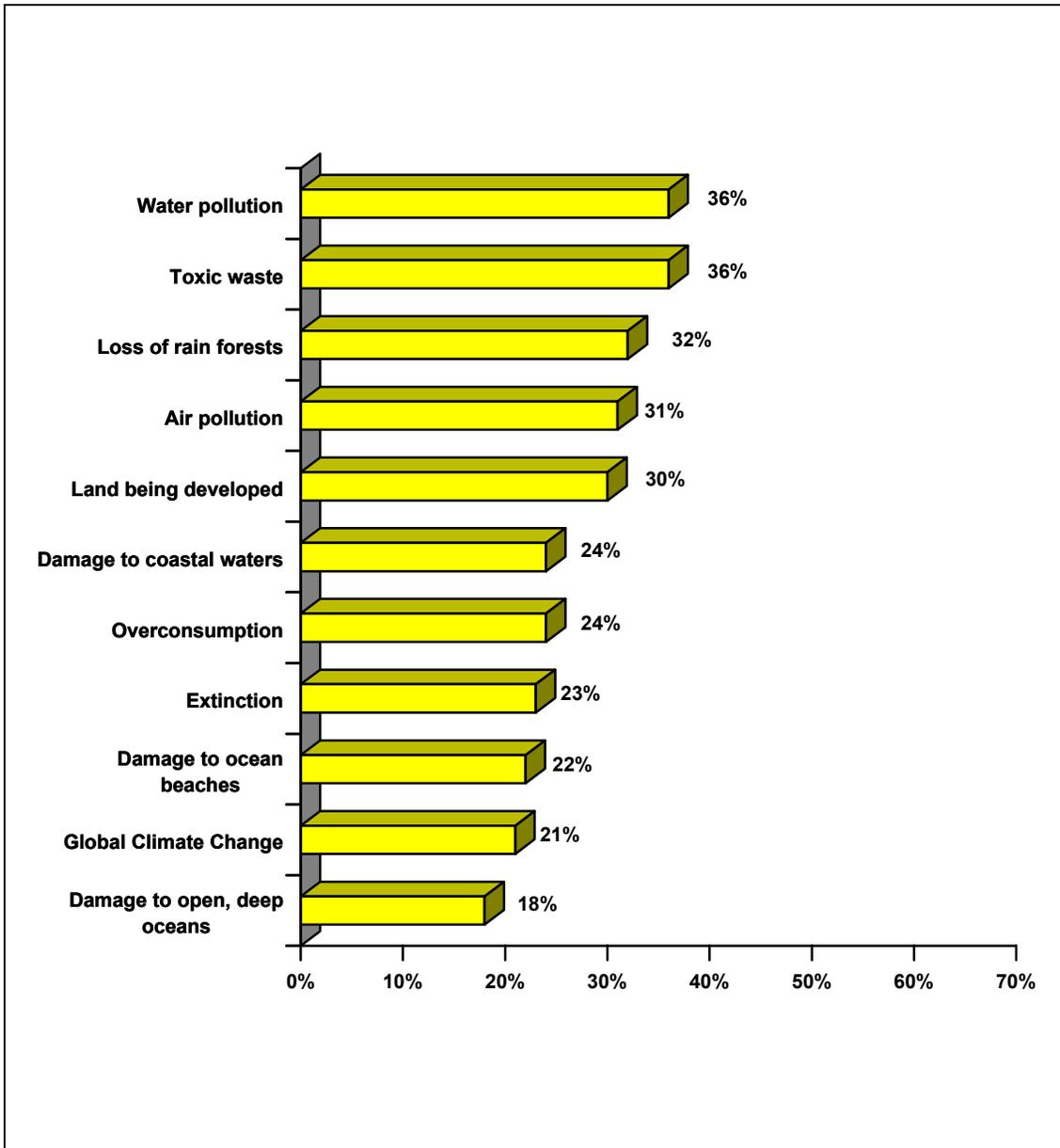
- women;
- blacks and Hispanics;
- less educated Americans; and
- those with low household incomes.

Americans' proximity to the oceans coincides with greater concern for damage to ocean beaches, but not for damage to coastal waters or deep oceans. Those living near the oceans are no more likely than landlocked Americans to believe damage to coastal or deep oceans is an extremely serious problem.

Looking at age we find younger Americans (18-29) express greater concern than older Americans about the open deep ocean but about the same level of concern for coastal waters and beaches.

Environmental Problems

% saying extremely serious problem



Q6-Q16. Thinking specifically about **environmental** issues, please tell me how serious a problem you think each of the following is. Use a scale of 1 to 10 where one means something is not a problem at all and 10 means it is an extremely serious problem:

Seriousness of Damage to Oceans
 % saying an extremely serious problem

Q14, Q15, Q16. Thinking specifically about **environmental** issues, please tell me how serious a problem you think each of the following is. Use a scale of 1 to 10, where one means something is not a problem at all and 10 means it is an extremely serious problem: DAMAGE BEING DONE TO...

| | % saying 10 | | |
|-----------------|-----------------|----------------|---------------|
| | Open Deep Ocean | Coastal Waters | Ocean Beaches |
| Total | 18% | 24% | 22% |
| Male | 18 | 22 | 19 |
| Female | 19 | 26 | 25 |
| 18-29 | 23 | 27 | 24 |
| 30-44 | 17 | 23 | 21 |
| 45-59 | 17 | 22 | 21 |
| 60+ | 16 | 27 | 23 |
| White | 15 | 21 | 18 |
| Black | 26 | 36 | 38 |
| Hispanic | 26 | 29 | 28 |
| Less than HS/HS | 22 | 32 | 28 |
| Some College | 18 | 25 | 23 |
| College/Grad | 15 | 16 | 13 |
| Less than \$25K | 23 | 31 | 30 |
| \$26K-\$49K | 19 | 25 | 21 |
| \$50K - \$74K | 16 | 21 | 19 |
| \$75K + | 11 | 14 | 13 |
| Near Ocean | 20 | 26 | 25 |
| Not near ocean | 17 | 24 | 20 |

B. Knowledge of Ocean Functions

Americans possess a superficial knowledge of the oceans. The public believes generally that the oceans are essential to human survival and that we need to protect them. However, many are unaware of the specific functions of the oceans.

1. The public broadly believes we need oceans for our survival

In the focus groups, when asked why oceans are important, many participants respond simply, “we can’t live without them.” In the survey, three-quarters of Americans (75%) strongly agree that the health of the oceans is essential to human survival.

Those who are more certain than others that oceans play an essential role in human survival are:

- whites and Hispanics;
- age 30-59;
- college grads;
- professionals; and
- those living near oceans.

Oceans Essential to Human Survival

Q32. Now, please tell me if you agree or disagree with each of the following statements? Do you agree/disagree very much or somewhat? The health of the oceans is essential to human survival

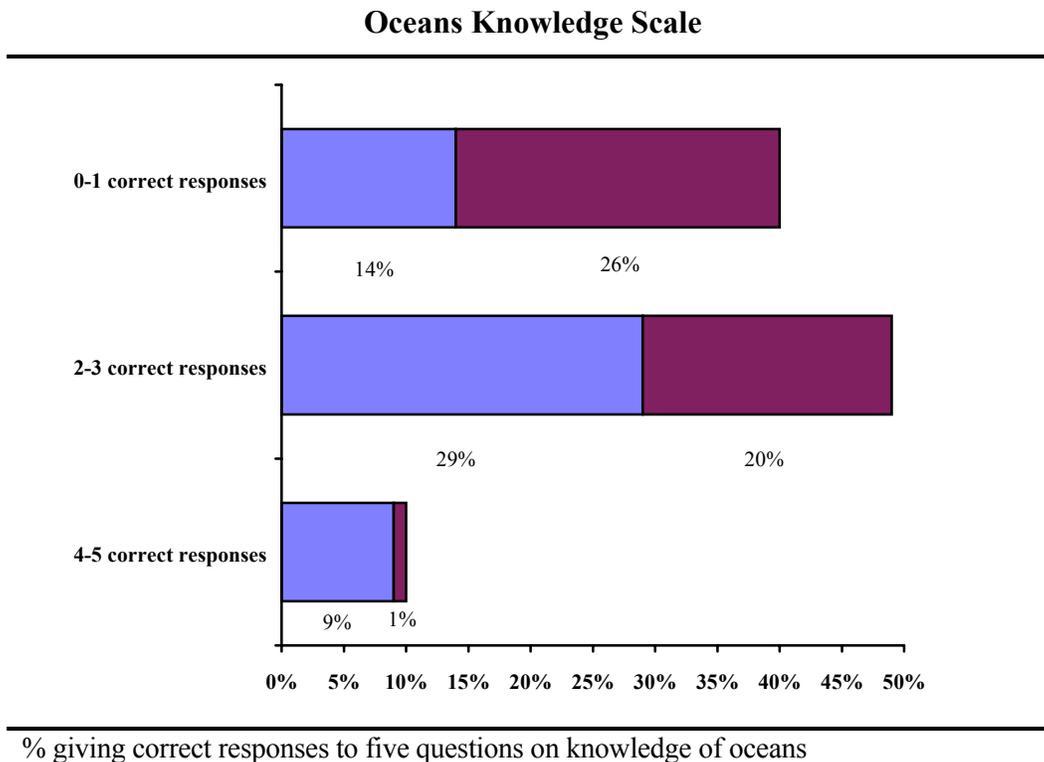
| | Very much agree | Somewht agree | Somewht disagree | Very much disagree |
|-----------------|-----------------|---------------|------------------|--------------------|
| Total | 75% | 17 | 5 | 2 |
| 18-29 | 70% | 20 | 9 | 2 |
| 30-44 | 79% | 16 | 3 | 2 |
| 45-59 | 81% | 13 | 3 | 2 |
| 60+ | 70% | 22 | 7 | 1 |
| White | 77% | 18 | 3 | 1 |
| Black | 66% | 19 | 12 | 3 |
| Hispanic | 73% | 9 | 15 | 2 |
| Less than HS/HS | 71% | 19 | 7 | 2 |
| Some College | 74% | 19 | 5 | 2 |
| College/Grad | 81% | 15 | 3 | 1 |
| Blue Collar | 72% | 19 | 6 | 2 |
| White Collar | 75% | 17 | 7 | 1 |
| Professional | 81% | 15 | 2 | 2 |
| Near Ocean | 79% | 16 | 3 | 1 |
| Not near ocean | 73% | 18 | 6 | 2 |

2. Public flunks test on knowledge of oceans

The public's understanding of the oceans' importance and the damage now being done to the oceans is superficial. The survey asked five questions to judge knowledge of the oceans and their functions. Americans on average fail to answer half correctly. The mean correct answer on this five-point knowledge scale is 1.9. Looking at individual responses, we find that only about one in ten Americans (10%) answers four or five of the questions correctly. About four in ten (40%) are able to give correct answers to only one or fewer of the five questions.

Americans who tend to be more knowledgeable of the oceans than others include:

- men;
- young Americans (under 45);
- whites;
- college graduates;
- upper-income Americans;
- professionals;
- zoo, aquarium, or science museum visitors; and
- those who live near the ocean.



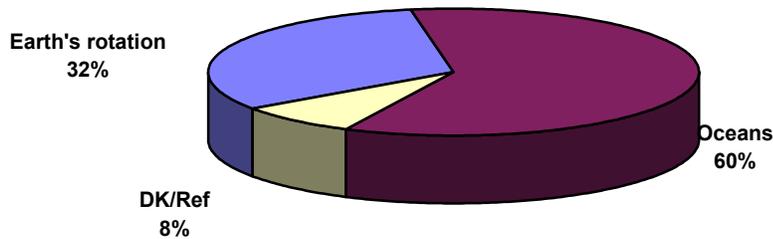
Oceans Knowledge Scale

| | 0-1 correct responses | 2-3 correct responses | 4-5 correct responses |
|-------------------------|-----------------------|-----------------------|-----------------------|
| Total | 40% | 49 | 10 |
| Male | 32% | 53 | 15 |
| Female | 48% | 46 | 5 |
| 18-29 | 40% | 47 | 13 |
| 30-44 | 34% | 54 | 13 |
| 45-59 | 40% | 50 | 9 |
| 60+ | 50% | 44 | 5 |
| White | 37% | 52 | 11 |
| Black | 48% | 44 | 8 |
| Hispanic | 62% | 33 | 6 |
| Less than HS/HS | 56% | 39 | 4 |
| Some College | 35% | 55 | 11 |
| College/Grad | 28% | 56 | 16 |
| Less than \$25K | 49% | 42 | 9 |
| \$26K-\$49K | 43% | 49 | 9 |
| \$50K - \$74K | 29% | 59 | 12 |
| \$75K + | 27% | 58 | 15 |
| Blue Collar | 48% | 44 | 8 |
| White Collar | 42% | 51 | 7 |
| Professional | 25% | 60 | 15 |
| Zoo Visitors | 35% | 53 | 12 |
| Aquarium Visitors | 35% | 53 | 11 |
| Science Museum Visitors | 32% | 55 | 12 |
| Non-visitors | 46% | 46 | 8 |
| Near Ocean | 39% | 48 | 13 |
| Not near ocean | 41% | 50 | 9 |

Of the five knowledge questions, a majority answers two correctly: that humans are the main cause of extinction of plant and animal life in the oceans, and that the oceans affect the climate and rainfall. However, large majorities of Americans do not know that the plant life in the oceans produces more oxygen than plant life in forests, and that runoff from yards, pavement, and roads is the cause of most ocean pollution. The public is mixed on where most life on Earth is found. A plurality believes it is equally divided between the oceans and land.

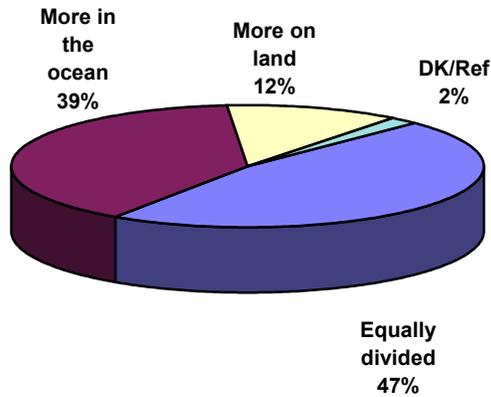
Climate and Rainfall

Q37. As far as you know, is the climate and the amount of rainfall on earth regulated more by the rotation of the earth or by the oceans?



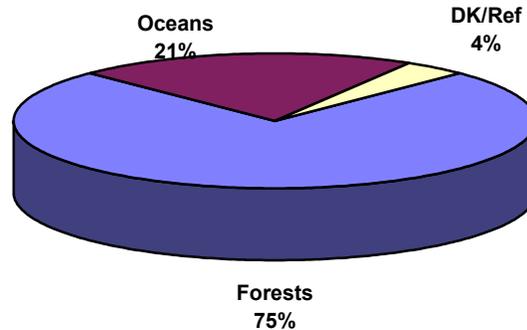
Plant and Animal Life

Q33. As far as you know, is more plant and animal life found on land, more in the ocean, or is it about equally divided?



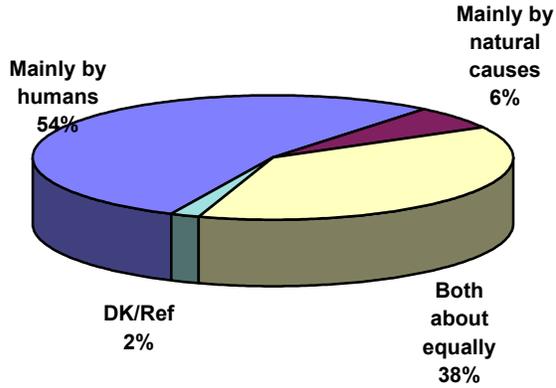
Production of Oxygen

Q34. As far as you know, is more of the earth's oxygen produced by the forests or the oceans?



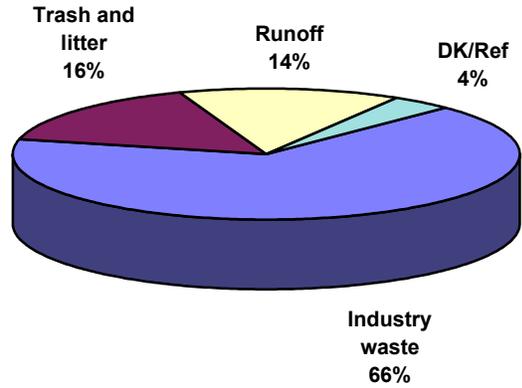
Causes of Extinction

Q35. As far as you know, is extinction of plant and animal life in the oceans being caused mainly by humans, mainly by natural causes, or both about equally?



Causes of Pollution

Q36. As far as you know, is most ocean pollution being caused by: runoff from yards, pavements and farms, trash and litter washed into the oceans from beaches or waste dumped by industry?



C. Barriers to Increasing Concern

Americans accept collective but not personal responsibility for the health of the oceans. The public believes that despite the oceans' size and power, they remain vulnerable to harm by humans in general, but individuals show little sense of their own role in damage to the oceans. This is a major barrier to increasing concern.

1. Oceans' size not a barrier. Despite their vastness, oceans are viewed as vulnerable to lasting damage by humans

The public may not know a great deal about how the oceans do their work, but large majorities have a sense that human actions can cause lasting damage, and that we should not rely on either technology or mother nature entirely to ensure the health of the oceans.

These findings demonstrate that the size of the oceans is not a barrier to building concern among most Americans. In fact, the majority of Americans believe that oceans are both vast and vulnerable.

Eight in ten (80%) Americans disagree that the oceans are so large, it is unlikely that humans will cause lasting damage to them (56% strongly). Women, Americans under 45, Hispanics, those who have visited a zoo, aquarium, or science museum in the last year, and those who live near the ocean most strongly disagree with this statement.

Another eight in ten (81%) disagree that we do not need to worry about the health of the oceans because we will develop new technologies to keep them clean (55% strongly). Americans under 45, middle and upper-income Americans, and those that live near the ocean most strongly disagree.

Seven in ten (72%) disagree that the oceans are able to clean themselves (46% disagree very much). Those most likely to disagree with this statement include: women; Americans under 45; blacks and Hispanics; less educated; and those who live near the ocean.

Oceans So Large, Humans Can't Damage

Q29. Now, please tell me if you agree or disagree with each of the following statements? Do you agree/disagree very much or somewhat? The oceans are so large, it is unlikely that humans will cause lasting damage to them.

| | Agree | Disagree | Very much agree | Somewt agree | Somewht disagree | Very much disagree |
|-------------------------|------------|-----------|-----------------|--------------|------------------|--------------------|
| Total | 19% | 80 | 9% | 10 | 24 | 56 |
| Male | 23% | 77 | 11% | 12 | 24 | 53 |
| Female | 17% | 82 | 8% | 9 | 24 | 58 |
| 18-29 | 17% | 82 | 8% | 9 | 21 | 61 |
| 30-44 | 15% | 85 | 8% | 7 | 23 | 62 |
| 45-59 | 21% | 79 | 12% | 9 | 24 | 55 |
| 60+ | 28% | 70 | 10% | 18 | 30 | 40 |
| White | 19% | 81 | 8% | 11 | 25 | 56 |
| Black | 22% | 78 | 12% | 10 | 28 | 50 |
| Hispanic | 20% | 79 | 15% | 5 | 14 | 65 |
| Zoo Visitors | 16% | 84 | 8% | 8 | 24 | 60 |
| Aquarium Visitors | 15% | 85 | 8% | 7 | 25 | 60 |
| Science Museum Visitors | 14% | 85 | 8% | 6 | 24 | 61 |
| Non-visitors | 26% | 74 | 12% | 14 | 23 | 51 |
| Near Ocean | 18% | 81 | 10% | 8 | 21 | 60 |
| Not near ocean | 21% | 79 | 9% | 12 | 26 | 53 |

New Technologies Will Clean Oceans

Q31. Now, please tell me if you agree or disagree with each of the following statements? Do you agree/disagree very much or somewhat? We do not need to worry about the health of the oceans because we will develop new technologies to keep them clean.

| | Agree | Disagree | Very much agree | Somewt agree | Somewht disagree | Very much disagree |
|-----------------|--------------|-----------------|------------------------|---------------------|-------------------------|---------------------------|
| Total | 19% | 81 | 6% | 13 | 26 | 55 |
| 18-29 | 17% | 82 | 5% | 11 | 27 | 57 |
| 30-44 | 14% | 85 | 5% | 9 | 24 | 61 |
| 45-59 | 18% | 80 | 5% | 13 | 25 | 55 |
| 60+ | 28% | 71 | 7% | 21 | 29 | 42 |
| Less than \$25K | 26% | 72 | 7% | 19 | 23 | 49 |
| \$26K - \$49K | 16% | 84 | 6% | 10 | 27 | 57 |
| \$50K - \$74K | 15% | 86 | 4% | 11 | 30 | 56 |
| \$75K+ | 14% | 84 | 5% | 9 | 28 | 56 |
| Near Ocean | 14% | 86 | 4% | 10 | 25 | 61 |
| Not near ocean | 20% | 79 | 6% | 14 | 27 | 52 |

Oceans can Clean Themselves

Q28. Now, please tell me if you agree or disagree with each of the following statements? Do you agree/disagree very much or somewhat? Polluted oceans are able to clean themselves.

| | Agree | Disagree | Very much agree | Somewht agree | Somewht disagree | Very much disagree |
|-----------------|--------------|-----------------|------------------------|----------------------|-------------------------|---------------------------|
| Total | 27% | 72 | 6% | 21 | 26 | 46 |
| Male | 35% | 63 | 7% | 28 | 25 | 38 |
| Female | 18% | 80 | 4% | 14 | 27 | 53 |
| 18-29 | 17% | 81 | 4% | 13 | 27 | 54 |
| 30-44 | 25% | 75 | 3% | 22 | 24 | 51 |
| 45-59 | 32% | 67 | 8% | 24 | 26 | 41 |
| 60+ | 33% | 62 | 7% | 26 | 28 | 34 |
| White | 29% | 69 | 5% | 24 | 27 | 42 |
| Black | 17% | 83 | 5% | 12 | 23 | 60 |
| Hispanic | 14% | 85 | 11% | 3 | 27 | 58 |
| Less than HS/HS | 20% | 79 | 3% | 17 | 27 | 52 |
| Some College | 27% | 72 | 6% | 21 | 25 | 47 |
| College/Grad | 34% | 64 | 9% | 25 | 26 | 38 |
| Near Ocean | 24% | 74 | 5% | 19 | 24 | 50 |
| Not near ocean | 28% | 70 | 6% | 22 | 27 | 43 |

2. Public does not see individual actions as having a great impact

Belief in general human responsibility for ocean health does not translate into widespread personal responsibility. The public is split over whether individual actions can make a difference to ocean health.

Forty-five percent agree and 55% disagree that “what I do in my life doesn’t impact ocean health much at all.” Young Americans (under 45), blacks and Hispanics, and those who have visited a zoo, aquarium, or science museum in the last year are the most likely to believe they can impact the oceans’ health.

The weak sense of individual responsibility for ocean health is underscored by responses to the knowledge questions which indicate that most Americans underestimate the damage caused by runoff from yards and streets. When the public thinks about damage being done to the oceans, it quickly points the finger at industry.

Therefore, humans generally are thought to be doing harm to the oceans, but individual actions are not considered the main source of pollution or damage.

Personal Responsibility for Ocean Health

Q30. Now, please tell me if you agree or disagree with each of the following statements? Do you agree/disagree very much or somewhat? What I do in my life doesn’t impact ocean health much at all.

| | Agree | Disagree | Very much agree | Somwht agree | Somwht disagree | Very much disagree |
|-------------------------|------------|-----------|-----------------|--------------|-----------------|--------------------|
| Total | 44% | 55 | 21% | 23 | 30 | 25 |
| 18-29 | 37% | 63 | 17% | 20 | 33 | 30 |
| 30-44 | 43% | 56 | 19% | 24 | 28 | 28 |
| 45-59 | 48% | 51 | 24% | 24 | 30 | 21 |
| 60+ | 52% | 46 | 25% | 27 | 27 | 19 |
| White | 46% | 53 | 22% | 24 | 30 | 23 |
| Black | 43% | 58 | 18% | 25 | 30 | 28 |
| Hispanic | 38% | 61 | 15% | 23 | 29 | 32 |
| Zoo Visitors | 39% | 61 | 17% | 22 | 34 | 27 |
| Aquarium Visitors | 41% | 58 | 18% | 23 | 30 | 28 |
| Science Museum Visitors | 40% | 60 | 18% | 22 | 32 | 28 |
| Non-visitors | 49% | 49 | 25% | 24 | 27 | 22 |
| Near Ocean | 44% | 56 | 21% | 23 | 27 | 29 |
| Not near ocean | 45% | 55 | 21% | 24 | 32 | 23 |

D. Building Commitment to Ocean Protection

Although ocean health holds low saliency at the moment for most Americans, there are some key connections to oceans that can raise its relevance among the public.

The oceans evoke the imagery of the circle of life for many people because oceans are habitats themselves. This is a strong image to project and build upon. We also find the frameworks of future generations and human survival very useful in building commitment to ocean protection.

Messages that stress how humans rely on the oceans for recreation and for a healthy future and their individual responsibility for ocean destruction will be most potent to elevate concerns. Communications should link these message points to the oceans' role in the balance of nature and the connection of all living things.

1. Currently low level of personal importance placed on protecting oceans

Low levels of awareness of ocean health and lack of personal responsibility for the oceans' health lead to relatively small numbers of Americans who place very high personal importance on "protecting the environmental quality of the oceans" (26%).

Demographically, those most concerned about ocean health at the outset of the survey include:

- women;
- blacks and Hispanics;
- Americans with low levels of education and income;
- residents of the Northeast; and
- those who live near the ocean.

Among these demographic distinctions, the strongest predictors of placing personal importance on ocean protection are lack of education and income.

Interestingly, we find that there is very little difference among those who have visited a zoo, aquarium, or science museum in the last year and those who have not. In fact, non-visitors are slightly more likely to express personal concern about the oceans.

An analysis of attitudes finds that those most predictive of placing high personal importance on ocean protection include:

- thinking of the oceans as fun, relaxing, and important to one's emotional well-being;
- disagreement that technology can solve ocean health problems and oceans are so large that humans cannot cause lasting damage;
- the belief that individual actions can harm the oceans.

This analysis also indicates that knowledge of the oceans' qualities and functions is not predictive of a person placing personal importance on ocean protection.

Personal Importance of Ocean Protection

Q19. Compared to dealing with other issues you are concerned about, how important to you personally is protecting the environmental quality of the oceans on a scale of 1 to 10 where 1 means not at all important and 10 means extremely important?

| | % saying 10 |
|-------------------------|--------------------|
| Total | 26% |
| Male | 22 |
| Female | 28 |
| White | 23 |
| Black | 34 |
| Hispanic | 33 |
| Less than HS/HS | 33 |
| Some College | 26 |
| College/Grad | 17 |
| Less than \$25K | 30 |
| \$26K-\$49K | 27 |
| \$50K - \$74K | 23 |
| \$75K + | 15 |
| Northeast | 29 |
| Midwest | 22 |
| South | 26 |
| West | 26 |
| Zoo Visitors | 23 |
| Aquarium Visitors | 24 |
| Science Museum Visitors | 21 |
| Non-visitors | 28 |
| Near Ocean | 32 |
| Not near ocean | 22 |

2. Importance of Oceans as a Reflection of Values: Balance of nature is key

As The OCEAN Project seeks to raise the importance of the oceans among the public, communications need to speak to the values that underlie the public's concerns about the oceans. The survey examined the strength of four values frameworks to raise concerns about the oceans -- responsibility to future generations, balance of nature, human survival, and the beauty of the oceans.

In the survey values were paired against each other and respondents were asked to choose the more important value in a series of comparisons. Then, respondents rated each value separately, in statements that combined the values with specific facts about ocean health. The overall preferences were identical in both exercises.

The most compelling value underlying personal importance of protecting the oceans is because the oceans are vital to the balance of nature. This speaks most directly to Americans and holds the broadest appeal.

We also find that as with many other environmental issues, the values that motivate ocean concerns relate strongly to protecting oneself and family and a responsibility to future generations. The least useful in building broad commitment is calling upon the beauty of the oceans, although this is a very strong attraction for a small segment of the public.

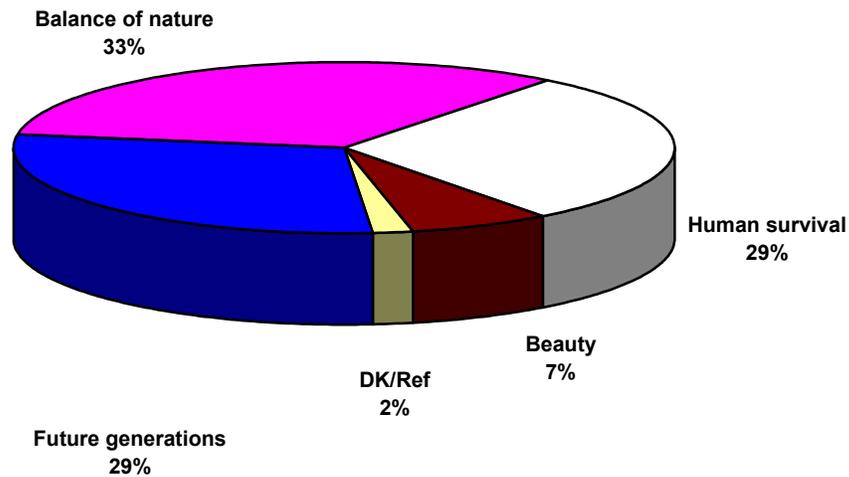
The appeal of the balance of nature, future generations, and human survival themes are fairly constant across subgroups in the population. No one segment of the public is more or less likely to be attracted to these basic values.

Reasons to Protect the Ocean

Q38-43. Which one of the two is more convincing to you personally of the need to protect oceans? [paired comparisons] We have a responsibility to leave future generations healthy oceans OR: the oceans are critical to the balance of nature; oceans are essential to human survival; oceans are places of beauty; oceans are essential to human survival.

Oceans are critical to the balance of nature OR oceans are places of beauty.

Oceans are places of beauty OR oceans are essential to human survival.



* Percentage of respondents selecting each value

Values Frames with Information

Q44. Here are some reasons people have told us why they believe we need to do more to save the oceans. Now I'd like to know what your reaction is to these different ideas. As I read each one, please tell me how convincing a reason it is to you personally to want to do more to protect the health of the oceans. Think of a scale of 1 to 10 on which 1 means that the **statement is not convincing to you at all** and 10 means it is **extremely convincing to you to protect the oceans**. Use any number from 1 to 10.

| | % saying 10 |
|--|--------------------|
| All living things are connected. When pollutants destroy plants or animals in the oceans that impacts our quality of life and health of the whole planet. (Base = 374) | 41% |
| The oceans are essential to human survival. Pollution in the oceans eventually ends up in the food we eat, affects the earth's climate, and the air we breathe. (Base = 374) | 38% |
| We need to think about what we are leaving future generations. There are more pollutants in the oceans than ever before. We need to take responsibility for ocean health today to ensure that there are healthy oceans for future generations. (Base = 372) | 38% |
| The oceans are beautiful and inspiring, but this beauty is being harmed by pollution in the water and on beaches. (Base = 380) | 28% |

3. Effective messages: recreation, responsibility, and future

In addition to examining the values that underlie concern for the oceans, the survey measured reactions to ten messages for building the case for ocean protection. The messages generally attract the greatest appeal among women, blacks and Hispanics, less educated Americans, those with lower household incomes, and those who live near the ocean.

A number of messages particularly appeal to older Americans (60+), including statements about the recreational uses of the oceans, personal responsibility, saving unique places such as coral reefs, and protecting the natural beauty from coastal development.

The messages can be broken-down into three groups, according to how persuasive they are of the need to protect the oceans.

a. Most convincing messages

The first group contains the most convincing statements, which describe the recreational uses of the ocean, individual responsibility for ocean health, and the future uses of the oceans. About four in ten Americans find these messages extremely convincing.

Oceans provide us with water to swim in, places to go fishing, and beaches to play on. To continue to enjoy oceans, we need to stop careless use that pollutes them (44% say extremely convincing reason to protect the oceans).

Each of us has a personal responsibility/opportunity to protect the oceans and reduce the damage done by our actions. Each year, individuals dump 180 million gallons of used motor oil into sewage drains, that is 15 times more oil getting into the oceans than the Exxon Valdez spill (42% say extremely convincing reason to protect the oceans).

The oceans contain millions of yet to be discovered species of plants and animals which will provide us with cures for diseases and sources of food, if the oceans stay healthy (38% say extremely convincing reason to protect the oceans).

The oceans contain the last unexplored areas on earth (38% say extremely convincing reason to protect the oceans).

The statements on personal “responsibility/opportunity” were each asked of half the sample to determine if the word “responsibility” or “opportunity” has more appeal among segments of the population. Overall, we do not find significant differences. However, when we look at specific subgroups we find that “responsibility” resonates more with older Americans (60+) and aquarium visitors, while use of the term “opportunity” appeals more to younger Americans (18 to 29), blacks, college graduates, low-income

Americans, and city residents than the term “responsibility.”

Most Convincing Reasons

Q44-53. Here are some reasons people have told us why they believe we need to do more to save the oceans. Now I'd like to know what your reaction is to these different ideas. As I read each one, please tell me how convincing a reason it is to you personally to want to do more to protect the health of the oceans. Think of a scale of 1 to 10 on which one means that the statement is not convincing to you at all and 10 means it is extremely convincing to you to protect the oceans. Use any number from 1 to 10.

| | % saying 10 | | | | |
|-----------------------|----------------------|--|---|-------------------------|-----------------------------|
| | Recreational uses | Personal responsibility (Base = 751) | Personal opportunity (Base = 749) | Undiscovered species | Last unexplored areas |
| Total | 44% | 42% | 40% | 38% | 38% |
| Male | 41% | 36% | 37% | 34% | 41% |
| Female | 48% | 47% | 42% | 42% | 35% |
| 18-29 | 43% | 43% | 47% | 41% | 35% |
| 30-44 | 41% | 38% | 37% | 36% | 37% |
| 45-59 | 43% | 39% | 37% | 38% | 38% |
| 60+ | 52% | 51% | 39% | 40% | 41% |
| White | 40% | 41% | 34% | 34% | 35% |
| Black | 61% | 43% | 61% | 55% | 44% |
| Hispanic | 56% | 56% | 59% | 54% | 45% |
| Less than HS/HS | 56% | 51% | 46% | 47% | 42% |
| Some College | 45% | 43% | 36% | 38% | 39% |
| College/Grad | 31% | 30% | 37% | 30% | 32% |
| Less than \$25K | 52% | 45% | 55% | 45% | 40% |
| \$26K-\$49K | 44% | 46% | 39% | 41% | 39% |
| \$50K - \$74K | 42% | 41% | 36% | 35% | 35% |
| \$75K + | 31% | 29% | 27% | 27% | 34% |
| City | 50% | 42% | 50% | 44% | 43% |
| Suburbs | 36% | 38% | 31% | 33% | 33% |
| Small town/Rural area | 45% | 44% | 39% | 39% | 38% |
| Zoo Visitors | 40% | 42% | 40% | 38% | 36% |
| Aquarium Visitors | 41% | 47% | 36% | 40% | 40% |
| Sci. Museum Visitors | 41% | 42% | 43% | 40% | 38% |
| Non-visitors | 49% | 41% | 42% | 38% | 38% |
| Near Ocean | 49% | 44% | 39% | 44% | 42% |
| Not near ocean | 42% | 41% | 40% | 35% | 35% |

b. Somewhat convincing messages

The public finds three other messages presented in the survey somewhat convincing of the need to protect oceans. These statements about the special qualities and functions of the oceans are extremely convincing to about three in ten Americans.

The oceans help regulate the earth's climate and produce 70% of our oxygen (33% say extremely convincing reason to protect the oceans).

Coral reefs and other ocean habitat are unique places in nature that deserve special protection. 20% of the world's coral reefs have been destroyed by tourism, fishing, pollution, and mining (33% say extremely convincing reason to protect the oceans).

More plants, fish, and animals live in the ocean than live on land, but destructive and wasteful fishing practices are endangering thousands of species of fish and marine life (30% say extremely convincing reason to protect the oceans).

Somewhat Convincing Reasons

Q44-53. Here are some reasons people have told us why they believe we need to do more to save the oceans. Now I'd like to know what your reaction is to these different ideas. As I read each one, please tell me how convincing a reason it is to you personally to want to do more to protect the health of the oceans. Think of a scale of 1 to 10 on which one means that the statement is not convincing to you at all and 10 means it is extremely convincing to you to protect the oceans. Use any number from 1 to 10.

| | % saying 10 | | |
|-------------------------|----------------|---------------|----------------------|
| | Climate/Oxygen | Unique Places | More Plants and Fish |
| Total | 33% | 33% | 30% |
| Male | 31% | 30% | 29% |
| Female | 35% | 36% | 30% |
| 18-29 | 35% | 32% | 30% |
| 30-44 | 33% | 32% | 28% |
| 45-59 | 31% | 31% | 28% |
| 60+ | 33% | 41% | 35% |
| White | 31% | 31% | 26% |
| Black | 43% | 41% | 43% |
| Hispanic | 38% | 40% | 40% |
| Less than HS/HS | 39% | 40% | 36% |
| Some College | 30% | 24% | 28% |
| College/Grad | 30% | 36% | 24% |
| Less than \$25K | 39% | 39% | 34% |
| \$26K-\$49K | 32% | 34% | 29% |
| \$50K - \$74K | 30% | 31% | 29% |
| \$75K + | 29% | 27% | 24% |
| Zoo Visitors | 30% | 33% | 28% |
| Aquarium Visitors | 35% | 37% | 30% |
| Science Museum Visitors | 33% | 33% | 28% |
| Non-visitors | 34% | 34% | 31% |
| Near Ocean | 38% | 39% | 34% |
| Not near ocean | 31% | 31% | 27% |

c. *Least convincing messages*

Three messages, which highlight the dangers of coastal development and loss of jobs in the fishing industry, proved to be least useful in appealing broadly to Americans about the need to protect the oceans. Fewer than three in ten Americans found these statements about the problems confronting the oceans extremely convincing.

Development of homes and businesses in coastal areas harm coastal habitats and decrease plant and animal populations. 75% of endangered mammals and birds rely on coastal habitats (26% say extremely convincing reason to protect the oceans).

The current rate of building new homes, roads, and other development along the coasts is destroying the coasts' natural beauty (26% say extremely convincing reason to protect the oceans).

Almost all of US commercial fisheries are at their limit or overfished. Overfishing in New England has lead to a loss of over 14,000 jobs (22% say extremely convincing reason to protect the oceans).

Blacks and Hispanics are more likely than other Americans to find the statement about overfishing and the loss of jobs convincing of the need to protect the oceans.

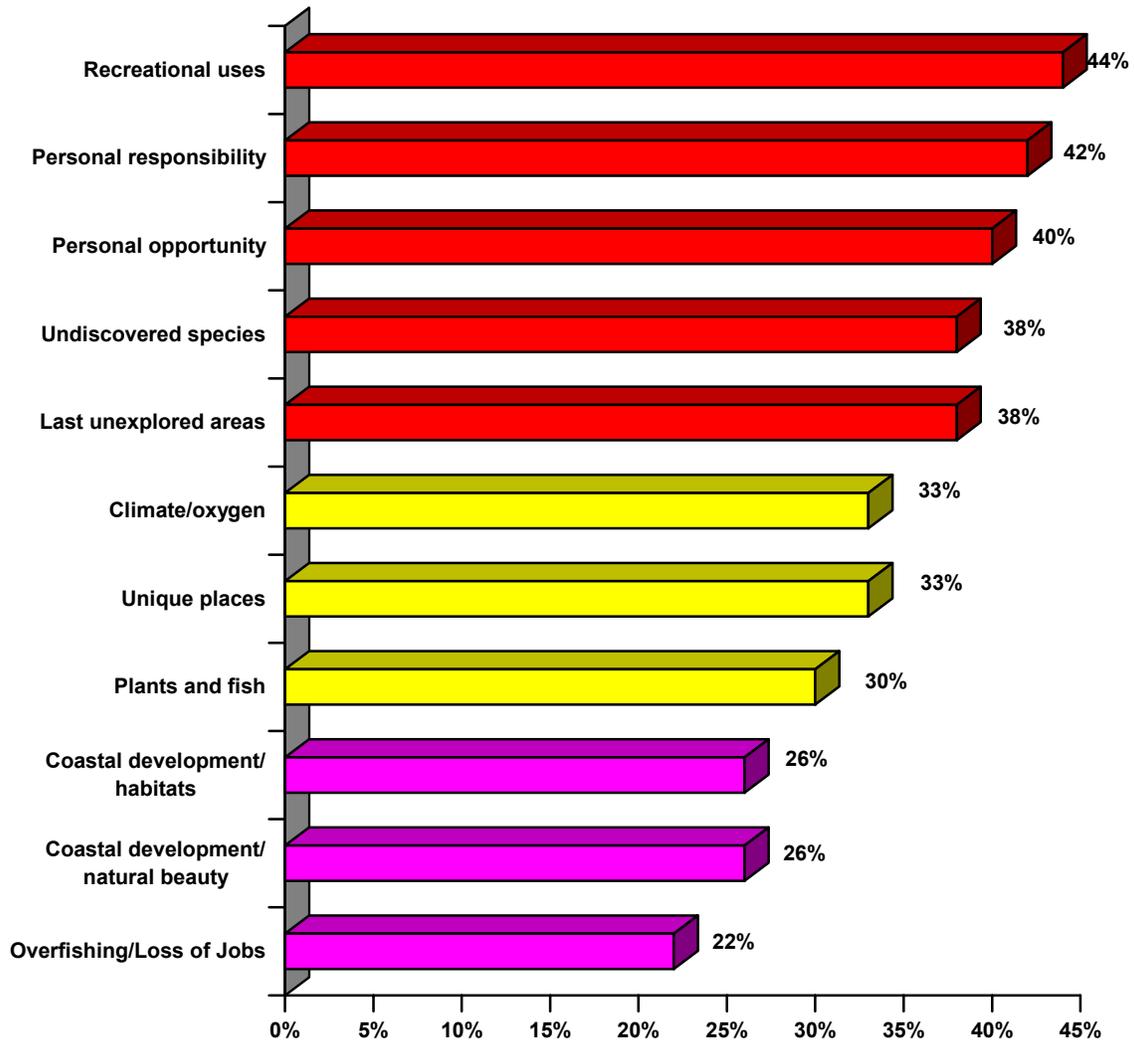
Least Convincing Reasons

Q44-53. Here are some reasons people have told us why they believe we need to do more to save the oceans. Now I'd like to know what your reaction is to these different ideas. As I read each one, please tell me how convincing a reason it is to you personally to want to do more to protect the health of the oceans. Think of a scale of 1 to 10 on which one means that the statement is not convincing to you at all and 10 means it is extremely convincing to you to protect the oceans. Use any number from 1 to 10.

| | % saying 10 | | |
|-------------------------|--|--|-----------------------------|
| | Coastal Development/ Habitats (Base=749) | Coastal Development/ Natural Beauty (Base=751) | Overfishing/Loss of Jobs |
| Total | 26% | 26% | 22% |
| Male | 23% | 21% | 22% |
| Female | 29% | 31% | 23% |
| 18-29 | 23% | 26% | 21% |
| 30-44 | 23% | 21% | 20% |
| 45-59 | 31% | 26% | 23% |
| 60+ | 27% | 35% | 26% |
| White | 23% | 24% | 20% |
| Black | 28% | 27% | 33% |
| Hispanic | 45% | 43% | 33% |
| Less than HS/HS | 30% | 32% | 30% |
| Some College | 25% | 27% | 21% |
| College/Grad | 22% | 18% | 15% |
| Less than \$25K | 32% | 31% | 27% |
| \$26K-\$49K | 27% | 27% | 22% |
| \$50K - \$74K | 19% | 25% | 22% |
| \$75K + | 20% | 17% | 18% |
| Zoo Visitors | 24% | 23% | 19% |
| Aquarium Visitors | 23% | 28% | 21% |
| Science Museum Visitors | 28% | 23% | 21% |
| Non-visitors | 29% | 30% | 25% |
| Near Ocean | 28% | 30% | 26% |
| Not near ocean | 25% | 24% | 20% |

Reasons to Protect Oceans

% saying 10



Q44-53. Here are some reasons people have told us why they believe we need to do more to save the oceans. Now I'd like to know what your reaction is to these different ideas. As I read each one, please tell me how convincing a reason it is to you personally to want to do more to protect the health of the oceans. Think of a scale of 1 to 10 on which 1 means that the **statement is not convincing to you at all** and 10 means it is **extremely convincing to you to protect the oceans**. Use any number from 1 to 10.

d. *Threats to the oceans: pollution top concern*

Embedded within some of the message statements are threats to ocean health -- pollution, overfishing, destructive fishing practices, and coastal development. Of these threats, pollution is the most likely to engender concern about the oceans. To a lesser degree, development and destructive fishing practices help to raise concerns about ocean health.

In the focus groups, after we explained the impacts of coastal development and harmful fishing practices that are wasteful and destructive, these practices were viewed among the most egregious examples of damage to the oceans. However, the survey results tell us that educating the public on these issues will take time. A simple message on these threats to the oceans will not be sufficient.

Coastal development and destructive fishing practices are areas about which zoos, aquariums, and science museums need to provide more information and educate the public if they are to be used effectively in building commitment for ocean protection. At the moment, the public does not know enough about the impacts of these practices to engender strong feelings.

4. *Americans would sacrifice to protect the oceans*

a. *Broad support for action*

The data suggest that protecting the oceans is considered a fundamental responsibility by Americans, even though they are unaware of ocean conditions. After considering the ten messages on the need for ocean protection, large majorities of Americans, to various degrees, are willing to support actions to protect the oceans even when presented with the trade-offs of higher prices at the supermarket (81%), fewer recreational choices (78%), or more government spending (76%). About four in ten feel strongly about their willingness to support actions to protect the ocean.

Support for Protecting the Oceans

Q54-Q56 Do you agree or disagree with each of the following statements. Is that strongly or somewhat agree/disagree?

| | Strngly agree | Smwht agree | Smwht disagree | Strngly disagree |
|---|--------------------------|------------------------|---------------------------|-----------------------------|
| I would support actions to protect the oceans, even if it meant paying more for fish and seafood. | 42% | 39 | 10 | 8 |
| I would support actions to protect the oceans, even if it meant having fewer choices of where to vacation. (Base = 751) | 42% | 36 | 12 | 8 |
| I would support actions to protect the oceans, even if it meant closing more beaches to public use. (Base = 749) | 37% | 37 | 15 | 10 |
| I would support actions to protect the oceans, even if it meant the government spending more tax dollars. | 37% | 39 | 12 | 12 |

Those Americans who express more willingness than others to pay higher prices for fish and seafood in order to protect the oceans include:

- women;
- Hispanics;
- those with at least some higher education; and
- middle to upper income Americans.

Americans more willing to pay higher taxes include:

- blacks;
- middle to low income Americans; and
- those that live near the ocean.

Those more willing than others to have fewer choices in vacation spots include:

- women;
- blacks and Hispanics; and
- those who live near the beach.

Women are also more likely than men to favor closing more beaches to public use.

Willing to Pay More for Fish

Q54. Do you agree or disagree with the following statements? Is that strongly or somewhat agree/disagree?
I would support actions to protect the oceans, even if it meant paying more for fish and seafood.

| | Agree | Disagree | Strngly agree | Somewht agree | Somewht disagree | Strngly disagree |
|-----------------|--------------|-----------------|----------------------|----------------------|-------------------------|-------------------------|
| Total | 81% | 18 | 42% | 39 | 10 | 8 |
| Male | 80% | 20 | 38% | 42 | 11 | 9 |
| Female | 82% | 18 | 45% | 37 | 10 | 8 |
| White | 83% | 16 | 41% | 42 | 10 | 6 |
| Black | 75% | 25 | 37% | 38 | 12 | 13 |
| Hispanic | 78% | 20 | 52% | 26 | 8 | 12 |
| Less than HS/HS | 77% | 22 | 35% | 42 | 13 | 9 |
| Some College | 81% | 18 | 45% | 36 | 9 | 9 |
| College/Grad | 84% | 15 | 45% | 39 | 9 | 6 |
| Less than \$25K | 76% | 23 | 36% | 40 | 13 | 10 |
| \$26K-\$49K | 83% | 17 | 45% | 38 | 11 | 6 |
| \$50K - \$74K | 85% | 15 | 45% | 40 | 8 | 7 |
| \$75K + | 83% | 17 | 45% | 38 | 8 | 9 |
| Near Ocean | 84% | 16 | 44% | 40 | 9 | 7 |
| Not near ocean | 79% | 19 | 40% | 39 | 11 | 8 |

Pay More Taxes

Q56. Do you agree or disagree with the following statements? Is that strongly or somewhat agree/disagree?
I would support actions to protect the oceans, even if it meant the government paying more tax dollars.

| | Agree | Disagree | Strngly agree | Somewht agree | Somewht disagree | Strngly disagree |
|-----------------|--------------|-----------------|----------------------|----------------------|-------------------------|-------------------------|
| Total | 76% | 24 | 37% | 39 | 12 | 12 |
| White | 74% | 25 | 34% | 40 | 13 | 12 |
| Black | 77% | 22 | 50% | 27 | 12 | 10 |
| Hispanic | 78% | 22 | 39% | 39 | 6 | 16 |
| Less than \$25K | 71% | 28 | 38% | 33 | 15 | 13 |
| \$26K-\$49K | 78% | 21 | 36% | 42 | 11 | 10 |
| \$50K - \$74K | 78% | 22 | 40% | 38 | 10 | 12 |
| \$75K + | 74% | 24 | 32% | 42 | 10 | 14 |
| Near Ocean | 80% | 19 | 42% | 38 | 8 | 11 |
| Not near ocean | 72% | 27 | 33% | 39 | 14 | 13 |

Fewer Choices of Vacation

Q55a. Do you agree or disagree with the following statements? Is that strongly or somewhat agree/disagree?
 I would support actions to protect the oceans, even if it meant having fewer choices of where to vacation.

| | Agree | Disagree | Strngly agree | Somewht agree | Somewht disagree | Strngly disagree |
|----------------|------------|-----------|---------------|---------------|------------------|------------------|
| Total | 78% | 20 | 42% | 36 | 12 | 8 |
| Male | 75% | 23 | 39% | 36 | 11 | 12 |
| Female | 80% | 19 | 44% | 36 | 14 | 5 |
| White | 80% | 19 | 40% | 40 | 10 | 9 |
| Black | 77% | 23 | 50% | 27 | 14 | 9 |
| Hispanic | 68% | 30 | 46% | 22 | 25 | 5 |
| Near Ocean | 80% | 18 | 49% | 31 | 10 | 8 |
| Not near ocean | 77% | 23 | 38% | 39 | 14 | 9 |

Close More Beaches

Q55b. Do you agree or disagree with the following statements? Is that strongly or somewhat agree/disagree?
 I would support actions to protect the oceans, even if it meant closing more beaches to public use.

| | Agree | Disagree | Strngly agree | Somewht agree | Somewht disagree | Strngly disagree |
|----------------|------------|-----------|---------------|---------------|------------------|------------------|
| Total | 74% | 25 | 37% | 37 | 15 | 10 |
| Male | 69% | 31 | 32% | 37 | 18 | 13 |
| Female | 79% | 20 | 42% | 37 | 12 | 8 |
| Near Ocean | 72% | 28 | 37% | 35 | 17 | 11 |
| Not near ocean | 76% | 24 | 38% | 38 | 14 | 10 |

b. Varying views on effectiveness of individual actions

After listening to all the messages on ocean protection in the survey, respondents rated the effectiveness of several specific actions that individuals could take to protect the oceans. One remedy -- recycling used motor oil -- drew a large majority (78%) believing it is a very effective way to protect oceans. This high percentage may be influenced by a previous survey question that identified motor oil as a major source of ocean pollution.

Two other remedies are viewed as very effective by over four in ten Americans: stop using pesticides (47%) and only eat fish that was caught or farmed in a way that protects oceans (44%).

Other types of individual actions generate less confidence that they are effective.

Get involved in a local environmental project in your community (36% very effective, 51% somewhat).

Use less water by taking shorter showers, watering lawns less, and washing clothes less (33% very effective, 45% somewhat).

Write, e-mail, or phone an elected officials about the importance of laws to protect the oceans (30% very effective, 47% somewhat).

Buying fewer consumer goods -- not yet something Americans consider (18% very effective, 46% somewhat).

Effectiveness of Individual Actions

Q58-Q64 Here are some ways individuals can take part in protecting the oceans. Please rate how effective, as far as you know, each of the following is as a way for individuals to protect the oceans -- very effective, somewhat effective, not very effective, or not at all effective...First,

| | Very effective | Smwht effective | Not very effective | Not at all effective |
|--|---------------------------|----------------------------|-------------------------------|---------------------------------|
| Recycle used motor oil by taking it to local service stations. | 78% | 18 | 2 | 1 |
| Stop using any pesticides. | 47% | 40 | 9 | 4 |
| Only eat fish that was caught or farmed in a way that protects the oceans. | 44% | 41 | 10 | 4 |
| Get involved in a local environmental project in your community. | 35% | 51 | 8 | 5 |
| Use less water at home by taking shorter showers, watering lawns less, and washing clothes less | 33% | 45 | 14 | 8 |
| Write e-mail, or telephone an elected official about the importance of laws to protect the oceans. | 30% | 47 | 15 | 8 |
| Buy fewer consumer goods. | 18% | 46 | 22 | 12 |

E. Attitudinal Groups

The 1999 The OCEAN Project Survey documents Americans' awareness of and attitudes toward the oceans. In the survey, Americans express various levels of understanding, connection to, and concern for the oceans. One way to examine the public's views on this topic is to segment the population into groups that hold similar views on aspects of ocean health and protection. We have used a technique called cluster analysis to identify discreet groups based on attitudes toward the oceans and related issues.

This analysis is different than cross-tab reporting, which divides the population according to demographic characteristics. When framing communications, it is helpful to consider attitudinal, as well as demographic distinctions. While cross-tabs will inform about the most persuasive messages to women, or blacks, or other groups, cluster analysis makes clear that not all women or blacks think alike on these issues. Segmentation reveals the distinctions of opinions between and within demographic groups.

The cluster analysis for The OCEAN Project identifies five segments of the population, grouping respondents in such a way as to minimize intragroup variance (the attitudes of individuals in each group do not vary greatly one to the next) and maximize intergroup variance (the attitudes of one group are dissimilar to those of other groups) on key variables.

The cluster definitions in this analysis are formed around responses to four key concepts in the survey:

- individuals' impact on the oceans;
- the belief that the oceans are so large humans cannot cause them lasting damage;
- the promise of technological solutions to keep the oceans clean; and
- personal importance of protecting the oceans.

Responses to all questions in the survey, including demographic and lifestyle questions, are included in the cluster analysis.

The five groups are described on the following pages, beginning with those clusters containing members who are more concerned about and supportive of ocean protection, moving across the spectrum to those segments of society who are least likely to be concerned about the health of the oceans.

The following five population segments are identified in the survey:

- | | | |
|----|-----------------------------|-------------------------|
| 1. | Young Beachlovers | 20% of total population |
| 2. | Zoo Aquarium Museum Goers | 30% |
| 3. | Older Beachlovers | 20% |
| 4. | Unconnected and Unconcerned | 20% |
| 5. | Landlocked and Unconcerned | 10% |

Analyzing the five clusters, we find:

- Seven in ten (70%) Americans fall in the first three clusters, which represent the baseline support for ocean protection and should be the primary audiences for communications by zoo, aquariums, and science museums. These groups are more likely than others to live near the ocean or to spend time at the beach, boating, or fishing. Communications to all of these groups should reinforce their personal connections to the oceans and build upon their concern for ocean health.

As zoos, aquariums, and science museums plan outreach, the Young Beachlovers and the ZAM Goers will be the easiest to mobilize to act on ocean protection. The Older Beachlovers will need an extra push to transform their devotion to the ocean into a personal crusade for its protection. This older group will need greater outreach efforts, since it spends less time at zoos, aquariums, or museums.

- The last two groups will require more extensive outreach efforts before they can be mobilized to act on ocean protection. They comprise another three in ten (30%) Americans. Members of these groups express less personal concern for ocean health and fewer connections to the oceans. Much more communications are needed to increase concern among these groups. At the moment, they do not see the individual's role in ocean destruction and are less likely than other Americans to believe the oceans are vulnerable to lasting damage. Zoos, aquariums, and science museums should consider outreach to these audiences a lower priority than efforts to reach the first three groups.

- Across all five clusters the balance of nature values framework is the most persuasive of the need to protect ocean health. Communication to any of these clusters is more likely to succeed if it begins with messages about the oceans' vital role in the balance of nature and the interconnectedness of all living things. Following the balance of nature, preserving the oceans for future generations and the oceans' role in human survival are also useful message frameworks across the clusters. Simply stressing the oceans' beauty framework holds a more narrow appeal to increase concern about ocean health.

1. Young Beachlovers

20% of total population

The Young Beachlovers express a strong personal connection to the oceans and a high personal concern for ocean health. This group recognizes the threats to ocean health and strongly believes individuals have a personal responsibility to protect the oceans.

The Young Beachlovers should be relatively easy to find and call to action on these issues. They live near the ocean and go to the beach and fish in larger numbers than other Americans. They are also among the most likely to visit aquariums and science museums and to donate to environmental groups, aquariums, and zoos.

Who are they? The group accounts for 20% of adults. Demographically, this group is among the youngest clusters: 29% are under 30 years old and 58% are under 45 years old. There are also more women (58%) than men (42%) in this group; and it is among the most likely group to have children under 18 (40%).

The Young Beachlovers contains the highest proportion of blacks and Hispanics (15% black; 14% Hispanic). This group also has lower household incomes (60% under \$50,000) and slightly less education than other groups (39% less than college education).

Politically, there are more Democrats (38%) and independents (25%) than Republicans (18%) in this cluster.

The Young Beachlovers are the most likely to live near the ocean (46%). Consequently, they are also among the most likely to visit the beach (60% in the last year) and go fishing (50% ever, 16% in the last year).

This cluster is also among the most likely to visit aquariums (32% in the last year) or science museums (28% in the last year). They visit zoos in the same proportion as the population as a whole (38% within the last year).

The Young Beachlovers are the most environmentally-conscious group. The Young Beachlovers are the most likely to say they recycle (52%); and to be donors to environmental groups (62%; 35% in the last year) or zoos or aquariums (35%; 23% in the last year).

These factors should make it relatively easy to find and activate this segment that is already concerned about ocean health.

Attitudes on the issues: Throughout the survey, the Young Beachlovers express a great deal of concern about ocean health and accept personal responsibility for the health of the oceans:

- The Young Beachlovers place the highest personal importance on protecting the oceans (100% rate protecting the oceans a 9 or 10).
- They are the most likely to consider the damage to the oceans an extremely serious environmental problem (open ocean 41%; coastal waters 49%; ocean beaches 44%).
- They are also the most likely to rate ocean health as poor (20% coastal waters; 13% deep oceans), and to think of the oceans as polluted (55%) or overused (44%).
- Every member of this group disagrees with the idea that they do *not* personally impact ocean health (100% disagree; 56% disagree very much).
- Young Beachlovers recognize the oceans' vulnerabilities. This cluster is among the most likely to *disagree* that:
 - polluted oceans are able to clean themselves (59% very much disagree);
 - the oceans are so large, it is unlikely that humans will cause lasting damage to them (73% very much disagree); and
 - we do not need to worry about the health of the oceans because we will develop new technologies to keep them clean (75% very much disagree).
- When thinking about the oceans, this cluster is among the most likely to view the oceans as relaxing (76%), fun (68%), vast (76%), and to be important for their emotional well-being (63%).
- The Young Beachlovers rate all the messages highly, especially those that describe the recreational uses of the oceans (67% extremely convincing); individual responsibility for pollution (65%); and millions of yet to be discovered species in the oceans (64%).
- This group is also the most likely to think that all the solutions tested in the survey would be effective ways of protecting the oceans. The solutions most often perceived as effective by this group are: recycle used motor oil (85% very effective); stop using pesticides (67%); only eat fish that was caught or farmed in a way that protects the oceans (60%); and get involved in a local environmental project (57%).

How to appeal to them?: The Young Beachlovers are the most receptive target for communications about ocean health, because they acknowledge the problems -- pollution and overuse of the oceans -- as well as the culprit -- individuals.

We call them the Young Beachlovers because they are the most likely group to live near the ocean, to visit the beach, and to express personal concern about ocean health and emotional connection to the oceans. This group needs little convincing of the need to protect the oceans. An important communications strategy for this cluster is to reinforce its connection to the oceans as places of fun and relaxation that we all need to protect. Zoos, aquariums, and science museums will enhance this group's concern for the oceans if their exhibits recreate the personal connections and experiences this group attaches to the oceans.

Finding the Young Beachlovers will be relatively easy. They are at the beach and visiting aquariums and science museums. It is also possible to communicate with this segment through environmental organizations.

2. Zoo Aquarium Museum Goers

30% of total population

The ZAM Goers are so named because more of them have visited an aquarium, zoo, or science museum in the last year than have any other group.

While ZAM Goers acknowledge the vulnerability of the oceans to individual actions, this cluster only places moderate personal importance on ocean protection. Communications needs to illustrate the urgency of protecting the oceans to increase concern among this group.

Similar to the Young Beachlovers, the ZAM Goers should be relatively easy to find and call to action on these issues. They are active in their communities and read newspapers regularly.

Who are they? The group accounts for 30% of adults. Demographically, this group is among the youngest clusters: 27% are under 30 years old and 58% are under 45 years old.

We are likely to find the ZAM Goers in white collar jobs (30%), and they have slightly more education (35% college or more) than other groups.

This cluster is the most likely to visit aquariums (35% in the last year); zoos (44% in the last year); or science museums (33% in the last year). Six in ten (62%) have attended at least one in the last year. The ZAM Goers are also among the most likely to have contributed to an environmental group (60% ever; 35% in the last year) or to a zoo or aquarium (33% ever; 20% in the last year).

This cluster spends a great deal of time enjoying nature. Members of this group are among the most likely to visit the beach (55% in the last year); to go boating (23% in the last year) and fishing (14% in the last year); and they are the most likely to have visited a national or state park (64% in last year).

ZAM Goers are generally involved in their communities. They are the most likely to have performed volunteer work (55% in the last year), and they are regular newspaper readers (50% almost everyday).

Attitudes on the issues: Throughout the survey, the ZAM Goers express only moderate concern about ocean health, but broad acceptance of personal responsibility for the health of the oceans. Their feelings of personal responsibility run fairly deep, but not as deeply as those of the Young Beachlovers.

- The ZAM Goers place low to moderate personal importance on protecting the oceans (100% rate protecting the oceans a 4 to 8).
- They are much less likely than the Young Beachlovers to consider the damage to the oceans an extremely serious environmental problem (open ocean 9%; coastal waters 17%; ocean beaches 14%).
- Nearly every member of this group disagrees with the idea that he or she does *not* personally impact ocean health (99% disagree; 40% disagree very much).
- ZAM Goers recognize the human impact on ocean health. They are among the most likely to *disagree* that:

polluted oceans are able to clean themselves (48% very much disagree);

the oceans are so large, it is unlikely that humans will cause lasting damage to them (62% very much disagree); and

we do not need to worry about the health of the oceans because we will develop new technologies to keep them clean (56% very much disagree).

- The ZAM Goers give moderate to high ratings to all the messages and are most enthusiastic about those that describe the recreational uses of the oceans (36% extremely convincing); individual responsibility for pollution (39%); and that oceans contain the last unexplored areas on earth (35%).
- This group is among the most likely to think that all the solutions tested in the survey would be effective ways of protecting the oceans. The solutions most often perceived as effective by this group are: recycle used motor oil (81% very effective); stop using pesticides (51%); and only eat fish that was caught or farmed in a way that protects the oceans (42%).

How to appeal to them?: The ZAM Goers need little convincing of the need to protect the oceans, but they do need to be shown that this an urgent issue. Currently, they do not consider damage to the oceans a serious environmental problem.

An important strategy for this cluster is to reinforce its connection and interest in nature, while illustrating the need for ocean protection. This may be accomplished by emphasizing the oceans' role in the balance of nature and the impact this has on individuals' lives.

Therefore, a communications strategy to this cluster may consist of:

- Reinforcing its personal connection to the oceans;
- Educating about the role of the oceans in the balance of nature; and
- Educating about the current state of the oceans' health and the need to act.

As with the Young Beachlovers, finding this group will be relatively easy. They are visiting aquariums, zoos, and science museums, as well as at the beach, boating, fishing, and at national or state parks. It is also possible to communicate with this segment through environmental organizations.

3. Older Beachlovers

20% of total population

The Older Beachlovers are so named because they place a high personal importance on protecting the oceans and are among the most likely groups to visit the ocean beach.

The Older Beachlovers differ from the first two clusters in that they are older, not very likely to be attending zoos, aquariums or science museums, and less aware of their own impact on ocean health. This is an important group to reach because they express strong personal connection to ocean health, but need education about the damage individuals cause to the oceans.

It may be slightly more difficult to connect with this group since they are not regular zoo, aquarium, or science museum goers and are not very active in their communities. However, we can find them at the beach.

Who are they? The group accounts for 20% of adults. Demographically, this group is among the oldest clusters: 23% are 60 years old or older and 52% are over 45 years old. There are also more women (56%) than men (44%) in this group, and this cluster contains slightly more blacks and Hispanics than some of the other groups (14% black, 12% Hispanic).

We are likely to find the Older Beachlovers in blue-collar jobs (36%). This cluster has the lowest household incomes (26% below \$25,000 and 61% below \$50,000), and it possesses the lowest level of education (39% less than college).

A relatively large segment of this cluster (42%) lives near the oceans, and we are more likely to find the Older Beachlovers living in the northeast (24%) or south (39%) than in other areas.

Politically, there are more Democrats (42%) and independents (21%) than Republicans (21%) in this group.

The Older Beachlovers are not very involved in their communities. They are the least likely to have contacted an elected official (20% in the last year) or to have written the editor of a newspaper or magazine (5% in the last year).

They are also less likely than other groups to visit aquariums (27% in the last year), zoos (35% in the last year), or science museums (23% in the last year).

However, they are connected to the oceans. They are among the most likely to have visited an ocean beach (58% in the last year) and to have gone fishing (14% in the last year).

Attitudes on the issues: Throughout the survey, the Older Beachlovers express concern about ocean health, but they are not likely to recognize their own contribution to ocean destruction.

- The Older Beachlovers place a moderate to high personal importance on protecting the oceans (100% rate protecting the oceans an 8, 9 or 10).
- Similar to the Young Beachlovers, the Older Beachlovers are among the most likely to consider the damage to the oceans an extremely serious environmental problem (open ocean 28% extremely serious problem; coastal waters 34%; ocean beaches 34%).
- And, they are among the most likely to rate coastal waters' health as poor (15%), and to describe the oceans as polluted (49%) or overused (32%).
- Majorities of older Beachlovers strongly *disagree* that:
 - polluted oceans are able to clean themselves (53% very much disagree);
 - the oceans are so large, it is unlikely that humans will cause lasting damage to them (57% very much disagree); and
 - we do not need to worry about the health of the oceans because we will develop new technologies to keep them clean (57% very much disagree).
- However, nearly every member of this group *agrees* that they do *not* personally impact ocean health (99% agree; 46% agree very much).
- When thinking about the oceans, this cluster is among the most likely to view the oceans as relaxing (73%), fun (72%), and important for their emotional well-being (46%).
- The Older Concerned Beachlovers rate all the messages highly, especially those that describe the recreational uses of the oceans (63% extremely convincing); individual responsibility for pollution (52%); and that millions of yet to be discovered species in the oceans (55%).
- This group is among the most likely to think that all the solutions tested in the survey would be effective ways of protecting the oceans. The solutions most often perceived as effective by this group are: recycle used motor oil (82% very effective); stop using pesticides (47%); only eat fish that was caught or farmed in a way that protects the oceans (54%); and get involved in a local environmental project (41%).

How to appeal to them?: The Older Beachlovers are personally concerned about ocean health and express a strong emotional connection to the oceans, but they need to be educated about their own role in ocean destruction. At the moment, this group does not acknowledge the role individuals play in ocean destruction.

The Older Beachlovers are likely to be found on the beach. Similar to the Young Beachlovers and ZAM Goers, an important strategy for this cluster is to reinforce their connection to the oceans as places of fun and relaxation that we all have a responsibility to protect.

4. **Unconnected and Unconcerned** **20% of total population**

The Unconnected and Unconcerned place only moderate personal importance on protecting ocean health and do not express a great deal of personal connection to the oceans.

While this group does not believe the oceans are indestructible, it is not likely to acknowledge the role of individuals in ocean destruction and is less likely than other groups to believe that individuals taking steps to protect the oceans will be effective. This group can be reached at aquariums and science museums.

Who are they? The group accounts for 20% of adults. Demographically, the Unconnected and Unconcerned may be found throughout the public. There are only a few things about their lifestyles that distinguish members of this group from others.

This group is older: 25% are 60 years old or older and 52% are over 45 years old. There are also more men (54%) than women (46%) in this group.

This cluster is among the most likely to visit science museums (29% in the last year) and aquariums (31% in the last year). However, they are the least likely to have visited a zoo (30%) and less likely have visited the beach in the last year (46%).

They are among the most likely newspaper readers (51% read a newspaper about every day).

Attitudes on the issues: Throughout the survey, the Unconnected and Unconcerned express little concern about the oceans and their health.

- This cluster places only moderate personal importance on protecting the oceans (100% rate protecting the oceans between 4 and 7).
- They are among the least likely to consider the damage to the oceans an extremely serious environmental problem (open ocean 6%; coastal waters 10%; ocean beaches 8%).
- They are also among least likely to think of the oceans as polluted (21%) or overused (14%).

- Nearly all members of this group *agree* that they do *not* personally impact ocean health (99% agree; 46% agree very much).
- However, they do see humans in general having an impact on the oceans. Majorities of this cluster *disagree* that:
 - polluted oceans are able to clean themselves (60% disagree; 32% very much);
 - the oceans are so large, it is unlikely that humans will cause lasting damage to them (74% disagree; 41% very much); and
 - we do not need to worry about the health of the oceans because we will develop new technologies to keep them clean (75% disagree; 42% very much).
- When thinking about the oceans, this cluster is among the *least* likely to view the oceans as relaxing (51%), fun (43%), or important for their emotional well-being (18%).
- The Unconnected and Unconcerned rate all the messages lower than other clusters. Those that have the most appeal include: the recreational uses of the oceans (27% extremely convincing); personal responsibility (25% extremely convincing); and that oceans contain the last unexplored areas on earth (25%).
- This group is also less likely to think any of the solutions tested in the survey are effective ways of protecting the oceans.

How to appeal to them?: We call them Unconnected and Unconcerned because they express little personal connection to the oceans and relatively low personal concern about ocean health. This segment of the population is in need of education about ocean health and individuals' role in ocean destruction.

Finding members of this group should not be too difficult. They are among the most likely to visit aquariums and science museums. It seems however they are not currently absorbing the message of ocean protection from these visits. Since this group does not possess an emotional connection to the oceans, aquariums and science museums may best reach this cluster through exhibits that describe the balance of nature and the impact that oceans have on their daily lives.

Therefore, three strategies may work best with this cluster:

Illustrate the role of oceans in the balance of nature and how that impacts individuals' lives;

Educate this group about the current state of ocean health; and

Demonstrate how individual actions seriously affect ocean health.

5. Landlocked and Unconcerned 10% of total population

The Landlocked and Unconcerned is the least likely cluster to live near the ocean, and its members place the lowest personal importance on ocean protection.

The Landlocked and Unconcerned need a great deal of education about the oceans and threats to ocean health. At the moment, they are among the most likely to believe that oceans are indestructible.

It will be difficult for aquariums and science museums to reach this group. Zoos will have a greater chance educating this segment of the population.

Who are they? The group accounts for 10% of adults. Demographically, this group is older: 26% are 60 years old or older and 51% are over 45 years old. There are also more men (57%) than women (43%) in this group, and it is the most likely to be married (61%).

The Landlocked and Unconcerned have higher levels education than other groups (41% college or more) and are more professional (29%).

A relatively small proportion of this cluster lives near the ocean (22%), and we are more likely to find the Landlocked and Unconcerned living in a small city or town (37%), and in the midwest (30%) or south (35%) than in other areas.

Politically, this is the most Republican cluster (41%) and among the most active in communities. They are the most likely newspaper readers (53% read a newspaper about every day) and most likely to have contacted an elected official about a matter of public business (46% ever; 34% in the last year).

However, they do not have strong personal connections to the oceans. This cluster is among the least likely to attend aquariums (20% in the last year); science museums (24% in the last year) and to visit the beach (40% in the last year); go boating (13% in the last year) or fishing (8% in the last year).

The Landlocked and Unconcerned are unlikely contributors to environmental groups (32% ever) or zoos or aquariums (22% ever). These factors tell us that this group is not an audience aquariums or science museums are likely to reach at the moment.

However, they do go to the zoo in about the same proportion as the population as a whole (37% in the last year).

Attitudes on the issues: Throughout the survey, the Landlocked and Unconcerned express the least amount of concern about the oceans and their health than does any other cluster.

- The Landlocked and Unconcerned place the lowest personal importance on protecting the oceans (100% rate protecting the oceans between 1 and 5).
- Virtually none of this cluster considers damage to the oceans an extremely serious environmental problem (open ocean 1% extremely serious problem; coastal waters 3%; ocean beaches 2%).
- The Landlocked and Unconcerned are the most likely to rate ocean health as good or excellent (32% coastal waters; 33% deep oceans), and are also the least likely to think of the oceans as polluted (9%) or overused (7%).
- A majority of this group *agrees* that it does *not* personally impact ocean health (57% agree; 31% agree very much).
- The Landlocked and Unconcerned are among the most likely to *agree* that:

polluted oceans are able to clean themselves (52% agree; 15% very much agree);

the oceans are so large, it is unlikely that humans will cause lasting damage to them (44% agree; 19% very much agree); and

we do not need to worry about the health of the oceans because we will develop new technologies to keep them clean (44% agree; 14% very much agree).
- They are the least likely to say the oceans are essential to human survival (56% very much agree).
- When thinking about the oceans, a relatively small proportion of this cluster views the oceans as relaxing (43%), fun (43%), or important for their emotional well-being (12%).
- The Landlocked and Unconcerned rate all the messages much lower than do other clusters. Those messages that do have the most appeal include: the recreational uses of the oceans (17% extremely convincing); and that oceans contain the last unexplored areas on earth (16%).
- This group is also the least likely to think any of the solutions tested in the survey effective ways of protecting the oceans.

How to appeal to them?: Communications to the Landlocked and Unconcerned need to first educate this segment about the interconnectedness of all living things and the

importance of ocean health and its impact on humans. It may be useful with this cluster to use a more utilitarian approach and explain how oceans benefit their lives.

After the basics are provided, this cluster needs to know about the vulnerability of the oceans and the threats that humans, and individuals specifically, pose to ocean health.

Once activated this cluster is likely to become involved in issues. At the moment, zoos appear to be the best entrée to finding and communicating with this segment of the American public.

THE OCEAN CLUSTER ANALYSIS AT A GLANCE

| | Young Beachlovers (20%) | ZAM Goers (30%) | Older Beachlovers (20%) | Unconnected and Unconcerned (20%) | Landlocked and Unconcerned (10%) |
|--------------------|---|--|---|--|--|
| Description | Younger High women High kids High minority Low educ Low income High Dems and indeps | Younger High educ | Older High women Slightly more minority Least educ Lowest income High Dems | Older High men | Older High men High married High education High Reps |
| Where to find them | At the beach Fishing Aquariums Science Museums Envrio Donors Zoo and Aquarium donors | At the beach Boating Fishing Aquariums Zoos Science museums National or state parks Enviro donors Zoo and Aquarium donors Comm vols | At the beach Fishing Blue-collar jobs Northeast or south | Science museums Aquariums | Small city or town Midwest or south Professionals Zoo Not living near ocean |
| Key Attitudes | High personal importance on protecting oceans Belief in personal impact on ocean health Believe oceans are vulnerable to lasting damage Believe ocean health is a serious enviro problem Among most likely to believe oceans are relaxing, fun, and important for personal well-being | Low to moderate personal importance on protecting oceans Belief in personal impact on ocean health Believe oceans are vulnerable to lasting damage | High personal importance on protecting oceans Does <i>not</i> acknowledge personal impact on ocean health Believe oceans are vulnerable to lasting damage Believe ocean health is a serious enviro problem Less likely to believe the oceans are relaxing, fun, and important for personal well-being | Moderate personal importance on protecting oceans Does <i>not</i> acknowledge personal impact on ocean health Does not believe oceans are vulnerable to lasting damage Less likely to believe the oceans are relaxing, fun, and important for personal well-being | Low personal importance on protecting oceans Does <i>not</i> acknowledge personal impact on ocean health Does not believe oceans are vulnerable to lasting damage Least likely to believe the oceans are relaxing, fun, and important for personal well-being |
| Messages | Recreation Personal responsibility Yet to be discovered species | Recreation Personal responsibility Last unexplored areas on earth | Recreation Personal responsibility Yet to be discovered species | Recreation Personal responsibility Last unexplored areas on earth | Rate all much lower than other clusters |

V. Methodology

Sample

The universe for this study is all adults 18 and older in the continental U.S. living in telephone-equipped households. The sample was selected in two stages. In the first stage, the sampling frame was a list of randomly created phone numbers (a technique known as random digit dial or RDD) for telephone exchanges in the U.S. created by Survey Sampling, Inc. Telephone numbers were selected at random from this frame.

The second stage of sampling was selection at the household level. In residences where working telephones were reached, the survey respondents were selected using a random probability method, *i.e.*, interviewers requested to speak with the adult 18 years or older in the household who had the most recent birthday.

The survey consists of a total of 1,500 completed telephone interviews. All sample surveys are subject to possible sampling error; that is, the results may differ from those which would be obtained if the entire population under study were interviewed. The margin of sampling error for the entire survey is plus or minus 2.5 percentage points at the 95% level of confidence. This means that in 95 out of 100 samples of this size the results obtained in the sample would fall in a range of plus or minus 2.5 percentage points of what would have been obtained if every individual adult in the U.S. had been interviewed. For example, the margin of sampling error for men (n=734) is plus or minus 3.7 percentage points, and for women (n= 766) is plus or minus 3.7 percentage points. Other non-sampling error may also contribute to total survey error.

Questionnaire and Interviewing

The questionnaire used in this study was designed by BRS in collaboration with Gary Ferguson of American Viewpoint and in consultation with Meg Bostrum, Bill Mott, Paul Boyle, Vikki Spruill, as well as numerous other members of The OCEAN Project.

A draft of the questionnaire was subjected to a pretest, resulting in modifications to the questionnaire both in terms of question wording and length.

The fieldwork was conducted by telephone using a computer-assisted telephone interviewing (CATI) system, from July 24 to August 8, 1999 by a team of professional,

fully trained and supervised telephone interviewers. A briefing session familiarized the interviewers with the sample specifications and the instrument for this study. The interviews averaged 20 minutes in length. BRS monitored the interviewing and data collection at all stages to ensure quality.

Data Analysis

The demographic characteristics of the sample, obtained via the selection methods described above, were matched to Census population estimates for the U.S. The data collected have been weighted statistically to bring age and race into their proper proportions for the population. The following table shows the demographic composition of the survey respondents.

Composition of the survey interviews

| | Unweighted # | Unweighted % | Weighted % |
|------------------------|---------------------|---------------------|-------------------|
| Total | 1500 | 100% | 100% |
| Male | 734 | 49% | 48% |
| Female | 766 | 51 | 52 |
| 18-29 | 339 | 23% | 24% |
| 30-44 | 446 | 30 | 29 |
| 45-59 | 405 | 27 | 27 |
| 60+ | 310 | 21 | 20 |
| White | 1207 | 81% | 75% |
| African American | 131 | 9 | 12 |
| Hispanic | 101 | 7 | 9 |
| High school or less | 530 | 35% | 35% |
| Some college | 466 | 21 | 31 |
| College+ | 487 | 33 | 32 |
| <\$25K | 332 | 22% | 23% |
| \$25K-\$49K | 486 | 55 | 33 |
| \$50K+ | 287 | 19 | 19 |
| DK/Refuse | 205 | 14 | 13 |
| Blue Collar | 477 | 32% | 31% |
| White Collar | 384 | 26 | 26 |
| Professional | 372 | 25 | 25 |
| Northeast | 273 | 18% | 20% |
| Midwest | 346 | 23 | 23 |
| South | 549 | 37 | 35 |
| West | 332 | 22 | 22 |
| City | 294 | 20% | 22% |
| Suburban | 330 | 22 | 21 |
| Rural | 849 | 56 | 55 |
| Live near ocean | 530 | 35% | 37% |
| Do not live near ocean | 952 | 64 | 62 |

All the questions in this study have been cross tabulated by demographic and other characteristics, such as gender, age, education, and household income. Other statistical analysis performed using selected questions include: standard factor analysis with varimax rotation; K-way cluster technique; and stepwise multiple linear regression. Tables in the text of the report usually use cross tabs selected for their interest to the issue at hand, or because they show differences in answers among or between different subgroups of the population.

When looking at the computer generated cross tabulations, most of the categories used are self explanatory. Others that benefit from explanation are these:

Race: This variable includes the respondents' self-identification of their race or ethnicity. The *white* category is white non-Hispanics, *black* is non-Hispanic blacks or African-Americans, and *Hispanic* includes participants from all races who self-identify as Hispanic.

Live near ocean: This variable includes respondents' answers to the question, "Do you live within a two hour drive of the ocean?" Those who answered "yes" are considered living near the ocean.

Region: Regional categories are based on the Census definition of geographic region in the United States. The regional breaks are as follows:

| Northeast | Midwest | South | | West |
|------------------|----------------|----------------------|----------------|-------------|
| Connecticut | Illinois | Alabama | Maryland | Alaska |
| Maine | Indiana | Arkansas | Mississippi | Arizona |
| Massachusetts | Iowa | Delaware | North Carolina | California |
| New Hampshire | Kansas | District of Columbia | Oklahoma | Colorado |
| New Jersey | Michigan | Florida | South Carolina | Hawaii |
| New York | Minnesota | Georgia | Tennessee | Idaho |
| Pennsylvania | Missouri | Kentucky | Texas | Montana |
| Rhode Island | Nebraska | Louisiana | Virginia | Nevada |
| Vermont | North Dakota | | West Virginia | New Mexico |
| | Ohio | | | Oregon |
| | South Dakota | | | Utah |
| | Wisconsin | | | Washington |
| | | | | Wyoming |