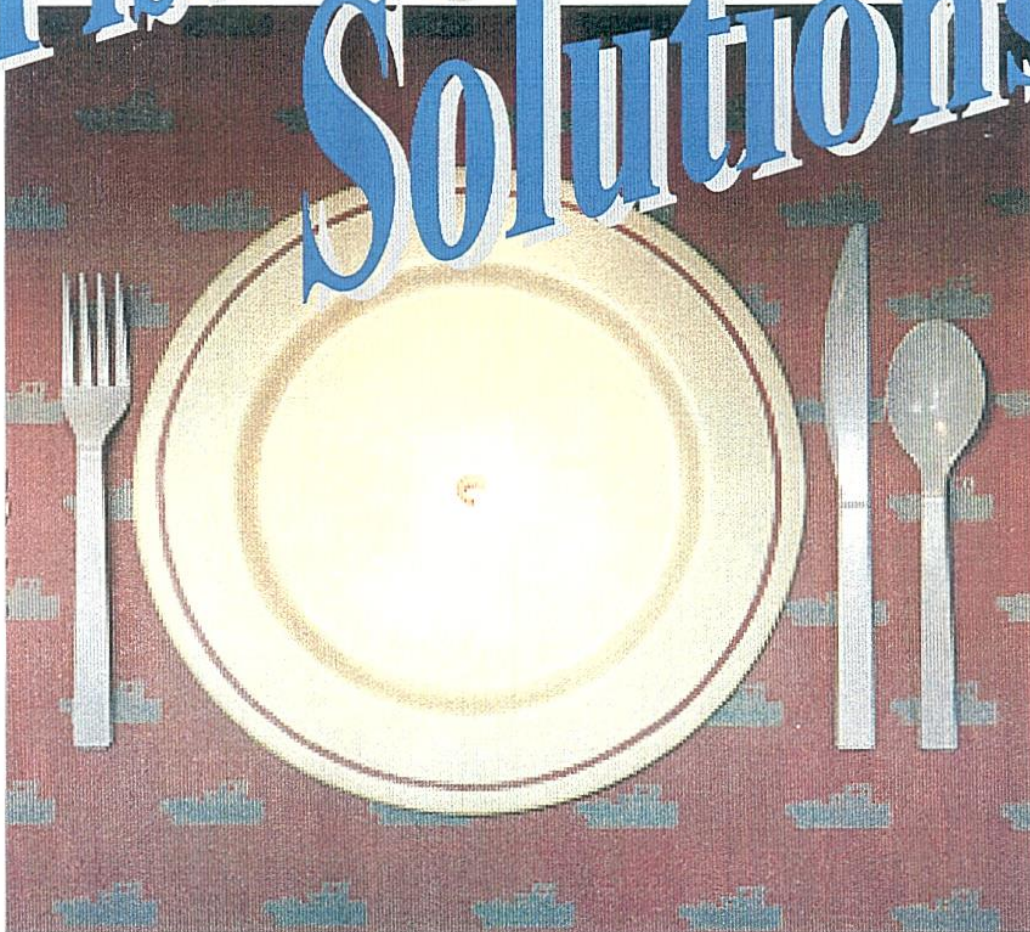


Summative Evaluation: Visitors' Reactions to

Fishing for Solutions



Research report by People, Places & Design Research

Summative Evaluation of “Fishing for Solutions”

Contents

Executive Summary	page 1
Introduction to the Evaluation Report: Answers to Your Questions	page 2
1. Getting the main messages	
2. Affective experience	
3. Balancing the messages	
4. Media choice and effectiveness of design elements	
A. Overall Reactions to the Exhibit	page 9
1. Perceptions of the main message	
2. Feelings about the exhibition	
3. What visitors liked most	
4. Disappointments	
B. Balancing the Messages: Problems vs. Solutions	page 19
1. Visitors’ perceptions of problems vs. solutions	
2. Perceptions of the “tone” of the exhibition	
3. Perceptions of the amount of information	
C. Extent of Use: What Visitors See	page 26
D. Effectiveness of Selected Elements	page 28
1. Introductory Video	
2. Shrimp Lab	
3. Wasted Catch Video	
4. Turtle Excluder Device	
5. Population Explosion Video	
6. Dinner Table Dioramas	
7. Help Turn the Tide	
Results of the Mini-Studies: Introductory Video, Shrimp Lab, Wasted Catch Video, Dinner Table Diorama	
E. Conservation Attitudes: Segments of the Audience	page 47
F. Characteristics of the Sample	page 51

Prepared by
People, Places & Design Research
Northampton, Massachusetts
April 1998

Executive Summary

This evaluation was commissioned to explore visitors' reactions to and experience of *Fishing for Solutions*. The exhibit team sought feedback about whether visitors are perceiving the main messages, what mood people are leaving with, and issues of media choice in exhibit design, among other topics. To provide systematic information on these issues, interviews were conducted with a sample of 343 randomly selected visitors as they were exiting from the exhibition, plus "mini-studies" of 40 people each were conducted at four specific exhibits. Details about the main sample of visitors are presented in the last section of this report.

Visitors recognize that *Fishing for Solutions* is about conservation, and many people indicate that they appreciate this emphasis — for example, a good proportion of visitors (43%) gave the exhibition a very high rating (a similar rating to Mating Games, lower than Jellies and higher than Deadly Beauties), and most visitors (87%) thought that this exhibition enhances their visit to the aquarium. A few visitors seemed to be uninterested in the conservation topic, saying that they were primarily interested in seeing live animal exhibits. Other highlights of the results are:

- The sample of visitors who see *Fishing for Solutions* is representative of the aquarium's overall audience (both in terms of demographics and conservation attitudes). Staff worries about some visitor segments not entering the exhibition appear to be unfounded.
- An estimated 73% of the visitors leave the exhibition with an awareness of the principal part of the main message – the idea that fisheries are being depleted and that this is a serious problem. Some of these people are also aware of other parts of the main message, involving the connection with feeding the world, and/or the need to take action. An additional 22% understood that the exhibition is about conservation, but did not articulate any of the main messages specifically.
- This exhibition affects people's feelings, more than just providing information. Many people leave with a sobering awareness of problems; some felt depressed, while some felt depressed *and* hopeful, about whether anything can be done about such problems. Visitors commented that the Wasted Catch video and the Population Explosion video were especially striking, and people expressed supportive reactions about these exhibit features.
- Most visitors grasped some of the balance of problems and solutions in this exhibition, indicated by the fact that they were clearly able to distinguish between issues that were presented here and related ones that were not presented. However, there was a higher awareness of *problems* (e.g., a 79% recognition rate of problems shown in a list) compared to *solutions* in the exhibition (a 64% recognition rate).
- The weakest part of the messages perceived is about individual actions. For example, only 25% of the people who saw the display about joining an organization ("Help turn the tide...") thought it was interesting – the lowest of a selection of seven elements evaluated. Also, fewer people came away from this exhibition with a sense of the efficacy of personal action (68%), compared to the results from the Conservation Baseline or Phase 2 studies (85%, 86%). This difference may be due to the specific nature of the problems presented here and/or due to the perceived magnitude of those problems (fisheries declining globally, the inevitability of world population growth) compared to a general sense of environmental conservation that visitors were thinking about in previous studies. However, this does not diminish the finding from previous studies that visitors are interested in what they can do to help with environmental problems.

Introduction to the Evaluation Report: Answers to Your Questions

This section of the report interprets the research findings in relationship to questions raised by the exhibit developer, designer, and other aquarium staff. The principal topics summarized in this introduction are: 1) getting the main messages, 2) visitors' affective experience, 3) balancing the messages, and 4) issues of media choice in the design. Other specific questions are answered in the research report itself.

1. Getting the main messages

Issue: Many questions were raised about visitors' awareness and reactions to the main messages (i.e., "Shrimp fisheries, like most fisheries around the world, are in trouble—but it's not too late to turn the tide. The ocean can't keep up with our growing need for food for our growing population."). The issues were framed in a way which focused on visitors' reaction to the conservation emphasis in general, as well as their reactions to the components of the main message (e.g., that fisheries around the world are in trouble, that this has to do with feeding people, the growing number of people in the world, that we can do something about it). Another aspect of this issue is how visitors perceive specific topics as part of the whole — e.g., does the Shrimp Lab support the overall conservation message as we hoped it would, or is it primarily experienced as a live animal display?

Why we care: We want to know if the exhibition successfully conveyed the complexity of the fisheries issues or not. If visitors only picked up a limited number of messages or the same few messages, we might want to consider whether this was too much to try to get across.

Results: The evidence is clear that visitors understand this is an exhibition about conservation, and their reactions are much more focused on conservation issues than on the live animals /shrimp. Multiple messages are perceived, but in varying degrees.

Sources of results: exit interviews, plus a 'mini-study' about the Shrimp Lab

Exit interviews: From the first question in the interview, "In your opinion, what's this exhibit about?" almost all the answers were about conservation, and several of the types of answers were direct reflections of intended main messages (as indicated by ♦ in the table below). Visitors are much more likely to come away with the idea that "there's an increasing problem with food supply" than they are to associate food supply problems with overpopulation, or to think the main message is that we should do something about the problems; however, from other questions it is clear that many people recognize that action is needed — it's just that the existence and character of the problem are new to many people, so the main message is that "a problem exists."

In your opinion, what is this exhibit about? (categories from an open-ended question)

27%	♦ overfishing, depleted fisheries	9%	wasted catch
26%	conservation, preservation of resources (general answers)	7%	fishing industry, problems, methods, impacts
17%	♦ food supply, feeding the world	4%	♦ we need to do something (urgency)
16%	solutions, what's being done	4%	sea life, shrimp
11%	♦ overpopulation	3%	other
10%	educational, informative, raise awareness	< 1%	blank, no answer

[exit interview data, continued] Using visitors' answers to five such open-ended questions (what's this about, what did you like about it, etc.) from the beginning of the interview, data analysis indicates that 73% of the sample were judged to "get the main message" (there is overfishing, fisheries are depleted). An additional 22% understood that the exhibition was about conservation, but did not articulate any of the main messages specifically. Only 5% had little or no awareness of the main messages or the conservation theme. Spontaneous mention of other related messages was as follows: 30% expressed the message that something needs to be done, 23% expressed the message about overpopulation, and 19% expressed a message about wasted catch. [for more details, see section A.1 of the report]

Case study: 'Shrimp Lab' mini-study: Among the 40 people interviewed immediately after seeing the Shrimp Lab, most of them came away thinking that the point of that exhibit was to show the shrimp life cycle, and about half came away with some awareness of the topic of shrimp farming — of course, the Shrimp Lab is about both, but it seems that this particular exhibit is not so strong in prompting people to think about the overall conservation theme or main messages (*seeing the various stages/sizes of live shrimp* is the main experience). For example, when asked "How does this display relate to the message of the rest of the exhibit?", 16 of 40 people (40%) related it to a conservation message, whereas 10 people (25%) said it was about shrimp and didn't mention the rest of the exhibit, and 13 people (33%) said they had no idea about how the Shrimp Lab related to the rest of the exhibit.

2. Affective experience

Issue: There were many questions about whether this exhibition reached people in an affective way: How do visitors *feel* about the conservation emphasis of this exhibition? How do they feel about the message of the exhibition? What is their attitude towards fishermen, fish, farming fish, human population growth? Do they feel the exhibit is anti-fishermen? Do they have positive reactions to the conservation theme, or not? How do visitors feel as they leave the exhibition – motivated, or depressed? Did it turn them off?

Why we care: Similar to our measures in conservation studies, we want to keep a tab on whether we're alienating visitors—making them too upset—are they comfortable with media that manipulate their emotions, are they comfortable here finding out about conspicuous situations such as wasted catch? Do they feel manipulated and turned off, or concerned and curious, or even bored?

Results: Visitors responded positively to this exhibition. Many said that it left them with personal feelings such as a sobering awareness of problems, plus despair as well as hope about whether anything can be done about such problems.

Sources of results: exit interviews, and a mini-study about the Wasted Catch video

Exit interviews: For the overall experience, this exhibition was rated about the same as *Mating Games* (not as high as *Planet of the Jellies*, higher than *Deadly Beauties*) — 43% of the sample rated it extremely high (a '9' or '10' on a 10-point scale), and an additional 47% gave moderately positive ratings (total of 90% positive). What did they like about it? — the top five answers were: ♥ the shrimp & live animals, ♥ the solutions and alternatives, ♥ it was educational and informative, ♥ information about

fisheries, especially the Wasted Catch video, and ♥ the Population Explosion video and related information.

Regarding their *affective experience*, 77% said they were leaving with some type of mood or personal feeling about the exhibit (an open-ended question). When they were shown a list of possible reactions the two most common reactions they seemed to resonate with were “it was sort of depressing,” and an appreciation of specific information on conservation issues:

answers from an open-ended question

Are you leaving with any mood or personal feeling about the exhibit? (77% yes) Like what?

1. thought-provoking, more awareness (19%)
2. depressed, sad, anxious, pessimistic (14%)
3. I'll eat less shrimp, fish (10%)
4. good message by the aquarium (7%)
5. angry about wasted catch (6%)
6. something needs to be done (5%)

[several other categories of answers, by 2% - 5%]

choice of reactions read from a list

Do any of these phrases describe your reactions? (select as many as you think)

1. it was sort of depressing (61%)
2. I liked conservation information (49%)
3. it made me feel hopeful (36%)
4. the live shrimp were great (28%)
5. the issues are so complicated ... (20%)
6. it was too “one-sided” (8%)

[see full phrasing in section A.2 of this report]

The results also show that a high proportion of visitors (87%) said this exhibit makes a visit to the aquarium “more interesting” (slightly higher than the 82% who said so after seeing *Sharks*, and 80% with *Mating Games*).

Case study: the ‘Wasted Catch video’ mini-study: Every one of the 40 people interviewed after seeing this video understood the point of it (from their point of view it was the large volume of animals caught compared to the small number of shrimp collected), and almost everyone (37 of 40) thought that the fish were dead by the time they were thrown back. Yet people were moved by it beyond learning these facts — almost everyone (35 of 40 = 88%) agreed that this video has an emotional content that affects people’s feelings more than just giving information. These visitors clearly support the spirit of this video because almost everyone (37 = 93%) also thought it was ‘appropriate’ to have exhibits “that surprise or shock people like this.” In fact, this enthusiasm for strong images seems to exceed people’s confidence in the accuracy of the information: 67% said it did not seem biased and political (but 26% thought it was biased, 8% were unsure), and only 58% were confident that the video was scientifically accurate (10% thought it wasn’t accurate, 31% were unsure). Perhaps visitors think that the aquarium is showing unrepresentative situations or highlighting bad practices, but even so, that doesn’t seem to bother them because the message is worthwhile: *almost everyone (93%) said they would like to see strong visual images like this in future exhibits.*

3. Balancing the messages

Issue: How clear are the messages — clear enough that they are perceived accurately, or relatively muddy and ambiguous? Do visitors notice that the exhibition presents possible solutions as well as problems? Do visitors think that we’re presenting more problems than solutions? Do they think that we seem prescriptive — e.g., don’t eat shrimp? Do visitors leave with a sense of confusion about the issues, or some knowledge of what they could do, or a desire to take some action?

Why we care: As part of learning what effect we can expect from exhibits on conservation, we’d like to know how people perceive the tone and balance of messages here.

Results: There are many reactions to the “tone” of this exhibition, including appreciation and supportive attitudes, despair, and suggestions to “lighten up” — but most reactions were positive. Two-thirds of the sample said they felt as though there were more *problems* presented than *solutions*, but many of them thought that it was a good idea to present more problems, in order to increase awareness and get the message across. Despite the salience of some problems, it is clear that visitors were paying attention to the interpretation, because they could clearly distinguish between problems/solutions presented in this exhibition vs. other related problems which were not actually presented.

Sources of results: exit interviews, plus a ‘mini-study’ about the introductory video

Exit interviews: Visitors were shown lists of problems and solutions that may or may not have been presented in the exhibition (each list included 5 actual problems or solutions, and 3 problems or solutions which were not in the exhibition). Visitors were clearly able to distinguish between problems/solutions which were vs. were not represented in the exhibition. However, recognition of problems was greater than recognition of solutions: 3 of the 5 problems were recognized by 90% of the visitors interviewed, whereas only 1 solution reached 90% awareness, as shown in the table below:

<i>Which of these problems did you see ...?</i>		<i>Which of these solutions did you see ...?</i>	
overfishing	94%	responsible fish/shrimp farming	90%
human population growth	90%	turtle excluder devices in nets	73%
wasted catch	90%	need for scientific research	63%
destroying coastal habitats	62%	protection of mangroves	54%
some farms hurt mangroves	57%	give \$ to nature organizations	40%
introduced species ...	13%	new jobs for fishermen	17%
damage to coral reefs	11%	genetically-engineered fish	16%
sportfishing by divers	7%	international tariffs on seafood	11%

[for full wording of these items, see section B in the research report]

Visitors recognized an average of 3.93 of the 5 *problems* presented in the exhibition (a 79% recognition rate), and only 0.31 of the 3 problems which were not presented (a rate of 10% incorrect guessing). The awareness of *solutions* was slightly lower: visitors recognized an average of 3.20 of the 5 “correct” solutions (a 64% recognition rate), and only 0.44 of the 3 solutions which were not presented (a rate of 15% incorrect guessing).

For future exhibits, half of the visitors (51%) thought the “tone” of the interpretation was fine the way it is here, and the other half was split between wanting a stronger tone

(22%) or wanting a different tone (24%); only 3% suggested having a tone which is not as strong.

Case study: Introductory Video mini-study: Among the 40 visitors interviewed immediately after seeing the introductory video (only people who had not seen the exhibition before), there were a variety of expectations about what was to come in the exhibition: some people anticipated a negative message in the exhibition, and some anticipated a constructive message, and some phrased their expectations in neutral descriptive terms. When visitors were asked about the way that commercial fishermen are portrayed in the video their answers indicate a balanced perspective, because only 15 of 40 visitors (38%) said that the fishermen seemed primarily concerned with their jobs, whereas 14 visitors (35%) said that fishermen have a genuine and shared sense of concern, and another 6 visitors (15%) described a practical perspective about the fish supply which was not clearly self-centered nor conservation-oriented.

4. Media choice and effectiveness of design elements

Issue: We want to know about people's reactions to exhibit elements which were about issues instead of live animals. For example: what did visitors get out of the dioramas, wasted catch video, and the population video? Are these dioramas an effective medium for communicating complicated messages such as the idea that world population growth is pressuring and will continue to put pressure on the demand for seafood?

Why we care: Are these new kinds of media we used popular? effective? —this information will help us decide how or whether to use them again (where should we spend our money?).

Results: In visitors' reactions to this exhibition, there is clear support for the variety of exhibit elements which convey a message but do not show live animals. The top five answers of what people said they liked here (an open-ended question) included: (#2:) solutions and alternatives such as TEDs and fish farms, (#4:) the 'wasted catch' video and related information, and (#5:) the 'population explosion' video and related information. Also, direct questioning using photos of seven exhibit features illustrating different types of media in the exhibition indicated that each one was perceived to add something to the conservation message (percentages range from 24% to 50%).

Sources of results: exit interviews, plus a 'mini-study' about the Dinner Table Diorama

Exit interviews: Visitors were shown a photo board of seven exhibit features and asked which of these they had seen, which were interesting, which added to the conservation theme, and which they would like to see in future exhibits. The *Wasted Catch* video and the *Population Explosion* video were rated the highest (as "interesting"), and most of the designed elements were considered to be interesting by at least half of the sample. The Introductory video and the "Help turn the tide..." wall were interesting to less than a third of the visitors interviewed. Two elements were most clearly perceived to add to the conservation theme: the *Wasted Catch* video, and the net showing a *Turtle Excluder Device*. The *Population Explosion* video and "Help turn the tide..." activities were next-highest in adding to the conservation theme. (comparative data are shown in the table on the next page). (Note: No pictures of live animals were shown on the photo board; this was intended to be a comparison of design treatments and features other than typical aquarium tanks.)

summary of specific exhibit features shown on a photo board, ranked by the proportion of visitors who thought each was interesting:

<i>exhibit features</i>	<i>saw it?</i>	<i>OF the people who saw it:</i>		
		<i>interesting?</i>	<i>conservation?</i>	<i>use in future?</i>
Population Explosion video	96%	68%	38%	39%
Wasted Catch video	95%	66%	50%	44%
Turtle Excluder Device net	87%	56%	49%	43%
Shrimp Lab	94%	52%	31%	52%
two Dioramas	87%	42%	28%	27%
Introductory video	73%	28%	24%	22%
“Help turn the tide...”	75%	25%	34%	25%

Case study: ‘Dinner Table Diorama’ mini-study: Every one of the 40 people who stopped to look at this diorama came away with a reasonable message — they thought that the increasing human population is a problem, that we need to think about how much people’s need for food is impacting the fish supply, or there’s a need for conservation and better management of resources. Most of these visitors were moderately supportive of this diorama: 65% thought it was ‘great’ or ‘good,’ 83% said it was appropriate, and 83% said it did not seem biased and political. However, the pattern of their comments indicates that this is an exhibit that *makes people think* — some people like that, but some people aren’t so interested in having to think. Of the 40 people interviewed here, 24 (60%) said they would like to see extra design touches such as this in future exhibits, for reasons such as: it’s interesting and educational, raises people’s awareness, it’s an attention-getter, and it pertains to the conservation messages. However, 6 people (15%) said they would not like to see exhibit elements like this, and 10 people (25%) were non-committal; their reasons included preferring live animal exhibits rather than “museum” exhibits, or having no comment about whether they would like it or not. This exhibit element is virtually the only one that people objected to, but it was a small minority of people who said they didn’t believe the message of human population growth or that it is a problem.

The primary themes discussed in this introduction — getting the messages, affective experience, balancing the messages, and media choice — address many of the principal questions raised by the exhibit developer, Jenny Sayre Ramberg, and the designer, Jeff Hoke. Detailed data about these and other aspects of visitors’ use and perceptions of the exhibition are presented in the remainder of this report.

A related issue: who’s the audience?

While investigating visitors’ reactions to *Fishing for Solutions*, we were also conscious of an underlying issue: how the audience’s attitudes and interests about conservation may be related to their experience here. For example, there has been speculation that some visitors may not be entering this exhibition because they are uninterested in conservation. If this were true, aquarium staff might be disappointed by the idea that the exhibition’s messages would only be seen by people who already support environmental issues (e.g., “are we

preaching to the converted?”). To explore these issues, we included some questions in the exit interviews to help us to analyze visitors’ conservation attitudes in relationship to the use and perception of *Fishing for Solutions* (the questions were selected from ones that were already used in the Conservation Baseline and Conservation Phase 2 studies).

Two important conclusions are evident about the character of the audience for this exhibition:

a) ***This exhibition is attracting a cross-section of aquarium visitors*** (not just conservation-minded visitors). The aquarium’s 1997 marketing surveys showed that a smaller percentage of visitors (62%) reported using *Fishing for Solutions* compared to the percentage which has been typical of previous temporary shows (usually around 90%) – leading some aquarium staff to speculate that some segments of the audience may be choosing not to go into the exhibition. However, the fact that this study found the exhibition’s visitors to be quite representative of the aquarium’s whole audience suggests that it is not just attracting a specialized (environmentally-oriented) audience. The evidence for a “representative audience” is found in both the profile of conservation attitudes (which is virtually the same as it was in the conservation studies), as well as the demographic profile (which would be expected to include differences in education level and prior experience with the aquarium, if the audience were different). Instead, the drop in exposure to temporary exhibitions may have been in effect since the Outer Bay wing opened, because visitors now have more to see and some of them may not be using the upper floors of the original building.

b) ***The experience of this exhibition is different depending on visitors’ conservation attitudes.*** This is a normal and expected phenomenon, as people who have pre-existing interests in a subject are likely to find it fulfilling and to appreciate getting more information about it. In the conservation studies, we had used measures of attitudes to define several audience segments: *active* in environmental concerns, *sympathetic* to environmental concerns (we sometimes differentiate between ‘high sympathetic’ and ‘low sympathetic’), and *neutral/unsympathetic* visitors. Environmentally-‘active’ visitors are more supportive of this exhibition than other people are, but the environmentally-‘sympathetic’ people have reactions which are quite similar. (‘Active’ and ‘high-sympathetic’ people comprise about 69% of the audience, ‘low sympathetic visitors’ are estimated at 18% and ‘unsympathetic’ visitors are about 13% of the audience.) For this exhibition, the significant differences in reactions are mostly due to the small proportion of ‘unsympathetic’ visitors having more negative opinions about the exhibition. For example:

- Visitors classified as ‘unsympathetic’ to environmental concerns gave lower ratings of the exhibition (only 18% rated it very highly, vs. 46% among the rest of the sample).
- ‘Unsympathetic’ visitors are less likely to say they have any personal feeling about the exhibition (52% vs. 82% among the others).
- ‘Unsympathetic’ and ‘Low-sympathetic’ visitors are more likely to say it was “one-sided” (27% and 18% vs. 3% and 1% among the ‘active’ and ‘high-sympathetic’ people).
- ‘Active’ and ‘High-Sympathetic’ visitors are more likely to appreciate getting specific information about conservation issues (61% and 55% vs. 34% and 27% among ‘low-sympathetic’ and ‘unsympathetic’ people).

In essence, this exhibition is well received among the great majority of aquarium visitors; however, some visitors are unsympathetic to conservation and they are less enthusiastic about *Fishing for Solutions*.

A. Overall Reactions to the Exhibit

1. Perceptions of the main message
2. Feelings about the exhibition
3. What visitors liked most
4. Disappointments

A. Overall Reactions to the Exhibit

1. Perceptions of the main message

OVERVIEW: Nearly all of the visitors (95%) got a conservation message from this exhibit; many perceived one or more of the specific intended messages, while some articulated only the general theme of conservation. The relative order of messages perceived was: 1) the problem of overfishing, 2) the problem of food supply, 3) the problem of overpopulation, and 4) a sense of urgency that something must be done. This order is illustrated below using the results of one open-ended question. A more comprehensive analysis of the multiple messages is presented on the next two pages.

In your opinion, what's this exhibit about?

27%	overfishing, depleted fisheries
26%	conservation, preservation of resources (general answers)
17%	food supply, feeding the world
16%	solutions, what's being done
11%	overpopulation
10%	educational, informative, raise awareness
9%	wasted catch
7%	fishing industry, problems, methods, impacts
4%	we need to do something (urgency)
4%	sea life, shrimp
3%	other
>1%	blank, no response

Representative sample of answers: (What's this exhibit about?")

<i>Sea life</i>	<i>Population growth & fishing & methods of fishing</i>
<i>Better ways of fishing and ecology</i>	<i>Maintaining the fish life</i>
<i>Resource management</i>	<i>State of the fisheries & its threat</i>
<i>Population and food demand</i>	<i>Preserving sea, sea animals used as food</i>
<i>Making people aware of the environmental conditions, repercussions of fishing industry</i>	<i>balance between seafood & environment</i>
<i>To show impact of population and fisheries on the world</i>	<i>Pollution of the ocean by overfishing</i>
<i>Fish farming, availability of seafood for the future</i>	<i>Future of aquatic industry</i>
<i>Diminishing quantities of fish</i>	<i>Better methods of preserving fish population</i>
<i>Overfishing, inefficient fishing</i>	<i>Fishing programs, fisheries, supplies</i>
<i>Saving the fish for future populations</i>	<i>Preserving ocean, informative basis</i>
<i>Preservation</i>	<i>Shrimp</i>
<i>Awareness</i>	<i>What we will do to produce food for the future, fisheries</i>
<i>Conservation</i>	<i>Awareness of inadequate supply of fish</i>
<i>Waste is amazing</i>	<i>How we'll maintain fish population and feed the world</i>
<i>Protecting world's fisheries</i>	<i>Problems fisheries face, possible solutions</i>

A.1.b. Coding of ‘getting the messages’(based on answers to the first five open-ended questions)

OVERVIEW: Visitors responses to the first five open-ended questions were analyzed for messages (before they have received too much ‘cueing’ from the interview questions themselves). Nearly three-quarters of the visitors articulated at least one of the specific messages: 26% just mentioned overfishing; 24% got overfishing and something must be done; 17% got overfishing and overpopulation; 6% cited all three messages. Frequent visitors, especially families with children, were more likely to get the messages about overfishing or overpopulation.

73%	got the message about overfishing; fisheries are depleted
24%	also got the message that something needs to be done; what can be done
17%	also got the message about overpopulation
6%	mentioned all three messages
22%	got that it was about conservation but no specific messages
5%	didn’t get any message about conservation

An additional message defined by the data:

19%	got a strong message about wasted catch
-----	---

Who is more likely to get the **overfishing** message?

++	85%	of frequent visitors (3+ previous MBA visits)
	71%	of infrequent visitors (1 or 2 previous visits)
	69%	of first-time visitors
**	92%	of families with children who have visited MBA before
	72%	of families who are visiting for the first time
	68%	of adult-only groups (regardless of familiarity)

Who is more likely to get the message about **overpopulation**?

++	29%	of families with children
	20%	of adult-only groups
++	27%	of repeat visitors
	18%	of first-time visitors
**	28%	of men
	17%	of women

Asterisks (**) denote a statistically significant relationship ($p < .05$).

Plus signs (++) indicate a weaker relationship ($p < .10$) which may be useful to consider when interpreting the pattern of results.

A.1.c. Reactions to the exhibit are related to the perception of messages

OVERVIEW: Visitors who perceived the overfishing message or the overpopulation message were more likely to feel that the exhibit was ‘sort of depressing’ and more likely to see ‘more problems than solutions’ presented (but think this is a good idea). People who articulated the message about overpopulation additionally feel more pessimistic (less likely to think they can do something), and less ‘hopeful’, but were more likely to want a stronger tone in future exhibits.

<u>How does getting the overfishing message relate to feelings about the exhibit?</u>	<i>Among those who:</i>	
	Got the Overfishing Message	Didn't Get it
chose ‘it was sort of depressing’ **	65%	50%
Thought there were:		
more problems presented — a good idea ++	48%	35%
more problems — not a good idea	16%	16%
as many solutions as problems	35%	48%

<u>How does getting the overpopulation message relate to feelings about the exhibit?</u>	<i>Among those who:</i>	
	Got the Overpopulation Message	Didn't Get it
chose ‘it made me feel hopeful’ **	26%	39%
chose ‘it was sort of depressing’ ++	69%	59%
Is there anything you & I can do about the issues shown? **		
yes	52%	72%
no	28%	14%
not sure	20%	13%
Thought there were: **		
more problems presented — a good idea	61%	40%
more problems — not a good idea	9%	19%
as many solutions as problems	30%	41%
If we do another conservation exhibit, the tone should be . . . **		
stronger	31%	19%
different in some way	17%	30%
it was fine as is	52%	51%

A.2. Feelings about the exhibition

OVERVIEW: Most visitors (90%) responded positively to *Fishing for Solutions*; 43% gave very high ratings (which is consistent with the MBA exit survey showing 42% high ratings). Also, 87% said it makes the visit more interesting because it’s educational, it has an important message, and it balances well with the fun aspects of an aquarium visit.

Using a scale of 1 to 10, with 10 being the highest, how would you rate this exhibit?

	Overall Sample	Conservation Attitude ¹		
		Active	Sympathetic	Unsymp.
high (9-10)	43%	51%	46%	18%
moderate (7-8)	47%	43%	47%	57%
low (1-6)	10%	6%	8%	25%

Does this exhibit make your visit to the aquarium more interesting, or does it detract from your visit, or does it have no effect on the rest of your visit?

makes visit more interesting	87%
detracts from visit	1%
has no effect on visit	12%

Differences by gender and conservation attitude:

	Men	Women	Conservation Attitude			
			Active	Hi-Symp	Lo-Symp	Unsymp
makes more interesting	85%	93% **	91%	92%	86%	74% **

Why does it make your visit more interesting? (87% of the sample)

38%	educational, learned something, useful information, awareness, eye opener, something to think about
13%	shows other side to aquarium, seriousness vs. fun
9%	good message, everyone should see it
5%	relates to daily life, local issues
5%	it’s new, different, haven’t seen before
3%	tells about [specific issues] e.g., waste, fishing methods, farming
2%	seeing shrimp, beautiful fish, live displays
2%	makes me want to do something, get involved
2%	presents solutions to problems
7%	other
1%	blank

(adds to 90% because a few people gave multiple answers)

¹ This classification is the same one as was introduced in the ‘Conservation Baseline Study,’ based on people’s answers to two questions: “do you think of yourself as someone who is active, sympathetic, neutral, or usually unsympathetic to environmental concerns?” and “are there any environmental issues that you object to?” The ‘unsympathetic’ group above includes ‘neutrals.’ Refer to page ## of this report for more details about this categorizing of conservation attitudes.

Sample of answers: (why it makes the visit more interesting)

Educational, awareness, etc.

Learned something today, there's another problem in fishing industry
Not a biologist so info I can work with
Like to see special exhibit and have chance to learn something new
I was not aware of all this until I saw it
Informative
I've learned about some of the problems
More educational
Nice to know rather than walk around and pretend to know, learn
Education and prevention
It did show me issues I was not aware of
Awareness, good factual information
Engages me, educates me in area of concern
Enlightening
Thought provoking
More educational than just looking at fish

Other answers

Things are being done
I always wondered how T.E.D.'s work
Looking at fish, here you see how long it takes to grow them
It's a nice exhibit, adds to aquarium
Learned something I can do
Something concerning environment and daily life, we need to eat
I paid more attention to this than I did to the fish
Makes us mad

Shows serious side of aquarium

Seeing exhibits very pleasant but misleading to only see pleasant
Provides different perspective on what aquarium is here to do
Instead of showing cute little animals, shows what a precarious situation it is
It gives the rest of aquarium more meaning
Very different than the rest
You see fish downstairs, shows what's really going on
More educational, not just entertainment
Reality
Round things out, not all fun & games
It shows different side of sea life

Good message

People need to know the negative aspects of not practicing conservation
Emphasizing preciousness of what we walk through
Like seeing people trying to preserve & to educate people
Being socially responsible
It's something everyone needs to know about
Emphasized problems, should be purpose of aquarium to educate on conservation

Why does this detract from your visit? (1% of the sample: 3 people)

Part of exhibit on population growth/overcrowding, some believe taking place
Here to have pleasurable experience
Didn't enjoy as much, not enough interactive things

Why does this have no effect on your visit? (12% of the sample)

2% it's part of the whole experience, no different than the rest
2% not interesting, don't really care, just "ok"
1% didn't like, disagree with it
1% other
5% blank

OVERVIEW: This exhibit did affect people emotionally, in a variety of ways: it was thought provoking, depressing, angering (about wasted catch), hopeful, and it motivated some people to think about changing their fish eating habits. Visitors who are ‘unsympathetic’ to environmental concerns were less affected, but still over half of them said they were leaving with some personal feeling about the exhibit. The most frequently chosen feelings from a list of six ‘phrases to describe your reactions’ were “it was sort of depressing” and “I liked getting specific information about conservation issues” (data shown on the next page).

Are you leaving with any mood or personal feeling about the exhibit?

	Overall <u>Sample</u>	Conservation Attitude		
		<u>Active</u>	<u>Sympathetic</u>	<u>Unsymp.</u>
yes	77%	89%	80%	52%
no / not sure	23%	11%	20%	48%

[if yes] *Like what?*

- 19% eye opener, informative, more awareness
- 14% depressed, sad, anxious, scared, pessimistic, guilty
- 11% will no longer eat shrimp or reduce fish consumption
- 7% good exhibit, it gets the message across
- 6% angry about wasted catch
- 5% something needs to be done about issues
- 4% concern about population explosion & food shortage
- 4% already aware, reinforced feelings, reminded of problem
- 4% concern for serious problem, important to conserve
- 3% optimistic, hopeful, encouraged
- 2% don't like alarmist tone, disagree
- 2% still curious, want more information, will research further
- 1% mixed feelings — first down, then some hope
- 1% exhibit should have done more
- 5% other

Representative sample of answers:
(mood or personal feeling about the exhibit)

Eye opener

Awareness to conservation
Shocking
A thoughtful mood
Don't realize how much is wasted,
very vivid
Made me think, need to find new ways
I didn't realize overfishing was so bad
More knowledge about ecology and
our responsibilities
Informative, interesting

Depressed

Sadness what people have done to destroy
the environment
Wanted to be off the face of the earth after
seeing this
Hopeless
Some sadness, anger, appreciation of how
wasteful we are
Feel terrible about all the fish that are
being thrown back
Depressing in a good way, made me aware

Representative sample of answers: (continued)
(mood or personal feeling about the exhibit)

Won't eat shrimp

No more shrimp-something I can do without
Probably eat a lot less fish
Feel differently about eating all seafood
Not taking much of what I eat for granted
I'll be more careful about seafood I eat in future
Have hot dog instead of shrimp

Good exhibit

Really enjoyed it
Wonderful, great, very educational
Good to get people introduced to fishery resource problems
Very impressed, natural
Great for everyone
Well presented

Other answers

Importance of conservation
Somewhat optimistic
Hoping people actually read captions & it affects them, the way they live & eat
Discouraged but also encouraged
Concern growth of population diminishing food supply
Interested to do more research
Fishing industry needs to be more conscious of the habitat

Population control
Reinforces my environment beliefs
Wish they could show more success like turtle
I wonder if it's really as bad as portrayed
Should move to Australia
Not as interesting as others
Late to change but we have to
Frustration
Waste a lot of other fish just to catch shrimp

Do any of these phrases describe your reactions?

	Overall Sample	Conservation Attitude: ²			
		Active	Hi-Symp	Lo-Symp	Unsymp
it was sort of depressing	61%				
I liked getting specific information about conservation issues	49%	61%	55%	34%	27% **
it made me feel hopeful	36%				
the live shrimp were great	28%				
the issues are so complicated that it's hard to know what to do	20%	11%	19%	19%	32% ++
it was too "one-sided"	8%	1%	3%	18%	27% **

² Conservation attitudes are defined in section E.

A.3. What visitors liked about the exhibition

OVERVIEW: People like the live animals in this exhibition, and there were also a number of other elements mentioned, especially the solutions, the awareness of the problems, the population explosion information, and the wasted catch video.

What are some of the things you liked about the exhibit? Why?

27%	shrimp, live animals
20%	solutions, alternatives (e.g., turtle nets, fish farms)
19%	educational / awareness angle, information
16%	population explosion information / graphic
13%	wasted catch video
7%	exhibit design, presentation, layout
6%	clear & simple labels and visuals
4%	everything
4%	presenting different points of view, e.g., fisherman story
3%	Cannery Row video
3%	general positive comments
3%	mangrove section
5%	other
2%	no response, nothing

Sample of answers: (what did you like?)

Information, shrimp, seeing alternative — raising on farm

(why?) because some exhibits have no information

Not a great deal

(why?) because after being downstairs contrast seems like wasted space

More people need to see it to see how out of control population is

(why?) because people need to be awakened, many walk around with eyes closed

The educational aspect (why?) because knowledge can change the future

Informative, bring importance to heart, people don't think about it

(why?) because didn't realize fish scarce, knew population was growing but not to the point of having no seafood

It was educational in terms of fish farming, population, and bluefin tuna

Interactive, live shrimp (why?) because keeps our interest

Population explosion, what it takes, wasted catch

(why?) because easy to understand, graphic

Turtle excluder (why?) because saw a turtle caught in Mexico, it was disturbing

Showed specific problems & solutions, nets, responsible shrimp farming

(why?) because showed solutions, saves turtles, ingenuity

Well laid out, showing both sides, film on wasted catch (why?) because graphic

About shrimp farms, live shrimp (why?) because didn't know about it before

A.4. Disappointments

OVERVIEW: The majority of visitors had nothing to say about disappointments. Among those who mentioned something disappointing, the depressing nature of the information and the desire for more solutions – things we can do – topped the list.

We'd like you to tell us something you didn't like or that disappointed you about the exhibit:

7%	the reality of the facts, depressing (e.g., wasted catch, depletion)
6%	not enough solutions offered, what can we do?
3%	one-sided, alarmist, especially disagree with population
3%	heartbeat, music, too loud & distracting
3%	want more explanation or elaboration, confusing parts
3%	too static, boring, need more interactive for kids
3%	not strong enough
2%	too much focus on shrimp
2%	bad smell, colors, atmosphere of exhibit
2%	more exhibits / animals or bigger tanks
5%	other specific aspects mentioned
23%	nothing disappointing
43%	no response, blank

Sample of answers:

Throbbing noise is overbearing, should be more isolated, too loud

Nothing

Nothing comes to mind, seems to be a lot of emphasis on shrimp

It's depressing, especially the population video

Need to increase pitch for contributions

Would like more specific ways to solve problems

Didn't understand the mangrove

I think it was pretty good

Just not fun to hear animal life is depleting

Creating alarm about not enough food for future

Needs to be more interactive

Little boring

Didn't offer enough proposed solutions as to what individuals can do

The turtle could do with a bigger tank

The videos, not much point to spend time to watch, easy to walk by

More explanation of history, failed management, politics, too simple

B. Balancing the Messages: Problems vs. Solutions

1. Visitors' perceptions of problems vs. solutions
2. Perceptions of the "tone" of the exhibition
3. Perceptions of the amount of information

B.1. Visitors' perceptions of problems vs. solutions

OVERVIEW: Visitors are more conscious of the problems presented in this exhibition, compared to the solutions. There were two ways of asking about this balance: an open-ended question (see below), and finding out whether visitors recognized problems and solutions from lists they were shown (see next page). Nearly two-thirds (63%) of the visitors felt that there were more problems presented, but most of these thought it was a good idea to present more problems (46% vs. 17% who didn't think it was a good idea).

When presented with lists of problems and solutions (each list contained five issues actually presented in the exhibition, and three issues which were not presented), visitors demonstrated excellent recognition of the problems presented -- especially notable were three problems recognized by 90% of the visitors -- and they demonstrated moderately good recognition of the solutions presented in the exhibition (although only one solution reached 90% awareness). For both lists of problems and solutions, visitors clearly distinguished between issues which were represented in the exhibition vs. related issues which were not presented (there was only a small amount of incorrect guessing).

Interestingly, conservation oriented people ('actives') had higher recognition of 4 of the 6 solutions presented (and 2 of 3 incorrect guesses). There were also some differences by familiarity with the Aquarium (frequent visitors recognized more problems and solutions) and by gender. (These differences are presented on the two pages following this one).

Did it look like there were more problems presented or were there as many solutions as problems? Did you think [having more problems] was a good idea or not really?

	Overall	Conservation Attitude:			
	<u>Sample</u>	<u>Active</u>	<u>Hi-Symp</u>	<u>Lo-Symp</u>	<u>Unsymp</u>
more problems — good idea	46%	50%	46%	46%	28%
more problems — not good	17%	9%	13%	16%	44%
just as many solutions	37%	41%	40%	37%	28%

Difference by group composition:

	<u>Families</u>	<u>Adults</u>
more problems — good idea	39%	48%
more problems — not good	27%	11%
just as many solutions	34%	41%

Which of these problems did you see represented in the exhibit?

overfishing	94%	
human population growth	90%	average recognition
wasted catch	90%	rate of 79%
destruction of coastal habitats	62%	
some shrimp farms destroy mangroves	57%	
introduced species crowd out native fish	13%	not in exhibit
damage to coral reefs	11%	
sportfishing by divers	7%	

Which of these solutions were represented in the exhibit?

responsible fish and shrimp farming	90%	
turtle excluder devices in shrimp nets	73%	average recognition
need for scientific research to get information	63%	rate of 64%
protection and restoration of mangroves	54%	
giving money to nature organizations	40%	
genetically engineered fish	17%	not in exhibit
creating new jobs for fishermen	16%	
international tariffs on foreign seafood	11%	

Differences by conservation attitude:

<i>Solutions</i>	<u>Active</u>	<u>Hi-Symp</u>	<u>Lo-Symp</u>	<u>Unsymp</u>	
turtle excluder devices	88%	73%	68%	58%	**
need for scientific research	72%	65%	66%	39%	**
protection of mangroves	57%	59%	47%	41%	++
giving money to nature organizations	57%	36%	33%	42%	**
creating new jobs for fishermen	19%	20%	11%	4%	++
tariffs on foreign seafood	19%	9%	9%	5%	++

Differences in recognition by gender:

	<u>Men</u>	<u>Women</u>
<i>Problems:</i>		
shrimp farms destroy mangroves	52%	63% **
sportfishing by divers	4%	11% **
<i>Solutions:</i>		
protection of mangroves	45%	63% **
creating new jobs for fishermen	12%	20% **
genetically engineered fish	13%	20% ++

Differences by familiarity:

<i>Problems:</i>	<u>Frequent</u>	<u>Infrequent</u>	<u>First-time</u>
destruction of coastal habitats	81%	51%	60% **
shrimp farms destroy mangroves	70%	54%	53% **
<i>Solutions:</i>			
protection of mangroves	67%	54%	48% **
creating new jobs for fishermen	27%	11%	13% **
genetically engineered fish	8%	18%	20% ++

Differences by group composition:

<i>Solutions:</i>	<u>Families</u>	<u>Adults</u>
giving money to nature organizations	54%	34% **

B.2. Perceptions of the “tone”

OVERVIEW: About half of the sample believed the tone was fine the way it is; the remainder were split between wanting a stronger tone and wanting it to be different in some way (e.g., more solutions, more lively). The biggest complaint about the tone is that it’s depressing (cited by about one-fifth of the visitors). Otherwise, there were very few negative comments about this exhibition. (data presented on this page and the next one)

Overall, how did you feel about the tone of this exhibit?

28%	fine, liked it, good
18%	depressing, downer, heavy, sad
16%	educational, informative, raise awareness
12%	appropriate, balanced, realistic
9%	hopeful, positive, encouraging
5%	it did the job, got the message across
3%	direct, serious, concerned
3%	just “ok”
2%	harsh, one-sided, heavy-handed
2%	dull, boring, didn’t like
1%	neutral, no tone noticed
1%	impacting, inspired to act
1%	mild, could be more severe
3%	other
1%	blank

Sample of answers:

Ok

Very good, well presented

Feel was mediocre, might be hard to swallow but need to see this

A little bit stark

Kinda depressing

I can see ways to save some species

Too much, conservation plays large role, some too left/right, population

Pretty good

Realistic, problems & solutions

Positive

Hopeful

Little depressing, straightforward

Excellent

Appropriate

Parts were a bit dull

Depressing at first but then hopeful, educational

Good

If we do another “conservation exhibit” like this in the future, should the tone be stronger, not as strong, or different in some way?

	<u>Overall Sample</u>	<u>Families w/ kids</u>	<u>Adults only</u>
it’s fine the way it is	51%	50%	51%
stronger tone	22%	13%	26%
not as strong	3%	6%	2%
different in some way	24%	31%	21%

What would you suggest?

For stronger tone:

- 6% more problems, graphic stuff, dramatic statistics
- 3% more on wasted fish
- 3% more solutions
- 2% more depiction of overpopulation problem
- 2% different presentation, livelier, more interactive
- 2% just a stronger message
- 1% more about what I/we can do
- 1% more of everything
- 2% other
- 3% blank, don’t know

For different in some way:

- 7% more solutions
- 4% more live animals, less text, more hands-on
- 3% broader focus, more of everything, other issues too
- 3% lighten up, too preachy, more balanced
- 1% more about what I can do
- 1% omit overpopulation, heartbeat
- 2% other
- 2% blank

B.3. Perceptions of the amount of information

OVERVIEW: About half of the visitors said the amount of information was fine; over one-quarter wanted more (e.g., solutions, what we can do, problems, and depth) which indicates ongoing interest in the issues.

*How did you feel about the amount of information?
Would you say:*

	Overall	Conservation Attitude:			
	<u>Sample</u>	<u>Active</u>	<u>Hi-Symp</u>	<u>Lo-Symp</u>	<u>Unsymp</u>
it's fine the way it is	53%	64%	54%	54%	34%
not enough examples	29%	21%	32%	21%	42%
too much to deal with	6%	6%	3%	11%	13%
some other opinion	12%	9%	11%	14%	11%

difference by gender:

	<u>Men</u>	<u>Women</u>
it's fine the way it is	45%	63%
not enough examples	34%	23%
too much to deal with	8%	6%
some other opinion	14%	8%

[if 'not enough examples']: *What would you like more information about?*

7%	more solutions
3%	what we can do, maybe have leaflets to take home
3%	more damage, overfishing, other fish besides shrimp
3%	more information in general, bigger, more depth
3%	visuals, videos, interactives, explainers
2%	different points of view, fishermen, economy
3%	other
2%	blank

[if 'some other opinion']: *What other opinion?*

1%	what we can do, leaflets
1%	less reading, more interactive, more fun
1%	ok if you have the time
1%	other fish besides shrimp
1%	other
6%	blank

C. Extent of Use /What Visitors See

C. Extent of Use / What Visitors See

OVERVIEW: Of seven exhibit elements which were shown on a photo board, all seven were recognized by at least three-quarters of the sample. The top three were Shrimp Lab, Wasted Catch Video, and Population Explosion Video (all over 90% recognition). These videos are extremely salient.

Do you recognize all of these photos, or are there any parts that you didn't see?

Introductory Video	73%
Shrimp Lab	94%
Wasted Catch Video	95%
Turtle Excluder Device	87%
Population Explosion Video	96%
Dinner Table Diorama	87%
Help Turn the Tide	75%

listed in order of
sequence in the
exhibition

Number of photos recognized:

all 7	38%
6	36%
5 or fewer	26%

Most of these exhibit elements were seen (recognized) by all types of visitors. However, there were a few relatively minor differences in terms of who saw what:

Saw Intro Video:

++	78%	of women
	69%	of men

Saw Turtle Excluders:

**	93%	of frequent visitors
	91%	of infrequent visitors
	81%	of first-time visitors

Saw Dinner Table:

++	93%	of people 'active' in environmental concerns
	88%	of 'high sympathetic' people
	79%	of 'low sympathetic' people
	78%	of 'unsympathetic' people
**	90%	of adult-only groups
	80%	of families with children

Saw Help Turn the Tide:

++	79%	of women
	70%	of men

D. Reactions to Selected Elements

1. Introductory Video
2. Shrimp Lab
3. Wasted Catch Video
4. Turtle Excluder Device
5. Population Explosion Video
6. Dinner Table Diorama
7. Help Turn the Tide

8. Results of the Mini-Studies
 - a) Introductory Video
 - b) Shrimp Lab
 - c) Wasted Catch Video
 - d) Dinner Table Diorama

D. Reactions to Selected Elements

Visitors were asked a series of questions about the same seven photos of selected exhibit elements which were reported in section C:

Which of these did you think were interesting?

Which ones added to the overall theme of conservation?

Which of these types of features would you like to see used in future exhibits?

The overall results for all seven elements are summarized below, showing that the two videos – Population Explosion and Wasted Catch – were seen as most interesting (the examples in the table are ranked by the ratings of “interesting”). The two elements contributing the most to the theme of conservation were the Turtle Excluder Device and Wasted Catch (both directly concerned with saving or destroying animals). Shrimp Lab (with live animals) is the most popular choice for use in future exhibits, although the visitors were also moderately favorable about three other exhibits (Population Video, Wasted Catch Video and Turtle Excluders).

<i>exhibit features</i> (see photos on next pages)	<i>saw it?</i>	<i>OF the people who saw it:</i>		
		<i>interesting?</i>	<i>conservation?</i>	<i>use in future?</i>
Population Explosion video	96%	68%	38%	39%
Wasted Catch video	95%	66%	50%	44%
Turtle Excluder Device net	87%	56%	49%	43%
Shrimp Lab	94%	52%	31%	52%
two Dioramas	87%	42%	28%	27%
Introductory area	73%	28%	24%	22%
“Help turn the tide...”	75%	25%	34%	25%

In addition, some photo elements were selected by interviewers (based on predetermined criteria) for more in-depth follow-up questions:

Why was that one most interesting?

Why did that one add to the theme of conservation?

What message do you get from that one?

These in-depth results are presented on the following pages for each individual exhibit. On the following pages, exhibits are presented in the sequence in which visitors would encounter them, not the sequence in which they were presented on the photo board.

D.1. Introductory Area

OVERVIEW: About three-quarters of the audience recalled seeing this part (less than all other exhibits shown on the photo board except ‘Help to turn the Tide’). It was the least interesting, contributed the least to the conservation theme, and least chosen as a feature for future exhibits. The in-depth follow-up questions were not asked about this area since there was a separate mini-study about it already (reported later in this section).

73% saw it

<i>of those who saw it:</i>	28%	thought it was interesting
	24%	thought it added to the conservation theme
	22%	would like this type of feature in future exhibits

Note: When visitors were presented with a photo board to assist with question about specific exhibits, each photo was identified with a letter in the lower left corner. The order of exhibits presented in this section is based on their *sequence in the exhibition*; the order of photos on the photo board was different (although the first one, A, happens to be the first video) so the order of letters on the photos over the next few pages is different.

D.2. Shrimp Lab

OVERVIEW: This area is appreciated for the live animals – Shrimp Lab was the top feature chosen for future exhibits, and moderately interesting because you can learn about the life cycle and see the shrimp up close. However, there is not a clear message perceived here (about farming or conservation), and only some people thought it added to the conservation theme.

94% saw it

<i>of those who saw it:</i>	52%	thought it was interesting
	31%	thought it added to the conservation theme
	52%	would like this type of feature in future exhibits

Why was it most interesting? (32 people were asked)

14	learn about life cycle of shrimp
9	see shrimp close up
5	volunteer to talk to, ask questions
3	hands-on, microscope
2	shrimp farming, how they are raised
3	other

<< Results continue on the next page >>

Shrimp Lab (continued)

Why did it add to the theme of conservation? (27 people were asked)

11	how to raise shrimp
7	solution — can eat without depleting or wasting
4	understand short life cycle, what it takes to replace
3	information, thinking about
1	don't know, probably didn't

What message do you get from it? (85 people were asked)

28%	shrimp farming, how raised, working on solutions
25%	life cycle of shrimp
12%	interesting, informative
12%	real person to ask questions
7%	to see the shrimp
6%	interactive, hands-on
7%	other
5%	don't know, no message

Note: With small sample sizes under 40 people, we prefer not to use percentages to summarize the results; instead we use the actual numbers of people (e.g., 7 people rather than 26%) who gave certain types of answers as a reminder that the results are based on only a few people.

D.3. Wasted Catch Video

OVERVIEW: Nearly everyone saw this feature and it was the second most interesting. The other results show a pattern similar to the Turtle Excluder Device: it contributes to the conservation theme because it shows a problem for animals, and this type of feature would be desirable to use in future exhibits.

95% saw it

<i>of those who saw it:</i>	66%	thought it was interesting
	50%	thought it added to the conservation theme
	44%	would like this type of feature in future exhibits

Why was it most interesting? (206 people were asked)

40%	showed waste, severity of problem
32%	didn't realize how much waste
8%	shocked, outraged, upset, must do something
4%	liked graphic portrayal
8%	other
1%	blank

Wasted Catch Video (continued)

Why did it add to the theme of conservation? (157 people were asked)

53%	shows waste, problem
23%	need to conserve fish, find solutions
11%	education, awareness
9%	solutions - laws, equipment, farming
9%	other
2%	blank

What message do you get from it? (34 people were asked)

13	waste of fish, overfishing
13	need to regulate, fish responsibly, find better ways
8	pictures tell the story, gets the point across
3	other

D.4. Turtle Excluder Device

OVERVIEW: Half of the visitors thought this exhibit added to the conservation theme (highest of the seven selected elements) because it's about saving turtles (for many people, conservation seems to be most concretely exemplified by saving animals). Most people perceived that the message of this exhibit is that there are solutions and hope. It was moderately interesting, relative to the other exhibits on the photo board, and the second most chosen as a desirable feature for future exhibits.

87% saw it

<i>of those who saw it:</i>	56%	thought it was interesting
	49%	thought it added to the conservation theme
	43%	would like this type of feature in future exhibits

Why did it add to the theme of conservation? (34 people were asked)

18	saving turtles
8	showed solution to a problem
5	new technology to help animals escape
2	need to conserve, can't waste
1	video, interesting, simple

<< Results continue on the next page >>

Turtle Excluder Device, (continued)

Why was it most interesting? (only 8 people were asked; this element was lower on the priority list for this follow-up question)

Like turtles

Saving by-catch thereby solving waste problem

Like to fish, I thought the trap was interesting

It works

Turtle

Glad they can do something

It actually saves a life and doesn't hurt the fishermen

Learned about turtle nets and how they work

What message do you get from it? (79 people were asked)

51%	there are solutions, ways to fish without harming
28%	hope, people are doing something, preserving
9%	can see how net works, turtle escapes
6%	need more solutions like this, regulations
4%	problems, negative
3%	new methods
3%	other

D.5. Population Explosion Video

OVERVIEW: This feature was chosen most frequently as interesting – the content is ‘new’ to many people, and the visual display effectively gets people’s attention and makes the point. Nearly everyone saw this exhibit element. In terms of adding to the conservation theme and being a desirable feature for future exhibits, this video’s ratings were in the middle of the range for the seven examples.

96% saw it

<i>of those who saw it:</i>	68%	thought it was interesting
	38%	thought it added to the conservation theme
	39%	would like this type of feature in future exhibits

Why was it most interesting? (62 people were asked)

31%	effectively gives the message, population explosion
27%	like graphic portrayal, visual impact
10%	didn’t know, wasn’t aware
8%	about resources, food shortage
6%	shows where problem is concentrated
5%	liked heartbeat
5%	already familiar & interested, the biggest problem
2%	other
2%	blank

Population Explosion Video (continued)

Why did it add to the theme of conservation? (46 people were asked)

33%	shows rate of population growth, awareness of issue
24%	overpopulation is a real problem
20%	must conserve resources in order to handle population
17%	something must be done
2%	other
4%	blank

What message do you get from it? (35 people were asked)

14	too many people, can't feed them, big trouble
7	need to control population, do something
7	need to conserve resources, don't waste
6	shows population growth, informative
2	other

D.6. Dinner Table and Shrimp Cocktail Dioramas (2 photos)

OVERVIEW: Most visitors (85%) are getting the message of these two dioramas loud and clear. Most people saw them and they're considered moderately interesting, relative to the other selected elements. Since there was a separate mini-study on the Dinner Table Diorama, these dioramas were not top priority for in-depth questioning in the exit interview; some comments are presented on the next page.

87% saw these dioramas

of those who saw them: 42% thought they were interesting
 28% thought they added to the conservation theme
 27% would like this type of feature in future exhibits

What message do you get from these? (47 people were asked)

57%	how will we feed all those people? (DT)
11%	it makes the point! "put it right in our face" (DT)
6%	must reduce population growth
6%	don't eat fish, be careful what you eat (SC)
6%	waste (SC)
4%	family life
9%	other / unclear
2%	blank

DT = dinner table SC = shrimp cocktail

Dinner Table and Shrimp Cocktail Dioramas (continued)

Why was it most interesting? (only 13 people were asked)

Not really having just shrimp as cocktail (SC)

Wasn't aware of waste (SC)

Easy to understand

Puts it in global perspective (DT)

Endless table, liked it (DT)

Concerned, have different perspective on population (DT)

Like dioramas

Little concern for fish and too many people (DT)

Illusion was neat (DT)

Sense of magnitude (DT)

Something nobody would think of, it's original

Exemplified need to feed nations for protein, needs to be done now (DT)

DT = dinner table SC = shrimp cocktail

Why did it add to the theme of conservation? (only 10 people were asked)

All those tables set up, awful lot of people to feed

Making you aware of overpopulation

Don't realize how many people there are to feed

Reality check

Everyday event

Show how to save resources

Caught my eye

Address shortage of seafood if everyone ate all

How will we feed, must conserve

Related info, numbers we're trying to feed and fisheries

D.7. Help Turn the Tide for World Fisheries

OVERVIEW: This exhibit shows a similar pattern of results to the Introductory area: only three-quarters of the visitors recalled seeing it, it was less interesting, less appealing for future exhibits, and 'in the middle' of the range about contributing to the conservation theme. Although there isn't a lot of in-depth data from the exit surveys, it looks as though some people are not getting the message here.

75% saw it

<i>of those who saw it:</i>	25%	thought it was interesting
	34%	thought it added to the conservation theme
	25%	would like this type of feature in future exhibits

Why did it add to the theme of conservation? (52 people were asked)

31%	how to get involved, what you can do
21%	about conservation groups
15%	solutions to problems
10%	education, awareness
10%	about conservation, how to save animals
6%	we can't keep fishing like this
10%	other
4%	blank

Help Turn the Tide (continued)

Why was it most interesting? (only 14 people were asked)

Reasonable answers:

Gives you something pro-active you can do
Gave so many organizations and things you could do as an individual
Gives you broad view of what's really going on
Solution oriented
Asking for action
Just feel that is where people can have most impact, National organizations
Solution for individuals
Some examples of solutions

"Curious Answers:"

Laminated magazines, skipped thru read about how to feed jellyfish
Biggest single problem have to contend with, shown fairly dramatically
Love data
Information on fisheries
Children were doing something, writing
Showed a solution, better management
Don't know, I just recognized it

What message do you get from it? (38 people were asked)

11	action, what we can do, getting involved
6	solutions, what they are doing
6	information, education, about need to conserve
3	comments, different points of view
3	irrelevant
2	other
3	blank

D.8.a. Mini-study: Introductory Video

OVERVIEW: Most people who stopped to look at the introductory video came away with a reasonable message about the problems of overfishing and wasted catch, as well

as implications about the threatened supply of seafood and concern for conserving resources.

research method: 40 adult visitors were interviewed after watching this video. These interviews were not connected with the main exit interview.”

exhibit rating:

23% great
65% good
10% OK
2% didn't like it

understanding the message:

♦ Almost all visitors got a reasonable message from this video, such as: awareness of problems (*overfishing and wasting our resources; we're taking too many fish so they will be all gone*) and the need for conservation (*how much fish we can take without depleting the stocks in the wild; trying to educate us about the solution*). Some visitors were ready to assign blame to the fishing industry: *the small fishermen being put out of business by the new hi-tech large companies*.

how fishermen were perceived:

The way that commercial fishermen are portrayed in this video seems to create the opportunity for a balanced perspective, because only 15 of 40 visitors (38%) said that the fishermen seemed primarily concerned with their jobs, whereas 14 visitors (35%) said that fishermen have a genuine and shared sense of concern, and another 6 visitors (15%) described a practical perspective about the fish supply which was not clearly self-centered nor conservation-oriented.

visitors' indicate moderately strong interest in conservation topics

❖ interest in finding out about **overfishing:**

43% high interest 30% moderate interest 27% relatively low interest

❖ interest in finding out **if government regulations are working**

48% high interest 25% moderate interest 27% relatively low interest

❖ interest in finding out **whether individuals can do anything**

45% high interest 27% moderate interest 27% relatively low interest

Suggestions about changes in this video:

Most people aren't prepared to think of useful changes in a completed exhibit like this (people think it's informative as is). However, among the 15 people who did make a suggestion, there were several types of comments:

- ♦ 5 people wanted more depth: longer & more details, more info on the impacts right now
- ♦ 4 people wanted other points of view: *show flip side of issue—I mean the good side, have the other big companies' views represented, more stuff like answers to problems, change it: eat beef & show the issues there*
- ♦ 4 people suggested more comfortable viewing conditions: *add seats, bigger screen*
- ♦ 2 people thought it should be more pointed: *not shocking enough --impact should be emphasized, see what fishermen throw away (plastic in the ocean)*
- ♦ 1 person wanted direct recommendations: *examples of what I as a person can do*

D.8.b. Mini-study: Shrimp Lab

research method: 40 adult visitors were interviewed after looking at this exhibit. These interviews were not connected with the main exit interview.”

OVERVIEW: Visitors are fascinated with seeing these shrimp up close — seeing the actual animal (“this is what I eat?”), the stages of growth, how quickly they grow, watching them swim, etc. — but *less than half* of the visitors (16 of 40 people) could relate Shrimp Lab to the conservation topics in the rest of the exhibition.

exhibit rating:

18% great
60% good
22% OK
0% didn't like it

understanding the message(s):

♦ Most of the people interviewed after seeing Shrimp Lab came away thinking that the point of it was to show the shrimp life cycle, and about half came away with some awareness of the topic of shrimp farming.

interaction with the guide

- ❖ 73% said they listened to the guide (explaining, or answering a question)
- ❖ 22% said they asked a question here

visitors' interests in the experience here:

❖ seeing the shrimp:	20% high interest	37% moderate interest	43% low interest
❖ the life cycle of shrimp:	17% high interest	30% moderate interest	52% low interest
❖ shrimp farming:	20% high interest	35% moderate interest	45% low interest

What was most interesting to you here?

58%	seeing the shrimp
32%	the life cycle (e.g., how fast they grow, what they eat, how they molt)
5%	shrimp farms
5%	everything
5%	nothing

Suggestions about possible changes:

Visitors suggested three types of changes: make this more like an exhibit (*larger signage to illustrate things; more like in natural habitat; too static, make it more colorful, less technical; bigger tanks; more shrimp, lots of different kinds; show more of the big shrimp, have a sculpture*), or increase the level of activity (*would be better with two guides; more interactive stuff; if they were cooking them so we could eat them; serve shrimp cocktail; if you could touch them*), or emphasize the connection with fish farming (use as an intro to economic discussion; more photos of how to raise shrimp; incorporate farming more; relate to fish farming and tie the visuals and concept together; see a little farm of shrimp; more information on shrimp farming). There were also a few aesthetic comments — *get rid of the aluminum siding; no aprons, it looks like a soda stand.*

D.8.c. Mini-study: “Wasted Catch” Video

research method: 40 adult visitors were interviewed after watching this video. These interviews were not connected with the main exit interview.”

OVERVIEW: Everyone who stopped to look at this video (95% of the visitors recalled seeing it, according to the exit interviews) came away with an awareness of wasted catch. Many people were unaware of this problem before seeing the video, and they were clearly supportive of showing surprising or shocking images like this. Apparently, they are quite comfortable with the aquarium using strong images to make a point about conservation, as indicated by the fact that their support for such images (93% say you should do this again in the future) seems to exceed their confidence in the accuracy of the information (only 59% clearly believed that the Wasted Catch video is scientifically accurate).

exhibit rating:

18% great
67% good
10% OK
5% didn't like it

understanding the message(s):

◆ All visitors interviewed here understood the point of the video (the large volume of animals caught, compared to the small number of shrimp collected). Almost everyone (37 of 40) thought that the fish were dead by the time they were thrown back.

How this exhibit was perceived:

- ❖ 88% said this video has emotional content because it affects people's feelings more than just giving information (12% disagreed)
- ❖ 93% said it was “appropriate” (7% were unsure)
Why is it appropriate? *People need to wake up. People have to learn the truth. More effective, remember feelings more than thoughts.*
- ❖ 67% said it did not seem “biased and political” (25% said it was, 8% were unsure)
- ❖ 59% thought it was “scientifically accurate” (10% said it wasn't, 31% were unsure)
- ❖ 45% said they would like more explanation, 55% said it's enough to show the video

In future exhibits, would you like to see strong visual images like this, or not?

- ❖ 93% yes (7% unsure)

D.8.d. Mini-study: Dinner Table Diorama

research method: 40 adult visitors were interviewed after looking at this diorama. These interviews were not connected with the main exit interview.”

OVERVIEW: People who stopped to look at this diorama came away with a reasonable message about the connection between the number of people in the world and the pressure that this puts on fish as a food supply. Reactions to this diorama are positive in the sense that people think it’s appropriate and unbiased, and that a majority of people would like to see extra design touches like this in future exhibits. However, there are two indications that this diorama is challenging for some visitors: (1) only two-thirds thought it was scientifically accurate (the others tended to be unsure about the accuracy), and (2) among the people who were not interested in exhibits like this in the future, their comments suggest that they prefer seeing live animal exhibits and also they imply that they are not interested in exhibits that make you think (e.g., *this is an aquarium, not a museum*).

exhibit rating:

- 25% great
- 40% good
- 35% OK
- 0% didn’t like it

understanding the message(s):

- ◆ Almost all visitors got a reasonable message from this display, such as: there’s a need for conservation because we’re depleting food supply in the oceans, or that population growth is adding more pressure to fishing (or for some people, the focus on people was a message by itself: *shows how big the world is, talks about growing population and people, deals more with people not fish*).

how this exhibit was perceived:

- ❖ 83% said it was “appropriate” (7% said it wasn’t, 10% were unsure)
- ❖ 83% said it did not seem “biased and political” (15% said it was, 2% were unsure)
- ❖ 65% thought it was “scientifically accurate” (5% said it wasn’t, 30% were unsure)

In future exhibits, would you like to see extra design touches like this, or not?

- ❖ 60% yes (15% no, 25% unsure)

Reasons for wanting design features like this: it’s interesting and educational, raises people’s awareness, it’s an attention-getter, and it pertains to the conservation messages.

Reasons for being uninterested in novel design features were non-committal, such as preferring live animals, or not caring one way or another.

Comments suggesting that this exhibit makes you think:

It’s an educational tool; to make you think

Makes people think about the reality and the problems facing us

It’s nice after viewing something beautiful to learn that it’s not that way forever

It makes you think; there’s nothing like tables lined up into infinity.

It’s educational but I would not want to see too many [exhibits] of this type

It helps bring the point to the younger people

Yes, include them if they’re going to make a point, because they catch your eye

Got the point across clearly

E. Conservation Attitudes

E. Conservation Attitudes

OVERVIEW: The exit survey included several questions to measure visitors' attitudes toward conservation issues, in order to explore how attitude relates to the experience of this exhibition (results presented throughout this report), and to serve as a parallel with the two previous conservation studies. This sample is very similar to the Phase 2 Conservation Study sample – 20% are classified as 'active' in environmental concerns, 49% are 'high-sympathetic,' 18% are 'low sympathetic,' and 13% are 'unsympathetic.' Results on the following page show that 43% of the visitors said they give money to nature / conservation organizations.

Do you think of yourself as someone who is active in environmental concerns, sympathetic to environmental concerns but not active, neutral, or usually unsympathetic to environmental concerns?

active	27%
sympathetic	61%
neutral	10%
unsympathetic	2%

In your opinion, are there any environmental issues that you object to, or laws that have gone too far in trying to protect environments?

no	71%
yes	29%

[if yes] Give an example:

6%	endangered species act, animals being protected
4%	timber (no spotted owl mentioned)
3%	spotted owl, & timber
3%	clean water, wetlands protection
2%	tactics of extreme environmentalists
2%	property rights, when humans don't have priority, balance
2%	over-regulation, too many laws
2%	fishing and hunting laws
2%	halting construction, development
1%	emissions standards and clean air laws
1%	ozone concerns, global warming
0	animal rights
2%	other
4%	blank

Coding of environmental orientation — segments used in this report

20%	“active” (reported self as active and doesn't object to any issues)
49%	“high-sympathetic” (reported self as active but objects to some environmental issue; or reported self as sympathetic and no objections)
18%	“low sympathetic” (reported self as sympathetic but has objections)
13%	“unsympathetic” (reported self as neutral or unsympathetic)

Do you belong to or give money to any organization that emphasizes nature, wildlife or conservation?

yes	43%
no	57%

[if yes] *such as?*

10%	WWF, NWF
9%	Nature Conservancy
6%	Sierra Club
5%	state or local organizations
5%	Greenpeace
3%	MBA
3%	National Geographic
3%	zoos, museums, parks, other aquariums
2%	Audubon society
2%	Humane Societies, animal shelters
1%	Cousteau Society
1%	fishing
3%	other animal related issues
1%	other ocean / river related issues
1%	other forest / wilderness related issues
2%	other

OVERVIEW: Two-thirds of the visitors believe that there is something “you and I can do about the issues shown in this exhibit.” The most frequent actions mentioned are eating less shrimp or fish, being informed and educating others, lobbying politicians, and giving money to environmental groups. A comparison with the results from the previous conservation studies (a similar question: “is there anything you and I can do about conservation problems?”) shows a significant difference – visitors feel less able to do anything about the fisheries issues than about conservation issues in general. People who believe that all they can do is recycle and not pollute are especially at a loss in answering this question because these actions are not related to the fisheries issues shown in this exhibit.

Is there anything that you and I can do about the issues shown in this exhibit, or not really?

	FFS Study	Conservation ³	
		Baseline	Phase 2
yes	68%	85%	86%
no	17%	6%	7%
not sure	15%	9%	7%
<i>Like what?</i>			
stop eating/eat less shrimp, fish	11%	—	—
educate others, speak out	11%	} 21%	19%
be informed, aware	10%		
support politicians & laws, lobby	10%	16%	16%
support environmental groups, \$	9%	17%	14%
boycott, watch what you buy	6%	7%	5%
careful what you eat, know where fish is from	6%	—	—
save animals, control fishing, stop waste	5%	2%	2%
choices in daily life	4%	3%	8%
generally be active, participate	4%	7%	8%
support fish farming	3%	—	—
population control, fewer kids	3%	1%	1%
reduce consumption of energy resources	2%	11%	10%
don't pollute, clean up	2%	13%	8%
recycle	0	19%	25%
other	2%	3%	3%

³ The question was worded more generally in the conservation studies — “is there anything you and I can do about conservation problems?”

F. Characteristics of the Sample

F. Characteristics of the Sample

OVERVIEW: The main sample for this evaluation consisted of 343 visitor groups interviewed as they were leaving the Fishing for Solutions exhibition during the fall of 1997. (Also, there were four mini-studies of 40 people each.) The exit survey sample is reasonably representative of the aquarium's overall audience in terms of familiarity with MBA, residence, group composition and age of adult. Less than half (43%) say that they belong to a nature organization (slightly higher than the 37% reported in the evaluation of the Outer Bay Wing, and slightly lower than the 49% in the Phase 2 Conservation Study). According to the 1997 MBA exit surveys, 63% of visitors saw *Fishing for Solutions* — although not everyone sees this exhibition, it appears that there are no significant demographic differences between people who see FFS and the audience as a whole.

	FFS <u>Sample</u> (weighted) ⁴	1997 MBA <u>Exit Survey</u>
<u>Been to Aquarium:</u>		
no, first time visitor	49%	49%
yes, once or twice	29%	
yes, three or more times	22%	
<u>Residence:</u>		
Monterey County	6%	4%
S.F. Bay area	17%	29%
other California	34%	28%
out of state	43%	37%
<u>Group composition:</u>		
adults only	68%	68%
families with children under 18	32%	32%
<u>Gender of person interviewed:</u>		
man	52%	
woman	48%	
<u>Education level of person interviewed:</u>		
high school graduate or under	10%	
some college	23%	
college graduate	40%	
graduate school	27%	

⁴ Initially, this sample contained a somewhat higher proportion of weekday visitors and a higher proportion of adult-only groups compared with the MBA Exit survey figures. Since day of the week and group composition are statistically related to some aspects of people's experience of the exhibition, this sample was weighted to most accurately represent the overall audience of the aquarium. The proportion of groups with children was increased by 12% and the proportion of weekend visitors was increased by 7%.

	FFS <u>Sample</u> (weighted)	1997 MBA <u>Exit Survey</u>
<u>Estimated age of person interviewed:</u>		
18-29	26%	26%
30's	28%	26%
40's	21%	22%
50's	15%	14%
60+	10%	12%
<u>Belongs to a Nature Organization</u>	43%	
<u>Day of interview:</u>		
weekday	63%	62%
weekend	37%	38%

These figures are
extrapolated from
different categories