

NOTICE OF OFFICE OF MANAGEMENT AND BUDGET ACTION

Department of Commerce

National Oceanic and Atmospheric Administration

FOR CERTIFYING OFFICIAL: Suzanne Hilding

FOR CLEARANCE OFFICER: Diana Hynek

In accordance with the Paperwork Reduction Act, OMB has taken action on your request received 06/09/2009

ACTION REQUESTED: No material or nonsubstantive change to a currently approved collection

TYPE OF REVIEW REQUESTED: Regular

ICR REFERENCE NUMBER: 200906-0648-006

AGENCY ICR TRACKING NUMBER:

TITLE: Coral Reef Valuation Study

LIST OF INFORMATION COLLECTIONS: See next page

OMB ACTION: Approved with change

OMB CONTROL NUMBER: 0648-0585

The agency is required to display the OMB Control Number and inform respondents of its legal significance in accordance with 5 CFR 1320.5(b).

EXPIRATION DATE: 03/31/2012

DISCONTINUE DATE:

BURDEN:	RESPONSES	HOURS	COSTS
Previous	2,973	1,519	0
New	2,973	1,519	0
Difference			
Change due to New Statute	0	0	0

## NOTICE OF OFFICE OF MANAGEMENT AND BUDGET ACTION

Change due to Agency Adjustment	0	0	0
Change Due to Potential Violation of the PRA	0	0	0

TERMS OF CLEARANCE: Terms of the previous clearance remain in effect. This ICR is approved. Upon completing the information collection, NOAA should submit the results of the study to OMB.

OMB Authorizing Official:

Kevin F. Neyland

Deputy Administrator,

Office Of Information And Regulatory Affairs

List of ICs

IC Title	Form No.	Form Name	CFR Citation
Cognitive interviews	NA	Coral Reef Valuation Instrument	
Pretest	NA	Coral Reef Valuation Instrument	
Full survey	NA	Coral Reef Valuation Survey	

**JUSTIFICATION OF CHANGE  
CORAL REEF VALUATION STUDY  
OMB CONTROL NO. 0648-0585**

This request outlines the changes Stratus Consulting made to the Coral Reef Valuation Study survey (survey) since the April 2009 one-on-one interviews and the May 2009 pretest. It also includes the revised experimental design.

**Changes made since the one-on-one interviews and the pretest**

We completed 12 one-on-one interviews in Denver, CO and 17 interviews in Alexandria, VA in April 2009. In May 2009, Knowledge Networks administered the pretest survey to its Internet Panel to obtain 225 completed surveys. Stratus Consulting analyzed the pretest survey data using simple summary statistics and did not find any issues that required major adjustments for the final survey instrument. The bullets below summarize the changes Stratus Consulting made to the final survey since the one-on-one interviews and the pretest.

- ▶ We decided to provide audio *and* text to all respondents participating in the American National Election Study (ANES) and the Major Research Instrumentation (MRI) Internet Panels. During the one-on-one interviews, respondents were provided either with text only or audio only. When debriefed at the end of the interview, respondents who received audio indicated that they preferred having audio because it was different from what they were used to and it gave them more time to consider the survey content. At the same time, however, some people indicated they would have preferred to read the text on the screen. As a compromise, we chose to provide both options to all participants to the main survey.
- ▶ When analyzing the pretest results, we found that respondents seemed to anchor on the program they chose in the warm-up question (i.e., the first choice question asking respondents to make a trade-off between the Current Program and either the No-fishing Zone Program or the Reef Repair Program). For example, if the respondent had to choose between the current program and the reef repair program, and he/she chose the reef repair program, he/she was more likely to choose the reef repair program when choosing against all four programs. We decided to remove an actual choice decision in the warm-up section for the main survey and verbally describe the four choice options.
- ▶ We learned from the one-on-one interviews that the headings for some of the attributes in the choice questions were not entirely clear to respondents. To add further clarity, we changed some of the headings and wording in the choice tables. For example, the instrument used to say “Main Islands no-fishing zones: % of reef protected.” Some respondents found this confusing, so we changed it to “% of reef protected by no fishing zones (acres)” to add further clarity.

## Revised experimental design for the final survey

The experimental design, as originally proposed in the OMB submission, has been modified by taking account of the results of the pretest. The three programs in the final Coral Reef Valuation Study survey remain the same: (1) increasing the no-fishing zones from 1% to 25% around the Main Hawaiian Islands (MHI) (protecting reefs), (2) repairing reefs from ship injuries so that injuries last 10 years rather than 50 years (repairing reefs), and (3) implementing no-fishing zones *and* repairing reefs from ship injuries (both). Thus, there are still two attributes for the survey: the percentage of MHI reefs protected and the years for reefs to be repaired from ship injuries. The individual programs, protecting reefs and repairing reefs, have two levels apiece: the status quo or some positive action. As summarized in Table 1, the alternative levels for protecting and repairing reefs are 25% of reefs protected versus 1% under the status quo, and injuries being repaired in 10 years rather than 50 years under the status quo.

**Table 1. Program attributes and associated levels**

Attribute	Status quo level	Alternate level	Cost (\$)
% reefs protected	1%	25%	45, 75, 110, 170
Years for reefs to be repaired from ship injuries	50	10	35, 55, 95, 135

The four possible combinations of attribute levels (referred to as alternatives) representing the combinations of programs also remain the same: the status quo, protecting reefs only, repairing reefs only, and both protecting and repairing reefs. Because there are only four possible combinations, it is possible to obtain a full ranking of a respondent's preferences using only one choice set (with four alternatives).

We have assigned each attribute a vector of bid amounts to represent the cost of implementing the program to produce the desired attribute levels (Table 1). The bid amounts were selected as follows. We used the results from the pretest to create a distribution of willingness to pay (WTP) estimates for the no-fishing zones and reef repair programs. We then simulated probabilities of a respondent selecting each alternative using the parameter estimates from the pretest and randomized error terms. We experimented with the bids to rebalance the probabilities and to capture the overall range of WTP values.

The bid amounts represent the cost of implementing the individual programs. For the program that involves both protecting and repairing, the bid amount is equal to the total cost of the program (i.e., the sum of the individual project costs) plus a bundling adjustment. The bundling adjustment is included to test if respondents are willing to pay a different amount for the combination of programs (both protecting and repairing reefs) than for the individual programs separately. This allows us to estimate an interaction term and to test whether this interaction term is positive or negative.

Based on the pretest, the main study experimental design was modified slightly in terms of the bundling adjustments. The original design included two discounts (economies of scale) and one anti-discount (dis-economy of scale). Based on pretest results and questions during the cognitive

interviews, we decided to drop the anti-discount bundling and replace it with another positive discount. The overall statistical analysis approach is not affected by this change.

We have included four positive bundling adjustments to account for respondents who are willing to pay *less* than the combined cost of both programs to have both programs implemented. The bundling adjustments in this design are 0, 5, 10, and 20.

There are 16 possible choice sets (versions) for the final survey that contain all the different combinations of individual program costs. In each choice set, the cost of the combined program is the sum of the individual program costs plus a bundling adjustment. Each individual program cost level appears four times in the design matrix, and each time it appears it is paired with a different bundling adjustment. Table 2 reports the experimental design for the final survey.

**Table 2. Experimental design for the final survey instrument**

Version	Alternative	Protecting coral reefs (% of coral reefs protected)	Repairing coral reefs (years to recovery)	Cost (\$)
1	Status quo	1	50	0
	Protecting reefs only	25	50	45
	Repairing reefs only	1	10	35
	Both repairing and protecting reefs	25	10	75
2	Status quo	1	50	0
	Protecting reefs only	25	50	45
	Repairing reefs only	1	10	55
	Both repairing and protecting reefs	25	10	100
3	Status quo	1	50	0
	Protecting reefs only	25	50	45
	Repairing reefs only	1	10	95
	Both repairing and protecting reefs	25	10	130
4	Status quo	1	50	0
	Protecting reefs only	25	50	45
	Repairing reefs only	1	10	135
	Both repairing and protecting reefs	25	10	160
5	Status quo	1	50	0
	Protecting reefs only	25	50	75
	Repairing reefs only	1	10	35
	Both repairing and protecting reefs	25	10	110
6	Status quo	1	50	0
	Protecting reefs only	25	50	75
	Repairing reefs only	1	10	55
	Both repairing and protecting reefs	25	10	125
7	Status quo	1	50	0
	Protecting reefs only	25	50	75
	Repairing reefs only	1	10	95
	Both repairing and protecting reefs	25	10	150

**Table 2. Experimental design for the final survey instrument (cont.)**

<b>Version</b>	<b>Alternative</b>	<b>Protecting coral reefs (% of coral reefs protected)</b>	<b>Repairing coral reefs (years to recovery)</b>	<b>Cost (\$)</b>
8	Status quo	1	50	0
	Protecting reefs only	25	50	75
	Repairing reefs only	1	10	135
	Both repairing and protecting reefs	25	10	200
9	Status quo	1	50	0
	Protecting reefs only	25	50	110
	Repairing reefs only	1	10	35
	Both repairing and protecting reefs	25	10	135
10	Status quo	1	50	0
	Protecting reefs only	25	50	110
	Repairing reefs only	1	10	55
	Both repairing and protecting reefs	25	10	145
11	Status quo	1	50	0
	Protecting reefs only	25	50	110
	Repairing reefs only	1	10	95
	Both repairing and protecting reefs	25	10	200
12	Status quo	1	50	0
	Protecting reefs only	25	50	110
	Repairing reefs only	1	10	135
	Both repairing and protecting reefs	25	10	245
13	Status quo	1	50	0
	Protecting reefs only	25	50	170
	Repairing reefs only	1	10	35
	Both repairing and protecting reefs	25	10	185
14	Status quo	1	50	0
	Protecting reefs only	25	50	170
	Repairing reefs only	1	10	55
	Both repairing and protecting reefs	25	10	215
15	Status quo	1	50	0
	Protecting reefs only	25	50	170
	Repairing reefs only	1	10	95
	Both repairing and protecting reefs	25	10	265
16	Status quo	1	50	0
	Protecting reefs only	25	50	170
	Repairing reefs only	1	10	135
	Both repairing and protecting reefs	25	10	300

**[Coral Reef Protection Study]  
May 27, 2009**

<b>SNO</b>	<b>11801</b>
<b>Survey Name</b>	<b>Coral Reef Protection Survey</b>
<b>Client Name</b>	<b>Stratus Consulting</b>
<b>Great Plains Project Number</b>	<b>K0727</b>
<b>Project Director Name</b>	<b>Li</b>
<b>Team/Area Name</b>	<b>Dennis</b>

<b>Sample Criteria</b>	<b>ANES and MRI panelists</b>
<b>Samvar</b>	<b>Standard</b>
<b>Specified Pre-coding Required</b>	<b>None</b>
<b>Timing Template Required</b>	<b>None</b>
<b>Multi-Media</b>	<b>Images and Audio Files</b>
<b>Incentive</b>	<b>10,000 points</b>
<b>Disposition Information (Provide exact descriptions with reference to question numbers and answer list responses for all groups that daily counts are desired)</b>	

**Note: The change request log can be deleted, if you do not require it.**

<b>Change Request Log</b> (Operations Please Disregard)					
Note: Do not change Question numbers after Version 1; to add new question, use alpha characters (e.g., 3a, 3b, 3c)					
Author	Version	Description of Change (Q#, plus change)	Approval Name	Date Approved	Completed (Y/N)



---

**[Screen 1]**

**On the following screen, you will hear a short music file. The music is not related to the subject matter of this survey. It is only used to find out whether your Internet device allows you to hear audio files.**

**Before you proceed, please make sure that the speakers of your Internet device are turned on.**

**[SCREEN 1A] [radio] [embed = "test.mp3, autostart=true]**

**Please listen to the entire music file before pressing the "Next" button to continue your survey.**

**[Screen 2a]**

**S2A. Did you hear the music file?**

Select one answer only.

- Yes** .....1[If yes, show Screen 2b]
- No** .....0[If no, skip to Screen 2c]
- Not sure** .....2[If don't know, skip to Screen 2c]

**[Screen 2b] [display]**

**[if S2A = 1]**

**Later in this survey, some instructions are given with additional audio explanations. Please have your audio turned on to receive these instructions. Please read each screen carefully, even if audio is provided.**

[SCREEN 2c grid, random half sample for Q2D1 and Q2D2]

**Q2D1.** We are faced with many problems in this country, none of which can be solved easily or inexpensively. Below are some of these problems. For each one, please indicate if you think we are spending too much money on it, about the right amount, or too little money on it.

Check one box for each row in the grid.

	We are spending:		
	Too little	About the right amount	Too much
	▼	▼	▼
Space exploration	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
The environment	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Health	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Assistance to big cities	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Law enforcement	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Drug rehabilitation	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Education	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>

**Q2D2.** We are faced with many problems in this country, none of which can be solved easily or inexpensively. Below are some of these problems. For each one, please indicate if you think we are spending too much money on it, about the right amount, or too little money on it.

Check one box for each row in the grid.

	We are spending:		
	too little	about the right amount	too much
	▼	▼	▼
The space exploration program	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Improving and protecting the environment	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Improving and protecting the nation's health	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Solving the problems of the big cities	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Halting the rising crime rate	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Dealing with drug addiction	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
Improving the nation's education system	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>

---

**PART 1: SET-UP**

**[Screen 3a, display]**

**MANAGEMENT OPTIONS FOR CORAL REEFS IN HAWAII --  
WHAT IS YOUR OPINION?**

Sometimes the Government considers starting a new program. The Government does not want to start a new program unless people are willing to pay for it. One way for the Government to find out about this is to give people like you information about a program in a survey like this, so you can make up your own mind about it.

Some people think the program they are asked about is not needed; others think it is. We want to get the opinions of all kinds of people.

The particular program addressed in this survey involves coral reefs in Hawaii. The federal government is considering options to increase the protection of coral reefs around Hawaii, but it is not sure if it should do more, because this will require more government spending paid for by taxpayers.

Even though you may not be familiar with this issue, as a taxpayer your opinions matter. We will provide you with information to help you answer the questions. Through this survey, government officials will consider your opinions, along with information from scientists and planners, when deciding what more, if anything, to do.

Your participation is voluntary.

If you would like more information about your rights as a survey participant, please click here.  **(IF CLICKED – GO TO SCREEN 3B, ELSE SKIP TO SCREEN 3C)**



This survey is funded by the National Oceanic and Atmospheric Administration, which is a U.S. government agency charged with making decisions about coral reef management for the United States.

**OMB NO.: 0648-0531    Coral Reef Economic Valuation Final Survey Approval**  
**Expiration 03/31/2012**

---

**[SCREEN 3B if more information box on 3A is checked]**

**You may skip any questions that you do not wish to answer. You will not be disqualified from participation in other surveys. As always, your identity will not be reported or linked to any data resulting from the study. All of the terms and conditions described in the Privacy and Term of Use Policy that you received with your internet access equipment are in effect. If you have questions about this survey, you may contact Panel Relations at (800) 782-6899.**

**[Screen 3C]**

**In this survey, you will be presented information about coral reefs, including pictures and maps.**

**For upcoming screens, if you want to review information that you saw earlier, you can go back by clicking the “Previous Information” button on the screen. When you are done reviewing the information, you can return to where you were in the survey.**

---

**PART 2: INTRODUCTION**

**[Screen 4a, display]**

Below is a picture of a coral reef ecosystem from Hawaii, including various types of coral and fish.



Coral reefs are found throughout the world in ocean waters less than 300 feet deep.

- ▶ **Coral reefs are made of connected skeletons of millions of small animals called corals.**
- ▶ **Coral reef ecosystems include the coral reefs, neighboring areas of sea bottom, ocean waters, and many kinds of fish, plants, and animals nearby.**
- ▶ **Coral reef ecosystems provide a place to live for many ocean species including fish, sea turtles, seals, dolphins, shrimp, octopuses, sea snails, sea plants, and sea birds.**
- ▶ **Most coral reef ecosystems are in water less than 60 feet deep.**

**[Screen 4b, radio buttons]**

**Q1. How often have you read or heard about coral reefs, either in U.S. waters or elsewhere?**

Select one answer only

- Not often at all .....1
- Slightly often.....2
- Moderately often.....3
- Very Often .....4
- Extremely often.....5

---

[Screen 5, radio]

**Q2. About how many times have you been to a coral reef in the U.S. or elsewhere to fish, snorkel, scuba dive, view marine life, or for some other reason?**

\_\_\_\_\_ times (TYPE A NUMBER)

[Screen 6, check box] [if q2>0]

**Q3. Where have you visited a coral reef?**

Select all answers that apply

- Florida .....1
- Puerto Rico or the U.S. Virgin Islands .....2
- Other Caribbean, Gulf of Mexico, or  
Atlantic Ocean locations .....3
- Hawaii .....4
- Pacific Ocean locations other than Hawaii.....5
- Other (specify: \_\_\_\_\_).....6

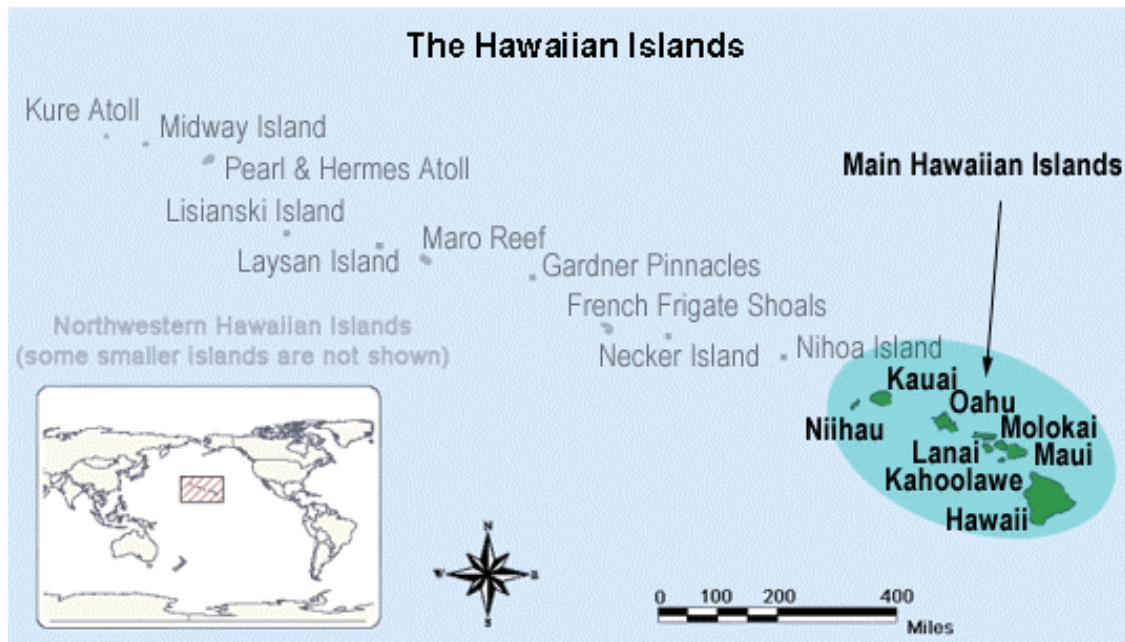
[Screen 7, display]

**About 10% of coral reef ecosystems in the U.S. are around the Hawaiian Islands; most of the rest are around Florida.**

**The Hawaiian Islands are commonly grouped into the Main Hawaiian Islands and the Northwestern Hawaiian Islands, as shown on the next screen.**

---

[Screen 8, display = Main\_Islands.gif]

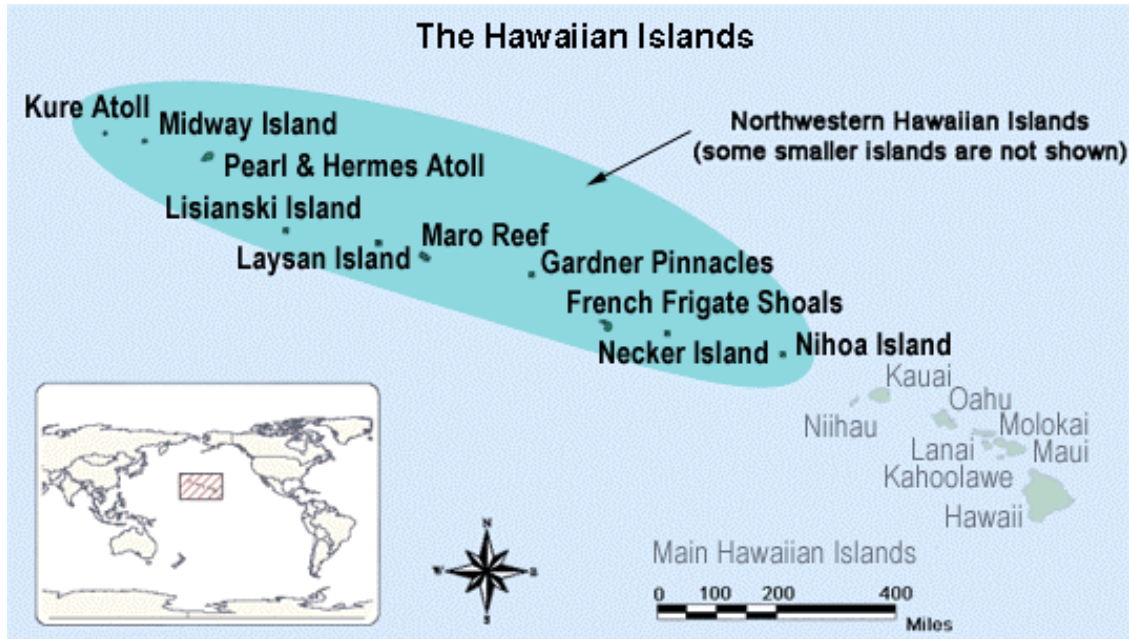


**The Main Hawaiian Islands are eight larger islands, where nearly all of Hawaii's people live.**

- ▶ These islands are surrounded by about 300,000 acres of coral reef ecosystem.
- ▶ These coral reefs are heavily used for recreation (fishing, boating, diving, and snorkeling), for commercial fishing, and for cultural and religious activities by native Hawaiian people.



[Screen 9, DISPLAY North\_islands.gif]



The Northwestern Hawaiian Islands consist of many small, mostly uninhabited islands that stretch 1,500 miles northwest of the Main Hawaiian Islands (about the same distance as from Miami to Boston).

- ▶ These islands are surrounded by about 400,000 acres of coral reef ecosystem.
- ▶ This area was made a National Monument in 2006.

[Screen 10A, radio]

**Q4.** Have you ever lived in Hawaii, or have you never lived in Hawaii?

Select one answer only

- Yes, I have lived in Hawaii .....1
- No, I have never lived in Hawaii.....0

[Screen 10B, radio] [if q4=0]

**Q4a.** Have you ever visited Hawaii, or have you never visited Hawaii?

Select one answer only

- Yes, I have visited Hawaii.....1
- No, I have never visited Hawaii .....0



---

[Screen 11, radio]

**Q5. In the next 10 years, how likely is it that you will go to Hawaii?**

Select one answer only

- I definitely will not go to Hawaii.....1
- I probably will not go to Hawaii.....2
- I may or may not go to Hawaii.....3
- I probably will go to Hawaii.....4
- I definitely will go to Hawaii.....5

[Screen 12A, display]

**Scenes from coral reefs around Hawaii.**



**Schools of fish live near reefs.**



**Sea urchins are common in Hawaii.**



**A variety of shallow coral.**



**Giant trevallies are often seen in Hawaiian waters.**

---

**[Screen 12B]**

**The coral reef ecosystems around the Hawaiian Islands are unique.**

- ▶ **One-fourth to one-half of the many corals, fish, and other marine species found around the Hawaiian Islands are found nowhere else in the world.**
- ▶ **The Northwestern Hawaiian Island coral reefs are in a nearly natural condition; there are few large coral reef ecosystems anywhere in the world that remain so untouched by humans.**

---

## **PART 3: OVERFISHING**

**[Screen 13A, display]**

### **OVERFISHING**

**Overfishing occurs when more fish are caught than an ecosystem can replace. Overfishing injures Hawaiian coral reef ecosystems.**

**Because of overfishing around the Main Hawaiian Islands:**

- ▶ **Total annual catches of reef fish have fallen by about 90%.**
- ▶ **Few fish grow to be large.**
- ▶ **Fish reproduction is low because there are fewer large fish. Large female fish produce more eggs.**
- ▶ **There are fewer plant-eating fish that keep algae from smothering the coral reefs. The coral reefs are less able to support other marine life and less able to recover from other stresses like storms or pollution.**

**[Screen 13B, display]**

**Around the Northwestern Hawaiian Islands:**

- ▶ **Currently, there is very little fishing**
- ▶ **This coral reef ecosystem is in a natural condition with many more fish and a larger variety of fish than around the Main Hawaiian Islands.**
- ▶ **Many large fish, seals, and other species at the top of the food chain still live here, whereas they have been greatly reduced around the Main Hawaiian Islands.**
- ▶ **As a National Monument administered by the federal government and the State of Hawaii, the Northwestern Hawaiian Islands are permanently protected from overfishing.**

---

[Screen 13C, display]

The following drawings represent current conditions in the Main Hawaiian Islands and how they would have looked before overfishing.

Current conditions of coral reefs around the Main Hawaiian Islands



Conditions of coral reefs around the Main Hawaiian Islands before overfishing



[Screen 14A]

**A SOLUTION TO OVERFISHING IN  
THE MAIN HAWAIIAN ISLANDS: NO-FISHING ZONES**

No-fishing zones can be used to prevent or limit overfishing in the Main Hawaiian Islands. No-fishing zones are areas of the ocean where fishing is not permitted.

- ▶ Where overfishing has occurred, no-fishing zones will allow the number, size, and variety of fish to increase inside the zones. More fish means that there will also be more seals, sea birds, and other marine life.
- ▶ When nearby areas remain open to fishing, fish from within no-fishing zones migrate and increase the number, average size, and varieties of fish in areas outside the no-fishing zones.
- ▶ No-fishing zones have been effective in rebuilding coral reef ecosystems in other places such as Florida.
- ▶ Snorkeling, diving, and similar activities are allowed in no-fishing zones.

---

[Screen 14B]

However, no-fishing zones can have undesirable effects:

- ▶ Commercial fishing jobs may temporarily be lost until catches increase.
- ▶ Recreational fishing has to be relocated away from the no-fishing zones.
- ▶ Federal government spending on enforcement will be required because many of the reefs are managed by the federal government. The State of Hawaii will pay its fair share of enforcement costs for reefs in state waters.

[SCREEN 14C, GRID]

**Q6.** Below is a list of statements. Please indicate whether you strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, or strongly agree with each of the following statements.

Check one box for each row in the grid

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
	▼	▼	▼	▼	▼
Protecting jobs of commercial fishermen is more important than protecting Hawaiian coral reefs.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Protecting recreational fishing is more important than protecting Hawaiian coral reefs.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
The federal government should take an active role to protect Hawaiian coral reefs.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

[Screen 15, display]

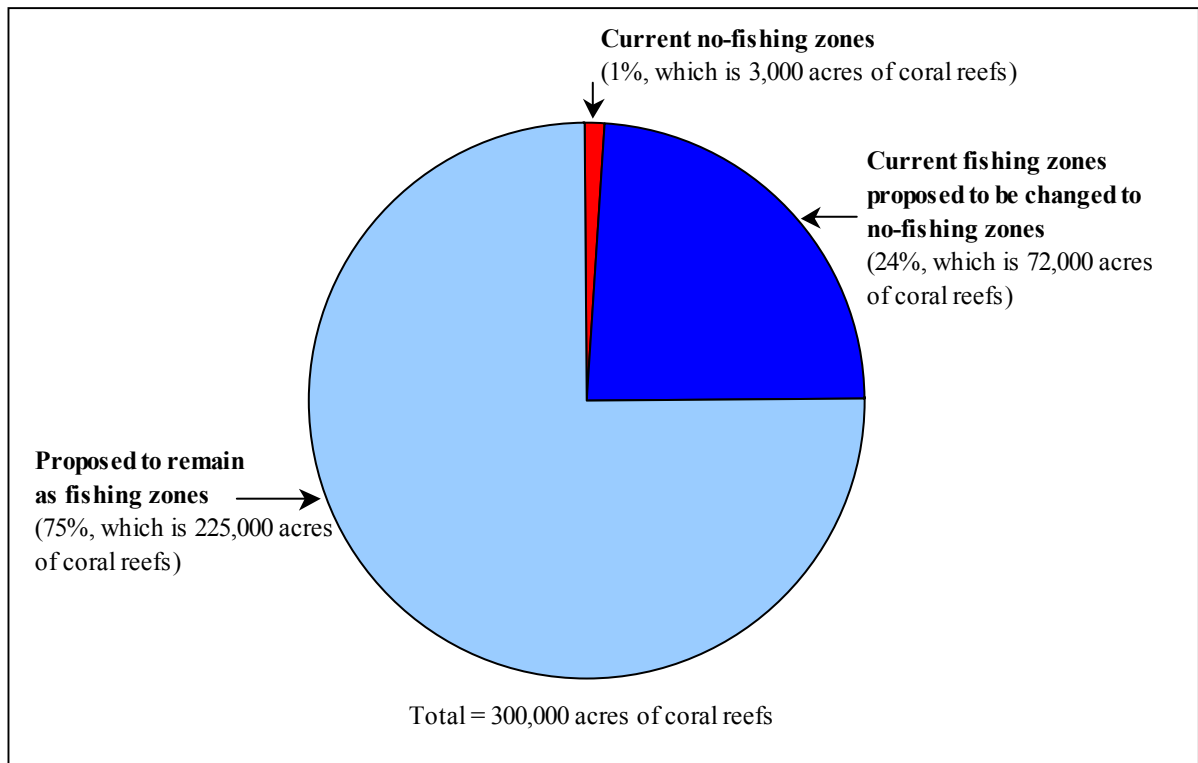
## OPTIONS TO INCREASE NO-FISHING ZONES AROUND THE MAIN HAWAIIAN ISLANDS

There are options for increasing no-fishing zones around the Main Hawaiian Islands. Currently, about 1% of the coral reefs around the Main Hawaiian Islands are included in no-fishing zones. One option being discussed would increase the no-fishing zones around the Main Hawaiian Islands to 25% of the coral reefs.

More details about this option are shown on the next screen.

[Screen 16A, display]

**Main Hawaiian Islands Option:** Increase no-fishing zones from current 1% up to 25% of coral reefs.



---

**[Screen 16B]**

Some reasons for increasing no-fishing zones around the Main Hawaiian Islands:

- ▶ **Inside the no-fishing zones, fish and other marine life would begin to increase during the first three years.**
- ▶ **Beginning in three to five years after no-fishing zones are established, scientists expect that the amount of fish caught outside the no-fishing zones would begin to increase.**
- ▶ **In about 10 years, the total amount of reef fish caught each year in the Main Hawaiian Islands would increase from 10% to about 50% of historic levels.**
- ▶ **The entire Main Hawaiian Island coral reef ecosystem would be healthier, support more marine life, improve the quality of recreation, and improve religious and cultural uses by native Hawaiians.**

**[NEW SCREEN]**

Some reasons against increasing no-fishing zones around the Main Hawaiian Islands:

- ▶ **Enforcement costs will be high. Part of the costs would be paid for by all U.S. taxpayers through increased federal taxes. The rest of the costs would be paid for by the State of Hawaii.**
- ▶ **Recreational and commercial fishing will not be allowed within the no-fishing zone.**
- ▶ **The coral reef ecosystem around the Northwestern Hawaiian Islands is already protected from overfishing.**



---

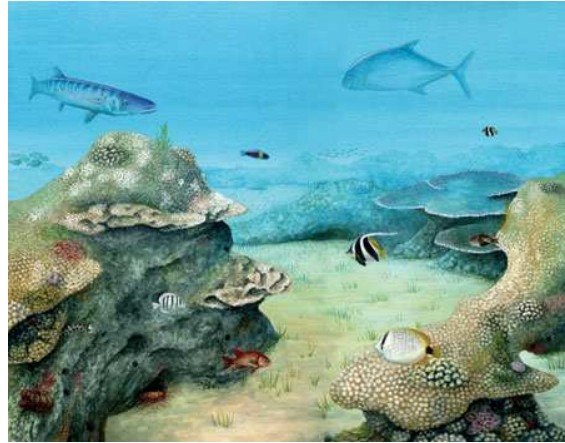
[Screen 16C, display]

**COMPARING CORAL REEF CONDITIONS AROUND THE  
MAIN HAWAIIAN ISLANDS**

Conditions in about 10 years  
if 1% of the coral reefs remain protected by  
no-fishing zones



Conditions in about 10 years  
if no-fishing zones are increased to protect  
25% of the coral reefs



[Screen 16D, text box]

**Q7. Do you have any comments about the information provided so far?**

Please type in your comments.

---



---

## PART 4: SHIP ACCIDENTS

[Screen 17A]

### SHIP ACCIDENTS

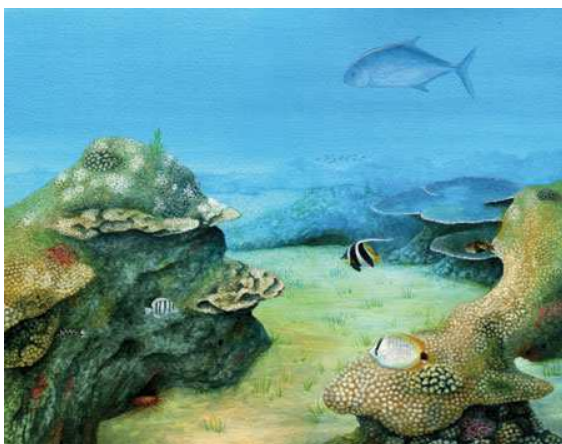
Ship accidents are another cause of injuries to coral reefs around the Main Hawaiian Islands.

On average, about 10 accidents occur each year where private and commercial boats and ships lose control, often in storms. While these ships rarely sink, they do damage coral reefs.

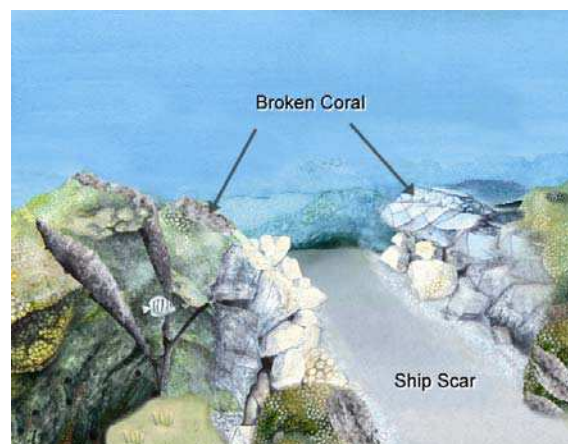
- ▶ These accidents usually occur around the Main Hawaiian Islands, where most ship traffic occurs.
- ▶ Severe injuries to the coral reefs usually range from a few square feet to an acre (an acre is about the size of a football field).
- ▶ In an average year, a total of about 5 acres of coral reefs are injured around the Main Hawaiian Islands.
- ▶ It typically takes about 50 years for nature to fully repair these injuries. This means that activities like fishing, diving, and snorkeling may be affected for many years.

[Screen 17B, display]

Main Hawaiian Island coral reefs where no ship accident has occurred.



Area of coral reef where a ship accident has occurred.



---

[Screen 17C, radio]

**Q8. Have you ever heard about, read about, or seen where ship accidents have injured coral reefs in Hawaii or elsewhere?**

Select one answer only.

Yes .....1

No .....0

[Screen 18] [display]

**OPTIONS TO REPAIR CORAL REEFS INJURED FROM SHIP ACCIDENTS AROUND THE MAIN HAWAIIAN ISLANDS**

Actions can be taken to help coral reefs recover faster after ship accidents, such as planting living coral from coral farms into injured areas and restoring injured coral that is still alive.

- ▶ With repairs, injured coral reefs typically recover in about 10 years, rather than in about 50 years with natural recovery.
- ▶ These types of repairs have been successful around Florida and elsewhere.

---

**[Screen 19A]**

**The federal government, with the State of Hawaii, is considering a program to repair ship injuries to coral reefs around the Main Hawaiian Islands. About 10 sites, totaling about 5 acres, would be repaired each year.**

**As part of the proposed program, boat and ship owners will be required to pay for such repairs. However, it is often not possible to find those who caused the injuries or to collect payment from the persons responsible.**

**[NEW SCREEN]**

**Some reasons for a coral reef repair program:**

- ▶ These sites would recover in about 10 years, rather than in about 50 years with natural recovery.**
- ▶ This program would help maintain Hawaii's coral reef ecosystems and would reduce the impacts from ship accidents to recreation and other activities.**

**[NEW SCREEN]**

**Some reasons against a coral reef repair program:**

- ▶ Since the Main Hawaiian Islands have about 300,000 acres of coral reefs, 5 acres injured by ship accidents each year is only a very small percentage.**
- ▶ A program like this would require additional costs beyond what can be collected from the ship owners that caused the damage.**
- ▶ Part of the costs that are not paid by ship owners would be paid by all U.S. taxpayers through increased federal taxes. The rest of the costs would be paid by the State of Hawaii.**

**[Screen 19B, text box]**

**Q9. Do you have any comments about the information presented so far?**

Please, type in your comments. \_\_\_\_\_

---

**PART 5: CHOICE QUESTIONS**

[Screen 20A] Text in italics = text for those with no audio. For those with audio – text is spoken and repeated on the screen.

**Audio Control Instructions**

[IF SA=1] [THIS SENTENCE ONLY FOR THOSE WITH AUDIO, OTHERWISE DON'T DISPLAY.] For the next few screens you will be provided with some audio instructions. Please make sure your audio is turned on.

If you want to listen to the audio again, press the “Play” button that looks like this: [INSERT PICTURE OF PLAY BUTTON] on the upcoming screens. If you want to pause the audio, click the button that looks like this: [INSERT PICTURE OF PAUSE BUTTON].

[NEW SCREEN]

**Which Program Do You Prefer?**

The following questions ask you to choose among alternative programs that have different combinations of actions to protect and restore coral reef ecosystems around the Main Hawaiian Islands, at different costs to you.

[Screen 20B] [show text in italics if SA ~= 1]

*In each question, the Current Program describes the reef management actions that are currently in place and the expected results if these are continued.*

*In Row 1: The Main Hawaiian Islands no-fishing zones are kept at the current 1% of the coral reefs. The number of fish and the quality of the reefs will continue to decline. (short pause)*

*In Row 2: Ship injuries to coral reefs around the Main Hawaiian Islands are not repaired. Currently, ship accidents injure about 5 acres each year. It takes about 50 years for these reefs to recovery naturally. (short pause)*

	<b><u>Current Program</u></b>
% of coral reefs protected from no-fishing zones. (acres)	<b>1% protected</b> <b>(3,000 acres)</b> Declining marine life.
Acres of coral reefs repaired from ship injuries per year..	<b>No acres repaired</b> Injuries last about 50 years
Added federal taxes paid by your household each year	\$0

---

*The last row shows the additional cost paid by your household each year: With the current program, there will be no additional actions, and therefore no added federal taxes paid by your household to protect and restore coral reef ecosystems around the Main Hawaiian Islands. (short pause)*

*When you are finished reviewing this table click on the NEXT button*

---

[RANDOMLY ASSIGN ALL RESPONDENTS TO ONE OF SIXTEEN SETS. RECORD SET ASSIGNED]

[Screen 20D, show text in italics if SA ~= 1]

[RANDOMIZE COLUMNS2 TO COLUMNS3] [FULL PROGRAM SHOULD ALWAYS BE IN COLUMN 4]

*The table below includes the Current Program and three alternative programs that do more and cost more than the Current Program.*

*The three alternatives to the Current Program are: the No-Fishing Zone Program; the Ship Repair Program; and the Full Program.*

*The Full Program is summarized on the far right hand side of the table:*

- ▶ *The Full Program protects 25% of the coral reefs from overfishing AND each year repairs 5 acres of coral reefs from ship accidents.*

*In between the Current Program and the Full Program the two other alternative programs are summarized:*

- ▶ *The No-Fishing Zones Program: This program would protect 25% the coral reefs around the Main Hawaiian Islands, but would do nothing to repair reef damage from ship accidents.*
- ▶ *The Ship Repair Program: This program would repair 5 acres of coral reefs from ship accidents each year, but would do nothing more to protect coral reefs from overfishing.*

*Each of these alternatives to the Current Program would cost your household additional federal taxes each year as shown in the bottom of the table.*

*Remember, if you spend money for one of the programs that does more, that money won't be available for you to buy other things. If you do not want to do more and spend more to protect coral reefs in the Main Hawaiian Islands, you should check the Current Program as your most preferred program.*

*After you carefully review the four programs, and the costs to your household under each program, please check which of the four programs you most prefer.*

*The highlighted boxes show where the program actions are different from the current program.*

	Column 1	Column 2	Column 3	Column 4
	<u>Current Program</u>	<u>Reef Repair Program</u>	<u>No-Fishing Zones Program</u>	<u>Full Program</u>
% of coral reefs protected by no-fishing zones. (acres)	1% protected (3,000 acres) Declining marine life.	1% protected (3,000 acres) Declining marine life.	25% protected (75,000 acres) Increasing marine life More fish caught outside zone.	25% Protected (75,000 acres) Increasing marine life More fish caught outside zone.
Acres of coral reefs repaired from ship injuries per year.	No acres repaired Injuries last about 50 years	5 acres repaired Injuries last about 10 years	No acres repaired Injuries last about 50 years	5 acres repaired Injuries last about 10 years
Added federal taxes paid by your household each year	\$0	\$85	\$35	\$100
Which program is your <u>most preferred</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Once you are done reviewing these alternative programs, please check the box for the program you most prefer.*

---

**[ALL RESPONDENTS GET Q11, Q13, AND Q15]**

**[50% GET Q12, Q14, AND Q16]**

**[25% GET Q12 BUT NOT Q14 AND Q16]**

**[25% GET Q16 BUT NOT Q12 AND Q14]**



[SCREEN 21B TEXT BOX. SHOW THE CHOICE QUESTIONS ON THIS SCREEN ABOVE Q11.]

	<u>Current Program</u>	<u>Full Program</u>	<u>No-Fishing Zones Program</u>	<u>Reef Repair Program</u>
% of coral reefs protected by no-fishing zones. (acres)	1% protected (3,000 acres) Declining marine life.	25% Protected (75,000 acres) Increasing marine life More fish caught outside zone.	25% protected (75,000 acres) Increasing marine life More fish caught outside zone.	1% protected (3,000 acres) Declining marine life.
Acres of coral reefs repaired from ship injuries per year.	No acres repaired Injuries last about 50 years	5 acres repaired Injuries last about 10 years	No acres repaired Injuries last about 50 years	5 acres repaired Injuries last about 10 years
Added federal taxes paid by your household each year	\$0	\$100	\$35	\$85
Your <u>most preferred program.</u>		<b>X</b>		

**Q11.** You chose the [Answer to Q10] as your most preferred program of these four programs. How sure are you that among these four programs, the [ANSWER TO Q10] is your most preferred?

- Not sure at all ..... 1
- Slightly sure..... 2
- Moderately sure..... 3
- Very sure ..... 4
- Extremely sure    5

**Q12.** Please provide a brief comment that helps us understand why you chose the [ANSWER TO Q10] as your most preferred.

Type in the answer

---

---

**[SCREEN 21B, ALT C VARIES BY VERSION] [PROGRAMMING NOTE: ONCE THEY HAVE ANSWERED Q10, REMOVE THE SELECTED MOST PREFERRED OPTIONS FROM THE CHOICE TABLE AND RE-PRESENT THE THREE REMAINING OPTIONS.]**

**Q13.** Now that you have told us which program you most prefer, consider the remaining three programs. Of the remaining three programs, which program do you prefer?

**[ALT VERSION. If R chooses the Current Program as his/her most preferred in Q10]**

You chose the Current Program with no additional cost to your household as your most preferred program. If you had to choose among the remaining three programs, which would you prefer?

**[SCREEN 21C, ALT C VARIES BY VERSION. SHOW THE CHOICE QUESTIONS ON THIS SCREEN ABOVE Q14] [**

**Q14.** You chose the [Answer to Q13] as your most preferred program of these three programs. **How sure are you that among these three programs, the [ANSWER TO Q13] is your most preferred?**

- Not sure at all ..... 1
- Slightly sure..... 2
- Moderately sure.....3
- Very sure .....4
- Extremely sure.....5

**[SCREEN 21D, ALT B, ALT C VARY BY VERSION] [PROGRAMMING NOTE: ONCE THEY HAVE ANSWERED Q14, REMOVE THE SELECTED MOST PREFERRED OPTIONS FROM THE CHOICE TABLE AND RE-PRESENT THE TWO REMAINING OPTIONS.]**

**Q15.** Of the remaining two programs, which program do you prefer?

**[ALT VERSION. If R chooses the Current Program as his/her most preferred in Q10]**

If you had to choose between the remaining two programs, which would you prefer?

---

[SCREEN 21E, ALT C VARIES BY VERSION. SHOW THE CHOICE QUESTIONS ON THIS SCREEN ABOVE Q16] [

**Q16. You chose the [Answer to Q15] as your most preferred program of these two programs. How sure are you that between these two programs, the [ANSWER TO Q15] is your most preferred ?**

- Not sure at all ..... 1
- Slightly sure..... 2
- Moderately sure..... 3
- Very sure ..... 4
- Extremely sure..... 5

[screen 22]

Following are some questions about what you were thinking when you chose your preferred programs.

[screen 23]

**Q17. When you chose your most preferred programs, did you think that overfishing contributed to the changes in Hawaii’s coral reef ecosystems we told you about or did you think it did not contribute to those changes?**

- Overfishing did contribute to the changes..... 1
- Overfishing did not contribute to the changes..... 0

[Screen 24]

**Q18. If no-fishing zones are NOT put in place, how serious did you think the effects of overfishing would be on the coral reef ecosystem around the Main Hawaiian Islands?**

- Not serious at all..... 1
- Slightly serious..... 2
- Moderately serious ..... 3
- Very serious..... 4
- Extremely serious..... 5

---

**[Screen 25]**

**Q19. When you chose your preferred programs, how effective did you think that no-fishing zones would be in restoring fish and other marine life in the coral reef ecosystem around the Main Hawaiian Islands?**

- Not effective at all ..... 1
- Slightly effective ..... 2
- Moderately effective..... 3
- Very effective ..... 4
- Extremely effective ..... 5

**[Screen 26]**

**Q20. When you chose your preferred programs, how serious did you think the effects of ship accidents are on the overall health of the coral reef ecosystem around the Main Hawaiian Islands?**

- Not serious at all..... 1
- Slightly serious ..... 2
- Moderately serious ..... 3
- Very serious..... 4
- Extremely serious ..... 5

**[Screen 27]**

**Q21. When you chose your preferred programs, how effective did you think that repairing injuries from ship accidents would be in speeding up recovery of the coral reef ecosystem around the Main Hawaiian Islands?**

- Not effective at all ..... 1
- Slightly effective ..... 2
- Moderately effective..... 3
- Very effective ..... 4
- Extremely effective ..... 5

---

[Screen 28]

**Q22. When you chose your most preferred programs, did you think that repairs of injuries to coral reefs after ship accidents would help reefs recover in about 10 years, more than 10 years, or less than 10 years?**

- About 10 years.....1
- More than 10 years .....2
- Less than 10 years .....0

[Screen 29]

**Q23. When you chose your most preferred programs, did you think that your household would pay the tax amount stated, or did you think you would pay more than that amount, or less than that amount?**

- The amount stated ..... 1
- More than the amount ..... 2
- Less than the amount..... 0

[Screen 30]

**Q24. Please tell us how much confidence you have in the following groups and institutions in this country. In general, would you say you have no confidence at all, a little confidence, a moderate amount of confidence, a lot of confidence, or a great deal of confidence in:**

	No confidence at all	A little confidence	A moderate amount of confidence	A lot of confidence	A great deal of confidence
	▼	▼	▼	▼	▼
The people who run the U.S. Government	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
University scientists	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Large corporations	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Newspapers	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

---

[Screen 31]

**Q25. How do you feel about increasing federal taxes to protect coral reefs around the Main Hawaiian Islands?**

- Strongly oppose..... 1
- Somewhat oppose..... 2
- Neither oppose nor favor..... 3
- Somewhat favor..... 4
- Strongly favor..... 5

[Screen 32]

**Q26. There are different ways for people to pay for new programs to protect the environment. One way is for the government to pay the cost. This will raise everyone's taxes. The other way is for businesses to pay the cost. This will make prices go up for everyone.**

**If you had to choose, would you prefer to pay for new environmental programs through higher income taxes or through higher prices?**

- Through higher income taxes..... 1
- Through higher prices ..... 2
- No preference ..... 3

[Screen 33]

**Q27. Would you say you think of yourself as not an environmentalist at all, slightly an environmentalist, a moderate environmentalist, a strong environmentalist, or a very strong environmentalist?**

- Not an environmentalist at all..... 1
- Slightly an environmentalist..... 2
- A moderate environmentalist..... 3
- A strong environmentalist ..... 4
- A very strong environmentalist ..... 5

[Screen 34]

**Q28. We would like to learn more about how you reacted to the questions that asked you to choose between various combinations of no-fishing zones and ship accident repair programs. Please indicate whether you strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, or strongly agree with each of the following statements.**

Check one box for each row in the grid.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
	▼	▼	▼	▼	▼
Costs should not be a factor when protecting the environment.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
I found it difficult to select which programs I preferred.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
There was not enough information for me to make informed decisions about doing more to protect coral reefs in Hawaii.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
I was concerned that the federal government cannot effectively manage coral reefs.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
I should not have to pay more federal taxes to protect coral reefs around Hawaii.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
The public's views as expressed in this survey should be important to the government when it chooses how to manage coral reefs in Hawaii.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

[SCREEN 35]

**Q29. Did anyone in your household pay any federal income taxes last year, 2008?**

Select one answer

- Yes.....1
- No.....0
- Not Sure.....2

---

[SCREEN 38, TEXT BOX, JUST HAVE THIS TEXT BOX WITHOUT SCREEN 31

Please add any other comments you would like to make to help us understand your views about coral reefs in Hawaii and your responses to this survey.

Type in the comment

---

[SCREEN 40 RADIO] [IF D1=2 OR XPANEL=2]

**D1. How is your computer (i.e., the computer via which you are taking this survey) connecting to the Internet?**

- Dialup modem .....1
- ISDN line.....2
- Cable modem.....3
- Digital Subscriber Line (DSL) .....4
- Wireless .....5
- Satellite dish .....6
- T1 / T3 line .....7

[SCREEN 41, TO BE VIEWED AFTER SURVEY RESPONSES ARE SUBMITTED]

[DISABLE BACK BUTTON]

## To be sure we are clear ...

The National Oceanic and Atmospheric Administration, in cooperation with other federal and state agencies, is looking at ways to help protect coral reef ecosystems around the Hawaiian Islands. A wide variety of options are possible, in addition to the ones discussed in this survey. Any future decisions on specific protection and enhancement alternatives will take into consideration the views of the public, the results of scientific studies, and advice of marine and other scientific experts.