OMB Approval #: 0648-xxxx
Expiration Date:
Version 2a

Monroe County Resident Survey

Your answers are voluntary and confidential.
Your name will never be released to anyone unless otherwise required by law. After the completion of the project all materials identifying you as an individual will be destroyed.

This is a cooperative research project of the Monroe County Tourist Development Council and the National Oceanic and Atmospheric Administration. Public reporting burden for this collection of information is estimated to average 1 hour including time for reviewing instructions, searching existing data sources, gathering and maintaining the data need, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to penalty for failure to comply with, a collection of information subject to requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Resident Survey

1. Overall, how would you rate Monroe County as a place to live?

a. Excellent
b. Good
c. Fair
d. Poor

Please circle letter corresponding to your answer

2. There are many reasons that people choose to live where they do in Florida. What are the two <u>most</u> <u>important</u> <u>reasons</u> you chose to live in Monroe County?

a. No special reason
b. Born here
c. Job or business
d. Climate
e. Environment
f. Access to natural resources, such as natural settings and wildlife
g. Opportunities for water activities, such as fishing or diving
h. Low crime rate
i. Cultural activities
j. Retirement
k. Some other reason (specify) _____

Please circle letters corresponding to the two most important reasons

3. In the past 12 months, have you done any outdoor recreation activities in the Florida Keys?

a. Yes (Go to Part A)
b. No (Go to Part G)

Please use the enclosed White Card-Activities List to see what we mean by outdoor recreation

Part A: Outdoor recreation activities during the past 12 months in the Florida Keys

Please use the enclosed Activities List and map to help you answer the questions in this section

A1. **Which of the activities on the enclosed Activities List did you or someone in your household do in the Florida Keys during the last 12 months?**

A2. **Pleas fill in the circle for each activity you, yourself did during the past 12 months in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

A3. **On how many different days did you, yourself participate in each activity in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

Only answer for those activities you listed with an A on the end of the activity number

A4. **How many others (excluding yourself) in your household did each activity in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

A1	Upper Keys			Islamorada			Marathon			Lower Keys			Key West		
Activity	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
________	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____

A5. What would you say is the most important activity you did in the Florida Keys?

Most Important Activity _____ (Activity List Number)

No Activity Most Important (fill in box) ☐

A6. On how many different days did you participate in outdoor recreation activities outside the Florida Keys during the past 12 months? _____ (# of days)

Part B: Reef use in the Florida Keys during the past 12 months. Both artificial and natural reefs.

Please use Blue Card with Activities List for reef use and map of the Florida Keys in answering Part B

B1. Which activities did you or someone in your household do on either artificial or natural reefs during the past 12 months in the Upper Keys, Isalmorada, Marathon, Lower Keys and Key West?

If you did not do anything in a region, check the box indicating no reef use in the region

B2. Please fill in the circle for each activity you, yourself, did during the past 12 months in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West.

B3. How many others in your household did each activity on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B4. On how many different days did you, yourself, participate in each activity on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B5. On how many different days did you, yourself, participate in each activity on the artificial reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B6. On how many different days did you, yourself, participate in each activity on the natural reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Note: If you did part of a day on an artificial reef and part of a day on a natural reef, count one whole day on each type of reef

B7. How many different dives did you, yourself, make for each type of diving activity you did on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Diving activities include all snorkeling and scuba diving activities on the Blue Card-Activities List (Reef)

A dive is defined as an entry and exit from the water to snorkel or scuba dive

B8. How many different dives did you, yourself, make for each type of diving activity you did on the artificial reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B9. How many different dives did you, yourself, make for each type of diving activity you did on the natural reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Please refer to Questions B1 - B9 when filling in the tables on the following two pages

There is one table for each of the five regions of the Florida Keys (Upper Keys, Islamorada, Marathon, Lower Keys and Key West)

☐ **No Reef Use** **Upper Keys**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use** **Islamorada**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use** **Marathon**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use**

Lower Keys

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** # days artificial	**B6** # days natural	**B7** Respondent # dives	**B8** # dives artificial	**B9** # dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use**

Key West

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** # days artificial	**B6** # days natural	**B7** Respondent # dives	**B8** # dives artificial	**B9** # dives natural
	○							
	○							
	○							
	○							
	○							
	○							
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	○							
	○							

Part C: Specialization

In this section, we are interested in learning more about your primary activity. Please answer the following questions based on the response you gave to QUESTION A5.

For the four questions below, please read the four choices and circle the one answer that best fits you for that question.

C1. When I participate in my primary activity, I feel like:

1 a beginner. I don't really feel like I am part of the activity scene.
2 an occasional or irregular participant. Sometimes it is fun, entertaining or rewarding to do my activity.
3 a habitual and regular participant in the activity.
4 an insider to the sport. The activity is an important part of who I am.

C2. During my activity, I can best be described as:

1 having very little understanding of the activity. I am often unsure about how to do certain things when I go.
2 having some understanding of the activity, but still in the process of learning more about the sport. I am becoming more familiar and comfortable with the activity.
3 being comfortable with the sport. I have a good understanding of what I can do, and how to do it.
4 a knowledgeable expert in the sport. I encourage, teach and enhance opportunities for others who are interested in the activity.

C3. My relationships with others who do the activity are:

1 not established. I really don't know any other people who do the activity.
2 very limited. I know some others in the activity by sight and sometimes talk with them, but I don't know their names.
3 one of familiarity. I know the names of others who do the activity, and often speak with them.
4 close. I have personal and close relationships with others in the activity. These friendships often revolve around the activity.

C4. My commitment to the activity is:

1 very slight. I have very little connection to the activity. I may or may not continue to participate in the sport in the future.
2 moderate. I will continue to do it as it is entertaining and provides the benefits I want.
3 fairly strong. I have a sense of being a member of the activity, and it is likely that I will continue to do it for a long time.
4 very strong. I am totally committed to the activity. I encourage others to participate in the sport and seek to ensure the activity continues into the future.

C5. If you had to replace all of the equipment that you currently own for your primary activity with similar equipment, how much would it cost to replace?

$_____AMOUNT TO REPLACE PRIMARY ACTIVITY EQUIPMENT

C6. To what extent do you make use of the following for current information about your primary activity? Please circle number that indicates your extent of use for each source of information.

		No Use	Almost no use	A little use	Some use	A lot of use
a.	Talking with others who participate in the activity.....	1	2	3	4	5
b.	Magazines…….....	1	2	3	4	5
c.	Government agency publications…….....	1	2	3	4	5
d.	Conservation organization publications…….....	1	2	3	4	5
e.	Newspapers…….....	1	2	3	4	5
f.	Diving shops/companies…….....	1	2	3	4	5
g.	Club meetings…….....	1	2	3	4	5
h.	Television…….....	1	2	3	4	5
i.	Radio…….....	1	2	3	4	5
j.	Internet…….....	1	2	3	4	5

C7. Below is a list of reasons why people engage in recreation activities. Please circle the number that indicates how important each item is to you as a reason for participating in your primary activity.

		Not at all important	Slightly important	Moderately important	Very important	Extremely important
a.	To be outdoors…….....	1	2	3	4	5
b.	For family recreation…….....	1	2	3	4	5
c.	To experience new and different things…….....	1	2	3	4	5
d.	For relaxation…….....	1	2	3	4	5
e.	To be close to the water…….....	1	2	3	4	5
f.	To get away from the demands of other people…...	1	2	3	4	5
g.	To be with friends…….....	1	2	3	4	5
h.	To develop my skills…….....	1	2	3	4	5
i.	To get away from the regular routine…….....	1	2	3	4	5
j.	To experience adventure and excitement…….....	1	2	3	4	5
k.	To experience natural surroundings…….....	1	2	3	4	5

Part D: Importance and satisfaction with facilities, services, and natural resources in the Florida Keys

In this section we are interested in identifying the recreation site information which is important to you.

Please read each statement and rate the importance of each item as it contributes to an ideal recreation/tourism setting for the activities you did in the Florida Keys. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Not Important (NI), 2 = Somewhat Important (SI), 3 = Important (I), 4 = Very Important (VI), 5 = Extremely Important (EI), 8 = Don't Know (DK), or 9 = NA

		NI	SI	I	VI	EI	DK	NA
		1	2	3	4	5	8	9
D1.	Clear water (high visibility)	1	2	3	4	5	8	9
D2.	Amount of living coral on reefs	1	2	3	4	5	8	9
D3.	Public transportation	1	2	3	4	5	8	9
D4.	Parking	1	2	3	4	5	8	9
D5.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D6.	Many different kind of fish and sea life to catch	1	2	3	4	5	8	9
D7.	Large numbers of fish	1	2	3	4	5	8	9
D8.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D9.	Uncrowded conditions	1	2	3	4	5	8	9
D10.	Maps, brochures, and other tourist information	1	2	3	4	5	8	9
D11.	Boat ramps/launching facilities	1	2	3	4	5	8	9
D12.	Marina facilities	1	2	3	4	5	8	9
D13.	Directional signs, street signs, mile markers	1	2	3	4	5	8	9
D14.	Condition of roads and streets	1	2	3	4	5	8	9
D15.	Cleanliness of streets and sidewalks	1	2	3	4	5	8	9
D16.	Condition of bike paths and sidewalks/walking paths	1	2	3	4	5	8	9
D17.	Shoreline access	1	2	3	4	5	8	9
D18.	Designated swimming/beach areas	1	2	3	4	5	8	9
D19.	Quality of beaches	1	2	3	4	5	8	9
D20.	Customer service and friendliness of people	1	2	3	4	5	8	9
D21.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D22.	Availability of public restrooms	1	2	3	4	5	8	9
D23.	Value for the price	1	2	3	4	5	8	9
D24.	Parks and specially protected areas	1	2	3	4	5	8	9
D25.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

On the previous page you indicated the importance of a list of items to your recreational/tourist experiences. Now read each of the items on this list and rate how satisfied you were with each at the places you did your activities in the Florida Keys. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Terrible (T), 2 = Unhappy/Dissatisfied (UH), 3 = Mixed (M), 4 = Happy/Satisfied (H), 5 = Delighted (D), 8 = Don't Know (DK), or 9 = NA

		T	UH	M	H	D	DK	NA
		1	2	3	4	5	8	9
D26.	Clear water (high visibility)	1	2	3	4	5	8	9
D27.	Amount of living coral on reefs	1	2	3	4	5	8	9
D28.	Public transportation	1	2	3	4	5	8	9
D29.	Parking	1	2	3	4	5	8	9
D30.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D31.	Many different kind of fish and sea life to catch	1	2	3	4	5	8	9
D32.	Large numbers of fish	1	2	3	4	5	8	9
D33.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D34.	Uncrowded conditions	1	2	3	4	5	8	9
D35.	Maps, brochures, and other tourist information	1	2	3	4	5	8	9
D36.	Boat ramps/launching facilities	1	2	3	4	5	8	9
D37.	Marina facilities	1	2	3	4	5	8	9
D38.	Directional signs, street signs, mile markers	1	2	3	4	5	8	9
D39.	Condition of roads and streets	1	2	3	4	5	8	9
D40.	Cleanliness of streets and sidewalks	1	2	3	4	5	8	9
D41.	Condition of bike paths and sidewalks/walking paths	1	2	3	4	5	8	9
D42.	Shoreline access	1	2	3	4	5	8	9
D43.	Designated swimming/beach areas	1	2	3	4	5	8	9
D44.	Quality of beaches	1	2	3	4	5	8	9
D45.	Customer service and friendliness of people	1	2	3	4	5	8	9
D46.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D47.	Availability of public restrooms	1	2	3	4	5	8	9
D48.	Value for the price	1	2	3	4	5	8	9
D49.	Parks and specially protected areas	1	2	3	4	5	8	9
D50.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

D51. Had you lived-in or visited the Florida Keys more than five years ago?

☐ **Yes** ⟶ **Continue to question D52.**

☐ **No** ⟶ **Skip to next page, Part E**

Now read each of the items on this list and rate how satisfied you were with each when you were in the Florida Keys more than five years ago. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Terrible (T), 2 = Unhappy/Dissatisfied (UH), 3 = Mixed (M), 4 = Happy/Satisfied (H), 5 = Delighted (D), 8 = Don't Know (DK), or 9 = NA

		T	UH	M	H	D	DK	NA
		1	2	3	4	5	8	9
D52.	Clear water (high visibility)	1	2	3	4	5	8	9
D53.	Amount of living coral on reefs	1	2	3	4	5	8	9
D54.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D55.	Large numbers of fish	1	2	3	4	5	8	9
D56.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D57.	Uncrowded conditions	1	2	3	4	5	8	9
D58.	Condition of roads and streets	1	2	3	4	5	8	9
D59.	Shoreline access	1	2	3	4	5	8	9
D60.	Quality of beaches	1	2	3	4	5	8	9
D61.	Customer service and friendliness of people	1	2	3	4	5	8	9
D62.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D63.	Parks and specially protected areas	1	2	3	4	5	8	9
D64.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

Part E: Environmental Issues

In this section we are interested in learning about your feelings regarding various environmental issues. Below is a list of statements.

For each statement, please circle the response that best reflects your opinion about the statement.

1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly Disagree (SD), and 8 = Don't Know or No Opinion (DK)

		SA	A	N	D	SD	DK
		1	2	3	4	5	8
E1.	The federal government will have to introduce harsh measures to halt pollution since few people will regulate themselves	1	2	3	4	5	8
E2.	We should not worry about killing too many game animals because in the long run things will balance out	1	2	3	4	5	8
E3.	I'd be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results might not seem significant	1	2	3	4	5	8
E4.	Pollution is not personally affecting my life	1	2	3	4	5	8
E5.	The benefits of modern consumer products are more important than the pollution that results from their production and use	1	2	3	4	5	8
E6.	We must prevent any type of animal from becoming extinct, even if it means sacrificing some things for ourselves	1	2	3	4	5	8
E7.	Courses focusing on the conservation of natural resources should be taught in the public schools	1	2	3	4	5	8
E8.	Although there is continual contamination of our lakes, streams, and air, nature's purifying process will soon return them to normal	1	2	3	4	5	8
E9.	Because the government has such good inspection and control agencies, it's very unlikely that pollution due to energy production will become excessive	1	2	3	4	5	8

For each statement, please circle the response that best reflects your opinion about the statement.

1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly Disagree (SD), and 8 = Don't Know or No Opinion (DK)

		SA	A	N	D	SD	DK
		1	2	3	4	5	8
E10.	The government should provide each citizen with a list of agencies and organizations to which the citizen could report grievances concerning pollution	1	2	3	4	5	8
E11.	Predators such as hawks, crows, skunks, and coyotes which prey on farmers' grain crops and poultry should be eliminated	1	2	3	4	5	8
E12.	The currently active anti-pollution organizations are really more interested in disrupting society than they are in fighting pollution	1	2	3	4	5	8
E13.	Even if public transportation was more efficient than it is, I would prefer to drive my car to work . .	1	2	3	4	5	8
E14.	Industry is trying its best to develop effective anti-pollution technology	1	2	3	4	5	8
E15.	If asked, I would contribute time, money, or both to an organization like the Sierra Club that works to improve the quality of the environment	1	2	3	4	5	8
E16.	I would be willing to accept an increase in my family's expenses of $100 next year to promote the wise use of natural resources	1	2	3	4	5	8

Part F: Coral Reefs

Coral reefs are sensitive ecosystems. The Florida Keys, the world's third-largest barrier reef and the only coral reef system along the US mainland coast, is no exception. It has long been recognized that human use of coral reefs and adjacent coastal activities inflict strains on these systems. Non-local factors associated with global human use of the planet's resources add to the strain through their impact on air and sea temperatures.

The Florida Keys National Marine Sanctuary (FKNMS) was founded through a Federal Act to manage issues such as the above. It is managed cooperatively by the National Oceanic and Atmospheric Administration (NOAA) and the State of Florida, with significant input from local government, businesses, non-government organizations and the general public. Your views are valuable in the formulation of FKNMS action plans and management strategies.

In this section we have a few special issues questions we would like to ask you.

F1. What do you think are the greatest threats to the reefs in the Florida Keys in the following list? Please rank greatest threat=1, second-greatest threat=2, third-greatest threat=3, and so on for as many factors as you consider ***important threats. Leave blank those you consider unimportant.***

Spear fishers ……..... ☐

Scuba divers ……..... ☐

Urban development ……..……..... ☐

Ships and boats grounding on reefs, discharging pollutants..... ☐

Hurricanes ..... ☐

Solid waste disposal (sewage) …..……..... ☐

Climate change (global warming etc) ……..... ☐

Stormwater and wastewater runoff ...……..... ☐

Overfishing by commercial and recreational fishers ……..... ☐

Number of tourists ……..…..... ☐

Chemical runoff (pesticides, herbicides, fertilizers) ..... ☐

People collecting coral and live rock …..……..... ☐

F2. Any other important factors we have omitted from the list?

If any, write in _____

F3. What in your opinion should the Marine Sanctuary (FKNMS) do to reduce the main stress factors on the reef?
Please rank your first recommendation=1, second=2, and so on for all recommendations you consider important. ***Leave those blank that you consider unimportant.***

Stringent control of pollutants to preserve water quality..... ☐

Enforced training/certification of scuba divers and snorkelers..... ☐

Prohibiting spear fishing..... ☐

Stronger shipping regulations..... ☐

Training, workshops and school programs..... ☐

Better management of waterways..... ☐

More no-catch fishing zones in the FKNMS..... ☐

F4. Do you have any other important recommendations on how FKNMS could reduce the main stress factors on the reef?

If any, write in _____

_____

• The main signs of coral stress are coral diseases and ***coral bleaching***.
• The coral organism lives in a mutually dependent (symbiotic) relationship with tiny algae known as *zooxanthellae*. Their health is highly dependent on temperature and the coral expels them when the sea temperature gets above a certain level. This causes the coral to turn white and weaken, the phenomenon known as coral bleaching.
• There is general agreement among scientists that the world's climate is getting warmer and that this may cause large sections of the world's coral reefs to die.
• There is also a general consensus that control of other stress factors can make the coral organisms more resilient (able to resist and/or recover from stressful events).

F5. Are you aware of coral bleaching and if so to what extent?

☐ Highly aware
☐ Conscious but not highly aware
☐ Not aware (IF "Not aware", go to Question F7.)
All other answers proceed to Question F6.

F6. What in your opinion is the primary cause of coral bleaching? (*Check one only*)

☐ Local factors exclusively
☐ Non-local factors such as global warming/climate change, exclusively
☐ Non-local factors aggravated by local factors
☐ Local factors aggravated by non-local factors
☐ I don't know

F7. How important do you consider climate change to be for the world of the 21st century? Circle the number that corresponds to your answer.

Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
dk	1	2	3	4	5

F8. And how important do you consider climate change to be for the future of the coral reefs in the Florida Keys?

Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
dk	1	2	3	4	5

The final part of this section explores a number of alternative management actions that might be applied to protect the Florida Keys. There is general agreement among scientists that the impact of these actions will be to reduce coral bleaching, but not to eliminate it.

- Coral reefs are affected by global and local forces.

- Global climate change and resulting rises in seawater temperatures are considered a major factor in coral bleaching.

- When corals bleach, the corals die and live coral cover is reduced.

- Scientists have found that more coral cover and complexity of corals is associated with more abundant and larger fish, and many different kinds of fish and sealife.

- Emissions of greenhouse gases are considered the main source of global climate change and coral bleaching.

- Water pollution can stress corals and make them more susceptible to disease or reduce their ability to recover from stressful events such as storms or bleaching events.

- Excess nutrients can lead to algal growth, which smothers the corals and kills them.

We present three global alternatives for coral health measured by the amount of live coral cover, before considering local management policies that could be applied to lessen the impact of each global scenario. In the absence of local management policies, living **coral cover** of comparable quality to what exists today is reduced by (a) a massive 95% in 20 years (by 2027) in the worst case scenario, (b) by 80% (intermediate case) or (c) by 50% (best case). Case (a) assumes that there is no further change in global strategies to reduce global warming, and that the average global temperature will increase by 6-8^{o}C by the year 2100. In the intermediate case (b), the increase over the 21st century will be 4^{o}C, and (c) using the most efficient policies nationally and internationally, there will be a 2^{o}C increase in the average global temperature.

- Local forces also affect the health of coral reefs.

- Users can touch, step on, or drop their anchors on the corals.

- Fishermen can overfish a reef and remove fish species that eat algae that can smother and kill the corals.

Local Management Strategies

There are four local strategies included in the FKNMS management plan designed to protect the health of the coral reefs. For each strategy, we present three levels of protection. The no change from current policy is always the low cost strategy.

1. **Education and outreach** are important activities in the FKNMS. The goal is to promote protection and sustainable use of Sanctuary reserves, and public understanding of the nature of marine sanctuaries. Activities include school programs, local community meetings, signage and exhibits in visitor centers, brochures, and TV and radio announcements. Team Ocean, a group of local volunteers, is provided with a FKNMS boat and fuel. They patrol the FKNMS and when they observe someone violating FKNMS rules and regulations, they educate them about how their activity harms the corals. Team Ocean and education and outreach staff also visit local businesses and distribute information on how users can better interact with corals to avoid damages. Education is also an integral element of other programs in the management plan and is considered a low-cost alternative to enforcement.

2. **Enforcement** includes a wide range of measures such as introducing no-anchor zones for vessels above a certain length, reinforcement of bans on spear fishing and touching corals, educating scuba divers and snorkelers about the reefs and enforcing reef protection, and restricting the use of personal vessels on or near the reef. It also involves the mooring buoy program set up around the restricted areas within the Sanctuary.

3. **Water quality** is a crucial issue as reflected by the FKNMS management plan: “Declining water quality continues to be a major concern for the Sanctuary.” Remedies include the development and implementation of wastewater and stormwater plans, efficient options to reduce loading of sediment, toxics and nutrients which damage water quality and the reef, targeting hot spots of industrial and commercial facilities, and reducing pollution from vessels and marinas. Improving water quality is a significantly higher-cost activity than the other items in this list.

4. **Zoning:** There are currently 24 no-take zones in the FKNMS. They cover less than five percent of FKNMS waters, but protect about 60% of the corals. Scientific monitoring of these zones has determined that coral health, fish abundance, size and diversity of fish and sea life have improved in protected areas versus non protected areas. The three levels of protection are (a) no change; or (b) 25% increase in coral cover protected, from 60% to 75%: or (c) 50% increase in coral cover protected, from 60% to 90%.

Reflecting current FKNMS management principles of running several parallel strategies, we have reduced these four policy options to two by combining education and outreach, enforcement, and water quality management into one group, with the options of (a) no change, (b) 5% increase in annual spending, and (c) 10% increase in annual spending. Zoning remains a separate strategy, with three possible levels of protection as shown above.

• A combination of global and local management strategies is required to save the health of the coral reefs.

• Scientists believe that global policies to minimize the increase in greenhouse gases are required to lower sea water temperatures from what they would otherwise have been, and so reduce coral bleaching.

• The more efficient the global strategy to reduce greenhouse gases, the more cost-efficient will be local management actions to protect the reef.

• If local forces are not addressed, the corals will not recover from coral bleaching when or if cooler waters return.

• Policies to reduce the increase in greenhouse gases will result in increased costs to your household through higher utility bills and the costs of products or services.

• Local management strategies will result in increased costs to your household if you are a resident or visitor to the Florida Keys. Costs will be passed on in terms of higher State and local taxes, local water/sewage bills and the costs of local goods and services purchased in the Florida Keys.

• We have worked with scientists and managers to estimate the approximate annual costs to your household for the different mixes of global and local management strategies which scientists think will deliver some protection to the corals. The costs to your household are stated in dollars per year.

Questions F9 - F14 contain six multiple-choice situations to which you are asked to state your preferences and provide a brief explanation for your choices. Each choice presents different mixes of global and local management strategies and has an estimated cost to your household. Each choice always includes the option of choosing the status quo or NO CHANGE (Alt A). This alternative will cost your household $0, but will result in 95% reduction in the amount of live coral cover in 20 years, and local actions such as improving water quality and increasing the no-take areas will become much less efficient.

Each choice will be similar to the following example. Alt A is always the no-change situation as just explained. Alt B assumes an intermediate global policy for greenhouse gas reduction, and Alt C is based on a stronger and costlier global policy. In each Alt B and C case, different combinations of local management strategies have been designed which yield different coral cover outcomes at different costs to your household, giving you three choices.

We can’t help you state your preferences, which depend on your own experience and attitudes. We don’t know the extent of your concern about future climate change, how much value you put on the quality of the coral reefs relative to other attractions of the Florida Keys, and the main activities that attracted you there including fishing, boating, snorkeling, and land-based activities. So the example below is purely illustrative, and has nothing whatever to do with what you actually think. It’s just an example to assist you in answering questions F9 - F14.

	Alt A	Alt B	Alt C
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**75%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$67**	**$80**
Your most preferred alternative (check one)?	☐	☒	☐
Your least preferred alternative (check one)?	☐	☐	☒

Please explain briefly why you made this choice (for example): "I like to fish, and clear water is important. But I would prefer to have more open area to fish on the reefs."

Please note the following general assumptions when you make your choices:

• The most efficient local management strategy is centered on improving water quality, supplemented by efficient education and enforcement policies. This strategy is also the most expensive local strategy.

• Protecting the reef by increasing the area of no-take zones is also efficient but less so. This relatively low-cost option will reduce reef-fishing activities (but fishing opportunities may be unaffected or may even increase elsewhere in the FKNMS).

• The less efficient the global greenhouse gas strategy to control the rise in sea temperatures, the less efficient the local management strategies will also be.

• Making a choice to spend money on protecting the amount of living coral on the reefs will mean that you have less money to spend on other goods and services.

F9. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	No change (60%)	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**76%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$65**	**$80**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F10. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	No change	+10%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 90%	No change (60%)
Coral cover loss by 2027, Florida Keys	**95%**	**78%**	**40%**
Total annual cost to your household for global and local strategies	**$0**	**$30**	**$115**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F11. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 75%
Coral cover loss by 2027, Florida Keys	**95%**	**75%**	**40%**
Total annual cost to your household for global and local strategies	**$0**	**$67**	**$97**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F12. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 90%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**76%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$70**	**$80**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

F13. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	Alt B	Alt C
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 90%	No change (60%)
Coral cover loss by 2027, Florida Keys	**95%**	**75%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$70**	**$95**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F14. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	Alt B	Alt C
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	No change	+10%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 75%
Coral cover loss by 2027, Florida Keys	**95%**	**78%**	**36%**
Total annual cost to your household for global and local strategies	**$0**	**$27**	**$117**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

In Part A, you told us how many days you yourself participated in outdoor recreation activities during the past 12 months in the Florida Keys. You also told us how many days you participated in such activities outside the Florida Keys during the past 12 months (Part A, A6), if any.

F15. Please confirm whether you did any outdoor recreation activities in the Florida Keys during the past 12 months:

☐ Yes ——————> **Continue to question F16.**
☐ No ——————> **Skip to Part G.**

F16. Currently, 6% of the entire water area in the FKNMS is covered with living coral. If the living coral cover were only 3% (half the current cover), how would that affect the number of days you would spend on outdoor recreation activities in the Florida Keys during a 12-month period?

☐ No change ☐ ____ (#days less) ☐ Would cease activities ☐ Don't know

F17. And how would this reduction in living coral cover affect the number of days you would spend on outdoor recreation activities outside the Florida Keys?

☐ No change ☐ _____ (#days more) ☐ Don't know

F18. If there were no living coral cover or 0% cover, how would that affect the number of days you would spend on outdoor recreation activities in the Florida Keys during a 12-month period?

☐ No change ☐ ____ (#days less) ☐ Would cease activities ☐ Don't know

F19. And how would the disappearance of living coral cover affect the number of days you would spend on outdoor recreation activities outside the Florida Keys?

☐ No change ☐ _____ (#days more) ☐ Don't know

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Part G: Demographic Profile

In this final section, we need to know information about you and your household to make sure we have a representative sample of Monroe County residents.

Again, your privacy will be protected and any information identifying you or your household will not be revealed to anyone.

G1. How many people in your household are permanent residents of Monroe County, Florida?

_____ number of people

G2. How many of these people are at least 16 years of age? _____ number of people

G3. What is the closest mile marker to your residence? _____ mile marker number

G4. Do you have access to the water from your residence? ☐ Yes ☐ No

G5. Do you own a boat? ☐ Yes ☐ No

G6. How many years have you lived in Monroe County? _____ number of years

G7. In what year were you born? _____ year

G8. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

G9. What race do you consider yourself?

Please circle one or more of the letter(s) that best describes you

A White
B Black or African American
C American Indian or Alaskan Native
D Asian
E Native Hawaiian or Other Pacific Islander

G10. What is the highest level of education that you have completed?

Please circle the letter of the category that best describes you

A 8th Grade or Less
B 9th to 11th Grade
C 12th Grade, HIgh School Grad, GED
D 13 to 15 Years (some college or vocational training)
E College Graduate
F Graduate School, Law School, Medical School

G11. What is your employment status?

Please circle the letter or letters of all those that apply

A	**Unemployed**	**E**	**Student**
B	**Employed full-time**	**F**	**Homemaker**
C	**Employed part-time**	**G**	**None of the above**
D	**Retired**		**(specify)** _____

G12. Do you work outside Monroe County? ☐ Yes ☐ No

G13. What is your zip code? _____

G14. What is your total household income, before taxes.

Please circle the letter corresponding to the category that best describes your household

A	**Under $5,000**	**I**	**$40,000 to $44,999**
B	**$5,000 to $9,999**	**J**	**$45,000 to $49,999**
B	**$10,000 to $14,999**	**K**	**$50,000 to $59,999**
D	**$15,000 to $19,999**	**L**	**$60,000 to $74,999**
E	**$20,000 to $24,999**	**M**	**$75,000 to $99,999**
F	**$25,000 to $29,999**	**N**	**$100,000 to $149,999**
G	**$30,000 to $34,999**	**O**	**$150,000 or More**
H	**$35,000 to $39,999**		

OMB Approval #: 0648-xxxx
Expiration Date:
Version 2b

Monroe County Resident Survey

Your answers are voluntary and confidential.
Your name will never be released to anyone unless otherwise required by law. After the completion of the project all materials identifying you as an individual will be destroyed.

This is a cooperative research project of the Monroe County Tourist Development Council and the National Oceanic and Atmospheric Administration. Public reporting burden for this collection of information is estimated to average 1 hour including time for reviewing instructions, searching existing data sources, gathering and maintaining the data need, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to penalty for failure to comply with, a collection of information subject to requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Resident Survey

1. Overall, how would you rate Monroe County as a place to live?

a. Excellent
b. Good
c. Fair
d. Poor

Please circle letter corresponding to your answer

2. There are many reasons that people choose to live where they do in Florida. What are the two <u>most</u> <u>important</u> <u>reasons</u> you chose to live in Monroe County?

a. No special reason
b. Born here
c. Job or business
d. Climate
e. Environment
f. Access to natural resources, such as natural settings and wildlife
g. Opportunities for water activities, such as fishing or diving
h. Low crime rate
i. Cultural activities
j. Retirement
k. Some other reason (specify) _____

Please circle letters corresponding to the two most important reasons

3. In the past 12 months, have you done any outdoor recreation activities in the Florida Keys?

a. Yes (Go to Part A)
b. No (Go to Part G)

Please use the enclosed White Card-Activities List to see what we mean by outdoor recreation

Part A: Outdoor recreation activities during the past 12 months in the Florida Keys

Please use the enclosed Activities List and map to help you answer the questions in this section

A1. **Which of the activities on the enclosed Activities List did you or someone in your household do in the Florida Keys during the last 12 months?**

A2. **Pleas fill in the circle for each activity you, yourself did during the past 12 months in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

A3. **On how many different days did you, yourself participate in each activity in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

Only answer for those activities you listed with an A on the end of the activity number

A4. **How many others (excluding yourself) in your household did each activity in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

A1 Activity	Upper Keys			Islamorada			Marathon			Lower Keys			Key West		
	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____

A5. What would you say is the most important activity you did in the Florida Keys?

Most Important Activity _____ (Activity List Number)

No Activity Most Important (fill in box) ☐

A6. On how many different days did you participate in outdoor recreation activities outside the Florida Keys during the past 12 months? _____ (# of days)

Part B: Reef use in the Florida Keys during the past 12 months. Both artificial and natural reefs.

Please use Blue Card with Activities List for reef use and map of the Florida Keys in answering Part B

B1. Which activities did you or someone in your household do on either artificial or natural reefs during the past 12 months in the Upper Keys, Isalmorada, Marathon, Lower Keys and Key West?

If you did not do anything in a region, check the box indicating no reef use in the region

B2. Please fill in the circle for each activity you, yourself, did during the past 12 months in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West.

B3. How many others in your household did each activity on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B4. On how many different days did you, yourself, participate in each activity on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B5. On how many different days did you, yourself, participate in each activity on the artificial reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B6. On how many different days did you, yourself, participate in each activity on the natural reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Note: If you did part of a day on an artificial reef and part of a day on a natural reef, count one whole day on each type of reef

B7. How many different dives did you, yourself, make for each type of diving activity you did on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Diving activities include all snorkeling and scuba diving activities on the Blue Card-Activities List (Reef)

A dive is defined as an entry and exit from the water to snorkel or scuba dive

B8. How many different dives did you, yourself, make for each type of diving activity you did on the artificial reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B9. How many different dives did you, yourself, make for each type of diving activity you did on the natural reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Please refer to Questions B1 - B9 when filling in the tables on the following two pages

There is one table for each of the five regions of the Florida Keys (Upper Keys, Islamorada, Marathon, Lower Keys and Key West)

☐ **No Reef Use** **Upper Keys**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use** **Islamorada**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use** **Marathon**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use**

Lower Keys

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** # days artificial	**B6** # days natural	**B7** Respondent # dives	**B8** # dives artificial	**B9** # dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use**

Key West

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** # days artificial	**B6** # days natural	**B7** Respondent # dives	**B8** # dives artificial	**B9** # dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

Part C: Specialization

In this section, we are interested in learning more about your primary activity. Please answer the following questions based on the response you gave to QUESTION A5.

For the four questions below, please read the four choices and circle the one answer that best fits you for that question.

C1. When I participate in my primary activity, I feel like:

1 a beginner. I don't really feel like I am part of the activity scene.
2 an occasional or irregular participant. Sometimes it is fun, entertaining or rewarding to do my activity.
3 a habitual and regular participant in the activity.
4 an insider to the sport. The activity is an important part of who I am.

C2. During my activity, I can best be described as:

1 having very little understanding of the activity. I am often unsure about how to do certain things when I go.
2 having some understanding of the activity, but still in the process of learning more about the sport. I am becoming more familiar and comfortable with the activity.
3 being comfortable with the sport. I have a good understanding of what I can do, and how to do it.
4 a knowledgeable expert in the sport. I encourage, teach and enhance opportunities for others who are interested in the activity.

C3. My relationships with others who do the activity are:

1 not established. I really don't know any other people who do the activity.
2 very limited. I know some others in the activity by sight and sometimes talk with them, but I don't know their names.
3 one of familiarity. I know the names of others who do the activity, and often speak with them.
4 close. I have personal and close relationships with others in the activity. These friendships often revolve around the activity.

C4. My commitment to the activity is:

1 very slight. I have very little connection to the activity. I may or may not continue to participate in the sport in the future.
2 moderate. I will continue to do it as it is entertaining and provides the benefits I want.
3 fairly strong. I have a sense of being a member of the activity, and it is likely that I will continue to do it for a long time.
4 very strong. I am totally committed to the activity. I encourage others to participate in the sport and seek to ensure the activity continues into the future.

C5. If you had to replace all of the equipment that you currently own for your primary activity with similar equipment, how much would it cost to replace?

$_____AMOUNT TO REPLACE PRIMARY ACTIVITY EQUIPMENT

C6. To what extent do you make use of the following for current information about your primary activity? Please circle number that indicates your extent of use for each source of information.

		No Use	Almost no use	A little use	Some use	A lot of use
a.	Talking with others who participate in the activity.....	1	2	3	4	5
b.	Magazines…….....	1	2	3	4	5
c.	Government agency publications…….....	1	2	3	4	5
d.	Conservation organization publications…….....	1	2	3	4	5
e.	Newspapers…….....	1	2	3	4	5
f.	Diving shops/companies…….....	1	2	3	4	5
g.	Club meetings…….....	1	2	3	4	5
h.	Television…….....	1	2	3	4	5
i.	Radio…….....	1	2	3	4	5
j.	Internet…….....	1	2	3	4	5

C7. Below is a list of reasons why people engage in recreation activities. Please circle the number that indicates how important each item is to you as a reason for participating in your primary activity.

		Not at all important	Slightly important	Moderately important	Very important	Extremely important
a.	To be outdoors…….....	1	2	3	4	5
b.	For family recreation…….....	1	2	3	4	5
c.	To experience new and different things…….....	1	2	3	4	5
d.	For relaxation…….....	1	2	3	4	5
e.	To be close to the water…….....	1	2	3	4	5
f.	To get away from the demands of other people…...	1	2	3	4	5
g.	To be with friends…….....	1	2	3	4	5
h.	To develop my skills…….....	1	2	3	4	5
i.	To get away from the regular routine…….....	1	2	3	4	5
j.	To experience adventure and excitement…….....	1	2	3	4	5
k.	To experience natural surroundings…….....	1	2	3	4	5

Part D: Importance and satisfaction with facilities, services, and natural resources in the Florida Keys

In this section we are interested in identifying the recreation site information which is important to you.

Please read each statement and rate the importance of each item as it contributes to an ideal recreation/tourism setting for the activities you did in the Florida Keys. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Not Important (NI), 2 = Somewhat Important (SI), 3 = Important (I), 4 = Very Important (VI), 5 = Extremely Important (EI), 8 = Don't Know (DK), or 9 = NA

		NI	SI	I	VI	EI	DK	NA
		1	2	3	4	5	8	9
D1.	Clear water (high visibility)	1	2	3	4	5	8	9
D2.	Amount of living coral on reefs	1	2	3	4	5	8	9
D3.	Public transportation	1	2	3	4	5	8	9
D4.	Parking	1	2	3	4	5	8	9
D5.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D6.	Many different kind of fish and sea life to catch	1	2	3	4	5	8	9
D7.	Large numbers of fish	1	2	3	4	5	8	9
D8.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D9.	Uncrowded conditions	1	2	3	4	5	8	9
D10.	Maps, brochures, and other tourist information	1	2	3	4	5	8	9
D11.	Boat ramps/launching facilities	1	2	3	4	5	8	9
D12.	Marina facilities	1	2	3	4	5	8	9
D13.	Directional signs, street signs, mile markers	1	2	3	4	5	8	9
D14.	Condition of roads and streets	1	2	3	4	5	8	9
D15.	Cleanliness of streets and sidewalks	1	2	3	4	5	8	9
D16.	Condition of bike paths and sidewalks/walking paths	1	2	3	4	5	8	9
D17.	Shoreline access	1	2	3	4	5	8	9
D18.	Designated swimming/beach areas	1	2	3	4	5	8	9
D19.	Quality of beaches	1	2	3	4	5	8	9
D20.	Customer service and friendliness of people	1	2	3	4	5	8	9
D21.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D22.	Availability of public restrooms	1	2	3	4	5	8	9
D23.	Value for the price	1	2	3	4	5	8	9
D24.	Parks and specially protected areas	1	2	3	4	5	8	9
D25.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

On the previous page you indicated the importance of a list of items to your recreational/tourist experiences. Now read each of the items on this list and rate how satisfied you were with each at the places you did your activities in the Florida Keys. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Terrible (T), 2 = Unhappy/Dissatisfied (UH), 3 = Mixed (M), 4 = Happy/Satisfied (H), 5 = Delighted (D), 8 = Don't Know (DK), or 9 = NA

		T	UH	M	H	D	DK	NA
		1	2	3	4	5	8	9
D26.	Clear water (high visibility)	1	2	3	4	5	8	9
D27.	Amount of living coral on reefs	1	2	3	4	5	8	9
D28.	Public transportation	1	2	3	4	5	8	9
D29.	Parking	1	2	3	4	5	8	9
D30.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D31.	Many different kind of fish and sea life to catch	1	2	3	4	5	8	9
D32.	Large numbers of fish	1	2	3	4	5	8	9
D33.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D34.	Uncrowded conditions	1	2	3	4	5	8	9
D35.	Maps, brochures, and other tourist information	1	2	3	4	5	8	9
D36.	Boat ramps/launching facilities	1	2	3	4	5	8	9
D37.	Marina facilities	1	2	3	4	5	8	9
D38.	Directional signs, street signs, mile markers	1	2	3	4	5	8	9
D39.	Condition of roads and streets	1	2	3	4	5	8	9
D40.	Cleanliness of streets and sidewalks	1	2	3	4	5	8	9
D41.	Condition of bike paths and sidewalks/walking paths	1	2	3	4	5	8	9
D42.	Shoreline access	1	2	3	4	5	8	9
D43.	Designated swimming/beach areas	1	2	3	4	5	8	9
D44.	Quality of beaches	1	2	3	4	5	8	9
D45.	Customer service and friendliness of people	1	2	3	4	5	8	9
D46.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D47.	Availability of public restrooms	1	2	3	4	5	8	9
D48.	Value for the price	1	2	3	4	5	8	9
D49.	Parks and specially protected areas	1	2	3	4	5	8	9
D50.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

D51. Had you lived-in or visited the Florida Keys more than five years ago?

☐ **Yes** ⟶ **Continue to question D52.**

☐ **No** ⟶ **Skip to next page, Part E**

Now read each of the items on this list and rate how satisfied you were with each when you were in the Florida Keys more than five years ago. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Terrible (T), 2 = Unhappy/Dissatisfied (UH), 3 = Mixed (M), 4 = Happy/Satisfied (H), 5 = Delighted (D), 8 = Don't Know (DK), or 9 = NA

		T	UH	M	H	D	DK	NA
		1	2	3	4	5	8	9
D52.	Clear water (high visibility)	1	2	3	4	5	8	9
D53.	Amount of living coral on reefs	1	2	3	4	5	8	9
D54.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D55.	Large numbers of fish	1	2	3	4	5	8	9
D56.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D57.	Uncrowded conditions	1	2	3	4	5	8	9
D58.	Condition of roads and streets	1	2	3	4	5	8	9
D59.	Shoreline access	1	2	3	4	5	8	9
D60.	Quality of beaches	1	2	3	4	5	8	9
D61.	Customer service and friendliness of people	1	2	3	4	5	8	9
D62.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D63.	Parks and specially protected areas	1	2	3	4	5	8	9
D64.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

Part E: Environmental Issues

In this section we are interested in learning about your feelings regarding various environmental issues. Below is a list of statements.

For each statement, please circle the response that best reflects your opinion about the statement.

1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly Disagree (SD), and 8 = Don't Know or No Opinion (DK)

		SA	A	N	D	SD	DK
		1	2	3	4	5	8
E1.	The federal government will have to introduce harsh measures to halt pollution since few people will regulate themselves	1	2	3	4	5	8
E2.	We should not worry about killing too many game animals because in the long run things will balance out	1	2	3	4	5	8
E3.	I'd be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results might not seem significant	1	2	3	4	5	8
E4.	Pollution is not personally affecting my life	1	2	3	4	5	8
E5.	The benefits of modern consumer products are more important than the pollution that results from their production and use	1	2	3	4	5	8
E6.	We must prevent any type of animal from becoming extinct, even if it means sacrificing some things for ourselves	1	2	3	4	5	8
E7.	Courses focusing on the conservation of natural resources should be taught in the public schools	1	2	3	4	5	8
E8.	Although there is continual contamination of our lakes, streams, and air, nature's purifying process will soon return them to normal	1	2	3	4	5	8
E9.	Because the government has such good inspection and control agencies, it's very unlikely that pollution due to energy production will become excessive	1	2	3	4	5	8

For each statement, please circle the response that best reflects your opinion about the statement.

1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly Disagree (SD), and 8 = Don't Know or No Opinion (DK)

		SA	A	N	D	SD	DK
		1	2	3	4	5	8
E10.	The government should provide each citizen with a list of agencies and organizations to which the citizen could report grievances concerning pollution	1	2	3	4	5	8
E11.	Predators such as hawks, crows, skunks, and coyotes which prey on farmers' grain crops and poultry should be eliminated	1	2	3	4	5	8
E12.	The currently active anti-pollution organizations are really more interested in disrupting society than they are in fighting pollution	1	2	3	4	5	8
E13.	Even if public transportation was more efficient than it is, I would prefer to drive my car to work . .	1	2	3	4	5	8
E14.	Industry is trying its best to develop effective anti-pollution technology	1	2	3	4	5	8
E15.	If asked, I would contribute time, money, or both to an organization like the Sierra Club that works to improve the quality of the environment	1	2	3	4	5	8
E16.	I would be willing to accept an increase in my family's expenses of $100 next year to promote the wise use of natural resources	1	2	3	4	5	8

Part F: Coral Reefs

Coral reefs are sensitive ecosystems. The Florida Keys, the world's third-largest barrier reef and the only coral reef system along the US mainland coast, is no exception. It has long been recognized that human use of coral reefs and adjacent coastal activities inflict strains on these systems. Non-local factors associated with global human use of the planet's resources add to the strain through their impact on air and sea temperatures.

The Florida Keys National Marine Sanctuary (FKNMS) was founded through a Federal Act to manage issues such as the above. It is managed cooperatively by the National Oceanic and Atmospheric Administration (NOAA) and the State of Florida, with significant input from local government, businesses, non-government organizations and the general public. Your views are valuable in the formulation of FKNMS action plans and management strategies.

In this section we have a few special issues questions we would like to ask you.

F1. What do you think are the greatest threats to the reefs in the Florida Keys in the following list? Please rank greatest threat=1, second-greatest threat=2, third-greatest threat=3, and so on for as many factors as you consider ***important threats. Leave blank those you consider unimportant.***

Spear fishers ……..... ☐

Scuba divers ……..... ☐

Urban development ……..……..... ☐

Ships and boats grounding on reefs, discharging pollutants..... ☐

Hurricanes ..... ☐

Solid waste disposal (sewage) …..……..... ☐

Climate change (global warming etc) ……..... ☐

Stormwater and wastewater runoff ...……..... ☐

Overfishing by commercial and recreational fishers ……..... ☐

Number of tourists ……..…..... ☐

Chemical runoff (pesticides, herbicides, fertilizers) ..... ☐

People collecting coral and live rock …..……..... ☐

F2. Any other important factors we have omitted from the list?

If any, write in _____

F3. What in your opinion should the Marine Sanctuary (FKNMS) do to reduce the main stress factors on the reef?

Please rank your first recommendation=1, second=2, and so on for all recommendations you consider important. ***Leave those blank that you consider unimportant.***

Stringent control of pollutants to preserve water quality..... ☐

Enforced training/certification of scuba divers and snorkelers..... ☐

Prohibiting spear fishing..... ☐

Stronger shipping regulations..... ☐

Training, workshops and school programs..... ☐

Better management of waterways..... ☐

More no-catch fishing zones in the FKNMS..... ☐

F4. Do you have any other important recommendations on how FKNMS could reduce the main stress factors on the reef?

If any, write in _____

_____

• The main signs of coral stress are coral diseases and ***coral bleaching***.
• The coral organism lives in a mutually dependent (symbiotic) relationship with tiny algae known as *zooxanthellae*. Their health is highly dependent on temperature and the coral expels them when the sea temperature gets above a certain level. This causes the coral to turn white and weaken, the phenomenon known as coral bleaching.
• There is general agreement among scientists that the world's climate is getting warmer and that this may cause large sections of the world's coral reefs to die.
• There is also a general consensus that control of other stress factors can make the coral organisms more resilient (able to resist and/or recover from stressful events).

F5. Are you aware of coral bleaching and if so to what extent?

☐ Highly aware
☐ Conscious but not highly aware
☐ Not aware (IF "Not aware", go to Question F7.)
All other answers proceed to Question F6.

F6. What in your opinion is the primary cause of coral bleaching? (*Check one only*)

☐ Local factors exclusively
☐ Non-local factors such as global warming/climate change, exclusively
☐ Non-local factors aggravated by local factors
☐ Local factors aggravated by non-local factors
☐ I don't know

F7. How important do you consider climate change to be for the world of the 21st century? Circle the number that corresponds to your answer.

Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
dk	1	2	3	4	5

F8. And how important do you consider climate change to be for the future of the coral reefs in the Florida Keys?

Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
dk	1	2	3	4	5

The final part of this section explores a number of alternative management actions that might be applied to protect the Florida Keys. There is general agreement among scientists that the impact of these actions will be to reduce coral bleaching, but not to eliminate it.

- Coral reefs are affected by global and local forces.

- Global climate change and resulting rises in seawater temperatures are considered a major factor in coral bleaching.

- When corals bleach, the corals die and live coral cover is reduced.

- Scientists have found that more coral cover and complexity of corals is associated with more abundant and larger fish, and many different kinds of fish and sealife.

- Emissions of greenhouse gases are considered the main source of global climate change and coral bleaching.

- Water pollution can stress corals and make them more susceptible to disease or reduce their ability to recover from stressful events such as storms or bleaching events.

- Excess nutrients can lead to algal growth, which smothers the corals and kills them.

We present three global alternatives for coral health measured by the amount of live coral cover, before considering local management policies that could be applied to lessen the impact of each global scenario. In the absence of local management policies, living **coral cover** of comparable quality to what exists today is reduced by (a) a massive 95% in 20 years (by 2027) in the worst case scenario, (b) by 80% (intermediate case) or (c) by 50% (best case). Case (a) assumes that there is no further change in global strategies to reduce global warming, and that the average global temperature will increase by 6-8^{o}C by the year 2100. In the intermediate case (b), the increase over the 21st century will be 4^{o}C, and (c) using the most efficient policies nationally and internationally, there will be a 2^{o}C increase in the average global temperature.

- Local forces also affect the health of coral reefs.

- Users can touch, step on, or drop their anchors on the corals.

- Fishermen can overfish a reef and remove fish species that eat algae that can smother and kill the corals.

Local Management Strategies

There are four local strategies included in the FKNMS management plan designed to protect the health of the coral reefs. For each strategy, we present three levels of protection. The no change from current policy is always the low cost strategy.

1. **Education and outreach** are important activities in the FKNMS. The goal is to promote protection and sustainable use of Sanctuary reserves, and public understanding of the nature of marine sanctuaries. Activities include school programs, local community meetings, signage and exhibits in visitor centers, brochures, and TV and radio announcements. Team Ocean, a group of local volunteers, is provided with a FKNMS boat and fuel. They patrol the FKNMS and when they observe someone violating FKNMS rules and regulations, they educate them about how their activity harms the corals. Team Ocean and education and outreach staff also visit local businesses and distribute information on how users can better interact with corals to avoid damages. Education is also an integral element of other programs in the management plan and is considered a low-cost alternative to enforcement.

2. **Enforcement** includes a wide range of measures such as introducing no-anchor zones for vessels above a certain length, reinforcement of bans on spear fishing and touching corals, educating scuba divers and snorkelers about the reefs and enforcing reef protection, and restricting the use of personal vessels on or near the reef. It also involves the mooring buoy program set up around the restricted areas within the Sanctuary.

3. **Water quality** is a crucial issue as reflected by the FKNMS management plan: “Declining water quality continues to be a major concern for the Sanctuary.” Remedies include the development and implementation of wastewater and stormwater plans, efficient options to reduce loading of sediment, toxics and nutrients which damage water quality and the reef, targeting hot spots of industrial and commercial facilities, and reducing pollution from vessels and marinas. Improving water quality is a significantly higher-cost activity than the other items in this list.

4. **Zoning:** There are currently 24 no-take zones in the FKNMS. They cover less than five percent of FKNMS waters, but protect about 60% of the corals. Scientific monitoring of these zones has determined that coral health, fish abundance, size and diversity of fish and sea life have improved in protected areas versus non protected areas. The three levels of protection are (a) no change; or (b) 25% increase in coral cover protected, from 60% to 75%: or (c) 50% increase in coral cover protected, from 60% to 90%.

Reflecting current FKNMS management principles of running several parallel strategies, we have reduced these four policy options to two by combining education and outreach, enforcement, and water quality management into one group, with the options of (a) no change, (b) 5% increase in annual spending, and (c) 10% increase in annual spending. Zoning remains a separate strategy, with three possible levels of protection as shown above.

• A combination of global and local management strategies is required to save the health of the coral reefs.

• Scientists believe that global policies to minimize the increase in greenhouse gases are required to lower sea water temperatures from what they would otherwise have been, and so reduce coral bleaching.

• The more efficient the global strategy to reduce greenhouse gases, the more cost-efficient will be local management actions to protect the reef.

• If local forces are not addressed, the corals will not recover from coral bleaching when or if cooler waters return.

• Policies to reduce the increase in greenhouse gases will result in increased costs to your household through higher utility bills and the costs of products or services.

• Local management strategies will result in increased costs to your household if you are a resident or visitor to the Florida Keys. Costs will be passed on in terms of higher State and local taxes, local water/sewage bills and the costs of local goods and services purchased in the Florida Keys.

• We have worked with scientists and managers to estimate the approximate annual costs to your household for the different mixes of global and local management strategies which scientists think will deliver some protection to the corals. The costs to your household are stated in dollars per year.

Questions F9 - F14 contain six multiple-choice situations to which you are asked to state your preferences and provide a brief explanation for your choices. Each choice presents different mixes of global and local management strategies and has an estimated cost to your household. Each choice always includes the option of choosing the status quo or NO CHANGE (Alt A). This alternative will cost your household $0, but will result in 95% reduction in the amount of live coral cover in 20 years, and local actions such as improving water quality and increasing the no-take areas will become much less efficient.

Each choice will be similar to the following example. Alt A is always the no-change situation as just explained. Alt B assumes an intermediate global policy for greenhouse gas reduction, and Alt C is based on a stronger and costlier global policy. In each Alt B and C case, different combinations of local management strategies have been designed which yield different coral cover outcomes at different costs to your household, giving you three choices.

We can’t help you state your preferences, which depend on your own experience and attitudes. We don’t know the extent of your concern about future climate change, how much value you put on the quality of the coral reefs relative to other attractions of the Florida Keys, and the main activities that attracted you there including fishing, boating, snorkeling, and land-based activities. So the example below is purely illustrative, and has nothing whatever to do with what you actually think. It’s just an example to assist you in answering questions F9 - F14.

	Alt A	Alt B	Alt C
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**75%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$134**	**$160**
Your most preferred alternative (check one)?	☐	☒	☐
Your least preferred alternative (check one)?	☐	☐	☒

Please explain briefly why you made this choice (for example): "I like to fish, and clear water is important. But I would prefer to have more open area to fish on the reefs."

Please note the following general assumptions when you make your choices:

• The most efficient local management strategy is centered on improving water quality, supplemented by efficient education and enforcement policies. This strategy is also the most expensive local strategy.

• Protecting the reef by increasing the area of no-take zones is also efficient but less so. This relatively low-cost option will reduce reef-fishing activities (but fishing opportunities may be unaffected or may even increase elsewhere in the FKNMS).

• The less efficient the global greenhouse gas strategy to control the rise in sea temperatures, the less efficient the local management strategies will also be.

• Making a choice to spend money on protecting the amount of living coral on the reefs will mean that you have less money to spend on other goods and services.

F9. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+5%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 75%
Coral cover loss by 2027, Florida Keys	**95%**	**77%**	**40%**
Total annual cost to your household for global and local strategies	**$0**	**$94**	**$194**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F10. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+5%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	No change (60%)	From 60% to 75%
Coral cover loss by 2027, Florida Keys	**95%**	**78%**	**40%**
Total annual cost to your household for global and local strategies	**$0**	**$90**	**$194**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

F11. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	No change (60%)	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**76%**	**38%**
Total annual cost to your household for global and local strategies	**$0**	**$130**	**$200**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F12. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	No change (60%)	From 60% to 75%
Coral cover loss by 2027, Florida Keys	**95%**	**76%**	**40%**
Total annual cost to your household for global and local strategies	**$0**	**$130**	**$194**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

F13. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+5%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	No change (60%)	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**78%**	**38%**
Total annual cost to your household for global and local strategies	**$0**	**$90**	**$200**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F14. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+5%	+10%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	No change (60%)
Coral cover loss by 2027, Florida Keys	**95%**	**77%**	**40%**
Total annual cost to your household for global and local strategies	**$0**	**$94**	**$230**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

In Part A, you told us how many days you yourself participated in outdoor recreation activities during the past 12 months in the Florida Keys. You also told us how many days you participated in such activities outside the Florida Keys during the past 12 months (Part A, A6), if any.

F15. Please confirm whether you did any outdoor recreation activities in the Florida Keys during the past 12 months:

☐ Yes ————> **Continue to question F16.**
☐ No ————> **Skip to Part G.**

F16. Currently, 6% of the entire water area in the FKNMS is covered with living coral. If the living coral cover were only 3% (half the current cover), how would that affect the number of days you would spend on outdoor recreation activities in the Florida Keys during a 12-month period?

☐ No change ☐ ____ (#days less) ☐ Would cease activities ☐ Don't know

F17. And how would this reduction in living coral cover affect the number of days you would spend on outdoor recreation activities outside the Florida Keys?

☐ No change ☐ _____ (#days more) ☐ Don't know

F18. If there were no living coral cover or 0% cover, how would that affect the number of days you would spend on outdoor recreation activities in the Florida Keys during a 12-month period?

☐ No change ☐ ____ (#days less) ☐ Would cease activities ☐ Don't know

F19. And how would the disappearance of living coral cover affect the number of days you would spend on outdoor recreation activities outside the Florida Keys?

☐ No change ☐ _____ (#days more) ☐ Don't know

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Part G: Demographic Profile

In this final section, we need to know information about you and your household to make sure we have a representative sample of Monroe County residents.

Again, your privacy will be protected and any information identifying you or your household will not be revealed to anyone.

G1. How many people in your household are permanent residents of Monroe County, Florida?

_____ number of people

G2. How many of these people are at least 16 years of age? _____ number of people

G3. What is the closest mile marker to your residence? _____ mile marker number

G4. Do you have access to the water from your residence? ☐ Yes ☐ No

G5. Do you own a boat? ☐ Yes ☐ No

G6. How many years have you lived in Monroe County? _____ number of years

G7. In what year were you born? _____ year

G8. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

G9. What race do you consider yourself?

Please circle one or more of the letter(s) that best describes you

A White
B Black or African American
C American Indian or Alaskan Native
D Asian
E Native Hawaiian or Other Pacific Islander

G10. What is the highest level of education that you have completed?

Please circle the letter of the category that best describes you

A 8th Grade or Less
B 9th to 11th Grade
C 12th Grade, HIgh School Grad, GED
D 13 to 15 Years (some college or vocational training)
E College Graduate
F Graduate School, Law School, Medical School

G11. What is your employment status?

Please circle the letter or letters of all those that apply

A	**Unemployed**	**E**	**Student**
B	**Employed full-time**	**F**	**Homemaker**
C	**Employed part-time**	**G**	**None of the above**
D	**Retired**		**(specify)** _____

G12. Do you work outside Monroe County? ☐ Yes ☐ No

G13. What is your zip code? _____

G14. What is your total household income, before taxes.

Please circle the letter corresponding to the category that best describes your household

A	**Under $5,000**	**I**	**$40,000 to $44,999**
B	**$5,000 to $9,999**	**J**	**$45,000 to $49,999**
B	**$10,000 to $14,999**	**K**	**$50,000 to $59,999**
D	**$15,000 to $19,999**	**L**	**$60,000 to $74,999**
E	**$20,000 to $24,999**	**M**	**$75,000 to $99,999**
F	**$25,000 to $29,999**	**N**	**$100,000 to $149,999**
G	**$30,000 to $34,999**	**O**	**$150,000 or More**
H	**$35,000 to $39,999**		

OMB Approval #: 0648-xxxx
Expiration Date:
Version 2c

Monroe County Resident Survey

Your answers are voluntary and confidential.
Your name will never be released to anyone unless otherwise required by law. After the completion of the project all materials identifying you as an individual will be destroyed.

This is a cooperative research project of the Monroe County Tourist Development Council and the National Oceanic and Atmospheric Administration. Public reporting burden for this collection of information is estimated to average 1 hour including time for reviewing instructions, searching existing data sources, gathering and maintaining the data need, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to penalty for failure to comply with, a collection of information subject to requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Resident Survey

1. Overall, how would you rate Monroe County as a place to live?

a. Excellent
b. Good
c. Fair
d. Poor

Please circle letter corresponding to your answer

2. There are many reasons that people choose to live where they do in Florida. What are the two <u>most</u> <u>important</u> <u>reasons</u> you chose to live in Monroe County?

a. No special reason
b. Born here
c. Job or business
d. Climate
e. Environment
f. Access to natural resources, such as natural settings and wildlife
g. Opportunities for water activities, such as fishing or diving
h. Low crime rate
i. Cultural activities
j. Retirement
k. Some other reason (specify) _____

Please circle letters corresponding to the two most important reasons

3. In the past 12 months, have you done any outdoor recreation activities in the Florida Keys?

a. Yes (Go to Part A)
b. No (Go to Part G)

Please use the enclosed White Card-Activities List to see what we mean by outdoor recreation

Part A: Outdoor recreation activities during the past 12 months in the Florida Keys

Please use the enclosed Activities List and map to help you answer the questions in this section

A1. **Which of the activities on the enclosed Activities List did you or someone in your household do in the Florida Keys during the last 12 months?**

A2. **Pleas fill in the circle for each activity you, yourself did during the past 12 months in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

A3. **On how many different days did you, yourself participate in each activity in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

Only answer for those activities you listed with an A on the end of the activity number

A4. **How many others (excluding yourself) in your household did each activity in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

A1	Upper Keys			Islamorada			Marathon			Lower Keys			Key West		
Activity	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others
	○			○			○			○			○		
	○			○			○			○			○		
	○			○			○			○			○		
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	○			○			○			○			○		
	○			○			○			○			○		

A5. What would you say is the most important activity you did in the Florida Keys?

Most Important Activity _____ (Activity List Number)

No Activity Most Important (fill in box) ☐

A6. On how many different days did you participate in outdoor recreation activities outside the Florida Keys during the past 12 months? _____ (# of days)

Part B: Reef use in the Florida Keys during the past 12 months. Both artificial and natural reefs.

Please use Blue Card with Activities List for reef use and map of the Florida Keys in answering Part B

B1. Which activities did you or someone in your household do on either artificial or natural reefs during the past 12 months in the Upper Keys, Isalmorada, Marathon, Lower Keys and Key West?

If you did not do anything in a region, check the box indicating no reef use in the region

B2. Please fill in the circle for each activity you, yourself, did during the past 12 months in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West.

B3. How many others in your household did each activity on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B4. On how many different days did you, yourself, participate in each activity on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B5. On how many different days did you, yourself, participate in each activity on the artificial reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B6. On how many different days did you, yourself, participate in each activity on the natural reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Note: If you did part of a day on an artificial reef and part of a day on a natural reef, count one whole day on each type of reef

B7. How many different dives did you, yourself, make for each type of diving activity you did on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Diving activities include all snorkeling and scuba diving activities on the Blue Card-Activities List (Reef)

A dive is defined as an entry and exit from the water to snorkel or scuba dive

B8. How many different dives did you, yourself, make for each type of diving activity you did on the artificial reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B9. How many different dives did you, yourself, make for each type of diving activity you did on the natural reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Please refer to Questions B1 - B9 when filling in the tables on the following two pages

There is one table for each of the five regions of the Florida Keys (Upper Keys, Islamorada, Marathon, Lower Keys and Key West)

☐ **No Reef Use** **Upper Keys**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use** **Islamorada**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use** **Marathon**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use**

Lower Keys

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** # days artificial	**B6** # days natural	**B7** Respondent # dives	**B8** # dives artificial	**B9** # dives natural
	○							
	○							
	○							
	○							
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	○							
	○							
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	○							

☐ **No Reef Use**

Key West

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** # days artificial	**B6** # days natural	**B7** Respondent # dives	**B8** # dives artificial	**B9** # dives natural
	○							
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	○							

Part C: Specialization

In this section, we are interested in learning more about your primary activity. Please answer the following questions based on the response you gave to QUESTION A5.

For the four questions below, please read the four choices and circle the one answer that best fits you for that question.

C1. When I participate in my primary activity, I feel like:

1 a beginner. I don't really feel like I am part of the activity scene.
2 an occasional or irregular participant. Sometimes it is fun, entertaining or rewarding to do my activity.
3 a habitual and regular participant in the activity.
4 an insider to the sport. The activity is an important part of who I am.

C2. During my activity, I can best be described as:

1 having very little understanding of the activity. I am often unsure about how to do certain things when I go.
2 having some understanding of the activity, but still in the process of learning more about the sport. I am becoming more familiar and comfortable with the activity.
3 being comfortable with the sport. I have a good understanding of what I can do, and how to do it.
4 a knowledgeable expert in the sport. I encourage, teach and enhance opportunities for others who are interested in the activity.

C3. My relationships with others who do the activity are:

1 not established. I really don't know any other people who do the activity.
2 very limited. I know some others in the activity by sight and sometimes talk with them, but I don't know their names.
3 one of familiarity. I know the names of others who do the activity, and often speak with them.
4 close. I have personal and close relationships with others in the activity. These friendships often revolve around the activity.

C4. My commitment to the activity is:

1 very slight. I have very little connection to the activity. I may or may not continue to participate in the sport in the future.
2 moderate. I will continue to do it as it is entertaining and provides the benefits I want.
3 fairly strong. I have a sense of being a member of the activity, and it is likely that I will continue to do it for a long time.
4 very strong. I am totally committed to the activity. I encourage others to participate in the sport and seek to ensure the activity continues into the future.

C5. If you had to replace all of the equipment that you currently own for your primary activity with similar equipment, how much would it cost to replace?

$_____AMOUNT TO REPLACE PRIMARY ACTIVITY EQUIPMENT

C6. To what extent do you make use of the following for current information about your primary activity? Please circle number that indicates your extent of use for each source of information.

		No Use	Almost no use	A little use	Some use	A lot of use
a.	Talking with others who participate in the activity.....	1	2	3	4	5
b.	Magazines…….....	1	2	3	4	5
c.	Government agency publications…….....	1	2	3	4	5
d.	Conservation organization publications…….....	1	2	3	4	5
e.	Newspapers…….....	1	2	3	4	5
f.	Diving shops/companies…….....	1	2	3	4	5
g.	Club meetings…….....	1	2	3	4	5
h.	Television…….....	1	2	3	4	5
i.	Radio…….....	1	2	3	4	5
j.	Internet…….....	1	2	3	4	5

C7. Below is a list of reasons why people engage in recreation activities. Please circle the number that indicates how important each item is to you as a reason for participating in your primary activity.

		Not at all important	Slightly important	Moderately important	Very important	Extremely important
a.	To be outdoors…….....	1	2	3	4	5
b.	For family recreation…….....	1	2	3	4	5
c.	To experience new and different things…….....	1	2	3	4	5
d.	For relaxation…….....	1	2	3	4	5
e.	To be close to the water…….....	1	2	3	4	5
f.	To get away from the demands of other people…...	1	2	3	4	5
g.	To be with friends…….....	1	2	3	4	5
h.	To develop my skills…….....	1	2	3	4	5
i.	To get away from the regular routine…….....	1	2	3	4	5
j.	To experience adventure and excitement…….....	1	2	3	4	5
k.	To experience natural surroundings…….....	1	2	3	4	5

Part D: Importance and satisfaction with facilities, services, and natural resources in the Florida Keys

In this section we are interested in identifying the recreation site information which is important to you.

Please read each statement and rate the importance of each item as it contributes to an ideal recreation/tourism setting for the activities you did in the Florida Keys. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Not Important (NI), 2 = Somewhat Important (SI), 3 = Important (I), 4 = Very Important (VI), 5 = Extremely Important (EI), 8 = Don't Know (DK), or 9 = NA

		NI	SI	I	VI	EI	DK	NA
		1	2	3	4	5	8	9
D1.	Clear water (high visibility)	1	2	3	4	5	8	9
D2.	Amount of living coral on reefs	1	2	3	4	5	8	9
D3.	Public transportation	1	2	3	4	5	8	9
D4.	Parking	1	2	3	4	5	8	9
D5.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D6.	Many different kind of fish and sea life to catch	1	2	3	4	5	8	9
D7.	Large numbers of fish	1	2	3	4	5	8	9
D8.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D9.	Uncrowded conditions	1	2	3	4	5	8	9
D10.	Maps, brochures, and other tourist information	1	2	3	4	5	8	9
D11.	Boat ramps/launching facilities	1	2	3	4	5	8	9
D12.	Marina facilities	1	2	3	4	5	8	9
D13.	Directional signs, street signs, mile markers	1	2	3	4	5	8	9
D14.	Condition of roads and streets	1	2	3	4	5	8	9
D15.	Cleanliness of streets and sidewalks	1	2	3	4	5	8	9
D16.	Condition of bike paths and sidewalks/walking paths	1	2	3	4	5	8	9
D17.	Shoreline access	1	2	3	4	5	8	9
D18.	Designated swimming/beach areas	1	2	3	4	5	8	9
D19.	Quality of beaches	1	2	3	4	5	8	9
D20.	Customer service and friendliness of people	1	2	3	4	5	8	9
D21.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D22.	Availability of public restrooms	1	2	3	4	5	8	9
D23.	Value for the price	1	2	3	4	5	8	9
D24.	Parks and specially protected areas	1	2	3	4	5	8	9
D25.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

On the previous page you indicated the importance of a list of items to your recreational/tourist experiences. Now read each of the items on this list and rate how satisfied you were with each at the places you did your activities in the Florida Keys. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Terrible (T), 2 = Unhappy/Dissatisfied (UH), 3 = Mixed (M), 4 = Happy/Satisfied (H), 5 = Delighted (D), 8 = Don't Know (DK), or 9 = NA

		T	UH	M	H	D	DK	NA
		1	2	3	4	5	8	9
D26.	Clear water (high visibility)	1	2	3	4	5	8	9
D27.	Amount of living coral on reefs	1	2	3	4	5	8	9
D28.	Public transportation	1	2	3	4	5	8	9
D29.	Parking	1	2	3	4	5	8	9
D30.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D31.	Many different kind of fish and sea life to catch	1	2	3	4	5	8	9
D32.	Large numbers of fish	1	2	3	4	5	8	9
D33.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D34.	Uncrowded conditions	1	2	3	4	5	8	9
D35.	Maps, brochures, and other tourist information	1	2	3	4	5	8	9
D36.	Boat ramps/launching facilities	1	2	3	4	5	8	9
D37.	Marina facilities	1	2	3	4	5	8	9
D38.	Directional signs, street signs, mile markers	1	2	3	4	5	8	9
D39.	Condition of roads and streets	1	2	3	4	5	8	9
D40.	Cleanliness of streets and sidewalks	1	2	3	4	5	8	9
D41.	Condition of bike paths and sidewalks/walking paths	1	2	3	4	5	8	9
D42.	Shoreline access	1	2	3	4	5	8	9
D43.	Designated swimming/beach areas	1	2	3	4	5	8	9
D44.	Quality of beaches	1	2	3	4	5	8	9
D45.	Customer service and friendliness of people	1	2	3	4	5	8	9
D46.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D47.	Availability of public restrooms	1	2	3	4	5	8	9
D48.	Value for the price	1	2	3	4	5	8	9
D49.	Parks and specially protected areas	1	2	3	4	5	8	9
D50.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

D51. Had you lived-in or visited the Florida Keys more than five years ago?

☐ **Yes** ⟶ **Continue to question D52.**

☐ **No** ⟶ **Skip to next page, Part E**

Now read each of the items on this list and rate how satisfied you were with each when you were in the Florida Keys more than five years ago. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Terrible (T), 2 = Unhappy/Dissatisfied (UH), 3 = Mixed (M), 4 = Happy/Satisfied (H), 5 = Delighted (D), 8 = Don't Know (DK), or 9 = NA

		T	UH	M	H	D	DK	NA
		1	2	3	4	5	8	9
D52.	Clear water (high visibility)	1	2	3	4	5	8	9
D53.	Amount of living coral on reefs	1	2	3	4	5	8	9
D54.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D55.	Large numbers of fish	1	2	3	4	5	8	9
D56.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D57.	Uncrowded conditions	1	2	3	4	5	8	9
D58.	Condition of roads and streets	1	2	3	4	5	8	9
D59.	Shoreline access	1	2	3	4	5	8	9
D60.	Quality of beaches	1	2	3	4	5	8	9
D61.	Customer service and friendliness of people	1	2	3	4	5	8	9
D62.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D63.	Parks and specially protected areas	1	2	3	4	5	8	9
D64.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

Part E: Environmental Issues

In this section we are interested in learning about your feelings regarding various environmental issues. Below is a list of statements.

For each statement, please circle the response that best reflects your opinion about the statement.

1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly Disagree (SD), and 8 = Don't Know or No Opinion (DK)

		SA	A	N	D	SD	DK
		1	2	3	4	5	8
E1.	The federal government will have to introduce harsh measures to halt pollution since few people will regulate themselves	1	2	3	4	5	8
E2.	We should not worry about killing too many game animals because in the long run things will balance out	1	2	3	4	5	8
E3.	I'd be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results might not seem significant	1	2	3	4	5	8
E4.	Pollution is not personally affecting my life	1	2	3	4	5	8
E5.	The benefits of modern consumer products are more important than the pollution that results from their production and use	1	2	3	4	5	8
E6.	We must prevent any type of animal from becoming extinct, even if it means sacrificing some things for ourselves	1	2	3	4	5	8
E7.	Courses focusing on the conservation of natural resources should be taught in the public schools	1	2	3	4	5	8
E8.	Although there is continual contamination of our lakes, streams, and air, nature's purifying process will soon return them to normal	1	2	3	4	5	8
E9.	Because the government has such good inspection and control agencies, it's very unlikely that pollution due to energy production will become excessive	1	2	3	4	5	8

For each statement, please circle the response that best reflects your opinion about the statement.

1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly Disagree (SD), and 8 = Don't Know or No Opinion (DK)

		SA	A	N	D	SD	DK
		1	2	3	4	5	8
E10.	The government should provide each citizen with a list of agencies and organizations to which the citizen could report grievances concerning pollution	1	2	3	4	5	8
E11.	Predators such as hawks, crows, skunks, and coyotes which prey on farmers' grain crops and poultry should be eliminated	1	2	3	4	5	8
E12.	The currently active anti-pollution organizations are really more interested in disrupting society than they are in fighting pollution	1	2	3	4	5	8
E13.	Even if public transportation was more efficient than it is, I would prefer to drive my car to work . .	1	2	3	4	5	8
E14.	Industry is trying its best to develop effective anti-pollution technology	1	2	3	4	5	8
E15.	If asked, I would contribute time, money, or both to an organization like the Sierra Club that works to improve the quality of the environment	1	2	3	4	5	8
E16.	I would be willing to accept an increase in my family's expenses of $100 next year to promote the wise use of natural resources	1	2	3	4	5	8

Part F: Coral Reefs

Coral reefs are sensitive ecosystems. The Florida Keys, the world's third-largest barrier reef and the only coral reef system along the US mainland coast, is no exception. It has long been recognized that human use of coral reefs and adjacent coastal activities inflict strains on these systems. Non-local factors associated with global human use of the planet's resources add to the strain through their impact on air and sea temperatures.

The Florida Keys National Marine Sanctuary (FKNMS) was founded through a Federal Act to manage issues such as the above. It is managed cooperatively by the National Oceanic and Atmospheric Administration (NOAA) and the State of Florida, with significant input from local government, businesses, non-government organizations and the general public. Your views are valuable in the formulation of FKNMS action plans and management strategies.

In this section we have a few special issues questions we would like to ask you.

F1. What do you think are the greatest threats to the reefs in the Florida Keys in the following list? Please rank greatest threat=1, second-greatest threat=2, third-greatest threat=3, and so on for as many factors as you consider ***important threats. Leave blank those you consider unimportant.***

- Spear fishers .... ☐
- Scuba divers .... ☐
- Urban development .... ☐
- Ships and boats grounding on reefs, discharging pollutants.......... ☐
- Hurricanes .... ☐
- Solid waste disposal (sewage) .... ☐
- Climate change (global warming etc) .... ☐
- Stormwater and wastewater runoff .... ☐
- Overfishing by commercial and recreational fishers .... ☐
- Number of tourists .... ☐
- Chemical runoff (pesticides, herbicides, fertilizers) .... ☐
- People collecting coral and live rock .... ☐

F2. Any other important factors we have omitted from the list?

If any, write in ____

F3. What in your opinion should the Marine Sanctuary (FKNMS) do to reduce the main stress factors on the reef?

Please rank your first recommendation=1, second=2, and so on for all recommendations you consider important. ***Leave those blank that you consider unimportant.***

Stringent control of pollutants to preserve water quality..... ☐

Enforced training/certification of scuba divers and snorkelers..... ☐

Prohibiting spear fishing..... ☐

Stronger shipping regulations..... ☐

Training, workshops and school programs..... ☐

Better management of waterways..... ☐

More no-catch fishing zones in the FKNMS..... ☐

F4. Do you have any other important recommendations on how FKNMS could reduce the main stress factors on the reef?

If any, write in _____

_____

• The main signs of coral stress are coral diseases and ***coral bleaching***.
• The coral organism lives in a mutually dependent (symbiotic) relationship with tiny algae known as *zooxanthellae*. Their health is highly dependent on temperature and the coral expels them when the sea temperature gets above a certain level. This causes the coral to turn white and weaken, the phenomenon known as coral bleaching.
• There is general agreement among scientists that the world's climate is getting warmer and that this may cause large sections of the world's coral reefs to die.
• There is also a general consensus that control of other stress factors can make the coral organisms more resilient (able to resist and/or recover from stressful events).

F5. Are you aware of coral bleaching and if so to what extent?

☐ Highly aware
☐ Conscious but not highly aware
☐ Not aware (IF "Not aware", go to Question F7.)
All other answers proceed to Question F6.

F6. What in your opinion is the primary cause of coral bleaching? (*Check one only*)

☐ Local factors exclusively
☐ Non-local factors such as global warming/climate change, exclusively
☐ Non-local factors aggravated by local factors
☐ Local factors aggravated by non-local factors
☐ I don't know

F7. How important do you consider climate change to be for the world of the 21st century? Circle the number that corresponds to your answer.

Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
dk	1	2	3	4	5

F8. And how important do you consider climate change to be for the future of the coral reefs in the Florida Keys?

Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
dk	1	2	3	4	5

The final part of this section explores a number of alternative management actions that might be applied to protect the Florida Keys. There is general agreement among scientists that the impact of these actions will be to reduce coral bleaching, but not to eliminate it.

- Coral reefs are affected by global and local forces.

- Global climate change and resulting rises in seawater temperatures are considered a major factor in coral bleaching.

- When corals bleach, the corals die and live coral cover is reduced.

- Scientists have found that more coral cover and complexity of corals is associated with more abundant and larger fish, and many different kinds of fish and sealife.

- Emissions of greenhouse gases are considered the main source of global climate change and coral bleaching.

- Water pollution can stress corals and make them more susceptible to disease or reduce their ability to recover from stressful events such as storms or bleaching events.

- Excess nutrients can lead to algal growth, which smothers the corals and kills them.

We present three global alternatives for coral health measured by the amount of live coral cover, before considering local management policies that could be applied to lessen the impact of each global scenario. In the absence of local management policies, living **coral cover** of comparable quality to what exists today is reduced by (a) a massive 95% in 20 years (by 2027) in the worst case scenario, (b) by 80% (intermediate case) or (c) by 50% (best case). Case (a) assumes that there is no further change in global strategies to reduce global warming, and that the average global temperature will increase by 6-8^{o}C by the year 2100. In the intermediate case (b), the increase over the 21st century will be 4^{o}C, and (c) using the most efficient policies nationally and internationally, there will be a 2^{o}C increase in the average global temperature.

- Local forces also affect the health of coral reefs.

- Users can touch, step on, or drop their anchors on the corals.

- Fishermen can overfish a reef and remove fish species that eat algae that can smother and kill the corals.

Local Management Strategies

There are four local strategies included in the FKNMS management plan designed to protect the health of the coral reefs. For each strategy, we present three levels of protection. The no change from current policy is always the low cost strategy.

1. **Education and outreach** are important activities in the FKNMS. The goal is to promote protection and sustainable use of Sanctuary reserves, and public understanding of the nature of marine sanctuaries. Activities include school programs, local community meetings, signage and exhibits in visitor centers, brochures, and TV and radio announcements. Team Ocean, a group of local volunteers, is provided with a FKNMS boat and fuel. They patrol the FKNMS and when they observe someone violating FKNMS rules and regulations, they educate them about how their activity harms the corals. Team Ocean and education and outreach staff also visit local businesses and distribute information on how users can better interact with corals to avoid damages. Education is also an integral element of other programs in the management plan and is considered a low-cost alternative to enforcement.

2. **Enforcement** includes a wide range of measures such as introducing no-anchor zones for vessels above a certain length, reinforcement of bans on spear fishing and touching corals, educating scuba divers and snorkelers about the reefs and enforcing reef protection, and restricting the use of personal vessels on or near the reef. It also involves the mooring buoy program set up around the restricted areas within the Sanctuary.

3. **Water quality** is a crucial issue as reflected by the FKNMS management plan: “Declining water quality continues to be a major concern for the Sanctuary.” Remedies include the development and implementation of wastewater and stormwater plans, efficient options to reduce loading of sediment, toxics and nutrients which damage water quality and the reef, targeting hot spots of industrial and commercial facilities, and reducing pollution from vessels and marinas. Improving water quality is a significantly higher-cost activity than the other items in this list.

4. **Zoning:** There are currently 24 no-take zones in the FKNMS. They cover less than five percent of FKNMS waters, but protect about 60% of the corals. Scientific monitoring of these zones has determined that coral health, fish abundance, size and diversity of fish and sea life have improved in protected areas versus non protected areas. The three levels of protection are (a) no change; or (b) 25% increase in coral cover protected, from 60% to 75%: or (c) 50% increase in coral cover protected, from 60% to 90%.

Reflecting current FKNMS management principles of running several parallel strategies, we have reduced these four policy options to two by combining education and outreach, enforcement, and water quality management into one group, with the options of (a) no change, (b) 5% increase in annual spending, and (c) 10% increase in annual spending. Zoning remains a separate strategy, with three possible levels of protection as shown above.

• A combination of global and local management strategies is required to save the health of the coral reefs.

• Scientists believe that global policies to minimize the increase in greenhouse gases are required to lower sea water temperatures from what they would otherwise have been, and so reduce coral bleaching.

• The more efficient the global strategy to reduce greenhouse gases, the more cost-efficient will be local management actions to protect the reef.

• If local forces are not addressed, the corals will not recover from coral bleaching when or if cooler waters return.

• Policies to reduce the increase in greenhouse gases will result in increased costs to your household through higher utility bills and the costs of products or services.

• Local management strategies will result in increased costs to your household if you are a resident or visitor to the Florida Keys. Costs will be passed on in terms of higher State and local taxes, local water/sewage bills and the costs of local goods and services purchased in the Florida Keys.

• We have worked with scientists and managers to estimate the approximate annual costs to your household for the different mixes of global and local management strategies which scientists think will deliver some protection to the corals. The costs to your household are stated in dollars per year.

Questions F9 - F14 contain six multiple-choice situations to which you are asked to state your preferences and provide a brief explanation for your choices. Each choice presents different mixes of global and local management strategies and has an estimated cost to your household. Each choice always includes the option of choosing the status quo or NO CHANGE (Alt A). This alternative will cost your household $0, but will result in 95% reduction in the amount of live coral cover in 20 years, and local actions such as improving water quality and increasing the no-take areas will become much less efficient.

Each choice will be similar to the following example. Alt A is always the no-change situation as just explained. Alt B assumes an intermediate global policy for greenhouse gas reduction, and Alt C is based on a stronger and costlier global policy. In each Alt B and C case, different combinations of local management strategies have been designed which yield different coral cover outcomes at different costs to your household, giving you three choices.

We can’t help you state your preferences, which depend on your own experience and attitudes. We don’t know the extent of your concern about future climate change, how much value you put on the quality of the coral reefs relative to other attractions of the Florida Keys, and the main activities that attracted you there including fishing, boating, snorkeling, and land-based activities. So the example below is purely illustrative, and has nothing whatever to do with what you actually think. It’s just an example to assist you in answering questions F9 - F14.

	Alt A	Alt B	Alt C
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**75%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$201**	**$240**
Your most preferred alternative (check one)?	☐	☒	☐
Your least preferred alternative (check one)?	☐	☐	☒

Please explain briefly why you made this choice (for example): "I like to fish, and clear water is important. But I would prefer to have more open area to fish on the reefs."

Please note the following general assumptions when you make your choices:

• The most efficient local management strategy is centered on improving water quality, supplemented by efficient education and enforcement policies. This strategy is also the most expensive local strategy.

• Protecting the reef by increasing the area of no-take zones is also efficient but less so. This relatively low-cost option will reduce reef-fishing activities (but fishing opportunities may be unaffected or may even increase elsewhere in the FKNMS).

• The less efficient the global greenhouse gas strategy to control the rise in sea temperatures, the less efficient the local management strategies will also be.

• Making a choice to spend money on protecting the amount of living coral on the reefs will mean that you have less money to spend on other goods and services.

F9. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	No change (60%)
Coral cover loss by 2027, Florida Keys	**95%**	**75%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$201**	**$285**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F10. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	No change	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	No change (60%)	From 60% to 75%
Coral cover loss by 2027, Florida Keys	**95%**	**80%**	**40%**
Total annual cost to your household for global and local strategies	**$0**	**$75**	**$291**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

F11. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	+10%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**75%**	**34%**
Total annual cost to your household for global and local strategies	**$0**	**$201**	**$360**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F12. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+5%	+10%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	No change (60%)	No change (60%)
Coral cover loss by 2027, Florida Keys	**95%**	**78%**	**40%**
Total annual cost to your household for global and local strategies	**$0**	**$135**	**$345**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

F13. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	No change	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**79%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$81**	**$240**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F14. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**75%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$201**	**$240**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

In Part A, you told us how many days you yourself participated in outdoor recreation activities during the past 12 months in the Florida Keys. You also told us how many days you participated in such activities outside the Florida Keys during the past 12 months (Part A, A6), if any.

F15. Please confirm whether you did any outdoor recreation activities in the Florida Keys during the past 12 months:

☐ Yes ——————> **Continue to question F16.**
☐ No ——————> **Skip to Part G.**

F16. Currently, 6% of the entire water area in the FKNMS is covered with living coral. If the living coral cover were only 3% (half the current cover), how would that affect the number of days you would spend on outdoor recreation activities in the Florida Keys during a 12-month period?

☐ No change ☐ ____ (#days less) ☐ Would cease activities ☐ Don't know

F17. And how would this reduction in living coral cover affect the number of days you would spend on outdoor recreation activities outside the Florida Keys?

☐ No change ☐ _____ (#days more) ☐ Don't know

F18. If there were no living coral cover or 0% cover, how would that affect the number of days you would spend on outdoor recreation activities in the Florida Keys during a 12-month period?

☐ No change ☐ ____ (#days less) ☐ Would cease activities ☐ Don't know

F19. And how would the disappearance of living coral cover affect the number of days you would spend on outdoor recreation activities outside the Florida Keys?

☐ No change ☐ _____ (#days more) ☐ Don't know

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Part G: Demographic Profile

In this final section, we need to know information about you and your household to make sure we have a representative sample of Monroe County residents.

Again, your privacy will be protected and any information identifying you or your household will not be revealed to anyone.

G1. How many people in your household are permanent residents of Monroe County, Florida?

_____ number of people

G2. How many of these people are at least 16 years of age? _____ number of people

G3. What is the closest mile marker to your residence? _____ mile marker number

G4. Do you have access to the water from your residence? ☐ Yes ☐ No

G5. Do you own a boat? ☐ Yes ☐ No

G6. How many years have you lived in Monroe County? _____ number of years

G7. In what year were you born? _____ year

G8. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

G9. What race do you consider yourself?

Please circle one or more of the letter(s) that best describes you

A White
B Black or African American
C American Indian or Alaskan Native
D Asian
E Native Hawaiian or Other Pacific Islander

G10. What is the highest level of education that you have completed?

Please circle the letter of the category that best describes you

A 8th Grade or Less
B 9th to 11th Grade
C 12th Grade, HIgh School Grad, GED
D 13 to 15 Years (some college or vocational training)
E College Graduate
F Graduate School, Law School, Medical School

G11. What is your employment status?

Please circle the letter or letters of all those that apply

A	**Unemployed**	**E**	**Student**
B	**Employed full-time**	**F**	**Homemaker**
C	**Employed part-time**	**G**	**None of the above**
D	**Retired**		**(specify)** _____

G12. Do you work outside Monroe County? ☐ Yes ☐ No

G13. What is your zip code? _____

G14. What is your total household income, before taxes.

Please circle the letter corresponding to the category that best describes your household

A	**Under $5,000**	**I**	**$40,000 to $44,999**
B	**$5,000 to $9,999**	**J**	**$45,000 to $49,999**
B	**$10,000 to $14,999**	**K**	**$50,000 to $59,999**
D	**$15,000 to $19,999**	**L**	**$60,000 to $74,999**
E	**$20,000 to $24,999**	**M**	**$75,000 to $99,999**
F	**$25,000 to $29,999**	**N**	**$100,000 to $149,999**
G	**$30,000 to $34,999**	**O**	**$150,000 or More**
H	**$35,000 to $39,999**		

OMB Approval #: 0648-xxxx
Expiration Date:
Version 2d

Monroe County Resident Survey

Your answers are voluntary and confidential.
Your name will never be released to anyone unless otherwise required by law. After the completion of the project all materials identifying you as an individual will be destroyed.

This is a cooperative research project of the Monroe County Tourist Development Council and the National Oceanic and Atmospheric Administration. Public reporting burden for this collection of information is estimated to average 1 hour including time for reviewing instructions, searching existing data sources, gathering and maintaining the data need, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Department of Commerce, Clearance Officer, Office of Chief Information Officer, Rm. 6625, 14th and Constitution Avenue NW, Washington, DC 20230. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to penalty for failure to comply with, a collection of information subject to requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Resident Survey

1. Overall, how would you rate Monroe County as a place to live?

a. Excellent
b. Good
c. Fair
d. Poor

Please circle letter corresponding to your answer

2. There are many reasons that people choose to live where they do in Florida. What are the two <u>most</u> <u>important</u> <u>reasons</u> you chose to live in Monroe County?

a. No special reason
b. Born here
c. Job or business
d. Climate
e. Environment
f. Access to natural resources, such as natural settings and wildlife
g. Opportunities for water activities, such as fishing or diving
h. Low crime rate
i. Cultural activities
j. Retirement
k. Some other reason (specify) _____

Please circle letters corresponding to the two most important reasons

3. In the past 12 months, have you done any outdoor recreation activities in the Florida Keys?

a. Yes (Go to Part A)
b. No (Go to Part G)

Please use the enclosed White Card-Activities List to see what we mean by outdoor recreation

Part A: Outdoor recreation activities during the past 12 months in the Florida Keys

Please use the enclosed Activities List and map to help you answer the questions in this section

A1. **Which of the activities on the enclosed Activities List did you or someone in your household do in the Florida Keys during the last 12 months?**

A2. **Pleas fill in the circle for each activity you, yourself did during the past 12 months in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

A3. **On how many different days did you, yourself participate in each activity in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

Only answer for those activities you listed with an A on the end of the activity number

A4. **How many others (excluding yourself) in your household did each activity in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West?**

A1 Activity	Upper Keys			Islamorada			Marathon			Lower Keys			Key West		
	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others	A2 Resp.	A3 # days	A4 # others
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
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______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
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______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____
______	○	____	____	○	____	____	○	____	____	○	____	____	○	____	____

A5. What would you say is the most important activity you did in the Florida Keys?

Most Important Activity _____ (Activity List Number)

No Activity Most Important (fill in box) ☐

A6. On how many different days did you participate in outdoor recreation activities outside the Florida Keys during the past 12 months? _____ (# of days)

Part B: Reef use in the Florida Keys during the past 12 months. Both artificial and natural reefs.

Please use Blue Card with Activities List for reef use and map of the Florida Keys in answering Part B

B1. Which activities did you or someone in your household do on either artificial or natural reefs during the past 12 months in the Upper Keys, Isalmorada, Marathon, Lower Keys and Key West?

If you did not do anything in a region, check the box indicating no reef use in the region

B2. Please fill in the circle for each activity you, yourself, did during the past 12 months in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West.

B3. How many others in your household did each activity on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B4. On how many different days did you, yourself, participate in each activity on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B5. On how many different days did you, yourself, participate in each activity on the artificial reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B6. On how many different days did you, yourself, participate in each activity on the natural reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Note: If you did part of a day on an artificial reef and part of a day on a natural reef, count one whole day on each type of reef

B7. How many different dives did you, yourself, make for each type of diving activity you did on the reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Diving activities include all snorkeling and scuba diving activities on the Blue Card-Activities List (Reef)

A dive is defined as an entry and exit from the water to snorkel or scuba dive

B8. How many different dives did you, yourself, make for each type of diving activity you did on the artificial reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

B9. How many different dives did you, yourself, make for each type of diving activity you did on the natural reefs in the Upper Keys, Islamorada, Marathon, Lower Keys and Key West during the past 12 months?

Please refer to Questions B1 - B9 when filling in the tables on the following two pages

There is one table for each of the five regions of the Florida Keys (Upper Keys, Islamorada, Marathon, Lower Keys and Key West)

☐ **No Reef Use** **Upper Keys**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use** **Islamorada**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use** **Marathon**

B1	B2	B3	B4	B5	B6	B7	B8	B9
Activity	Resp.	# Others	Respondent # of days	# days artificial	# days natural	Respondent # dives	# dives artificial	# dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use**

Lower Keys

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** # days artificial	**B6** # days natural	**B7** Respondent # dives	**B8** # dives artificial	**B9** # dives natural
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							
	○							

☐ **No Reef Use**

Key West

B1 Activity	**B2** Resp.	**B3** # Others	**B4** Respondent # of days	**B5** # days artificial	**B6** # days natural	**B7** Respondent # dives	**B8** # dives artificial	**B9** # dives natural
	○							
	○							
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Part C: Specialization

In this section, we are interested in learning more about your primary activity. Please answer the following questions based on the response you gave to QUESTION A5.

For the four questions below, please read the four choices and circle the one answer that best fits you for that question.

C1. When I participate in my primary activity, I feel like:

1 a beginner. I don't really feel like I am part of the activity scene.
2 an occasional or irregular participant. Sometimes it is fun, entertaining or rewarding to do my activity.
3 a habitual and regular participant in the activity.
4 an insider to the sport. The activity is an important part of who I am.

C2. During my activity, I can best be described as:

1 having very little understanding of the activity. I am often unsure about how to do certain things when I go.
2 having some understanding of the activity, but still in the process of learning more about the sport. I am becoming more familiar and comfortable with the activity.
3 being comfortable with the sport. I have a good understanding of what I can do, and how to do it.
4 a knowledgeable expert in the sport. I encourage, teach and enhance opportunities for others who are interested in the activity.

C3. My relationships with others who do the activity are:

1 not established. I really don't know any other people who do the activity.
2 very limited. I know some others in the activity by sight and sometimes talk with them, but I don't know their names.
3 one of familiarity. I know the names of others who do the activity, and often speak with them.
4 close. I have personal and close relationships with others in the activity. These friendships often revolve around the activity.

C4. My commitment to the activity is:

1 very slight. I have very little connection to the activity. I may or may not continue to participate in the sport in the future.
2 moderate. I will continue to do it as it is entertaining and provides the benefits I want.
3 fairly strong. I have a sense of being a member of the activity, and it is likely that I will continue to do it for a long time.
4 very strong. I am totally committed to the activity. I encourage others to participate in the sport and seek to ensure the activity continues into the future.

C5. If you had to replace all of the equipment that you currently own for your primary activity with similar equipment, how much would it cost to replace?

$_____AMOUNT TO REPLACE PRIMARY ACTIVITY EQUIPMENT

C6. To what extent do you make use of the following for current information about your primary activity? Please circle number that indicates your extent of use for each source of information.

		No Use	Almost no use	A little use	Some use	A lot of use
a.	Talking with others who participate in the activity.....	1	2	3	4	5
b.	Magazines…….....	1	2	3	4	5
c.	Government agency publications…….....	1	2	3	4	5
d.	Conservation organization publications…….....	1	2	3	4	5
e.	Newspapers…….....	1	2	3	4	5
f.	Diving shops/companies…….....	1	2	3	4	5
g.	Club meetings…….....	1	2	3	4	5
h.	Television…….....	1	2	3	4	5
i.	Radio…….....	1	2	3	4	5
j.	Internet…….....	1	2	3	4	5

C7. Below is a list of reasons why people engage in recreation activities. Please circle the number that indicates how important each item is to you as a reason for participating in your primary activity.

		Not at all important	Slightly important	Moderately important	Very important	Extremely important
a.	To be outdoors…….....	1	2	3	4	5
b.	For family recreation…….....	1	2	3	4	5
c.	To experience new and different things…….....	1	2	3	4	5
d.	For relaxation…….....	1	2	3	4	5
e.	To be close to the water…….....	1	2	3	4	5
f.	To get away from the demands of other people…...	1	2	3	4	5
g.	To be with friends…….....	1	2	3	4	5
h.	To develop my skills…….....	1	2	3	4	5
i.	To get away from the regular routine…….....	1	2	3	4	5
j.	To experience adventure and excitement…….....	1	2	3	4	5
k.	To experience natural surroundings…….....	1	2	3	4	5

Part D: Importance and satisfaction with facilities, services, and natural resources in the Florida Keys

In this section we are interested in identifying the recreation site information which is important to you.

Please read each statement and rate the importance of each item as it contributes to an ideal recreation/tourism setting for the activities you did in the Florida Keys. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Not Important (NI), 2 = Somewhat Important (SI), 3 = Important (I), 4 = Very Important (VI), 5 = Extremely Important (EI), 8 = Don't Know (DK), or 9 = NA

		NI	SI	I	VI	EI	DK	NA
		1	2	3	4	5	8	9
D1.	Clear water (high visibility)	1	2	3	4	5	8	9
D2.	Amount of living coral on reefs	1	2	3	4	5	8	9
D3.	Public transportation	1	2	3	4	5	8	9
D4.	Parking	1	2	3	4	5	8	9
D5.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D6.	Many different kind of fish and sea life to catch	1	2	3	4	5	8	9
D7.	Large numbers of fish	1	2	3	4	5	8	9
D8.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D9.	Uncrowded conditions	1	2	3	4	5	8	9
D10.	Maps, brochures, and other tourist information	1	2	3	4	5	8	9
D11.	Boat ramps/launching facilities	1	2	3	4	5	8	9
D12.	Marina facilities	1	2	3	4	5	8	9
D13.	Directional signs, street signs, mile markers	1	2	3	4	5	8	9
D14.	Condition of roads and streets	1	2	3	4	5	8	9
D15.	Cleanliness of streets and sidewalks	1	2	3	4	5	8	9
D16.	Condition of bike paths and sidewalks/walking paths	1	2	3	4	5	8	9
D17.	Shoreline access	1	2	3	4	5	8	9
D18.	Designated swimming/beach areas	1	2	3	4	5	8	9
D19.	Quality of beaches	1	2	3	4	5	8	9
D20.	Customer service and friendliness of people	1	2	3	4	5	8	9
D21.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D22.	Availability of public restrooms	1	2	3	4	5	8	9
D23.	Value for the price	1	2	3	4	5	8	9
D24.	Parks and specially protected areas	1	2	3	4	5	8	9
D25.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

On the previous page you indicated the importance of a list of items to your recreational/tourist experiences. Now read each of the items on this list and rate how satisfied you were with each at the places you did your activities in the Florida Keys. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Terrible (T), 2 = Unhappy/Dissatisfied (UH), 3 = Mixed (M), 4 = Happy/Satisfied (H), 5 = Delighted (D), 8 = Don't Know (DK), or 9 = NA

		T	UH	M	H	D	DK	NA
		1	2	3	4	5	8	9
D26.	Clear water (high visibility)	1	2	3	4	5	8	9
D27.	Amount of living coral on reefs	1	2	3	4	5	8	9
D28.	Public transportation	1	2	3	4	5	8	9
D29.	Parking	1	2	3	4	5	8	9
D30.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D31.	Many different kind of fish and sea life to catch	1	2	3	4	5	8	9
D32.	Large numbers of fish	1	2	3	4	5	8	9
D33.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D34.	Uncrowded conditions	1	2	3	4	5	8	9
D35.	Maps, brochures, and other tourist information	1	2	3	4	5	8	9
D36.	Boat ramps/launching facilities	1	2	3	4	5	8	9
D37.	Marina facilities	1	2	3	4	5	8	9
D38.	Directional signs, street signs, mile markers	1	2	3	4	5	8	9
D39.	Condition of roads and streets	1	2	3	4	5	8	9
D40.	Cleanliness of streets and sidewalks	1	2	3	4	5	8	9
D41.	Condition of bike paths and sidewalks/walking paths	1	2	3	4	5	8	9
D42.	Shoreline access	1	2	3	4	5	8	9
D43.	Designated swimming/beach areas	1	2	3	4	5	8	9
D44.	Quality of beaches	1	2	3	4	5	8	9
D45.	Customer service and friendliness of people	1	2	3	4	5	8	9
D46.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D47.	Availability of public restrooms	1	2	3	4	5	8	9
D48.	Value for the price	1	2	3	4	5	8	9
D49.	Parks and specially protected areas	1	2	3	4	5	8	9
D50.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

D51. Had you lived-in or visited the Florida Keys more than five years ago?

☐ **Yes** ⟶ **Continue to question D52.**

☐ **No** ⟶ **Skip to next page, Part E**

Now read each of the items on this list and rate how satisfied you were with each when you were in the Florida Keys more than five years ago. If an item does not apply, indicate by circling 9 (NA). Likewise, if you don't know, circle 8 (DK).

1 = Terrible (T), 2 = Unhappy/Dissatisfied (UH), 3 = Mixed (M), 4 = Happy/Satisfied (H), 5 = Delighted (D), 8 = Don't Know (DK), or 9 = NA

		T	UH	M	H	D	DK	NA
		1	2	3	4	5	8	9
D52.	Clear water (high visibility)	1	2	3	4	5	8	9
D53.	Amount of living coral on reefs	1	2	3	4	5	8	9
D54.	Many different kind of fish and sea life to view	1	2	3	4	5	8	9
D55.	Large numbers of fish	1	2	3	4	5	8	9
D56.	Opportunity to view large wildlife: (manatees, whales, dolphins, sea turtles)	1	2	3	4	5	8	9
D57.	Uncrowded conditions	1	2	3	4	5	8	9
D58.	Condition of roads and streets	1	2	3	4	5	8	9
D59.	Shoreline access	1	2	3	4	5	8	9
D60.	Quality of beaches	1	2	3	4	5	8	9
D61.	Customer service and friendliness of people	1	2	3	4	5	8	9
D62.	Historic preservation (historic landmarks, houses, etc.)	1	2	3	4	5	8	9
D63.	Parks and specially protected areas	1	2	3	4	5	8	9
D64.	Mooring buoys near coral reefs	1	2	3	4	5	8	9

Part E: Environmental Issues

In this section we are interested in learning about your feelings regarding various environmental issues. Below is a list of statements.

For each statement, please circle the response that best reflects your opinion about the statement.

1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly Disagree (SD), and 8 = Don't Know or No Opinion (DK)

		SA	A	N	D	SD	DK
		1	2	3	4	5	8
E1.	The federal government will have to introduce harsh measures to halt pollution since few people will regulate themselves	1	2	3	4	5	8
E2.	We should not worry about killing too many game animals because in the long run things will balance out	1	2	3	4	5	8
E3.	I'd be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results might not seem significant	1	2	3	4	5	8
E4.	Pollution is not personally affecting my life	1	2	3	4	5	8
E5.	The benefits of modern consumer products are more important than the pollution that results from their production and use	1	2	3	4	5	8
E6.	We must prevent any type of animal from becoming extinct, even if it means sacrificing some things for ourselves	1	2	3	4	5	8
E7.	Courses focusing on the conservation of natural resources should be taught in the public schools	1	2	3	4	5	8
E8.	Although there is continual contamination of our lakes, streams, and air, nature's purifying process will soon return them to normal	1	2	3	4	5	8
E9.	Because the government has such good inspection and control agencies, it's very unlikely that pollution due to energy production will become excessive	1	2	3	4	5	8

For each statement, please circle the response that best reflects your opinion about the statement.

1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly Disagree (SD), and 8 = Don't Know or No Opinion (DK)

		SA	A	N	D	SD	DK
		1	2	3	4	5	8
E10.	The government should provide each citizen with a list of agencies and organizations to which the citizen could report grievances concerning pollution	1	2	3	4	5	8
E11.	Predators such as hawks, crows, skunks, and coyotes which prey on farmers' grain crops and poultry should be eliminated	1	2	3	4	5	8
E12.	The currently active anti-pollution organizations are really more interested in disrupting society than they are in fighting pollution	1	2	3	4	5	8
E13.	Even if public transportation was more efficient than it is, I would prefer to drive my car to work . .	1	2	3	4	5	8
E14.	Industry is trying its best to develop effective anti-pollution technology	1	2	3	4	5	8
E15.	If asked, I would contribute time, money, or both to an organization like the Sierra Club that works to improve the quality of the environment	1	2	3	4	5	8
E16.	I would be willing to accept an increase in my family's expenses of $100 next year to promote the wise use of natural resources	1	2	3	4	5	8

Part F: Coral Reefs

Coral reefs are sensitive ecosystems. The Florida Keys, the world's third-largest barrier reef and the only coral reef system along the US mainland coast, is no exception. It has long been recognized that human use of coral reefs and adjacent coastal activities inflict strains on these systems. Non-local factors associated with global human use of the planet's resources add to the strain through their impact on air and sea temperatures.

The Florida Keys National Marine Sanctuary (FKNMS) was founded through a Federal Act to manage issues such as the above. It is managed cooperatively by the National Oceanic and Atmospheric Administration (NOAA) and the State of Florida, with significant input from local government, businesses, non-government organizations and the general public. Your views are valuable in the formulation of FKNMS action plans and management strategies.

In this section we have a few special issues questions we would like to ask you.

F1. What do you think are the greatest threats to the reefs in the Florida Keys in the following list? Please rank greatest threat=1, second-greatest threat=2, third-greatest threat=3, and so on for as many factors as you consider ***important threats. Leave blank those you consider unimportant.***

Spear fishers ……..... ☐

Scuba divers ……..... ☐

Urban development ……..……..... ☐

Ships and boats grounding on reefs, discharging pollutants..... ☐

Hurricanes ..... ☐

Solid waste disposal (sewage) …..……..... ☐

Climate change (global warming etc) ……..... ☐

Stormwater and wastewater runoff ...……..... ☐

Overfishing by commercial and recreational fishers ……..... ☐

Number of tourists ……..…..... ☐

Chemical runoff (pesticides, herbicides, fertilizers) ..... ☐

People collecting coral and live rock …..……..... ☐

F2. Any other important factors we have omitted from the list?

If any, write in _____

F3. What in your opinion should the Marine Sanctuary (FKNMS) do to reduce the main stress factors on the reef?
Please rank your first recommendation=1, second=2, and so on for all recommendations you consider important. ***Leave those blank that you consider unimportant.***

Stringent control of pollutants to preserve water quality..... ☐

Enforced training/certification of scuba divers and snorkelers..... ☐

Prohibiting spear fishing..... ☐

Stronger shipping regulations..... ☐

Training, workshops and school programs..... ☐

Better management of waterways..... ☐

More no-catch fishing zones in the FKNMS..... ☐

F4. Do you have any other important recommendations on how FKNMS could reduce the main stress factors on the reef?

If any, write in _____

_____

• The main signs of coral stress are coral diseases and ***coral bleaching***.
• The coral organism lives in a mutually dependent (symbiotic) relationship with tiny algae known as *zooxanthellae*. Their health is highly dependent on temperature and the coral expels them when the sea temperature gets above a certain level. This causes the coral to turn white and weaken, the phenomenon known as coral bleaching.
• There is general agreement among scientists that the world's climate is getting warmer and that this may cause large sections of the world's coral reefs to die.
• There is also a general consensus that control of other stress factors can make the coral organisms more resilient (able to resist and/or recover from stressful events).

F5. Are you aware of coral bleaching and if so to what extent?

☐ Highly aware
☐ Conscious but not highly aware
☐ Not aware (IF "Not aware", go to Question F7.)
All other answers proceed to Question F6.

F6. What in your opinion is the primary cause of coral bleaching? (*Check one only*)

☐ Local factors exclusively
☐ Non-local factors such as global warming/climate change, exclusively
☐ Non-local factors aggravated by local factors
☐ Local factors aggravated by non-local factors
☐ I don't know

F7. How important do you consider climate change to be for the world of the 21st century? Circle the number that corresponds to your answer.

Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
dk	1	2	3	4	5

F8. And how important do you consider climate change to be for the future of the coral reefs in the Florida Keys?

Don't Know	Not Important	Somewhat Important	Important	Very Important	Extremely Important
dk	1	2	3	4	5

The final part of this section explores a number of alternative management actions that might be applied to protect the Florida Keys. There is general agreement among scientists that the impact of these actions will be to reduce coral bleaching, but not to eliminate it.

- Coral reefs are affected by global and local forces.

- Global climate change and resulting rises in seawater temperatures are considered a major factor in coral bleaching.

- When corals bleach, the corals die and live coral cover is reduced.

- Scientists have found that more coral cover and complexity of corals is associated with more abundant and larger fish, and many different kinds of fish and sealife.

- Emissions of greenhouse gases are considered the main source of global climate change and coral bleaching.

- Water pollution can stress corals and make them more susceptible to disease or reduce their ability to recover from stressful events such as storms or bleaching events.

- Excess nutrients can lead to algal growth, which smothers the corals and kills them.

We present three global alternatives for coral health measured by the amount of live coral cover, before considering local management policies that could be applied to lessen the impact of each global scenario. In the absence of local management policies, living **coral cover** of comparable quality to what exists today is reduced by (a) a massive 95% in 20 years (by 2027) in the worst case scenario, (b) by 80% (intermediate case) or (c) by 50% (best case). Case (a) assumes that there is no further change in global strategies to reduce global warming, and that the average global temperature will increase by 6-8^{o}C by the year 2100. In the intermediate case (b), the increase over the 21st century will be 4^{o}C, and (c) using the most efficient policies nationally and internationally, there will be a 2^{o}C increase in the average global temperature.

- Local forces also affect the health of coral reefs.

- Users can touch, step on, or drop their anchors on the corals.

- Fishermen can overfish a reef and remove fish species that eat algae that can smother and kill the corals.

Local Management Strategies

There are four local strategies included in the FKNMS management plan designed to protect the health of the coral reefs. For each strategy, we present three levels of protection. The no change from current policy is always the low cost strategy.

1. **Education and outreach** are important activities in the FKNMS. The goal is to promote protection and sustainable use of Sanctuary reserves, and public understanding of the nature of marine sanctuaries. Activities include school programs, local community meetings, signage and exhibits in visitor centers, brochures, and TV and radio announcements. Team Ocean, a group of local volunteers, is provided with a FKNMS boat and fuel. They patrol the FKNMS and when they observe someone violating FKNMS rules and regulations, they educate them about how their activity harms the corals. Team Ocean and education and outreach staff also visit local businesses and distribute information on how users can better interact with corals to avoid damages. Education is also an integral element of other programs in the management plan and is considered a low-cost alternative to enforcement.

2. **Enforcement** includes a wide range of measures such as introducing no-anchor zones for vessels above a certain length, reinforcement of bans on spear fishing and touching corals, educating scuba divers and snorkelers about the reefs and enforcing reef protection, and restricting the use of personal vessels on or near the reef. It also involves the mooring buoy program set up around the restricted areas within the Sanctuary.

3. **Water quality** is a crucial issue as reflected by the FKNMS management plan: “Declining water quality continues to be a major concern for the Sanctuary.” Remedies include the development and implementation of wastewater and stormwater plans, efficient options to reduce loading of sediment, toxics and nutrients which damage water quality and the reef, targeting hot spots of industrial and commercial facilities, and reducing pollution from vessels and marinas. Improving water quality is a significantly higher-cost activity than the other items in this list.

4. **Zoning:** There are currently 24 no-take zones in the FKNMS. They cover less than five percent of FKNMS waters, but protect about 60% of the corals. Scientific monitoring of these zones has determined that coral health, fish abundance, size and diversity of fish and sea life have improved in protected areas versus non protected areas. The three levels of protection are (a) no change; or (b) 25% increase in coral cover protected, from 60% to 75%: or (c) 50% increase in coral cover protected, from 60% to 90%.

Reflecting current FKNMS management principles of running several parallel strategies, we have reduced these four policy options to two by combining education and outreach, enforcement, and water quality management into one group, with the options of (a) no change, (b) 5% increase in annual spending, and (c) 10% increase in annual spending. Zoning remains a separate strategy, with three possible levels of protection as shown above.

• A combination of global and local management strategies is required to save the health of the coral reefs.

• Scientists believe that global policies to minimize the increase in greenhouse gases are required to lower sea water temperatures from what they would otherwise have been, and so reduce coral bleaching.

• The more efficient the global strategy to reduce greenhouse gases, the more cost-efficient will be local management actions to protect the reef.

• If local forces are not addressed, the corals will not recover from coral bleaching when or if cooler waters return.

• Policies to reduce the increase in greenhouse gases will result in increased costs to your household through higher utility bills and the costs of products or services.

• Local management strategies will result in increased costs to your household if you are a resident or visitor to the Florida Keys. Costs will be passed on in terms of higher State and local taxes, local water/sewage bills and the costs of local goods and services purchased in the Florida Keys.

• We have worked with scientists and managers to estimate the approximate annual costs to your household for the different mixes of global and local management strategies which scientists think will deliver some protection to the corals. The costs to your household are stated in dollars per year.

Questions F9 - F14 contain six multiple-choice situations to which you are asked to state your preferences and provide a brief explanation for your choices. Each choice presents different mixes of global and local management strategies and has an estimated cost to your household. Each choice always includes the option of choosing the status quo or NO CHANGE (Alt A). This alternative will cost your household $0, but will result in 95% reduction in the amount of live coral cover in 20 years, and local actions such as improving water quality and increasing the no-take areas will become much less efficient.

Each choice will be similar to the following example. Alt A is always the no-change situation as just explained. Alt B assumes an intermediate global policy for greenhouse gas reduction, and Alt C is based on a stronger and costlier global policy. In each Alt B and C case, different combinations of local management strategies have been designed which yield different coral cover outcomes at different costs to your household, giving you three choices.

We can’t help you state your preferences, which depend on your own experience and attitudes. We don’t know the extent of your concern about future climate change, how much value you put on the quality of the coral reefs relative to other attractions of the Florida Keys, and the main activities that attracted you there including fishing, boating, snorkeling, and land-based activities. So the example below is purely illustrative, and has nothing whatever to do with what you actually think. It’s just an example to assist you in answering questions F9 - F14.

	Alt A	Alt B	Alt C
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+10%	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**75%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$268**	**$320**
Your most preferred alternative (check one)?	☐	☒	☐
Your least preferred alternative (check one)?	☐	☐	☒

Please explain briefly why you made this choice (for example): "I like to fish, and clear water is important. But I would prefer to have more open area to fish on the reefs."

Please note the following general assumptions when you make your choices:

• The most efficient local management strategy is centered on improving water quality, supplemented by efficient education and enforcement policies. This strategy is also the most expensive local strategy.

• Protecting the reef by increasing the area of no-take zones is also efficient but less so. This relatively low-cost option will reduce reef-fishing activities (but fishing opportunities may be unaffected or may even increase elsewhere in the FKNMS).

• The less efficient the global greenhouse gas strategy to control the rise in sea temperatures, the less efficient the local management strategies will also be.

• Making a choice to spend money on protecting the amount of living coral on the reefs will mean that you have less money to spend on other goods and services.

F9. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	Alt B	Alt C
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+5%	+10%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**77%**	**34%**
Total annual cost to your household for global and local strategies	**$0**	**$188**	**$480**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F10. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	Alt B	Alt C
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+5%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	No change (60%)
Coral cover loss by 2027, Florida Keys	**95%**	**77%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$188**	**$380**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F11. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	No change	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 75%
Coral cover loss by 2027, Florida Keys	**95%**	**79%**	**46%**
Total annual cost to your household for global and local strategies	**$0**	**$108**	**$308**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F12. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	No change	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 90%	No change (60%)
Coral cover loss by 2027, Florida Keys	**95%**	**78%**	**44%**
Total annual cost to your household for global and local strategies	**$0**	**$120**	**$380**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

F13. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+5%	No change
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 75%
Coral cover loss by 2027, Florida Keys	**95%**	**77%**	**46%**
Total annual cost to your household for global and local strategies	**$0**	**$188**	**$308**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

F14. Suppose you could only choose between the following three alternative combinations of global and local strategies, which would be your most preferred alternative and which would be your least preferred alternative?

	Alt A	**Alt B**	**Alt C**
Global policy for reductions in greenhouse gases (compared with no change in policy as in Alt A.)	No change	Medium reductions	Large reductions
Local Florida Keys Management Strategies			
Added spending on water quality, education and outreach, and enforcement	No change	+5%	+5%
Increase in no-take zoning of coral reef areas (percent of coral reefs protected)	No change (60%)	From 60% to 75%	From 60% to 90%
Coral cover loss by 2027, Florida Keys	**95%**	**77%**	**38%**
Total annual cost to your household for global and local strategies	**$0**	**$188**	**$400**
Your most preferred alternative (check one)?	☐	☐	☐
Your least preferred alternative (check one)?	☐	☐	☐

Please explain briefly why you made this choice (for example): _____

_____

_____

In Part A, you told us how many days you yourself participated in outdoor recreation activities during the past 12 months in the Florida Keys. You also told us how many days you participated in such activities outside the Florida Keys during the past 12 months (Part A, A6), if any.

F15. Please confirm whether you did any outdoor recreation activities in the Florida Keys during the past 12 months:

☐ Yes ————> **Continue to question F16.**
☐ No ————> **Skip to Part G.**

F16. Currently, 6% of the entire water area in the FKNMS is covered with living coral. If the living coral cover were only 3% (half the current cover), how would that affect the number of days you would spend on outdoor recreation activities in the Florida Keys during a 12-month period?

☐ No change ☐ ____ (#days less) ☐ Would cease activities ☐ Don't know

F17. And how would this reduction in living coral cover affect the number of days you would spend on outdoor recreation activities outside the Florida Keys?

☐ No change ☐ _____ (#days more) ☐ Don't know

F18. If there were no living coral cover or 0% cover, how would that affect the number of days you would spend on outdoor recreation activities in the Florida Keys during a 12-month period?

☐ No change ☐ ____ (#days less) ☐ Would cease activities ☐ Don't know

F19. And how would the disappearance of living coral cover affect the number of days you would spend on outdoor recreation activities outside the Florida Keys?

☐ No change ☐ _____ (#days more) ☐ Don't know

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Part G: Demographic Profile

In this final section, we need to know information about you and your household to make sure we have a representative sample of Monroe County residents.

Again, your privacy will be protected and any information identifying you or your household will not be revealed to anyone.

G1. How many people in your household are permanent residents of Monroe County, Florida?

_____ number of people

G2. How many of these people are at least 16 years of age? _____ number of people

G3. What is the closest mile marker to your residence? _____ mile marker number

G4. Do you have access to the water from your residence? ☐ Yes ☐ No

G5. Do you own a boat? ☐ Yes ☐ No

G6. How many years have you lived in Monroe County? _____ number of years

G7. In what year were you born? _____ year

G8. Are you Spanish, Hispanic, or Latino? ☐ Yes ☐ No

G9. What race do you consider yourself?

Please circle one or more of the letter(s) that best describes you

A White
B Black or African American
C American Indian or Alaskan Native
D Asian
E Native Hawaiian or Other Pacific Islander

G10. What is the highest level of education that you have completed?

Please circle the letter of the category that best describes you

A 8th Grade or Less
B 9th to 11th Grade
C 12th Grade, HIgh School Grad, GED
D 13 to 15 Years (some college or vocational training)
E College Graduate
F Graduate School, Law School, Medical School

G11. What is your employment status?

Please circle the letter or letters of all those that apply

A	**Unemployed**	**E**	**Student**
B	**Employed full-time**	**F**	**Homemaker**
C	**Employed part-time**	**G**	**None of the above**
D	**Retired**		**(specify)** _____

G12. Do you work outside Monroe County? ☐ Yes ☐ No

G13. What is your zip code? _____

G14. What is your total household income, before taxes.

Please circle the letter corresponding to the category that best describes your household

A	**Under $5,000**	**I**	**$40,000 to $44,999**
B	**$5,000 to $9,999**	**J**	**$45,000 to $49,999**
B	**$10,000 to $14,999**	**K**	**$50,000 to $59,999**
D	**$15,000 to $19,999**	**L**	**$60,000 to $74,999**
E	**$20,000 to $24,999**	**M**	**$75,000 to $99,999**
F	**$25,000 to $29,999**	**N**	**$100,000 to $149,999**
G	**$30,000 to $34,999**	**O**	**$150,000 or More**
H	**$35,000 to $39,999**		