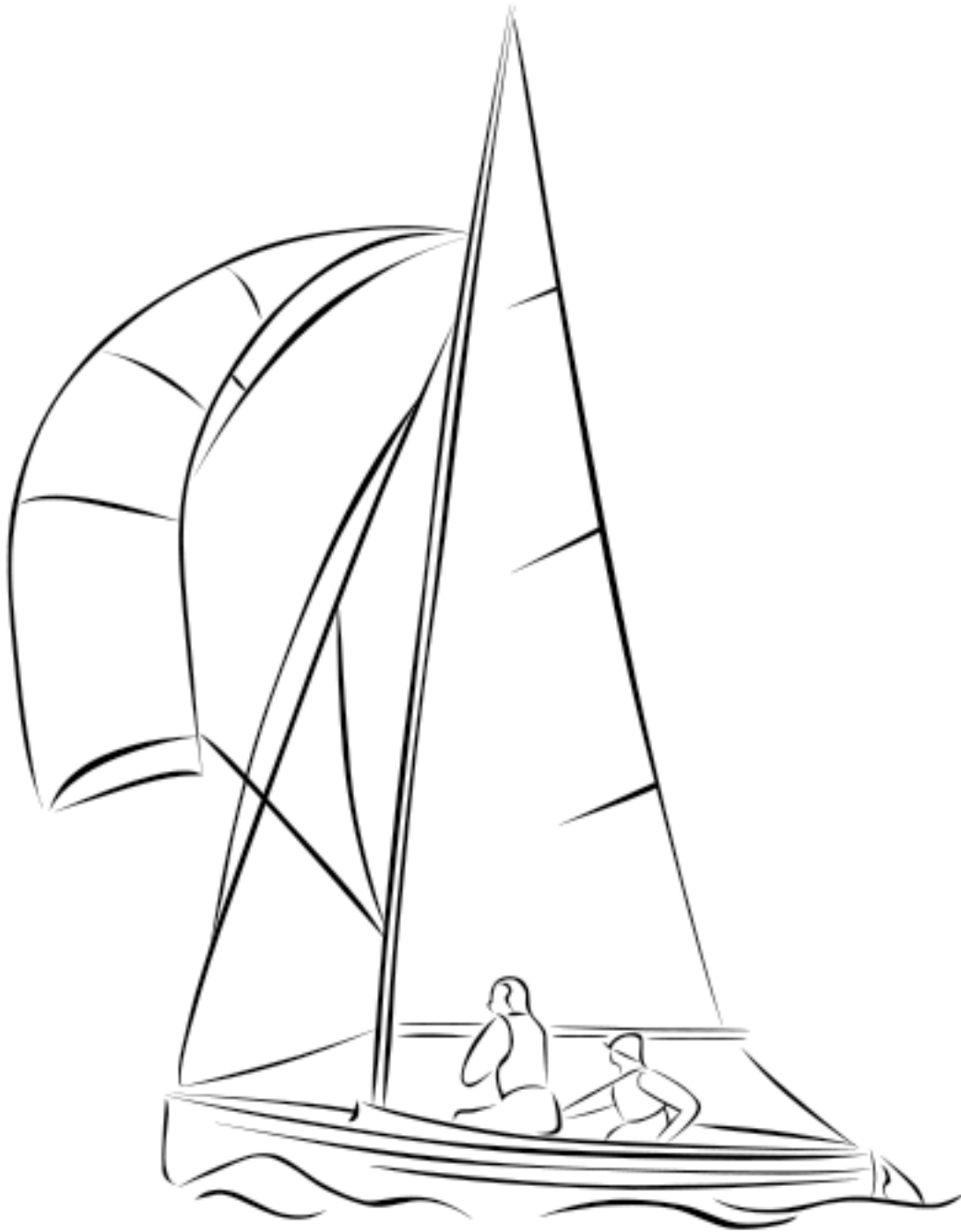


DRY TORTUGAS NATIONAL PARK PRIVATE BOAT OPERATOR QUESTIONNAIRE



***East Carolina University
Human Dimensions of Marine and Coastal Ecosystems
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Note: The text in the shaded boxes below will not be included in the survey (the visitors will not read this as a part of the survey process). This text is used to annotate the questions in response to Part A question 2 of the PRA Supporting Statement

In the following questions, please tell us about your use history of Dry Tortugas National Park.

[Park Use History] – in this section we would like to understand how people use DRTO and how those use levels have changed over time. A map will be provided that will depict the geographical boundaries of DRTO. The respondent will be asked to refer to the map to answer Q7; 21-25

1. **In which year did you make your first visit to Dry Tortugas National Park?**
 ___ Year

2. **Over the past twelve months, how many visits have you made to Dry Tortugas National Park?**
 ___ Number of Visits

3. **On your most recent visit to Dry Tortugas National Park, how many people, including yourself, were in your party?**
 ___ Number of People

4. **Since your first visit to Dry Tortugas National Park, how has your annual visitation rate to Dry Tortugas National Park changed over time? (Please circle one response)**
 1. Far fewer visits
 2. Fewer visits
 3. Remained about the same
 4. More visits
 5. Many more visits
 6. This is my first visit to Dry Tortugas National Park

5. **How familiar are you with the Dry Tortugas National Park Boundaries?**

1	2	3	4	5
Not at all familiar	Somewhat familiar	Moderately familiar	Very familiar	Extremely familiar

[Activity Information and History] – in this section we would like to understand what activities are important to users of DRTO and the level of participation in those activities.

6. **Below is a list of activities available in Dry Tortugas National Park. Please rank how important it is for you to participate in the following in Dry Tortugas National Park. If you do not participate in an activity at all, please select “Not applicable” (n/a).**

	Not at all important	Slightly important	Moderately important	Very important	Extremely important	Not applicable
a. Recreational fishing.....	1	2	3	4	5	n/a
c. Snorkeling.....	1	2	3	4	5	n/a
d. SCUBA Diving.....	1	2	3	4	5	n/a
e. Power boating.....	1	2	3	4	5	n/a
f. Sail boating.....	1	2	3	4	5	n/a
g. Nature/wildlife observation.....	1	2	3	4	5	n/a
j. Kayaking.....	1	2	3	4	5	n/a
k. Historic tours.....	1	2	3	4	5	n/a
g. Other (Specify: _____).....	1	2	3	4	5	n/a

7. Below is a list of activities available in Dry Tortugas National Park. Using the enclosed map, please tell us how many days you have participated in each activity **over the past twelve months** in each of the zones shown on the map. Enter the appropriate number of days to indicate your use level.

		Zone			
		A	B	C	D
Activity	Recreational fishing	___# of days	___# of days	___# of days	___# of days
	Snorkeling	___# of days	___# of days	___# of days	___# of days
	SCUBA Diving	___# of days	___# of days	___# of days	___# of days
	Power boating	___# of days	___# of days	___# of days	___# of days
	Sail boating	___# of days	___# of days	___# of days	___# of days
	Nature/wildlife observation	___# of days	___# of days	___# of days	___# of days
	Kayaking	___# of days	___# of days	___# of days	___# of days
	Historic tours	___# of days	___# of days	___# of days	___# of days
	Other (Specify: _____)	___# of days	___# of days	___# of days	___# of days

[Perceptions of resource conditions] – in this section we would like to understand knowledge, attitudes and perceptions of environmental conditions within DRTO. Attribution theory is incorporated into these questions to better understand conflict dynamics . Question 14 utilizes social normative theory to examine broader injunctive norms.

In the next several questions we would like to know what you think about the health of Dry Tortugas National Park.

8. Please indicate the extent to which you agree or disagree with the following statements about fish populations.

		Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
a. Fish populations in Dry Tortugas National park are able to easily recover from any impacts from <u>diving/snorkeling</u> without any long-term damage	1	2	3	4	5	
b. Fish populations in Dry Tortugas National Park are able to easily recover from any impacts from <u>recreational fishing</u> without any long-term damage	1	2	3	4	5	
c. <u>Fish populations</u> in Dry Tortugas National Park are generally in a healthy condition	1	2	3	4	5	
d. <u>Divers/snorkelers</u> cause some damage to fish populations in Dry Tortugas National Park, which has long-lasting effects on fish populations.....	1	2	3	4	5	
e. <u>Recreational anglers</u> cause some damage to fish populations in Dry Tortugas National Park, which has long-lasting effects fish populations	1	2	3	4	5	
f. Dry Tortugas National Park fish populations where I typically recreate are in a healthy condition	1	2	3	4	5	

9. Please indicate the extent to which you agree or disagree with the following statements about coral reef health.

	<i>Strongly disagree</i>	<i>Slightly disagree</i>	<i>Neutral</i>	<i>Slightly agree</i>	<i>Strongly agree</i>
a. Coral reef ecosystems in Dry Tortugas National Park are able to easily recover from any impacts from <u>diving/snorkeling</u> without any long-term damage	1	2	3	4	5
b. Coral reef ecosystems in Dry Tortugas National Park are able to easily recover from any impacts from <u>commercial fishing</u> without any long-term damage	1	2	3	4	5
c. Coral reef ecosystems in Dry Tortugas National Park are able to easily recover from any impacts from <u>recreational fishing</u> without any long-term damage	1	2	3	4	5
d. Coral reef ecosystems in Dry Tortugas National Park are generally in a healthy condition.....	1	2	3	4	5
e. <u>Divers/snorkelers</u> cause some damage to reefs in Dry Tortugas National Park, which has long-lasting effects on reef health.....	1	2	3	4	5
f. <u>Commercial fishermen</u> cause some damage to reefs in Dry Tortugas National Park, which has long-lasting effects on reef health.....	1	2	3	4	5
g. <u>Recreational anglers</u> cause some damage to reefs in Dry Tortugas National Park, which has long-lasting effects on reef health.....	1	2	3	4	5
h. Dry Tortugas National Park reef areas where I typically recreate are in a healthy condition	1	2	3	4	5

10. Overall, do you feel the following are having a positive or negative impact on the ecological health of the marine resources in Dry Tortugas National Park?

	<i>Extremely negative impact</i>	<i>Moderately negative impact</i>	<i>Slightly negative impact</i>	<i>No positive or negative impact</i>	<i>Slightly Positive impact</i>	<i>Moderately Positive impact</i>	<i>Extremely positive impact</i>
a. Water quality	1	2	3	5	4	6	7
b. SCUBA diving	1	2	3	5	4	6	7
c. Commercial fishing	1	2	3	5	4	6	7
d. Hurricanes	1	2	3	5	4	6	7
e. Snorkeling.....	1	2	3	5	4	6	7
f. Recreational fishing	1	2	3	5	4	6	7
g. Global climate change	1	2	3	5	4	6	7
h. Marine debris/trash	1	2	3	4	5	6	7

11. Overall, how would you rate the current ecological health of Dry Tortugas National Park?

1. Very poor
2. Poor
3. Fair
4. Good
5. Very good

12. Do you feel that the ecological health Dry Tortugas National Park is improving, declining or staying the same?

1. Declining substantially
2. Declining somewhat
3. Staying the same
4. Improving somewhat
5. Improving substantially

13. How **important** was it to you to do each of the following during your **most recent** trip to Dry Tortugas National Park?

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
a. To see a healthy reef	1	2	3	4	5
b. To see a wreck	1	2	3	4	5
c. To experience good underwater clarity	1	2	3	4	5
d. To see undamaged reef sites	1	2	3	4	5
e. To see marine life (other than fish)	1	2	3	4	5
f. To see large fish	1	2	3	4	5
g. To see live coral	1	2	3	4	5
h. To experience natural surroundings	1	2	3	4	5
i. To relax	1	2	3	4	5
j. To experience adventure	1	2	3	4	5
k. To dive in an uncrowded area	1	2	3	4	5

In the next several questions we would like to know about your perceptions of Research Natural Areas. The Research Natural Area in the Dry Tortugas National Park was created in 2007 and is closed to fishing and anchoring. It is marked as Zone D on the enclosed map.

14. We would like to know about your perceptions of the Research Natural Area (closed to fishing and anchoring). Please indicate the extent to which you believe other users of Dry Tortugas National Park would agree or disagree that marine reserves help to:

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
a. Protect living coral	1	2	3	4	5
b. Protect living seagrass	1	2	3	4	5
c. Increase the number of fish species in the area	1	2	3	4	5
d. Increase the total number of fish in the area	1	2	3	4	5
e. Increase the number of large fish in the area	1	2	3	4	5
f. Decrease conflict among user groups in the area	1	2	3	4	5
g. Restore degraded ecosystems	1	2	3	4	5
h. Enhance the SCUBA diving experience	1	2	3	4	5
i. Enhance the <u>recreational</u> fishing experience in waters surrounding the reserve	1	2	3	4	5
j. Enhance the level of biological knowledge about such areas	1	2	3	4	5

15. Below is a list of user groups in Dry Tortugas National Park. Please indicate how you feel each group has been impacted by the creation of the Research Natural Area.

	Extremely negative impact	Moderately negative impact	No positive or negative impact	Moderately positive impact	Extremely positive impact
a. Recreational fishermen	1	2	3	4	5
b. Snorkelers	1	2	3	4	5
c. SCUBA Divers.....	1	2	3	4	5
d. Power boaters	1	2	3	4	5
e. Sail boaters	1	2	3	4	5
f. Nature/wildlife observers.....	1	2	3	4	5
g. Kayakers.....	1	2	3	4	5
h. Other (Specify: _____).....	1	2	3	4	5

[Activity Information and History] – in this section we would like to understand the respondent’s recreational experience and levels of satisfaction with specific reference to diving at DRTO. Substitution theory is included in these questions to try and understand displacement of users. The exact wording for Question 19 was used in an OMB approved survey effort in the Florida Keys in 2008 (OMB # 0648-0572).

In the next several questions we would like to know about the activities in which you participate while visiting Dry Tortugas National Park.

16. Of all of your visits to the Dry Tortugas National Park in the past 12 months, did you SCUBA dive?

1. Yes, If Yes, continue with Question 17, below
2. No, If No, go to Question 34, page 11

17. What level of certification do you presently hold? (Please circle all that apply).

1. Enrolled in a SCUBA diving course
2. Open Water
3. Advanced
4. Dive Master
5. Instructor
6. Other (please specify) _____

18. Consider your most recent snorkeling/SCUBA diving trip to Dry Tortugas National Park. Overall, how satisfied were you with this experience?

1. Not at all satisfied
2. Somewhat satisfied
3. Moderately satisfied
4. Very satisfied
5. Extremely satisfied

19. To what extent do you make use of the following for current information about snorkeling/SCUBA diving in Dry Tortugas National Park?

	No use at all	Almost no use	A little use	Some use	A lot of use
a. Talking with other divers	1	2	3	4	5
b. Diving 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. Dive 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. Online/internet resources	1	2	3	4	5
k. Talking with park personnel	1	2	3	4	5
l. Participating in interpretive activities led by park personnel	1	2	3	4	5
m. Visiting an information/interpretive center	1	2	3	4	5

20. Below is a list of information sources you may have used to gather information about snorkeling/SCUBA diving in Dry Tortugas National Park. Please tell us how useful each source you used was. If you didn't use a source, select "Not applicable" (n/a).

	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful	Not applicable
a. Talking with other divers	1	2	3	4	5	n/a
b. Diving magazines	1	2	3	4	5	n/a
c. Government agency publications	1	2	3	4	5	n/a
d. Conservation organization publications.....	1	2	3	4	5	n/a
e. Newspapers.....	1	2	3	4	5	n/a
f. Dive shops/companies	1	2	3	4	5	n/a
g. Club meetings	1	2	3	4	5	n/a
h. Television	1	2	3	4	5	n/a
i. Radio.....	1	2	3	4	5	n/a
j. Online/internet resources	1	2	3	4	5	n/a
k. Talking with park personnel	1	2	3	4	5	n/a
l. Participating in an interpretive activity led by park personnel	1	2	3	4	5	n/a
m. Visiting an information/interpretive center	1	2	3	4	5	n/a

The following questions will help us understand which parts of Dry Tortugas National Park you utilize. Please use the enclosed map of Dry Tortugas National Park when answering these questions.

21. Over the past twelve months, how many dives did you make in each of the following zones?

	Number of Dives
a. Zone A	_____
b. Zone B	_____
c. Zone C	_____
d. Zone D	_____

22. Which zone is your most preferable SCUBA diving location?

_____ Zone

23. If you could not dive in this zone, are there other zones in Dry Tortugas National Park that offer similar diving experience?

- 1 Yes, If Yes, which zone(s) _____
- 2 No, If No, why not? _____

24. Please consider all of the dives you made in Dry Tortugas National Park in the past twelve months. Please rate your satisfaction level with these dives, by zone. If you did not use a zone in the past twelve months, please select "n/a".

	<i>Not at all satisfied</i>	<i>Slightly satisfied</i>	<i>Moderately satisfied</i>	<i>Very satisfied</i>	<i>Extremely satisfied</i>	<i>Not applicable</i>
a. Zone A	1	2	3	4	5	n/a
b. Zone B	1	2	3	4	5	n/a
c. Zone C	1	2	3	4	5	n/a
d. Zone D	1	2	3	4	5	n/a

[Crowding and visitor behavior norms] – in this section we would like to understand the level of crowding that is acceptable, as well as types of acceptable behavior during a visit to DRTO. Normative theory is incorporated into these questions to allow acceptability analysis to be conducted. Questions 25-28 are replicates of questions used on other survey instruments in the Florida Keys. Maintaining the same language will ensure comparability across data collections.

In the following questions you will be presented with several snorkeling/SCUBA diving scenarios. Your responses should be based off of a typical snorkeling/SCUBA diving trip to your most preferred zone (from Question 21) in Dry Tortugas National Park.

25. During a trip to your most preferred zone (from Question 21) in Dry Tortugas National Park, what is the **maximum** number of:

- a. SCUBA divers and snorkelers you find acceptable to see at any one moment during your time in the water? _____
- b. Boats you find acceptable to see at any one moment during your time at a snorkel/dive site? _____

26. During a trip to your most preferred zone (from Question 21) in Dry Tortugas National Park, how acceptable is it for you to see the following number of **SCUBA divers and snorkelers** at **any one moment** during your time in the water? (Please circle one number for each of the following items).

	<i>Extremely unacceptable</i>	<i>Moderately unacceptable</i>	<i>Slightly unacceptable</i>	<i>Not Sure</i>	<i>Slightly acceptable</i>	<i>Moderately acceptable</i>	<i>Extremely acceptable</i>
a. Zero SCUBA divers/snorkelers	1	2	3	4	5	6	7
b. 5 SCUBA divers/ snorkelers	1	2	3	4	5	6	7
c. 10 SCUBA divers/ snorkelers	1	2	3	4	5	6	7
d. 15 SCUBA divers/ snorkelers	1	2	3	4	5	6	7
e. 20 SCUBA divers/ snorkelers	1	2	3	4	5	6	7
f. 25 SCUBA divers/ snorkelers	1	2	3	4	5	6	7
g. More than 25 SCUBA divers/ snorkelers	1	2	3	4	5	6	7

27. During a trip to your most preferred zone in Dry Tortugas National Park, how acceptable is it for you to see the following number of **boats** at **any one moment** during your time at a dive site?

	<i>Extremely unacceptable</i>	<i>Moderately unacceptable</i>	<i>Slightly unacceptable</i>	<i>Not Sure</i>	<i>Slightly acceptable</i>	<i>Moderately acceptable</i>	<i>Extremely acceptable</i>
a. Zero boats.....	1	2	3	4	5	6	7
b. 5 boats	1	2	3	4	5	6	7
c. 10 boats.....	1	2	3	4	5	6	7
d. 15 boats.....	1	2	3	4	5	6	7
e. 20 boats.....	1	2	3	4	5	6	7
f. 25 boats.....	1	2	3	4	5	6	7
g. More than 25 boats	1	2	3	4	5	6	7

28. During your most recent trip to your most preferred zone (from Question 24) in Dry Tortugas National Park, what is the **actual** number of:

- a. SCUBA divers and snorkelers you saw at any one moment during your time in the water? _____
- b. Boats you saw at any one moment during your time at a snorkel/dive site? _____

29. On the scale below, please indicate how crowded you felt while actively diving during your most recent trip in the Dry Tortugas National Park. (Circle one number on the scale).

1	2	3	4	5	6	7	8	9
Not at all Crowded		Slightly Crowded		Moderately Crowded			Extremely Crowded	

[Perceptions of resource conditions] – in this section we would like to understand knowledge, attitudes and perceptions of environmental conditions within DRTG. Attribution theory is incorporated to better understand conflict dynamics

30. Below is a list of characteristics that you may notice while snorkeling/SCUBA diving. Consider your most recent snorkeling/SCUBA diving experience at Dry Tortugas National Park and rate the condition of the characteristics for each of the following items.

	Extremely poor	Very poor	Poor	Average	Good	Very good	Excellent
a. Amount of algae.....	1	2	3	4	5	6	7
b. Underwater visibility	1	2	3	4	5	6	7
c. Color of the coral.....	1	2	3	4	5	6	7
d. Number of fish.....	1	2	3	4	5	6	7
e. Different kinds of fish.....	1	2	3	4	5	6	7
f. Size of fish	1	2	3	4	5	6	7
g. Amount of coral disease.....	1	2	3	4	5	6	7
h. Amount of live coral.....	1	2	3	4	5	6	7
i. Size of corals.....	1	2	3	4	5	6	7
j. Different kinds of corals.....	1	2	3	4	5	6	7

31. Overall, do you feel the following are having a positive or negative impact on the ecological health of marine resources in Dry Tortugas National Park?

	Extremely negative impact	Moderately negative impact	Slightly negative impact	No positive or negative impact	Slightly positive impact	Moderately positive impact	Extremely positive impact
a. Water quality	1	2	3	4	5	6	7
b. SCUBA diving	1	2	3	4	5	6	7
c. Commercial fishing	1	2	3	4	5	6	7
d. Hurricanes	1	2	3	4	5	6	7
e. Snorkeling.....	1	2	3	4	5	6	7
f. Recreational fishing.....	1	2	3	4	5	6	7
g. Global climate change	1	2	3	4	5	6	7
h. Marine debris/trash	1	2	3	4	5	6	7

32. Overall, how would you rate the current health of the coral reef ecosystems in Dry Tortugas National Park?

1. Very poor
2. Poor
3. Fair
4. Good
5. Very good

N/A I did not dive/snorkel on coral reefs

33. Do you feel that the health of the coral reef ecosystems in Dry Tortugas National Park is improving, declining or staying the same?

1. Declining substantially
2. Declining somewhat
3. Staying the same
4. Improving somewhat
5. Improving substantially

N/A I did not dive/snorkel on coral reefs

The following questions will help us improve our understanding of users of Dry Tortugas National Park. The information you provide us will remain strictly anonymous. Your name will never be associated with your answers.

[Demographics] – This information is needed to check the representativeness of our sample against the population. Variables such as age, gender and income are included since they are often good predictors of demand and visitation behavior.

34. What is your age?

____ Years

35. Are you:

- 1 Male
- 2 Female

36. What is the ZIP Code of your primary residence?

____ _

37. On your most recent visit to Dry Tortugas National Park, how many hours did you stay in the park?

____ Hours

38. In which city is the marina/dock or boat ramp from which you started your most recent visit to Dry Tortugas National Park?

39. Would you classify yourself as Hispanic or Latino?

- 1 Yes
- 2 No

40. Which of the following is the primary language used to communicate in your household?

- 1 English
- 2 Spanish
- 3 Creole
- 4 Other (Specify:_____)

41. Which category best describes your race? (Please circle one).

- 1 American Indian or Alaskan Native
- 2 Asian
- 3 Black or African American
- 4 Native Hawaiian or other Pacific Islander
- 5 White

42. Which of the following categories best describes your annual household income?

- | | |
|-----------------------|--------------------------|
| 1 Under \$5,000 | 9 \$40,000 - \$44,999 |
| 2 \$5,000 - \$9,999 | 10 \$45,000 - \$49,999 |
| 3 \$10,000 - \$14,999 | 11 \$50,000 - \$59,999 |
| 4 \$15,000 - \$19,999 | 12 \$60,000 - \$74,999 |
| 5 \$20,000 - \$24,999 | 13 \$75,000 - \$99,999 |
| 6 \$25,000 - \$29,999 | 14 \$100,000 - \$149,999 |
| 7 \$30,000 - \$34,999 | 15 \$150,000 or more |
| 8 \$35,000 - \$39,999 | |

Is there anything else about Dry Tortugas National Park or this questionnaire you would like to share with us?

Your contribution to the effort is greatly appreciated. Please return your completed questionnaire in the postage-paid envelope as soon as possible. Thank you!

Please direct all inquiries to:

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A report containing the results of this study will be available in 2012 at our website: www.ecu.edu/hd