

IOWA STATE UNIVERSITY
DEPARTMENT OF ECONOMICS

In order to make sound decisions concerning the future of Iowa lakes, it is important to understand how the lakes are used, as well as what factors influence your selection of lakes to visit. The answers you give to the questions in this survey are very important. Even if you have not visited any lakes in Iowa, please complete and return the questionnaire. It is critical to understand the characteristics and views of both those who use and those who do not use the lakes.

In this first section, we would like to find out which of the lakes on the enclosed map you visited and what you did there.

- Please indicate how often you or other members of your household visited each of the following lakes in the current year. If you have not visited any lakes in Iowa this year please check this box.

☐ I have not visited any lakes in Iowa this year.

In addition to recording the number of visits you took to each lake, if any, please indicate which of the lakes you *considered* visiting this year by marking the box in the second column.

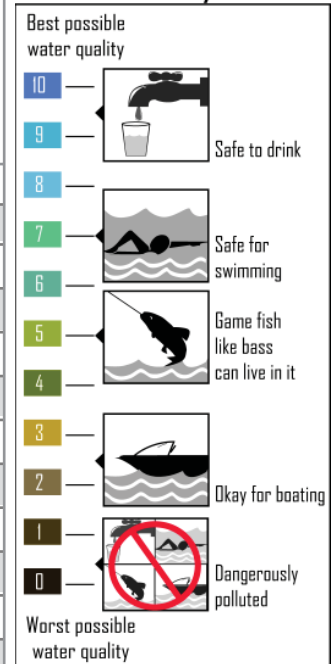
We are very interested in your view of the water quality of Iowa's lakes. One way of thinking about water quality is to use a ladder like the one shown to the right of the list of lakes. The top of the water quality ladder stands for the best possible quality of water, while the bottom of the ladder stands for the worst. On the ladder you can see the different levels of water quality.

For example: the lowest level is so polluted that it has oil, raw sewage, and/or other things in it like trash; it has almost no plant or animal life, smells bad, and contact with it is dangerous to human health. Water quality that is "boatable" would not harm you if you happened to fall into it for a short time while boating or sailing. Water quality that is "fishable" is a higher level of quality than "boatable." Although some kinds of fish can live in boatable water, it is only when water is "fishable" that game fish like bass can live in it. Finally, "swimmable" water is of a high enough quality that it is safe to swim in and ingest in small amounts.

For any lake with which you are familiar, please indicate your assessment of the level of water quality associated with that lake by assigning a number between 0 and 10 that is based on the water quality ladder pictured. Familiar lakes include both those that you have visited this year as well as those you have visited in the recent past.

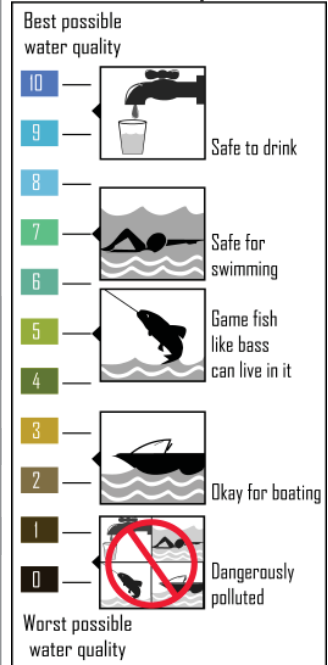
Name of Lake (County)	Check if you have ever considered visiting this lake	Number of visits (January-December) in 2003		Water Quality Assessment
		Single-day	Over-night	
Arbor Lake (Poweshiek)		#____(trips)	#____(trips)	#____
Arrowhead Lake (Pottawattamie)		#____(trips)	#____(trips)	#____
Arrowhead Pond (Sac)		#____(trips)	#____(trips)	#____
Avenue of the Saints Lake (Bremer)		#____(trips)	#____(trips)	#____
Badger Creek Lake (Madison)		#____(trips)	#____(trips)	#____
Badger Lake (Webster)		#____(trips)	#____(trips)	#____
Beaver Lake (Dallas)		#____(trips)	#____(trips)	#____
Beeds Lake (Franklin)		#____(trips)	#____(trips)	#____
Big Creek Lake (Polk)		#____(trips)	#____(trips)	#____
Big Spirit Lake (Dickinson)		#____(trips)	#____(trips)	#____
Black Hawk Lake (Sac)		#____(trips)	#____(trips)	#____
Blue Lake (Monona)		#____(trips)	#____(trips)	#____
Bob White Lake (Wayne)		#____(trips)	#____(trips)	#____
Briggs Woods Lake (Hamilton)		#____(trips)	#____(trips)	#____

Water Quality Ladder



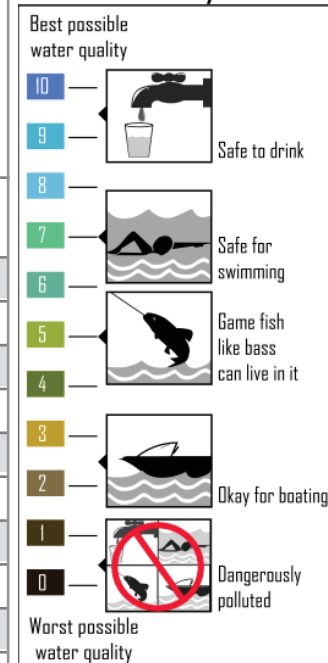
Name of Lake (County)	Check if you have ever considered visiting this lake	Number of visits (January-December) in 2003		Water Quality Assessment
		Single-day	Over-night	
Browns Lake (Woodbury)		#____(trips)	#____(trips)	#____
Brushy Creek Lake (Webster)		#____(trips)	#____(trips)	#____
Carter Lake (Pottawattamie)		#____(trips)	#____(trips)	#____
Casey Lake (aka Hickory Hills) (Tama)		#____(trips)	#____(trips)	#____
Center Lake (Dickinson)		#____(trips)	#____(trips)	#____
Central Park Lake (Jones)		#____(trips)	#____(trips)	#____
Clear Lake (Cerro Gordo)		#____(trips)	#____(trips)	#____
Cold Springs Lake (Cass)		#____(trips)	#____(trips)	#____
Coralville Lake (Johnson)		#____(trips)	#____(trips)	#____
Crawford Creek Impoundment (Ida)		#____(trips)	#____(trips)	#____
Crystal Lake (Hancock)		#____(trips)	#____(trips)	#____
Dale Maffitt Lake (Madison)		#____(trips)	#____(trips)	#____
DeSoto Bend Lake (Harrison)		#____(trips)	#____(trips)	#____
Diamond Lake (Poweshiek)		#____(trips)	#____(trips)	#____
Dog Creek (Lake) (O'Brien)		#____(trips)	#____(trips)	#____
Don Williams Lake (Boone)		#____(trips)	#____(trips)	#____
East Lake (Osceola) (Clarke)		#____(trips)	#____(trips)	#____
East Okoboji Lake (Dickinson)		#____(trips)	#____(trips)	#____
Easter Lake (Polk)		#____(trips)	#____(trips)	#____
Eldred Sherwood Lake (Hancock)		#____(trips)	#____(trips)	#____
Five Island Lake (Palo Alto)		#____(trips)	#____(trips)	#____
Fogle Lake (Ringgold)		#____(trips)	#____(trips)	#____
George Wyth Lake (Black Hawk)		#____(trips)	#____(trips)	#____
Green Belt Lake (Black Hawk)		#____(trips)	#____(trips)	#____
Green Castle Lake (Marshall)		#____(trips)	#____(trips)	#____
Green Valley Lake (Union)		#____(trips)	#____(trips)	#____
Greenfield Lake (Adair)		#____(trips)	#____(trips)	#____
Hannen Lake (Benton)		#____(trips)	#____(trips)	#____
Hawthorn Lake (aka Barnes City) (Mahaska)		#____(trips)	#____(trips)	#____
Hickory Grove Lake (Story)		#____(trips)	#____(trips)	#____
Hooper Area Pond (Warren)		#____(trips)	#____(trips)	#____
Indian Lake (Van Buren)		#____(trips)	#____(trips)	#____
Ingham Lake (Emmet)		#____(trips)	#____(trips)	#____
Kent Park Lake (Johnson)		#____(trips)	#____(trips)	#____

Water Quality Ladder



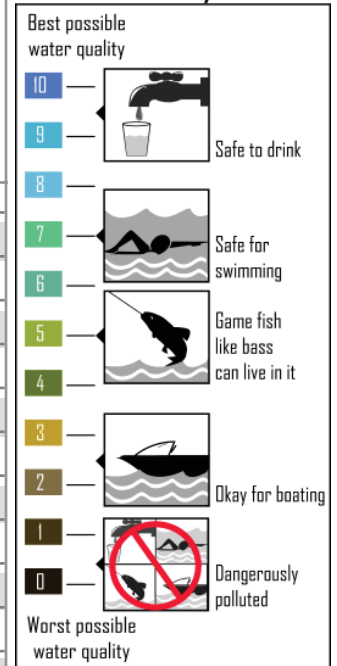
Name of Lake (County)	Check if you have ever considered visiting this lake	Number of visits (January-December) in 2003		Water Quality Assessment
		Single-day	Over-night	
Lacey-Keosauqua Park Lake (VanBuren)		#____(trips)	#____(trips)	#____
Lake Ahquabi (Warren)		#____(trips)	#____(trips)	#____
Lake Anita (Cass)		#____(trips)	#____(trips)	#____
Lake Cornelia (Wright)		#____(trips)	#____(trips)	#____
Lake Darling (Washington)		#____(trips)	#____(trips)	#____
Lake Geode (Henry)		#____(trips)	#____(trips)	#____
Lake Hendricks (Howard)		#____(trips)	#____(trips)	#____
Lake Icaria (Adams)		#____(trips)	#____(trips)	#____
Lake of the Hills (Scott)		#____(trips)	#____(trips)	#____
Lake Iowa (Iowa)		#____(trips)	#____(trips)	#____
Lake Keomah (Mahaska)		#____(trips)	#____(trips)	#____
Lake Manawa (Pottawattamie)		#____(trips)	#____(trips)	#____
Lake McBride (Johnson)		#____(trips)	#____(trips)	#____
Lake Meyer (Winneshiek)		#____(trips)	#____(trips)	#____
Lake Miami (Monroe)		#____(trips)	#____(trips)	#____
Lake Minnewashta (Dickinson)		#____(trips)	#____(trips)	#____
Lake Orient (Adair)		#____(trips)	#____(trips)	#____
Lake Pahoja (Lyon)		#____(trips)	#____(trips)	#____
Lake Smith (Kossuth)		#____(trips)	#____(trips)	#____
Lake Sugema (Van Buren)		#____(trips)	#____(trips)	#____
Lake of Three Fires (Taylor)		#____(trips)	#____(trips)	#____
Lake Wapello (Davis)		#____(trips)	#____(trips)	#____
Little River (Decatur)		#____(trips)	#____(trips)	#____
Little Sioux Park Lake (Woodbury)		#____(trips)	#____(trips)	#____
Little Spirit Lake (Dickinson)		#____(trips)	#____(trips)	#____
Little Wall Lake (Hamilton)		#____(trips)	#____(trips)	#____
Littlefield Lake (Audubon)		#____(trips)	#____(trips)	#____
Lost Island Lake (Palo Alto)		#____(trips)	#____(trips)	#____
Lower Gar Lake (Dickinson)		#____(trips)	#____(trips)	#____
Lower Pine Lake (Hardin)		#____(trips)	#____(trips)	#____
Manteno Lake (Shelby)		#____(trips)	#____(trips)	#____
Mariposa Lake (Jasper)		#____(trips)	#____(trips)	#____
Meadow Lake (Adair)		#____(trips)	#____(trips)	#____

Water Quality Ladder



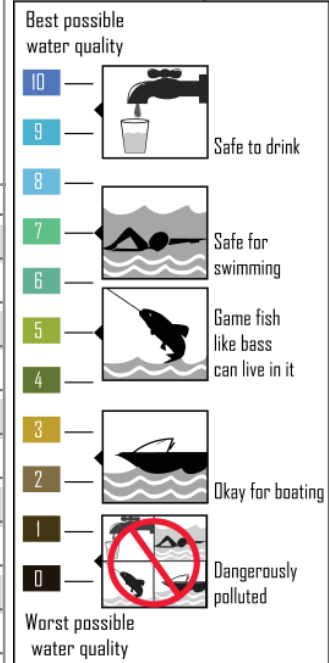
Name of Lake (County)	Check if you have ever considered visiting this lake	Number of visits (January-December) in 2003		Water Quality Assessment
		Single-day	Over-night	
Meyers Lake (Black Hawk)		#____(trips)	#____(trips)	#____
Mill Creek (Lake) (O'Brien)		#____(trips)	#____(trips)	#____
Mitchell Lake (Black Hawk)		#____(trips)	#____(trips)	#____
Moorhead Lake (Ida)		#____(trips)	#____(trips)	#____
Mormon Trail Lake (Adair)		#____(trips)	#____(trips)	#____
Nelson Park Lake (Crawford)		#____(trips)	#____(trips)	#____
Nine Eagles Lake (Decatur)		#____(trips)	#____(trips)	#____
North Twin Lake (Calhoun)		#____(trips)	#____(trips)	#____
Oldham Lake (Monona)		#____(trips)	#____(trips)	#____
Otter Creek Lake (Tama)		#____(trips)	#____(trips)	#____
Ottumwa Lagoon (Wapello)		#____(trips)	#____(trips)	#____
Pierce Creek Lake (Page)		#____(trips)	#____(trips)	#____
Pleasant Creek Lake (Linn)		#____(trips)	#____(trips)	#____
Pollmiller Park Lake (Lee)		#____(trips)	#____(trips)	#____
Prairie Rose Lake (Shelby)		#____(trips)	#____(trips)	#____
Rathbun Lake (Appanoose)		#____(trips)	#____(trips)	#____
Red Haw Lake (Lucas)		#____(trips)	#____(trips)	#____
Red Rock Lake (Marion)		#____(trips)	#____(trips)	#____
Roberts Creek Lake (Marion)		#____(trips)	#____(trips)	#____
Rock Creek Lake (Jasper)		#____(trips)	#____(trips)	#____
Rodgers Park Lake (Benton)		#____(trips)	#____(trips)	#____
Saylorville Lake (Polk)		#____(trips)	#____(trips)	#____
Silver Lake (Delaware)		#____(trips)	#____(trips)	#____
Silver Lake (Dickinson)		#____(trips)	#____(trips)	#____
Silver Lake (Palo Alto)		#____(trips)	#____(trips)	#____
Silver Lake (Worth)		#____(trips)	#____(trips)	#____
Slip Bluff Lake (Decatur)		#____(trips)	#____(trips)	#____
South Prairie Lake (Black Hawk)		#____(trips)	#____(trips)	#____
Spring Lake (Greene)		#____(trips)	#____(trips)	#____
Springbrook Lake (Guthrie)		#____(trips)	#____(trips)	#____
Storm Lake including Little Storm Lake (Buena Vista)		#____(trips)	#____(trips)	#____
Swan Lake (Carroll)		#____(trips)	#____(trips)	#____
Thayer Lake (Union)		#____(trips)	#____(trips)	#____
Three Mile Lake (Union)		#____(trips)	#____(trips)	#____

Water Quality Ladder



Name of Lake (County)	Check if you have ever considered visiting this lake	Number of visits (January-December) in 2003		Water Quality Assessment
		Single-day	Over-night	
Trumbull Lake (Clay)		#____(trips)	#____(trips)	#____
Tuttle Lake (Emmet)		#____(trips)	#____(trips)	#____
Twelve Mile Creek Lake (Union)		#____(trips)	#____(trips)	#____
Union Grove Lake (Tama)		#____(trips)	#____(trips)	#____
Upper Gar Lake (Dickinson)		#____(trips)	#____(trips)	#____
Upper Pine Lake (Hardin)		#____(trips)	#____(trips)	#____
Viking Lake (Montgomery)		#____(trips)	#____(trips)	#____
Volga Lake (Fayette)		#____(trips)	#____(trips)	#____
West Okoboji Lake (Dickinson)		#____(trips)	#____(trips)	#____
West Osceola (Clarke)		#____(trips)	#____(trips)	#____
White Oak Lake (Mahaska)		#____(trips)	#____(trips)	#____
Williamson Pond (Lucas)		#____(trips)	#____(trips)	#____
Willow Lake (Harrison)		#____(trips)	#____(trips)	#____
Wilson Park Lake (Taylor)		#____(trips)	#____(trips)	#____
Windmill Lake (Taylor)		#____(trips)	#____(trips)	#____
Yellow Smoke Park Lake (Crawford)		#____(trips)	#____(trips)	#____
Other Lakes in Iowa		#____(trips)	#____(trips)	#____

Water Quality Ladder



2. Please indicate how often you or other members of your household visited lakes or rivers in each of the following locations this year.

	Single-day	Over-night		Single-day	Over-night
Lakes in Illinois			Lakes in Wisconsin		
Lakes in Minnesota			The Missouri River		
Lakes in Missouri			The Mississippi River		
Lakes in Nebraska			Other Lakes and Rivers		
Lakes in South Dakota					

3. What activities do you or members of your household typically participate in during your lake visits?

Check all that apply.

- ☐ Boating ☐ Jet skiing ☐ Nature Appreciation/wildlife viewing
☐ Camping ☐ Sailing ☐ Snowmobiling and other winter recreation
☐ Fishing ☐ Canoeing ☐ Swimming and beach use
☐ Hunting ☐ Picnicking ☐ Other _____

In the following sections we will ask you some questions about potential changes to the water quality of Rathbun Lake located in Appanoose County. First, however, we will give you some information on the current condition of the lake. Please read this information carefully before answering the questions that follow.

Rathbun Lake's Current Condition

The quality of a lake can be described in many ways. One measure of water quality is the clarity of the lake water. Water clarity is usually described in terms of how far down into the water an object remains visible. The clarity of Rathbun Lake is currently

between 2 to 4 feet. This means that objects are visible down to about 2 to 4 feet under the surface of the water.

Another measure of water quality is the amount of nutrients and other contaminants contained in the

water. Water degradation can result from a number of sources, including urban runoff, fertilizers used in agriculture, motor vehicles, and others. Currently nutrients contribute to the occurrence of algae blooms in the lake, usually 1 to 3 times per year. Under some circumstances these blooms can be a health concern, causing skin rashes and allergic reactions. While Rathbun Lake is currently not regularly monitored, lakes with water quality measurements similar to those of Rathbun Lake had "Swimming is Not Recommended" signs posted by the Iowa Department of Natural Resources for anywhere from 6 to 8 weeks during a typical summer.

The overall quality of the water can affect other conditions of the lake. Poor water quality can result in an undesirable color and odor to the lake water. Currently, the color of Rathbun Lake varies between blue and greenish brown. The water usually has a mild to occasionally strong odor that many describe as "fishy."

Finally, the quality of the water affects the variety and quantity of fish in the lake. Rathbun Lake is a popular fishing lake for crappie and walleye. Catch rates for crappies are typically very good (about 120,000 annually) while walleye catches are more variable, but Rathbun Lake is the best walleye fishery in southern Iowa (about 2,000 annually). Large mouth bass and bluegill are not important sportfish species at Rathbun Lake.

4. During the course of the next year (2004), how many trips do you expect to take to Rathbun Lake?
 _____trips in 2004.

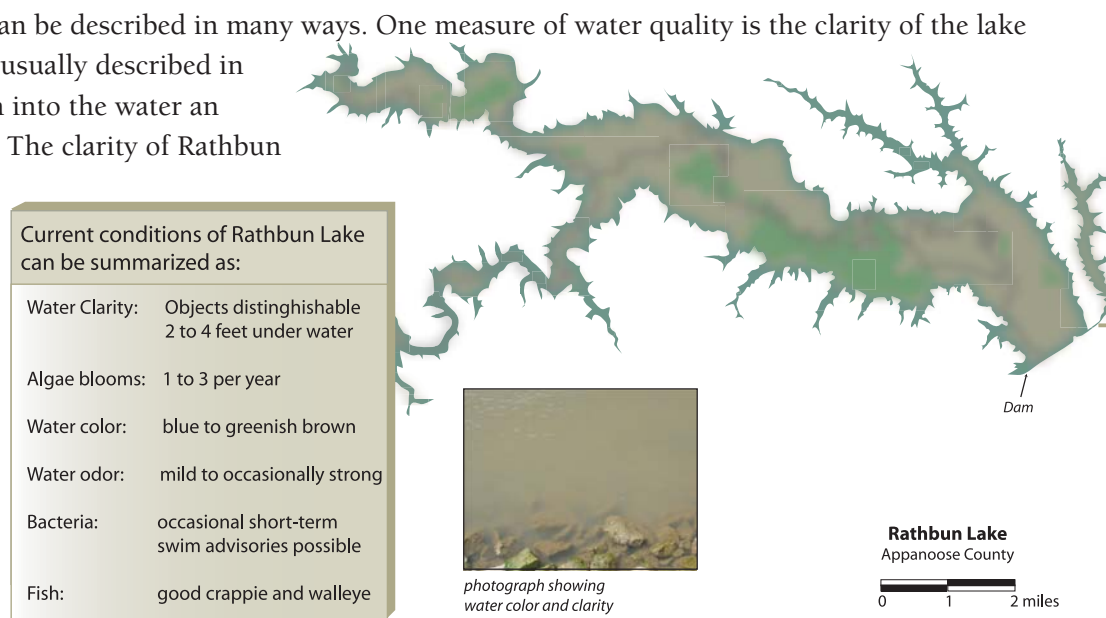


Figure 1. Current conditions of Rathbun Lake

In the next question, we will be asking you how you would vote on a special ballot regarding the water quality of Rathbun Lake. While there is currently no such ballot initiative, we would like you to respond as if you were actually voting on the initiative and as if this were the only alternative available for improving water quality in the lake. (In particular, assume that no state action will be undertaken unless the referendum passes.)

When you think about your answer, it is important to keep in mind that people may indicate that they would be willing to pay more money when payment is hypothetical than when they are immediately expected to pay. It may be easy for people to say that they support a project when they are not sure they will ever have to pay

any money based on their response. However, if the proposed payments are real and immediate, people may be more inclined to think about other options and what things they would have to give up to make this payment. So in answering the following questions, please keep in mind both the benefits of the water quality improvement and the impact that passage of such a referendum would have on your finances. In other words, please answer as if this were a real referendum.

Suppose that investments could be made to actually improve the quality of Rathbun Lake. These investments might include dredging, building protection strips along the edge of the lake to reduce runoff from the surrounding watershed or other structural changes to the lake and watershed. These changes would improve the lake over the next 5 years to the conditions described in Figure 2.

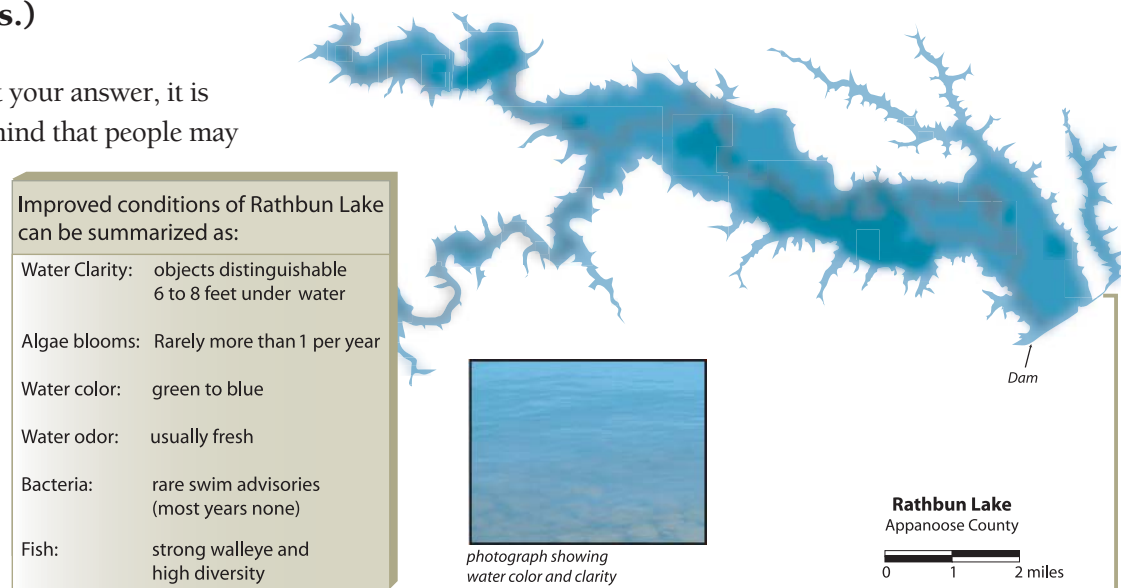


Figure 2. Conditions of Rathbun Lake following an improvement

5. Would you vote “yes” on a referendum to improve the water quality in Rathbun Lake to the level described here? The proposed project would cost you \$«CV BID» (payable in five \$«Bid div 5» installments over a five year period.)

☐no

☐yes

6. How sure are you of this answer?

1 (not sure at all) 2 3 4 5 (certain)

7. To help us better understand your answer, please indicate the **single** most important reason for your response to the preceding question:
- ☐ In general, the project is not a good use of my money
 - ☐ In general, the project is a good use of my money
 - ☐ The project is not realistic or unclear
 - ☐ The costs of the project should be paid for by those damaging the lake, not by me
 - ☐ I already contribute to environmental causes as much as I can afford
 - ☐ No one should have the right to damage the lake in the first place
 - ☐ Other _____
8. How many trips to Rathbun Lake would you make next year (2004) if the water quality at Rathbun Lake was improved by the amount described in Figure 2?
 _____ trips in 2004.

Information on you and other members of your household will help us better understand how household characteristics affect an individual's use of Iowa lakes and attitudes towards changes in them. It will also help us to determine how representative our sample is of the state of Iowa. All of your answers are strictly confidential. The information will only be used to report comparisons among groups of people. We will never identify individuals or households with their responses. Please be as complete in your answers as possible. Thank you.

9. What is your age?
- | | | | |
|-----------------------------------|----------------------------------|----------------------------------|-------------------------------|
| <input type="checkbox"/> Under 18 | <input type="checkbox"/> 26 – 34 | <input type="checkbox"/> 50 - 59 | <input type="checkbox"/> 76 + |
| <input type="checkbox"/> 18 – 25 | <input type="checkbox"/> 35 – 49 | <input type="checkbox"/> 60 - 75 | |
10. Are you
☐ male ☐ female
11. What is the highest level of schooling that you have completed? (Please check only one)
- | | | |
|---|--|--|
| <input type="checkbox"/> Some high school or less | <input type="checkbox"/> Some college or trade/vocational school | <input type="checkbox"/> Advanced degree |
| <input type="checkbox"/> High school graduate | <input type="checkbox"/> College graduate | |
12. How many adults (including yourself) live in your household? _____
13. How many children live in your household (18 or under)? _____
14. What is your current employment status?
- ☐ full time ☐ part time ☐ student ☐ unemployed ☐ retired
15. If you are currently employed, how many hours a week do you typically work? _____

16. If you are currently employed, do you have the option of working additional hours to increase your total income?
☐no ☐yes—if so, what would your hourly wage be? \$_____per hour
17. If you answered “no” to question 16, and you could have the option of working more or less hours, which would you prefer?
☐Work more hours ☐Work the same number of hours ☐Work fewer hours
18. What is your total household income (before taxes) for 2003?
☐Under \$10,000 ☐\$25,000-\$29,999 ☐\$50,000-\$59,999 ☐\$125,000-\$149,999
☐\$10,000-\$14,999 ☐\$30,000-\$34,999 ☐\$60,000-\$74,999 ☐Over \$150,000
☐\$15,000-\$19,999 ☐\$35,000-\$39,999 ☐\$75,000-\$99,999
☐\$20,000-\$24,999 ☐\$40,000-\$49,999 ☐\$100,000-\$124,999
19. Do you own a boat? ☐yes ☐no

Finally, we would appreciate a little more information on your reaction to this survey.

20. How likely do you think it is that the results of surveys such as this one will affect decisions about water quality in Iowa lakes?
1 (no effect at all) 2 3 4 5 (definite effects)
21. If a water quality project such as the one described on page 9 were initiated but later information suggested that it would be ineffective, how likely is it that the project would be scrapped?
1 (impossible) 2 3 4 5 (certainly)
22. If a project such as the one described on page 9 failed to pass in a referendum, what do you think is the likelihood that another, similar project would be considered within the next few years?
1 (impossible) 2 3 4 5 (certainly)
23. What do you think is the likelihood that you will get additional information about the effectiveness of water quality improvement projects in the next few years?
1 (impossible) 2 3 4 5 (certainly)

Thank you for your participation in this survey. After completion, surveys should be returned to:
Catherine Kling
568 Heady Hall, Mailstop «Mailstop»
Iowa State University
Ames, IA 50011-1070

Iowa State University
Department of Economics
568 Heady Hall
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