

# Iowa Lakes Survey 2005

IOWA STATE UNIVERSITY

**I**n 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.

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

1. 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.

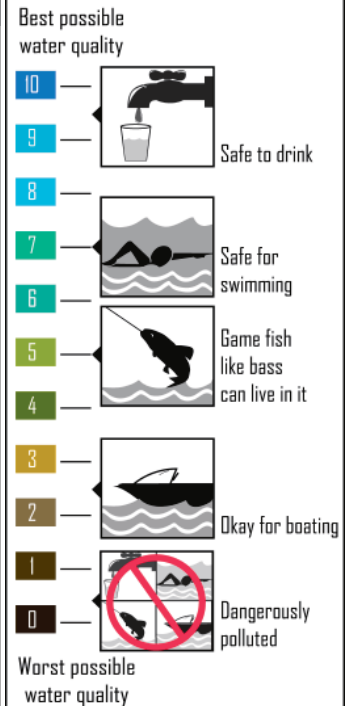
We are very interested in your view of the water quality of Iowa's lakes. One way of thinking about water quality is to use a ladder like the one shown to the right of the list of lakes. The top of the water quality ladder stands for the best possible quality of water, while the bottom of the ladder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

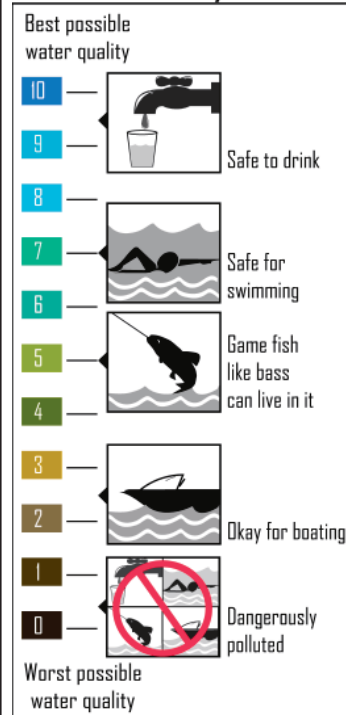
Name of lake (County)	Check if you have ever considered visiting this lake	Number of visits (January-December in 2005)		Water Quality Assessment
		Single day	Overnight	
Lake Ahquabi (Warren)		#____(trips)	#____(trips)	#____
Lake Anita (Cass)		#____(trips)	#____(trips)	#____
Arbor Lake (Poweshiek)		#____(trips)	#____(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)	#____
Beed's 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)	#____
Brown's 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)	#____
Lake Cornelia (Wright)		#____(trips)	#____(trips)	#____
Crawford Creek Impoundment (Ida)		#____(trips)	#____(trips)	#____
Crystal Lake (Hancock)		#____(trips)	#____(trips)	#____
Dale Maffitt Lake (Madison)		#____(trips)	#____(trips)	#____
Lake Darling (Washington)		#____(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)	#____
Lake Geode (Henry)		#____(trips)	#____(trips)	#____
George Wyth Lake (Black Hawk)		#____(trips)	#____(trips)	#____
Green Belt Lake (Black Hawk)		#____(trips)	#____(trips)	#____

## Water Quality Ladder



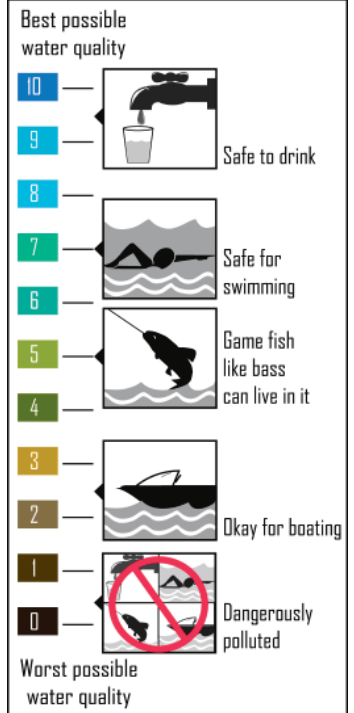
Name of lake (County)	Check if you have ever considered visiting this lake	Number of visits (January-December in 2005)		Water Quality Assessment
		Single day	Overnight	
Green Castle Lake (Marshall)		#____(trips)	#____(trips)	#____
Green Valley Lake (Union)		#____(trips)	#____(trips)	#____
Greenfield Lake (Adair)		#____(trips)	#____(trips)	#____
Hannen Lake (Benton)		#____(trips)	#____(trips)	#____
Hawthorn Lake (aka Barnes City) (Mahaska)		#____(trips)	#____(trips)	#____
Lake Hendricks (Howard)		#____(trips)	#____(trips)	#____
Hickory Grove Lake (Story)		#____(trips)	#____(trips)	#____
Hooper Area Pond (Warren)		#____(trips)	#____(trips)	#____
Lake Icaria (Adams)		#____(trips)	#____(trips)	#____
Indian Lake (Van Buren)		#____(trips)	#____(trips)	#____
Ingham Lake (Emmet)		#____(trips)	#____(trips)	#____
Lake Iowa (Iowa)		#____(trips)	#____(trips)	#____
Kent Park Lake (Johnson)		#____(trips)	#____(trips)	#____
Lake Keomah (Mahaska)		#____(trips)	#____(trips)	#____
Lacey Keosauqua Park Lake (VanBuren)		#____(trips)	#____(trips)	#____
Lake of the Hills (Scott)		#____(trips)	#____(trips)	#____
Lake of Three Fires (Taylor)		#____(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)	#____
Lake Manawa (Pottawattamie)		#____(trips)	#____(trips)	#____
Manteno Lake (Shelby)		#____(trips)	#____(trips)	#____
Lake Macbride (Johnson)		#____(trips)	#____(trips)	#____
Mariposa Lake (Jasper)		#____(trips)	#____(trips)	#____
Meadow Lake (Adair)		#____(trips)	#____(trips)	#____
Lake Meyer (Winneshiek)		#____(trips)	#____(trips)	#____
Meyers Lake (Black Hawk)		#____(trips)	#____(trips)	#____
Lake Miami (Monroe)		#____(trips)	#____(trips)	#____
Mill Creek (Lake) (O'Brien)		#____(trips)	#____(trips)	#____
Lake Minnewashta (Dickinson)		#____(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)	#____
Lake Orient (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 2005)		Water Quality Assessment
		Single day	Overnight	
Otter Creek Lake (Tama)		#____(trips)	#____(trips)	#_____
Ottumwa Lagoon (Wapello)		#____(trips)	#____(trips)	#_____
Lake Pahoja (Lyon)		#____(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)	#_____
Lake Smith (Kossuth)		#____(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)	#_____
Lake Sugema (Van Buren)		#____(trips)	#____(trips)	#_____
Swan Lake (Carroll)		#____(trips)	#____(trips)	#_____
Thayer Lake (Union)		#____(trips)	#____(trips)	#_____
Three Mile Lake (Union)		#____(trips)	#____(trips)	#_____
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)	#_____
Lake Wapello (Davis)		#____(trips)	#____(trips)	#_____
West Okoboji Lake (Dickinson)		#____(trips)	#____(trips)	#_____
West Osceola Lake (Clarke)		#____(trips)	#____(trips)	#_____
White Oak Lake (Mahaska)		#____(trips)	#____(trips)	#_____
Williamson Pond (Lucas)		#____(trips)	#____(trips)	#_____
Willow Lake (Harrison)		#____(trips)	#____(trips)	#_____

## Water Quality Ladder

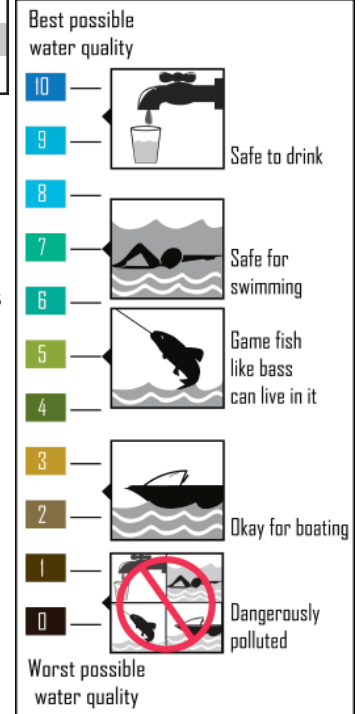


Name of lake (County)	Check if you have ever considered visiting this lake	Number of visits (January-December in 2005)		Water Quality Assessment
		Single day	Overnight	
Wilson Park Lake (Taylor)		#____(trips)	#____(trips)	#____
Windmill Lake (Taylor)		#____(trips)	#____(trips)	#____
Yellow Smoke Park Lake (Crawford)		#____(trips)	#____(trips)	#____
Other Lakes in Iowa _____		#____(trips)	#____(trips)	#____

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 visits	Overnight visits
Lakes in Illinois		
Lakes in Minnesota		
Lakes in Missouri		
Lakes in Nebraska		
Lakes in South Dakota		
Lakes in Wisconsin		
The Missouri River		
The Mississippi River		
Other Lakes and Rivers		

## Water Quality Ladder



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 \_\_\_\_\_

**I**n the following sections we will ask you some questions about potential changes to the water quality of Briggs Woods Lake located in Hamilton 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.

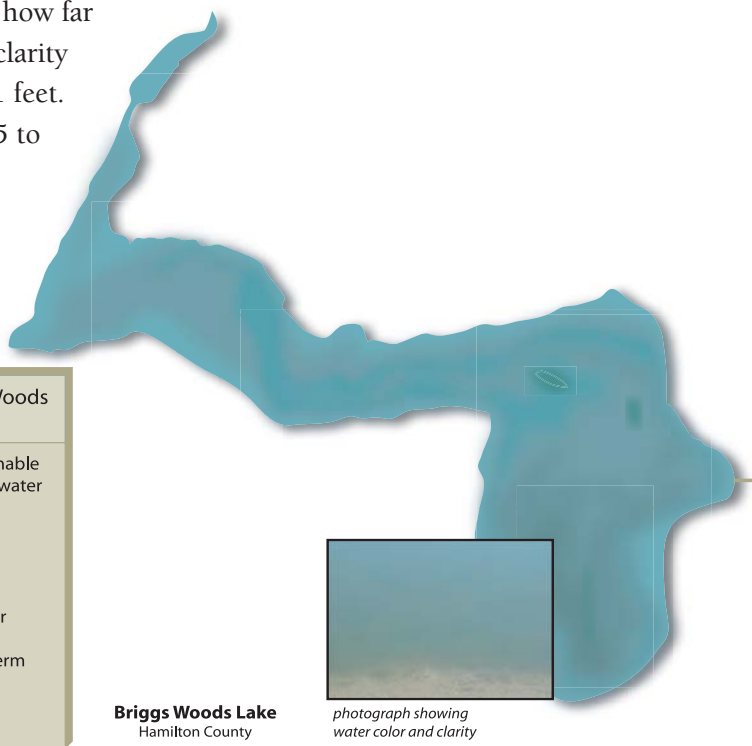
### Briggs Woods Lake's Current Condition

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 Briggs Woods Lake is currently between 5 and 11 feet. This means that objects are visible down to about 5 to 11 feet under the surface of the water.

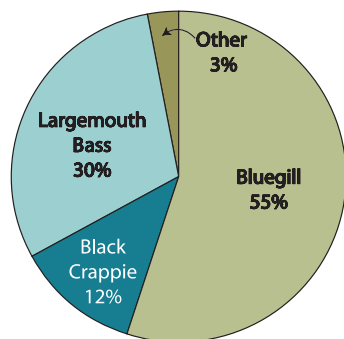
Another measure of water quality is the amount of nutrients and other contaminants contained in the water. Water degradation can result from a number of sources, including urban runoff, fertilizers used in agriculture, motor vehicles, and others. Currently nutrients contribute to the occurrence of algae blooms in the lake usually 3 to 6 times per year. Under some circumstances these

blooms can be a health concern, causing skin rashes and allergic reactions. While Briggs Woods Lake is currently not regularly monitored, lakes with water quality measurements similar to those of Briggs Woods Lake had “swimming is not recommended” signs posted by the Iowa Department of Natural Resources for anywhere from 4 to 8 weeks during a typical summer.

Current conditions of Briggs Woods Lake can be summarized as:	
Water Clarity:	Objects distinguishable 5 to 11 feet under water
Algae blooms:	3 to 6 per year
Water color:	blue to green
Water odor:	mild to strong odor
Bacteria:	occasional short-term swim advisories
Fish:	good diversity



**Figure 1. Current conditions of Briggs Woods Lake**



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 Briggs Woods Lake varies between blue to green. The water often has a strong odor that many describe as “fishy” with periods of less mild odor.

Finally, the quality of the water affects the variety and quantity of fish in the lake. Currently, Briggs Woods Lake’s overall fishing conditions are good for bluegill, crappie, and largemouth bass. Channel catfish also bit well last summer.

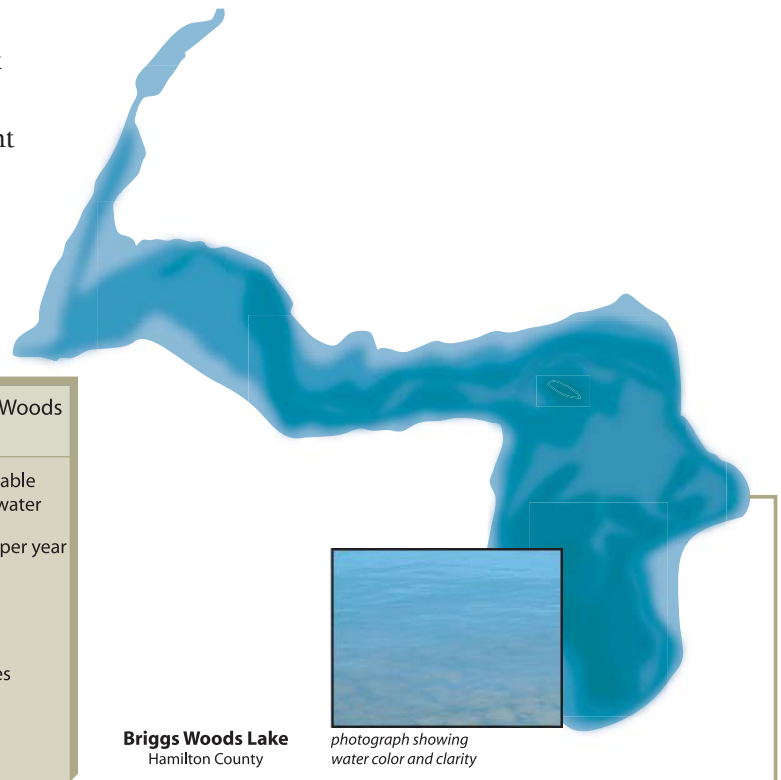
- During the course of the current year (2006), how many trips do you expect to take to Briggs Woods Lake?  
\_\_\_\_\_ trips in 2006.

**I**n the next question, we will be asking you how you would vote on a special ballot regarding the water quality of Briggs Woods 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

Improved conditions of Briggs Woods Lake can be summarized as:	
Water Clarity:	objects distinguishable 9 to 11 feet under water
Algae blooms:	Rarely more than 1 per year
Water color:	blue
Water odor:	usually fresh
Bacteria:	rare swim advisories (most years none)
Fish:	excellent diversity



**Figure 2. Conditions of Briggs Woods Lake following an improvement project**

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 Briggs Woods 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.

<<Finality>>

5. Would you vote “yes” on a referendum to improve the water quality in Briggs Woods Lake to the level described here? The proposed project would cost you \$<<NCV\_Bid>> (payable in five \$<<Nbid\_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)

6. 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 is 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 \_\_\_\_\_
7. How many trips to Briggs Woods Lake would you make in the current year (2006) if the water quality at Briggs Woods Lake was improved by the amount described in Figure 2?  
 \_\_\_\_\_ trips in 2006.

**I**nformation 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.

8. 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 |                               |
9. Are you
- ☐ male      ☐ female
10. 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                        |  |
11. How many adults (including yourself) live in your household? \_\_\_\_\_
12. How many children live in your household (18 or under)? \_\_\_\_\_
13. What is your current employment status?
- ☐ full time    ☐ part time    ☐ student    ☐ unemployed    ☐ retired
14. If you are currently employed, how many hours a week do you typically work? \_\_\_\_\_

15. 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
16. If you answered “no” to question 15, 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
17. What is your total household income (before taxes) for 2005?  
☐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
18. Do you own a boat?      ☐yes      ☐no

**F**inally, we would appreciate a little more information on your reaction to this survey.

19. 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)
20. How well informed are you about the general state of water quality in Iowa's lakes?  
1 (not well informed at all)      2      3      4      5 (very knowledgeable)
21. How would you assess your knowledge of water quality in Iowa's lakes now, relative to three or four years ago?  
1 (I know much less)      2      3 (I know about the same)      4      5 (I know much more)
22. In this survey, we have asked you about your usage of Iowa's lakes and your views about water quality improvements. Do you believe that you are likely to have other opportunities to express your views about water quality projects and programs?  
1 (not likely at all)      2      3      4      5 (very likely)

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

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Iowa State University  
Department of Economics  
568 Heady Hall  
Ames, IA 50011-1070