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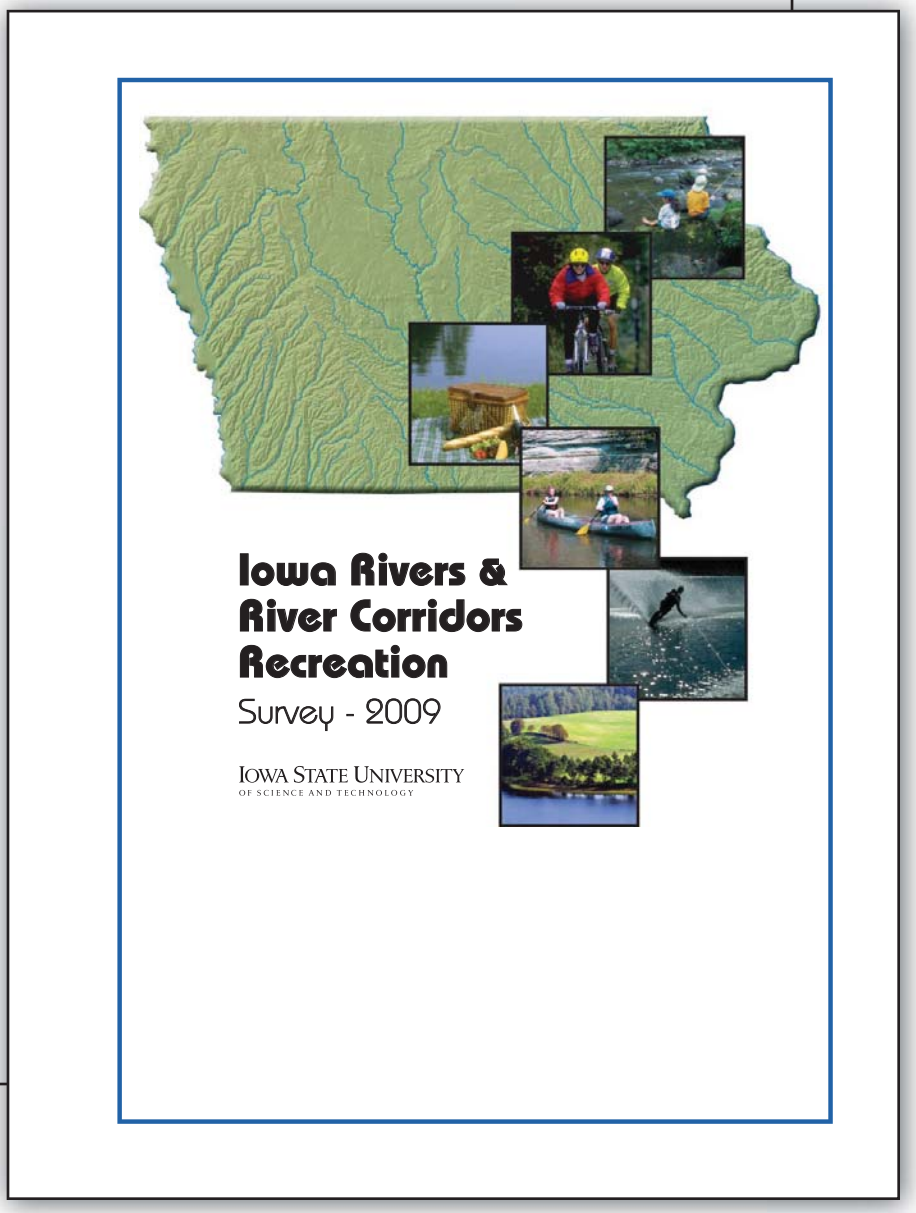

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

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A REPORT TO THE IOWA DEPARTMENT OF NATURAL RESOURCES

Understanding the Usage Patterns and Most Desirable Characteristics of Iowa's Rivers and Streams[1]

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Iowa has an extensive network of rivers and streams running through all geographic regions of the state. Simple observation suggests that these water bodies are used for recreation and enjoyment by many of Iowa's citizens. A number of surveys have been done to quantify the usage of specific rivers and streams or by specific groups of users, but a representative statewide characterization of the pattern of usage by all of Iowa's citizens has not previously been undertaken. Thus, little has been understood about the overall pattern of river usage by Iowa's citizens, including which aspects of rivers and streams are of most direct interest to the state's residents, and how conservation expenditures could be used most cost-effectively to improve the outdoor recreation experience of Iowans visiting these resources. The purpose of the Iowa Rivers Usage and Valuation Project is to provide Iowa's citizens and policymakers with information that can be used to support wise decisions regarding the state's natural resources.

To provide this information, researchers from the Iowa State University Department of Economics and Center for Agricultural and Rural Development, with funding from the Iowa Department of Natural Resources and the U.S. Environmental Protection Agency, conducted a large random population survey of Iowans, collecting information from survey respondents about their pattern of river and stream usage as well as answers to a series of questions concerning their preferences regarding river and stream recreation. The survey was titled "Iowa Rivers and River Corridors Survey—2009." Survey findings should provide important insight for discussions

[1]Although the research described in this report has been funded in part by the United States Environmental Protection Agency through R83426001, it has not been subject to the Agency's required peer review policy and therefore does not necessarily reflect the views of the Agency and no official endorsement should be inferred.

concerning prioritization of streams for protection and restoration; the economic and health benefits of river recreation to Iowans and local communities; the implementation of TMDL regulations; watershed-level discussions concerning land use; and the assessment of water quality regulations at the local, watershed, and state levels. A complete copy of the survey can be found in the appendix of this document and online at *http://www.card.iastate.edu/environment/nonmarket_valuation/iowa_rivers/.* In the remainder of this report, we summarize the data and initial findings from this survey.

Survey Design and Implementation

The Iowa Rivers and River Corridors Survey—2009 was divided into three sections. In the first section, respondents were asked about their individual river visitation patterns during the 2009 calendar year. Respondents were asked to report the number of trips (including multi-day trips) to the 73 river segments in Table 1, identified by the Iowa Department of Natural Resources, and were provided with a map (Figure 1) showing the names and locations of the rivers and streams. Additionally, respondents who reported taking a positive number of trips in 2009 were also asked to indicate the activities they participated in during their visits by checking the relevant boxes from a list of possible options. The exact questions can be found in a copy of the final survey instrument included in the appendix.

In the second section, respondents were asked about their attitudes toward factors affecting their river visitation decisions using a five-point scale. In particular, they were asked about the importance of various river characteristics such as water quality and the facilities along the rivers in their selection of where to visit. A total of 30 identified factors were presented to respondents for their consideration. These factors can also be found in the survey sample in the appendix.

In the final section, demographic information was gathered from respondents. Information collected in this section includes age, gender, income, employment status, and family size, as well as whether the individual owned or rented a boat in 2009.

An initial survey design with each of these components was completed in early summer of 2009. Two focus group sessions were then conducted in late July and early

Table 1. River Segment

River Segment ID	Major River or Tributary Label	River Segment ID	Major River or Tributary Label
1	Big Sioux	38	Boone (above Webster City)
2	Rock	39	Boone (below Webster City)
3	Floyd	40	South Skunk (above Ames)
4	Ocheyedan	41	South Skunk (Ames to junction with North Skunk)
5	Little Sioux (above Cherokee)	42	North Skunk
6	Little Sioux (below Cherokee)	43	Skunk
7	Maple	44	Big Cedar Creek
8	Soldier	45	Iowa (above Marshalltown)
9	Boyer (above Dension)	46	Iowa (Marshalltown to Coralville Dam)
10	Boyer (Below Dension)	47	Iowa (below Coralville Dam)
11	Mosquito Creek	48	English
12	Keg Creek	49	Winnebago
13	West Nishnabotna	50	Shell Rock
14	West Nishnabotna (above Red Oak)	51	West Fork Cedar
15	West Nishnabotna (below Red Oak)	52	Cedar (above Waterloo)
16	West Nodaway	53	Cedar (Waterloo to Cedar Rapids)
17	Platte	54	Cedar (below Cedar Rapids)
18	Grand	55	Wapsipinicon (above Independence)
19	Grand(Thompson)	56	Wapsipinicon (below Independence)
20	Chariton	57	Buffalo Creek
21	East Fork Des Moines	58	Maquoketa
22	West Fork Des Moines	59	North Fork Maquoketa
23	Des Moines (Humboldt to Saylorville Dam)	60	Turkey (above Decorah)
24	Des Moines (Sayorville Dam to Red Rock Dam)	61	Turkey (below Decorah)
25	Des Moines (Red Rock Dam to Ottumwa)	62	Volga
26	Des Moines (below Ottumwa)	63	Yellow
27	Lizard Creek	64	Upper Iowa (above Decorah)
28	South	65	Upper Iowa (below Decorah)
29	Middle	66	Missouri (Sioux City to Council Bluffs)
30	North	67	Missouri (Below Council Bluffs)
31	Cedar Creek	68	Mississippi (Minnesota to MacGregor)
32	South Raccoon (above Redfield)	69	Mississippi (MacGregor to Dubuque)
33	Middle Raccoon (above Redfield)	70	Mississippi (Dubuque to Clinton)
34	Raccoon (below Redfield)	71	Mississippi (Clinton to Muscatine)
35	North Fork Raccoon (above Jefferson)	72	Mississippi (Muscatine to Burlington)
36	North Fork Raccoon (below Jefferson)	73	Mississippi (Burlington to Keokuk)
37	Big Cedar Creek		

August to fine-tune the wording of the survey and to ensure that the questions and instructions were clear to potential survey respondents. Finally, a pre-test of the survey instrument was mailed to a random sample of 200 residents in September, as a further check on both the survey instrument and the implementation procedures.

After revising the survey instrument in response to the focus groups and the pre-test sample, the final survey was mailed to 10,000 randomly selected Iowa residents

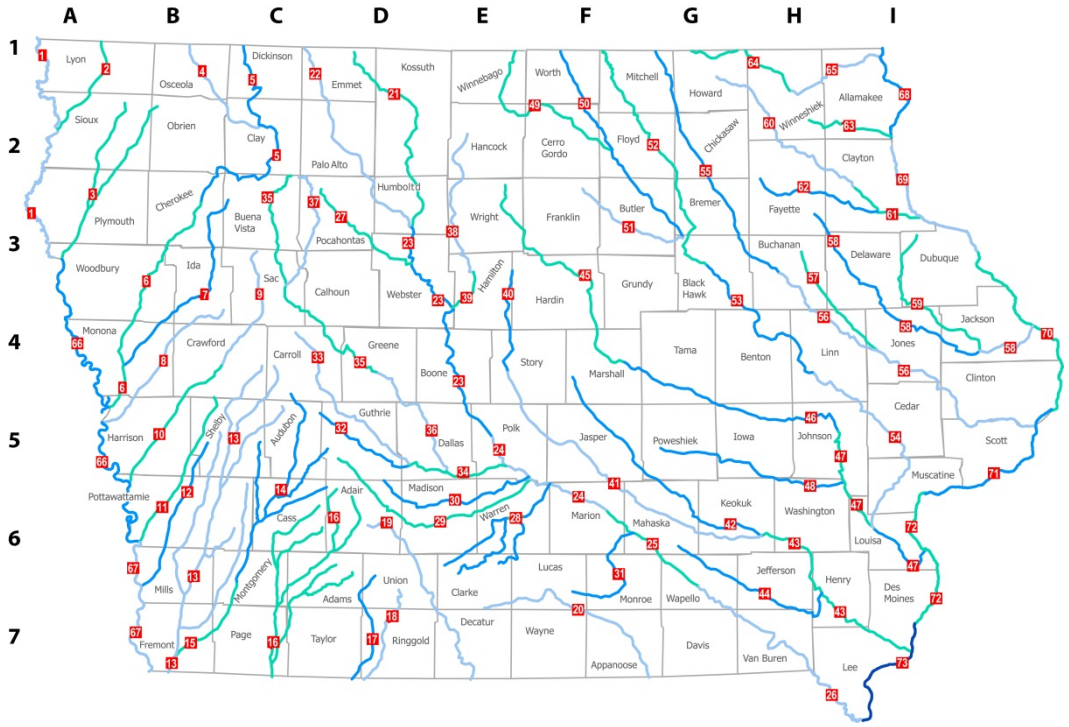


Figure 1. Iowa Map of River Sections

in November 2009.[2] Sample households were sent a packet that contained the survey, a map of the rivers and streams, a cover letter explaining the purpose and timeframe of the study, a self-addressed and stamped return envelope for the completed survey, and a payment slip. When respondents returned their survey with a copy of the payment slip completed, they were sent a check for $10 as a partial compensation for their time. Respondents who did not return the survey within three weeks were sent a postcard reminder and if they still did not respond after another three to four weeks, they were sent a replacement packet containing the complete set of materials that were sent initially.

Of the 10,000 surveys sent out, 221 were undeliverable because the addressee was deceased or had moved. There were 4,778 respondents who chose to return the survey by mail, giving us a 49% response rate among deliverable surveys.

While the nearly 4,800 survey respondents provide valuable insights into river and stream usage in the state, one concern is that they may differ systematically from those

[2]The survey sample was obtained from Survey Sampling International, a commercial survey sample provider.

who did not return the survey and thus might provide an incomplete picture of Iowa residents. For example, respondents may be more avid visitors to the state's rivers and streams. This was the case for an earlier survey of Iowa lake usage, in which a follow-up telephone survey of non-respondents found that they took almost half as many trips to lakes in the state when compared to mail survey respondents. Subsequent aggregate lake usage figures had to be adjusted to correct for the non-response bias. To investigate this problem in the case of the rivers survey, a random sample of non-respondents were contacted by phone and asked about their overall river and stream usage. The response rate to this follow-up was just under 50%. Unlike the lake survey, however, non-respondents to the river and stream survey were not found to be less avid users, suggesting that a non-response correction is not necessary in this case.

Survey Results

Usage Information for Rivers and Streams in Iowa in 2009

On average, a large proportion of respondents in the survey report taking at least one trip during 2009 to any of 73 identified river and stream segments. Table 2 lists some basic summary statistics broken down by river segment.[3] Approximately 48% of respondents report taking at least one trip to one of the identified segments. About 40% of respondents report taking a trip to at least one of the 64 interior river segments, and around 24% of respondents report taking a trip to at least one of the 9 border river segments.[4] The average number of trips reported in the sample is approximately 6 per person to all the river segments, 2 per person to the 9 border river segments, and 4 per person to the 64 interior river segments, varying from some respondents taking no trips to others with the maximum allowed 52 trips.[5] Among those who report a positive

[3]Appendix Tables A1 and A2 provide additional details. Table A1 lists the total number of trips associated with individuals who checked specific activity categories (e.g., fishing, hunting), while Table A2 indicates the mean numbers of trips to a segment among individuals who visited that segment and engaged in the specific activity category.

[4]River segments 1, and 66-73 are border river segments. River segments 1, 66, and 67 are along the Missouri River. River segments 68-73 are along the Mississippi River.

[5]Respondents who reported taking over 52 trips were dropped from the sample for purposes of computing these statistics (though not for other analysis). A major goal of this research is to estimate, as precisely as possible, the recreational usage of the rivers and streams by Iowans. Those who report usage of over one trip per week may be indicating that they live near or on a river or that their daily activities take them to a river or stream and therefore their reported trips are not strictly recreational in nature.

Table 2. River Recreational Trip Information

	Sample	Visitors to		Trips			Mean Trips		
Segment	Size	Segment	Percentage	Total	Min.	Max.	1	2	3
1	4137	80	1.93%	369	1	25	0.09	0.19	4.61
2	4137	50	1.21%	253	1	36	0.06	0.13	5.06
3	4137	39	0.94%	193	1	30	0.05	0.10	4.95
4	4137	12	0.29%	76	1	30	0.02	0.04	6.33
5	4137	65	1.57%	290	1	25	0.07	0.15	4.46
6	4137	48	1.16%	143	1	12	0.03	0.07	2.98
7	4137	13	0.31%	52	1	10	0.01	0.03	4.00
8	4137	5	0.12%	23	1	15	0.01	0.01	4.60
9	4137	12	0.29%	59	1	20	0.01	0.03	4.92
10	4137	14	0.34%	61	1	20	0.01	0.03	4.36
11	4137	23	0.56%	105	1	15	0.03	0.05	4.57
12	4137	9	0.22%	37	1	10	0.01	0.02	4.11
13	4137	31	0.75%	183	1	24	0.04	0.09	5.90
14	4137	27	0.65%	80	1	12	0.02	0.04	2.96
15	4137	24	0.58%	113	1	15	0.03	0.06	4.71
16	4137	25	0.60%	154	1	30	0.04	0.08	6.16
17	4137	7	0.17%	25	1	12	0.01	0.01	3.57
18	4137	17	0.41%	60	1	7	0.01	0.03	3.53
19	4137	14	0.34%	59	1	26	0.01	0.03	4.21
20	4137	41	0.99%	171	1	20	0.04	0.09	4.17
21	4137	45	1.09%	314	1	50	0.08	0.16	6.98
22	4137	53	1.28%	194	1	15	0.05	0.10	3.66
23	4137	217	5.25%	979	1	35	0.24	0.50	4.51
24	4137	299	7.23%	1513	1	40	0.37	0.77	5.06
25	4137	125	3.02%	675	1	50	0.16	0.34	5.40
26	4137	70	1.69%	399	1	30	0.10	0.20	5.70
27	4137	19	0.46%	84	1	20	0.02	0.04	4.42
28	4137	25	0.60%	123	1	40	0.03	0.06	4.92
29	4137	32	0.77%	175	1	30	0.04	0.09	5.47
30	4137	24	0.58%	104	1	30	0.03	0.05	4.33
31	4137	10	0.24%	58	1	30	0.01	0.03	5.80
32	4137	24	0.58%	82	1	15	0.02	0.04	3.42
33	4137	53	1.28%	193	1	20	0.05	0.10	3.64
34	4137	95	2.30%	468	1	45	0.11	0.24	4.93
35	4137	38	0.92%	234	1	37	0.06	0.12	6.16
36	4137	48	1.16%	272	1	42	0.07	0.14	5.67
37	4137	10	0.24%	20	1	5	0.00	0.01	2.00
38	4137	24	0.58%	116	1	24	0.03	0.06	4.83
39	4137	31	0.75%	68	1	10	0.02	0.03	2.19
40	4137	56	1.35%	293	1	30	0.07	0.15	5.23
41	4137	43	1.04%	232	1	30	0.06	0.12	5.40
42	4137	23	0.56%	113	1	24	0.03	0.06	4.91
43	4137	54	1.31%	303	1	45	0.07	0.15	5.61
44	4137	8	0.19%	31	1	12	0.01	0.02	3.88
45	4137	85	2.05%	533	1	50	0.13	0.27	6.27
46	4137	160	3.87%	800	1	50	0.19	0.40	5.00
47	4137	150	3.63%	737	1	30	0.18	0.37	4.91
48	4137	20	0.48%	76	1	25	0.02	0.04	3.80
49	4137	66	1.60%	462	1	50	0.11	0.23	7.00
50	4137	91	2.20%	381	1	30	0.09	0.19	4.19
51	4137	24	0.58%	116	1	30	0.03	0.06	4.83
52	4137	155	3.75%	1071	1	52	0.26	0.54	6.91
53	4137	162	3.92%	877	1	45	0.21	0.44	5.41
54	4137	126	3.05%	653	1	50	0.16	0.33	5.18
55	4137	73	1.76%	308	1	30	0.07	0.16	4.22

Table 2. Continued

Segment	Sample Size	Visitors to Segment	Percentage	Trips			Mean Trips		
				Total	Min.	Max.	1	2	3
56	4137	149	3.60%	742	1	30	0.18	0.38	4.98
57	4137	23	0.56%	85	1	12	0.02	0.04	3.70
58	4137	141	3.41%	659	1	50	0.16	0.33	4.67
59	4137	30	0.73%	84	1	12	0.02	0.04	2.80
60	4137	64	1.55%	248	1	24	0.06	0.13	3.88
61	4137	61	1.47%	142	1	15	0.03	0.07	2.33
62	4137	61	1.47%	232	1	24	0.06	0.12	3.80
63	4137	55	1.33%	111	1	7	0.03	0.06	2.02
64	4137	104	2.51%	314	1	20	0.08	0.16	3.02
65	4137	59	1.43%	208	1	50	0.05	0.11	3.53
66	4137	160	3.87%	884	1	52	0.21	0.45	5.53
67	4137	55	1.33%	245	1	24	0.06	0.12	4.45
68	4137	179	4.33%	676	1	30	0.16	0.34	3.78
69	4137	291	7.03%	1246	1	35	0.30	0.63	4.28
70	4137	258	6.24%	1578	1	52	0.38	0.80	6.12
71	4137	237	5.73%	1591	1	50	0.38	0.81	6.71
72	4137	97	2.34%	483	1	35	0.12	0.24	4.98
73	4137	97	2.34%	740	1	40	0.18	0.37	7.63
Total	4137	1976	47.76%	25831	1	52	6.24	13.1	

Note: Column 1 provides the mean trips to the segment averaged over the entire sample; Column 2 provides the mean trips among individuals that are trip takers (i.e., visiting at least one of the river or stream segments in 2009); and Column 3 indicates mean number of trips to the segment among visitors to that segment.

number of trips to any river segments, the average number of reported trips is just over 13.

Table 2 also identifies which river segments were the most popular among respondents. Column 4 indicates the percentage of respondents who visited a particular segment. The percentage of respondents reporting visits to a specific river segment varies from 0.12% for river segment 8 (Soldier River) to 7.23% for river segment 24 (i.e., Des Moines River from Saylorville Dam to Lake Red Rock). The average number of trips taken by respondents to a specific river segment varies from 2 trips per visitor for river segment 37 (Big Cedar Creek) to 7.63 trips per visitor for river segment 73 (i.e., along the Mississippi from Burlington to Keokuk).

Usage Information by Group

Table 3 contains summary statistics for river usage divided along various population segments, including age, gender, education, family size, number of children

Table 3. River Usage Information by Subgroup

Category		Sample Size	% of Pop.	Visitor	% of Visitor	Trip	Avg. Trip1[a]	Avg. Trip2[b]
Age	Under 25	46	1.2	33	71.7	444	9.7	13.5
	26-34	259	6.3	142	54.8	1814	7	12.8
	35-49	880	21.3	547	59.4	7558	8.6	13.8
	50-59	953	23	523	54.9	6963	7.3	13.3
	60-75	1279	30.9	553	43.2	7073	5.5	12.8
	75+	634	15.3	156	24.6	1710	2.7	11
Gender	Female	1228	29.7	468	38.1	5354	4.4	11.4
	Male	2771	67	1470	53	20060	7.2	13.6
Education	Less High	184	4.4	59	32.1	765	4.2	13
	High school	1098	26.5	439	40	5686	5.2	13
	some college	1247	30.1	607	48.7	8638	6.9	14.2
	college	1049	25.4	612	58.3	7319	7	12
	advanced	473	11.4	245	51.8	3252	6.9	13.3
Family size	1 adults	967	23.4	329	34	4096	4.2	12.4
	2 adults	2726	65.9	1421	52.1	18381	6.7	12.9
	3 adults	275	6.6	159	57.8	2349	8.5	14.8
	4 adults	80	1.9	48	60	693	8.7	14.4
Children	0	3029	73.2	1287	42.5	16626	5.5	12.9
	1	428	10.3	258	60.3	3736	8.7	14.5
	2	430	10.4	288	67	3811	8.9	13.2
	3	250	6	143	57.2	1658	6.6	11.6
Employment Status	Full time	2090	50.5	1183	56.6	15766	7.5	13.3
	Part time	252	6.1	124	49.2	1704	6.8	13.7
	Student	21	0.5	13	61.9	137	6.5	10.5
	Unemployment	145	3.5	75	51.7	1101	7.6	14.7
	Retired	1510	36.5	552	36.6	6761	4.5	12.2
Income	Under 10,000	94	2.3	27	28.7	400	4.3	14.8
	10,000-14,999	172	4.2	52	30.2	672	3.9	12.9
	15,000-19,999	146	3.5	45	30.8	679	4.7	15.1
	20,000-24,999	215	5.2	80	37.2	1118	5.2	14
	25,000-29,999	227	5.5	92	40.5	1219	5.4	13.3
	30,000-34,999	236	5.7	106	44.9	1318	5.6	12.4
	35,000-39,999	228	5.5	101	44.3	1340	5.9	13.3
	40,000-49,999	360	8.7	185	51.4	2367	6.6	12.8
	50,000-59,999	406	9.8	215	53	2885	7.1	13.4
	60,000-74,999	490	11.8	272	55.5	3539	7.2	13
	75,000-99,999	538	13	309	57.4	4106	7.6	13.3
	100,000-124,999	334	8.1	208	62.3	2771	8.3	13.3
	125,000-149,999	138	3.3	79	57.2	998	7.2	12.6
	over 150,000	166	4	81	48.8	931	5.6	11.5
Boat Ownership1[c]	0	2635	63.7	888	33.7	10109	3.8	11.4
	1	1502	36.3	1088	72.4	15722	10.5	14.5
Boat Ownership2[d]	0	2635	63.7	888	33.7	10109	3.8	11.4
	1	571	13.8	416	72.9	5317	9.3	12.8
	2	931	22.5	672	72.2	10405	11.2	15.5
Total		4137	100	1976	47.8	25831	6.2	13.1

[a]Avg.Trip1: defined as trip/sample.

[b]Avg.Trip2: defined as trip/trip-taker.

[c]Boat Ownership1 = 1 if the individual owned, borrowed, or rented any type of boat in 2009; = 0 otherwise.

[d]Boat Ownership2 = 1 if the individual borrowed or rented any type of boat in 2009; = 2 if the individual owned a boat in 2009; = 0 otherwise.

in the family, employment status, income, and boat ownership.[6] Among all the age groups, respondents younger than 25 report the highest percentage of river visitation (71.7%) while seniors (respondents over age 60) report the lowest. Other age groups have similar percentages of river visitation (i.e., around 55%). Though there are substantial differences in visitation rates across all age groups, the average number of river trips for trip takers within each group is quite similar and ranges from 11 to 13.8. It is important to note, however, that these age categorizations relate to the individual responding to the survey.

As the second categorization in Table 3 indicates, male respondents report a higher percentage of river visitations (53%) compared with female respondents (38%). More educated respondents are more likely to visit rivers, with about 52% of respondents with advanced education reporting that they visited at least one segment in 2009, while only about 32% with less than a high school education report taking at least one trip. However, the numbers of trips per visitor are almost the same, around 13, regardless of education level. Families with three or more adults have a higher river visitation rate and higher numbers of trips per visitor compared with small families. Families without children have a smaller river visitation rate (34%) and families with children report a higher number (60% for families having one child, 67% for families having two children, 57.2% for families having three or more children).

In terms of employment status, respondents who work full time report a slightly higher visitation rate than unemployed respondents (57% vs. 52%). Lower income groups tend to have lower river visitation rates compared with other income groups. Finally, those respondents who have owned or borrowed/rented a boat, either a fishing boat or a motor boat, report a substantially higher river visitation rate than others (approximately 72% vs. 34%).

Activities Enjoyed by River Visitors

To collect information on activities undertaken by Iowans on rivers or in river corridors, we identified 10 general activity categories that visitors might engage in:

[6]Appendix Tables A3 and A4 provide supplemental information along these lines. Table A3 summarizes total trips for individuals checking specific activity categories for each segment of the population. Table A4 summarizes the mean number of trips involving a specific activity for each segment of the population.

fishing, hunting, boating, canoeing, swimming, using trails, camping, relaxing, wildlife viewing, or other. The definition of these activities was provided on the survey. Table 4 lists the percentage of trips involving the 10 activities by river segment.[7] Overall, respondents report that 52% of their river trips involve relaxation, 44% involve fishing, 40% include trail-related activities, and 44% involve wildlife watching. Percentages for the remaining activities, listed the decreasing order, are boating (21%), swimming (21%), camping (18%), canoeing (12%), and hunting (12%). Breaking down the activity statistics by interior river segments and border river segments, border river visitors are more likely to engage in boating activities (37% vs. 14%) and interior river visitors are more involved in the hunting and canoeing activities (14% vs. 6% for hunting and 15% vs. 4% for canoeing).

Table 4 clearly indicates that there is substantial variation in the activities undertaken on different river segments. For example, visitors to river segment 12 (Keg Creek) report no fishing-related trips, while visitors to river segment 8 (Soldier River) report fishing on almost 83% of their trips. Likewise, for hunting, visitors to river segments 37 (Big Cedar Creek in Pocahontas County), 44 (Big Cedar Creek in Jefferson County) and 63 (Yellow River) report no hunting trips to these segments, whereas visitors to river segment 12 (Keg Creek) report the highest percentage of hunting trips (49%). This variability is also true of activities relating to boating or canoeing on the rivers. For boating, visitors to river segment 17 (Platte River) report the highest percentage of boating trips (48%). In contrast, there are more than a dozen river segments with reported trips that do not involve any boating-related activities. Visitors to seven river segments report zero canoeing trips, whereas the highest percentage of canoeing trips (54%) occurs on river segment 64 (the Upper Iowa River above Decorah). There is considerable variation in the remaining activities across the segments listed in Table 4.

[7]Note that survey respondents were asked to provide the total number of trips to a river segment and to check the activities that they engaged in during their trips. They did not provide a breakdown of their activities for individual trips. In constructing the figures in Table 4, it was assumed that a checked activity was engaged in during *all* of the trips listed for a segment. While this is likely to overstate the total number of, say, fishing trips to a given river segment, it is less likely to impact the relative importance of the individual activities listed in Table 4.

Table 4. Percentages of Activities among Trips

Segment	Trips	Trip taker	Fish	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
1	369	80	55.6%	37.7%	15.4%	38.5%	21.1%	23.8%	17.9%	41.5%	30.4%	12.5%
2	253	50	53.8%	31.6%	1.2%	9.9%	11.9%	43.1%	20.9%	42.3%	15.0%	20.2%
3	193	39	47.2%	21.8%	0.0%	18.7%	10.4%	44.6%	3.6%	20.7%	25.9%	10.9%
4	76	12	9.2%	19.7%	0.0%	10.5%	7.9%	14.5%	1.3%	65.8%	40.8%	57.9%
5	290	65	44.1%	9.7%	0.0%	7.6%	9.0%	41.0%	12.4%	47.2%	35.9%	20.7%
6	143	48	63.6%	14.0%	13.3%	27.3%	25.9%	11.2%	42.7%	37.8%	30.8%	7.0%
7	52	13	38.5%	25.0%	0.0%	13.5%	19.2%	11.5%	21.2%	13.5%	28.8%	15.4%
8	23	5	82.6%	8.7%	0.0%	0.0%	13.0%	73.9%	8.7%	13.0%	13.0%	65.2%
9	59	12	28.8%	8.5%	0.0%	8.5%	33.9%	3.4%	5.1%	49.2%	30.5%	16.9%
10	61	14	21.3%	13.1%	0.0%	3.3%	41.0%	8.2%	0.0%	19.7%	41.0%	18.0%
11	105	23	22.9%	45.7%	0.0%	1.9%	0.0%	46.7%	0.0%	61.0%	61.0%	10.5%
12	37	9	0.0%	48.6%	0.0%	0.0%	0.0%	10.8%	29.7%	48.6%	29.7%	0.0%
13	183	31	60.1%	32.2%	3.3%	18.0%	15.8%	25.1%	26.8%	45.9%	62.3%	21.9%
14	80	27	62.5%	30.0%	1.3%	13.8%	20.0%	22.5%	2.5%	10.0%	52.5%	16.3%
15	113	24	62.8%	47.8%	2.7%	7.1%	8.8%	5.3%	16.8%	44.2%	41.6%	0.9%
16	154	25	64.9%	46.8%	0.0%	13.6%	46.8%	2.6%	3.9%	33.8%	46.1%	5.2%
17	25	7	64.0%	20.0%	48.0%	48.0%	48.0%	4.0%	4.0%	56.0%	52.0%	28.0%
18	60	17	43.3%	13.3%	3.3%	0.0%	6.7%	21.7%	31.7%	36.7%	40.0%	16.7%
19	59	14	78.0%	44.1%	1.7%	49.2%	15.3%	25.4%	25.4%	33.9%	66.1%	1.7%
20	171	41	40.4%	25.7%	17.5%	4.1%	15.2%	43.9%	21.1%	40.4%	26.3%	24.0%
21	314	45	69.7%	22.3%	0.3%	10.8%	30.6%	17.5%	5.7%	38.2%	28.7%	5.1%
22	194	53	47.4%	13.9%	1.0%	23.2%	15.5%	15.5%	19.1%	35.1%	20.6%	7.7%
23	979	217	39.5%	2.5%	18.2%	12.4%	19.8%	42.3%	17.4%	50.3%	38.0%	11.0%
24	1513	299	34.5%	8.9%	22.2%	7.8%	23.2%	56.7%	20.0%	59.9%	40.3%	8.6%
25	675	125	42.1%	12.6%	27.7%	3.1%	17.3%	43.4%	21.9%	45.9%	40.9%	10.5%
26	399	70	46.6%	6.0%	6.5%	1.3%	28.3%	38.8%	25.6%	58.6%	56.6%	4.0%
27	84	19	63.1%	17.9%	0.0%	22.6%	47.6%	47.6%	23.8%	48.8%	44.0%	6.0%
28	123	25	21.1%	4.9%	4.1%	0.0%	1.6%	33.3%	8.9%	14.6%	17.1%	35.0%
29	175	32	28.0%	12.6%	0.0%	20.6%	17.1%	49.7%	17.1%	39.4%	62.3%	13.7%
30	104	24	50.0%	11.5%	0.0%	2.9%	3.8%	14.4%	2.9%	19.2%	52.9%	3.8%
31	58	10	13.8%	27.6%	3.4%	0.0%	1.7%	5.2%	0.0%	0.0%	5.2%	62.1%
32	82	24	30.5%	1.2%	25.6%	9.8%	46.3%	65.9%	4.9%	52.4%	51.2%	22.0%
33	193	53	49.7%	22.8%	14.5%	21.8%	27.5%	31.1%	31.1%	49.7%	32.6%	17.6%
34	468	95	25.2%	3.0%	0.2%	23.1%	31.0%	56.8%	11.1%	59.6%	31.6%	13.5%
35	234	38	73.1%	25.6%	3.8%	13.2%	44.4%	12.0%	15.4%	65.8%	31.6%	21.8%
36	272	48	60.3%	16.9%	13.6%	37.9%	52.2%	32.4%	25.7%	50.4%	49.6%	6.3%
37	20	10	40.0%	0.0%	0.0%	20.0%	5.0%	45.0%	10.0%	5.0%	0.0%	25.0%
38	116	24	28.4%	12.1%	1.7%	0.9%	16.4%	37.9%	16.4%	37.9%	62.9%	22.4%

Table 4. Continued

Segment	Trips	Trip taker	Fish	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
39	68	31	30.9%	8.8%	0.0%	32.4%	16.2%	55.9%	33.8%	27.9%	20.6%	7.4%
40	293	56	23.9%	9.2%	0.0%	19.1%	22.5%	79.2%	4.1%	62.1%	37.9%	23.5%
41	232	43	76.7%	38.8%	19.4%	6.9%	25.0%	24.1%	40.5%	42.2%	39.2%	5.2%
42	113	23	64.6%	46.9%	0.9%	28.3%	24.8%	10.6%	3.5%	64.6%	47.8%	15.0%
43	303	54	62.0%	9.2%	35.3%	16.8%	13.9%	27.4%	42.9%	60.1%	41.9%	9.2%
44	31	8	22.6%	0.0%	0.0%	12.9%	0.0%	19.4%	0.0%	35.5%	83.9%	0.0%
45	533	85	64.2%	31.9%	23.8%	37.3%	36.0%	39.0%	17.1%	53.8%	46.0%	13.5%
46	800	160	46.6%	18.3%	31.9%	4.8%	30.3%	49.6%	22.5%	47.9%	41.1%	3.5%
47	737	150	25.6%	0.9%	12.2%	10.0%	12.1%	69.3%	11.5%	53.1%	41.7%	15.7%
48	76	20	65.8%	42.1%	18.4%	1.3%	19.7%	11.8%	15.8%	9.2%	28.9%	22.4%
49	462	66	39.8%	17.1%	11.0%	7.8%	6.1%	47.8%	14.7%	60.0%	62.3%	16.9%
50	381	91	54.1%	6.6%	13.9%	20.2%	16.3%	17.1%	30.7%	61.7%	44.4%	19.4%
51	116	24	56.0%	20.7%	4.3%	19.8%	8.6%	29.3%	14.7%	16.4%	57.8%	1.7%
52	1071	155	47.5%	16.3%	19.1%	22.7%	28.2%	55.6%	25.9%	57.0%	51.2%	13.1%
53	877	162	31.8%	6.2%	21.7%	14.0%	13.6%	55.8%	13.3%	52.9%	30.7%	23.7%
54	653	126	31.4%	9.0%	10.4%	11.9%	6.1%	50.2%	6.9%	47.9%	36.8%	9.8%
55	308	73	52.3%	28.2%	9.1%	16.2%	13.3%	27.3%	10.4%	45.1%	29.2%	9.7%
56	742	149	55.9%	8.1%	17.0%	24.1%	16.3%	33.2%	31.7%	58.5%	34.6%	12.4%
57	85	23	34.1%	23.5%	0.0%	2.4%	25.9%	17.6%	18.8%	28.2%	28.2%	14.1%
58	659	141	71.2%	19.0%	38.5%	23.8%	35.5%	36.6%	22.0%	50.2%	30.5%	24.6%
59	84	30	44.0%	13.1%	1.2%	14.3%	9.5%	17.9%	22.6%	20.2%	14.3%	31.0%
60	248	64	59.3%	10.9%	2.0%	29.8%	20.2%	15.7%	34.3%	46.4%	36.7%	4.4%
61	142	61	33.1%	18.3%	7.0%	14.8%	3.5%	18.3%	19.7%	40.8%	23.9%	21.8%
62	232	61	54.7%	30.2%	9.5%	7.3%	3.9%	35.8%	29.3%	46.1%	22.0%	14.7%
63	111	55	49.5%	0.0%	0.0%	39.6%	18.0%	30.6%	45.9%	46.8%	44.1%	11.7%
64	314	104	38.5%	7.3%	1.9%	54.1%	26.1%	47.8%	38.9%	48.1%	33.4%	8.6%
65	208	59	31.7%	4.8%	1.9%	15.4%	5.8%	54.8%	13.0%	35.6%	35.6%	3.4%
66	884	160	35.9%	2.1%	38.7%	3.6%	13.6%	57.0%	18.6%	63.3%	49.4%	26.6%
67	245	55	21.2%	9.4%	24.9%	0.0%	1.6%	37.6%	31.0%	46.5%	31.0%	34.7%
68	676	179	52.2%	0.3%	44.2%	0.9%	22.2%	21.2%	19.1%	56.2%	46.6%	22.5%
69	1246	291	49.9%	3.8%	47.8%	1.4%	28.8%	26.3%	20.5%	50.7%	32.7%	12.7%
70	1578	258	38.5%	5.1%	43.9%	4.4%	23.6%	40.7%	13.0%	59.9%	45.7%	23.0%
71	1591	237	30.6%	4.4%	27.3%	4.1%	10.1%	48.6%	11.2%	56.1%	39.7%	22.8%
72	483	97	57.6%	1.4%	38.7%	0.0%	31.1%	40.2%	15.7%	60.5%	42.4%	5.6%
73	740	97	54.6%	12.6%	34.6%	0.7%	27.3%	27.0%	11.2%	74.2%	61.4%	20.8%
Total	25831	1976	44.4%	12.0%	21.3%	12.1%	20.7%	40.4%	18.4%	52.0%	40.4%	15.5%
Interior	18019	1654	45.1%	14.5%	14.3%	15.5%	20.7%	41.4%	19.5%	49.5%	39.2%	13.4%
Border	7812	999	42.5%	6.1%	37.4%	4.3%	20.4%	37.9%	15.7%	57.8%	42.9%	20.2%

Table 5 provides a summary of activities across all trips broken down by various segments of the population, including age, gender, education, family size, number of children in the family, employment status, income, and boat ownership. Dividing the respondents into six age groups, we find that the percentage of trips involving fishing, hunting, boating, canoeing, swimming, camping, and relaxing decreases as respondents become older. Senior visitors tend to visit rivers for wildlife watching. Male visitors are most likely to participate in fishing, hunting, boating, canoeing, camping, and relaxing during their river visits. Female visitors report more trips involving trail-related and relaxation activities.

Less-educated respondents are inclined to fish, hunt, boat, swim, and camp during their visits. In contrast, more-educated visitors report more trail and wildlife-watching related activities. Respondents coming from larger families report greater participation in virtually all of the listed activities, with the exception of relaxing and wildlife viewing. Full-time employees participate more often in hunting, boating, camping, and wildlife watching when compared with unemployed respondents. Wealthier respondents engage more in hunting, boating, and trail-related activities than do lower-income respondents. Finally, and not surprisingly, boat owners are more likely to engage in fishing, hunting, boating, canoeing, swimming, and camping related activities.

Typical River Trip Duration

Survey respondents were asked to report the typical length of their visits to the various river or stream segments. Figure 2 shows the distribution of three types of trips: half-day (or less), one-day, and two-day (or more) trips. The majority of respondents indicate that their typical trip lasts a half-day or less (65%), while only 8% of respondents report spending multiple days on their typical trips.[8]

Share of Time Spent on Nine Activities on a Typical River Trip

Respondents who reported taking at least one trip to an Iowa river or stream segment were asked to indicate how much time they spent on various activities. Figure 3 provides a breakdown of the time spent on activities on a typical trip reported by the

[8]Appendix Table A5 provides an additional breakdown of the typical trip duration for various population segments (e.g., age, gender).

Table 5. Percentage of Activities Performed, by Group

Category		Fish	Hunting	Boating	Canoeing	Swimming	Trails	Camp	Relaxing	Wildlife	Other
Age	Under 25	73	39	27	21	46	40	30	61	15	4
	26-34	54	16	22	12	32	42	18	54	32	14
	35-49	52	14	28	16	30	42	24	56	38	12
	50-59	38	12	20	12	18	44	20	52	42	14
	60-75	40	8	16	10	12	38	12	48	44	18
	75+	42	6	10	2	6	30	10	42	42	28
Gender	Female	30	2	16	8	20	46	14	62	42	24
	Male	48	14	22	14	20	38	20	50	40	14
Education	Less High	60	12	20	6	26	30	34	52	28	8
	High school	56	14	26	10	20	28	24	50	38	20
	some college	48	14	22	14	22	34	20	50	42	16
	college	38	10	20	12	22	48	16	54	40	12
	advanced	24	4	12	10	16	64	8	56	44	12
Family size	1 adults	34	6	12	12	16	44	14	56	40	22
	2 adults	46	12	22	12	20	40	20	52	40	14
	3 adults	46	16	28	16	22	40	20	50	40	20
	4 adults	52	18	22	22	32	46	18	50	36	6
Children	0	40	10	18	10	16	38	16	52	44	18
	1	50	16	26	18	26	42	16	50	36	10
	2	50	18	28	16	32	48	24	56	36	14
	3	60	16	22	20	40	42	28	50	30	12
Employment Status	Full time	46	14	24	14	24	40	22	52	38	12
	Part time	34	10	20	14	24	44	14	64	44	18
	Student	60	26	36	22	44	72	40	72	32	4
	Unemployment	50	4	16	14	28	48	18	60	56	24
	Retired	42	8	16	6	8	36	12	46	44	24

Table 5. Continued

Category		Fish	Hunting	Boating	Canoeing	Swimming	Trails	Camp	Relaxing	Wildlife	Other
Income	Under 10,000	38	2	8	4	20	52	14	74	54	42
	10,000-14,999	56	4	16	18	24	30	26	48	40	20
	15,000-19,999	42	0	8	10	20	32	14	52	60	38
	20,000-24,999	48	10	16	8	14	34	12	52	40	30
	25,000-29,999	44	14	10	8	18	36	20	52	48	18
	30,000-34,999	52	8	16	4	22	26	20	60	34	10
	35,000-39,999	50	10	22	10	24	38	26	50	38	16
	40,000-49,999	42	10	16	14	22	48	22	52	46	22
	50,000-59,999	52	18	24	18	20	36	14	56	48	8
	60,000-74,999	48	12	24	14	22	38	18	50	36	16
	75,000-99,999	48	16	28	12	22	38	20	50	38	10
	100,000-124,999	38	18	26	12	22	46	18	52	40	10
	125,000-149,999	30	4	20	16	18	50	12	44	22	12
	over 150,000	26	10	22	14	18	74	12	48	32	8
Boat Ownership1[a]	0	22	4	6	2	8	48	10	56	44	24
	1	58	16	32	18	28	36	24	50	38	10
Boat Ownership2[b]	0	22	4	6	2	8	48	10	56	44	24
	1	48	12	22	16	28	48	22	60	38	10
	2	64	20	36	20	28	30	24	44	38	10
Total		44	12	21	12	21	40	18	52	40	15

[a]Boat Ownership1 = 1 if the individual owned, borrowed, or rented any type of boat in 2009; = 0 otherwise.

[b]Boat Ownership2 = 1 if the individual borrowed or rented any type of boat in 2009; = 2 if the individual owned a boat in 2009; = 0 otherwise.

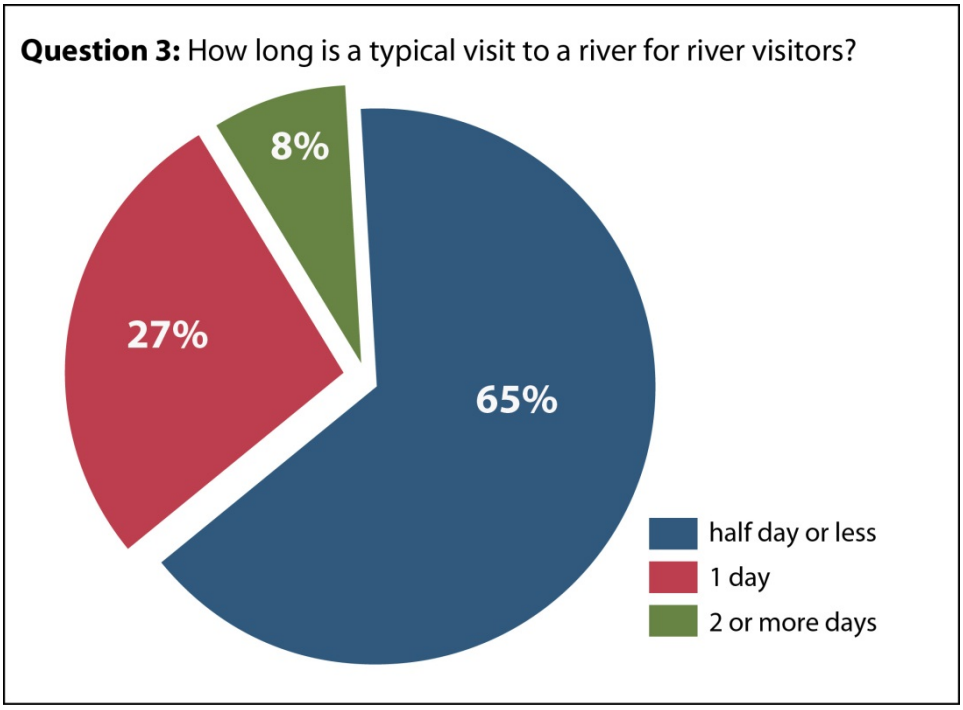


Figure 2. Typical Trip Duration

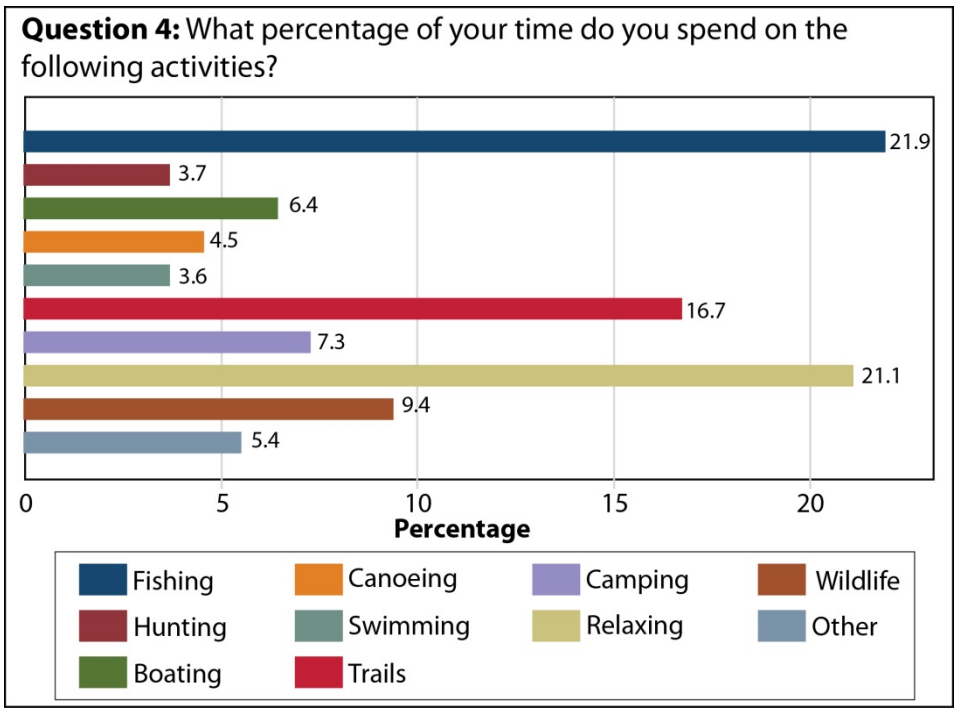


Figure 3. Share of Time Spent on Specific Activities on a Typical Trip

river visitors. On average, respondents report spending about 22% of their time fishing, 21% relaxing, 17% on trail-related activities and 9% on wildlife watching. These four activities are also the four most commonly undertaken activities reported by respondents in Table 4.

Table 6 provides a similar breakdown of trip activities for different demographic segments of the population. Although there is some variation in the share of time spent on different activities across the different population segments, fishing, relaxing, trail-related activities, and wildlife watching are consistently indicated to be the four most popular activities.

River Visitors' Other Activities In Addition To River Recreation

Figure 4 shows the nine activities most enjoyed by respondents in addition to their river recreation activities. Among 1,976 respondents who report visiting at least one river segment, nearly two-thirds report visiting friends as well (67%). Many visitors also report general sightseeing (65%), traveling scenic byways (53%), visiting historical areas (50%), attending festivals (45%), visiting museums (35%), shopping (31%), casino gambling (22%), and visiting ethnic attractions (13%).

Boat Ownership among Respondents

Figure 5 illustrates the percentage of respondents who owned, rented, or borrowed a boat in 2009. The ownership rates differ across the boat types and the three ownership categories. The share of respondents who own a fishing boat is the highest (13%) among the ownership categories. In the case of renting a boat, 4% of respondents report they rented a canoe, which is more than for any other type of boat.[9]

Factors Affecting River/Stream Selection

A wide variety of factors are likely to play a role in the river or stream segments individuals choose to visit. To gain a broad sense of the relative importance of these factors, respondents who went to *any* of the 73 river segments in 2009 were asked to allocate 100 "importance points" among five general site characteristics according to

[9]Figures A1.1 and A1.2 in the appendix provide a further breakdown of boat ownership by groups (i.e., non-river visitors and river visitors).

Table 6. Shares of Time Spent on Specific Activities During a Typical Trip, by Group

Category		Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
Age	Under 25	30	12	6	10	10	8	10	9	3	1
	26-34	22	4	9	5	8	16	10	18	4	4
	35-49	24	4	8	5	5	16	9	18	7	4
	50-59	17	4	6	5	3	20	7	21	10	5
	60-75	24	2	5	4	2	16	6	23	12	6
	75+	21	1	3	1	1	13	4	27	14	15
Gender	Female	13	0	5	4	4	19	6	29	11	8
	Male	25	5	7	5	3	16	8	18	9	5
Education	Less High	30	2	7	2	3	8	11	24	9	3
	High school	28	4	6	2	4	10	10	19	9	7
	some college	25	4	7	5	4	12	8	21	9	5
	college	18	4	7	5	4	21	6	21	9	5
	advanced	10	2	5	8	3	31	2	22	10	6
Family size	1 adults	18	2	6	4	4	18	5	27	11	7
	2 adults	23	4	6	5	4	17	8	20	9	5
	3 adults	22	3	8	4	4	16	7	21	10	5
	4 adults	18	11	7	5	5	14	8	20	8	4
Children	0	21	3	6	4	3	16	6	23	11	7
	1	24	5	7	4	4	19	8	19	7	3
	2	22	6	8	6	7	18	8	16	5	4
	3	23	5	8	6	6	15	10	19	4	3
Employment Status	Full time	21	5	7	6	4	18	8	19	8	4
	Part time	17	3	7	6	6	16	6	26	11	3
	Student	23	2	5	10	7	16	12	17	6	2
	Unemployment	27	2	5	2	7	13	5	23	10	5
	Retired	24	2	5	2	1	14	6	24	13	9

Table 6. Continued

Category		Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
Income	Under 10,000	19	2	1	1	3	12	6	33	10	13
	10,000-14,999	35	0	3	5	5	8	5	27	10	1
	15,000-19,999	28	0	4	1	3	9	7	31	15	2
	20,000-24,999	30	3	5	3	4	12	3	22	9	10
	25,000-29,999	21	2	2	1	4	12	6	29	13	9
	30,000-34,999	25	2	3	4	2	12	7	25	13	6
	35,000-39,999	23	3	6	3	2	15	7	26	10	6
	40,000-49,999	19	3	6	4	5	19	10	18	10	6
	50,000-59,999	23	5	6	6	4	15	8	21	9	2
	60,000-74,999	24	4	8	5	4	16	9	17	8	5
	75,000-99,999	22	5	7	5	4	16	8	19	9	5
	100,000-124,999	17	5	10	5	3	21	6	18	9	5
	125,000-149,999	19	0	6	8	4	30	5	17	6	5
	over 150,000	11	6	12	6	3	29	5	19	5	4
Boat Ownership1[a]	0	14	2	3	0	2	22	6	29	12	10
	1	29	5	9	8	5	12	8	15	7	2
Boat Ownership2[b]	0	14	2	3	0	2	22	6	29	12	10
	1	22	4	7	8	5	17	9	19	7	2
	2	32	6	10	8	4	9	8	12	7	2
Total		22	4	6	5	4	16	7	21	9	5

[a]Boat Ownership1 = 1 if the individual owned, borrowed, or rented any type of boat in 2009; = 0 otherwise.
[b]Boat Ownership2 = 1 if the individual borrowed or rented any type of boat in 2009; = 2 if the individual owned a boat in 2009; = 0 otherwise.

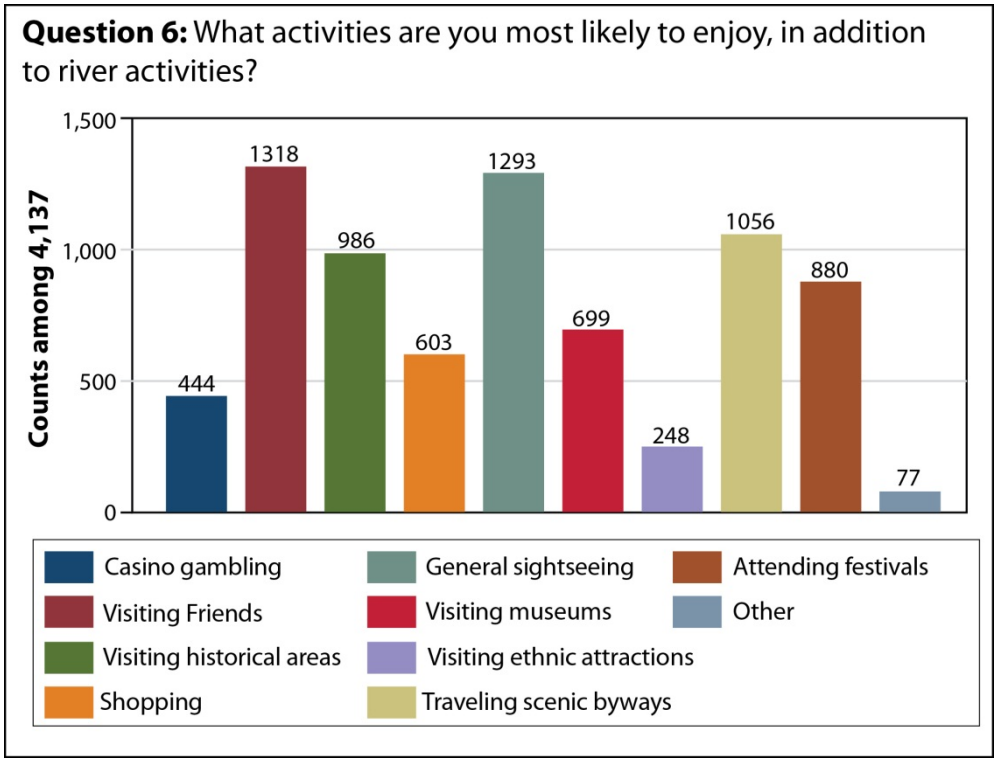


Figure 4. Activities Engaged In by Visitors Beyond River-Based Recreational Activities

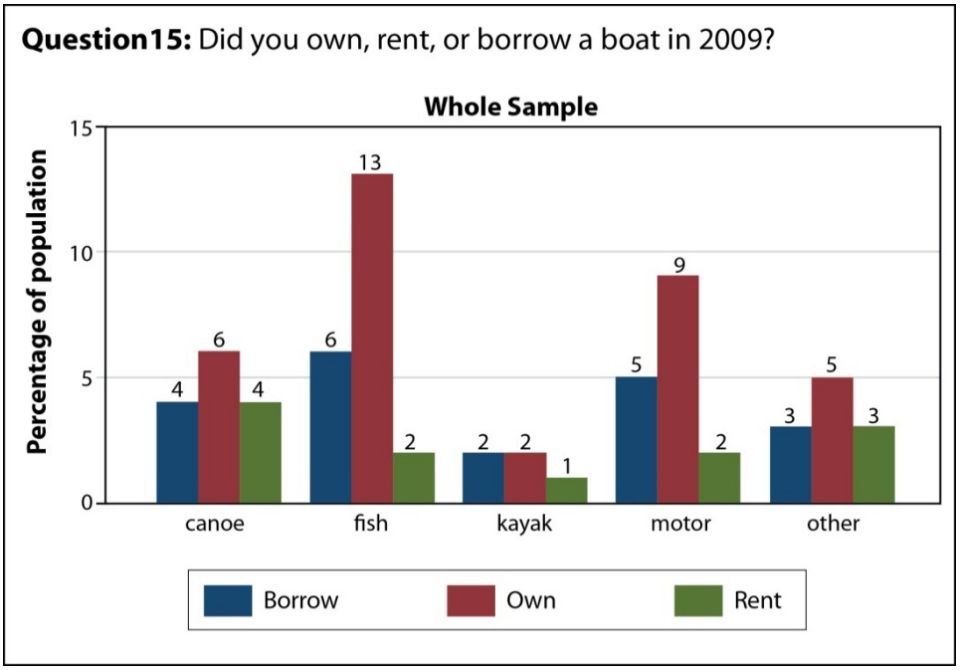


Figure 5. Boat Ownership among Survey Respondents

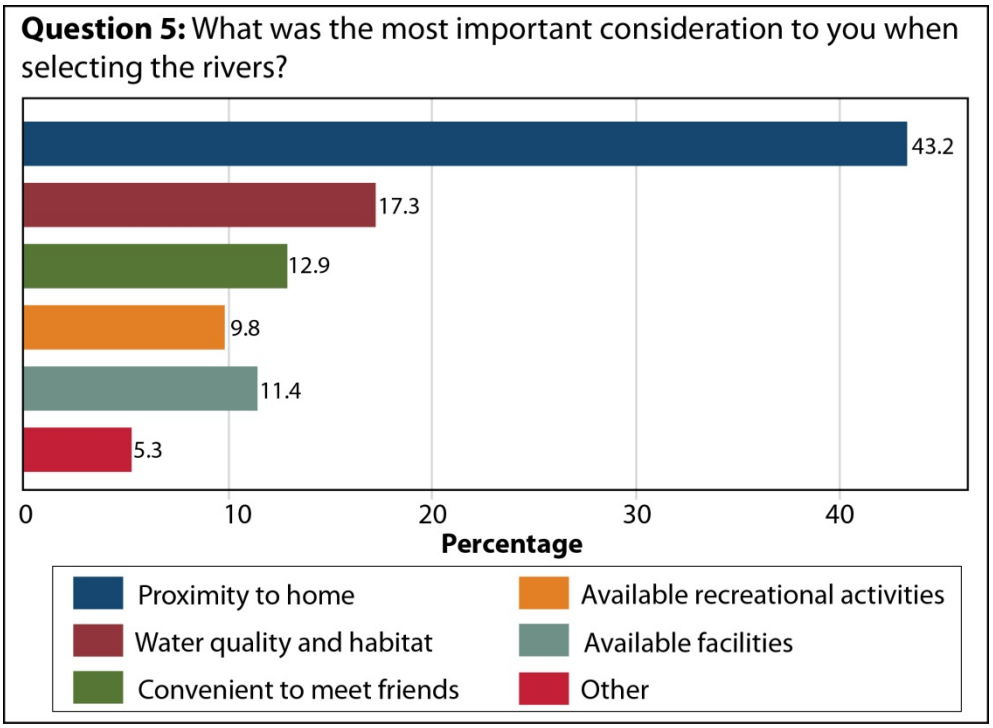


Figure 6. Importance Factors in Selecting Which Rivers/Streams to Visit

the role each characteristic played in selecting which river segment to visit: proximity to home, water quality and habitat, a convenient location to meet friends/relatives, available recreational activities (i.e., kayaking, biking, etc.), and available facilities (i.e., bathrooms, trails, boat ramps, etc.). Figure 6 summarizes the average ranking of these factors. Proximity to home is reported as the most important factor when people are choosing whether to visit a river or not. The second most important factor is water quality and habitat.[10]

In addition to indicating what general features were the most important in determining their choice of river segment, respondents were also asked to indicate their attitudes toward 30 more specific factors affecting river visitation decisions. Table 7 provides a list of these factors, along with summary statistics for the ranking scores for each of the factors. A five-point scale was used, where a "1" indicated that this factor would be a strongly negative consideration in selecting a river to visit, while a "5" would indicate that the factor would be strongly positive consideration. Respondents

[10]Appendix Table A6 provides additional details regarding these importance point allocations, isolating the responses provided by different demographic segments of the population (e.g., age, gender).

Table 7. Ranking Factors Affecting Visit Decisions

	Mean Score	Attitudes				
		1	2	3	4	5
Straightened section of stream	2.4	435	333	2599	167	75
Curving stream with numerous bends	3	127	136	1949	939	474
Row crop agriculture visible along river banks	2.4	467	594	2133	291	124
Livestock agriculture visible along river banks (grazing, feedlots)	2.2	846	679	1664	277	137
Natural setting dominates river banks (forest, prairie, etc.)	3.6	76	53	843	1278	1401
Rock outcropping	3.2	123	137	1284	1219	863
Mostly residential areas visible	2	991	1040	1322	184	86
Stream section with possible bacterial contamination	1.5	2302	469	559	76	224
Stream section with possible sediment and nutrient contamination	1.7	1784	803	749	103	190
Stream section with abundant algae	1.7	1622	881	826	127	166
Stream with abundant game fish	3.4	124	84	1204	942	1277
Stream dominated by carp or other rough fish	2.2	644	944	1701	232	104
Nearby urban areas with places to eat, drink, and shop	2.9	297	327	1586	1043	419
Nearby lodging	2.8	296	250	1821	914	357
Stream section where water quality is safe for human contact	3.8	88	46	549	992	1986
Flowing stream section where there is no need to get around obstructions such as dams and fences	3.4	102	82	1303	1177	997
Stream section where the river is muddy	2	812	1362	1214	119	106
Stream section where the river smells unpleasant	1.5	2297	654	345	89	235
Stream with gently flowing water	3.3	65	68	1198	1595	666
Stream section where I expect to find historical sites	3.1	123	108	1616	1225	547
River section with adequate access for motorboats	2.7	291	400	1935	664	347
River section with adequate access for canoes, kayaks, and inner tubes	3	164	144	1740	1035	530
River section with adaquate trail access (for hiking, biking, running,etc.)	3.3	126	125	1200	1287	905
Riverbanks lined with trash	1.3	2763	319	270	62	219
Adaquate on-site facilities such as restrooms, shelters, and picnic facilities	3.3	103	145	1091	1429	888
River section with boat rental and/or shuttle service nearby	2.7	276	320	2113	693	219
Access points are located in cities or small towns	2.9	144	253	1926	993	313
Access points are located in rural areas	3	86	175	1963	1027	358
Stream segment in very remote or secluded rural settings	2.9	161	324	1706	951	480
River section where there is an established river trail route with available maps and signs for boaters, canoers,and kayakers	3.1	121	144	1673	1146	534

Notes: Attitude 1: Most negatively affecting; 3: Neutral; 5: Most positively affecting.
All mean scores are significantly different from 3.0 at the 5% level.

were told that a "3" indicated that it was a neutral factor. Based on the overall average scores, three factors are identified as the most positive factors in selecting a river segment to visit:

- water quality
- natural setting dominates (river banks, forest, prairie, etc.),
- stream with abundant game fish

On the other hand, three factors are identified as the most negative factors in choosing which river segment to visit:

- riverbanks lined with trash
- stream section with possible bacterial contamination
- stream section where the river smells unpleasant

Table 8 examines the top five most positive factors and the bottom five most negative factors for various segments of the survey sample.[11] For example, the second column contains the results for respondents who report taking at least one river trip, whereas the third column reports results for non-visitors. The other 11 population segments are based on whether the respondent reported participating in any given activity during their river visitations. For example, the fourth column is for those visitors who report participating in fishing, the fifth is for hunting, and so on. The ninth group is for those visitors who did *not* participate in swimming at any segment.

Interestingly, the five most negative factors are quite stable across the groups with the exception of respondents who fall into the fishing and/or hunting group. For the bulk of respondents, the most negative factors are the following:

- stream section with abundant algae
- stream section with possible sediment and nutrient contamination
- stream section with possible bacterial contamination
- stream section where the river smells unpleasant
  riverbanks lined with trash

Likewise, the five most positive factors are also quite stable across different groups:

- stream section where water quality is safe for human contact
- natural setting dominates river banks (such as forest, prairie, etc.)
- stream section with abundant game fish

[11]Tables A7 and A8 in the appendix list the attitude scores and the rank of the 30 factors by various demographic segments of the population.

Table 8. Ranking Factors, by Group (top and bottom factors)

Factor	Visitor	Nonvisitor	Fish	Hunting	Boating	Canoeing	Swimming	Non-Swimming	Trails	Camping	Relaxing	Wildlife	Other
	15	15	15	15	15	15	15	15	15	15	15	15	15
	5	5	5	5	5	5	5	5	5	5	5	5	5
Top 5	11	16	11	11	11	22	11	11	11	11	11	11	11
	23	25	6	29	16	6	6	25	23	6	23	23	16
	6	19	16	6	21	16	16	16	6	16	16	6	6
	10	10	7	7	10	10	10	10	10	7	10	10	10
	9	9	9	9	9	9	9	9	9	9	9	9	9
Bottom 5	8	8	8	8	8	8	8	8	8	8	8	8	8
	18	18	18	18	18	18	18	18	18	18	18	18	18
	24	24	24	24	24	24	24	24	24	24	24	24	24

5	Natural setting dominates river banks forest,prairie,etc.
6	Rock outcropping
7	Mostly residential areas visible
8	Stream section with possible bacterial contamination
9	Stream section with possible sediment and nutrient contamination
10	Stream section with abundant algae
11	Stream with abundant game fish
15	Stream section where water quality is safe for human contact
16	Flowing stream section where there is no need to get around obstructions such as dams and fences
18	Stream section where the river smells unpleasant
19	Stream with gently flowing water
21	River section with adequate access for motorboats
22	River section with adequate access for canoes, kayaks, and inner tubes
23	River section with adequate trail access (for hiking, biking, running, etc.)
24	Riverbanks lined with trash
25	Adequate on-site facilities such as restrooms, shelters, and picnic facilities
27	Access points are located in cities or small towns
29	Stream segment in very remote or secluded rural settings

- flowing stream section where there is no need to get around obstructions such as dams and fences
- rock outcroppings

These results suggest that Iowans' choices of which river segments to visit are heavily influenced by factors related to water quality on both the positive and negative side.

Conclusions

This report summarizes the key findings from a random population survey of Iowans designed to collect information about their river and stream usage as well as their preferences about various characteristics of river and stream corridors. The survey, titled "Iowa Rivers and River Corridors Survey—2009," provides a broad snapshot of where Iowans engage in river and stream use and the type of activities they undertake while onsite. It is hoped that this information can be used by citizens, policymakers, and other groups to inform decision making concerning prioritization of rivers and streams for protection and restoration and other decisions related to water quality.

APPENDIX A

Additional Data

Table A1. Recreation Activities Information

Segment	Sample	Trip takers	Trips	Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
1	4137	80	369	205	139	57	142	78	88	66	153	112	46
2	4137	50	253	136	80	3	25	30	109	53	107	38	51
3	4137	39	193	91	42	0	36	20	86	7	40	50	21
4	4137	12	76	7	15	0	8	6	11	1	50	31	44
5	4137	65	290	128	28	0	22	26	119	36	137	104	60
6	4137	48	143	91	20	19	39	37	16	61	54	44	10
7	4137	13	52	20	13	0	7	10	6	11	7	15	8
8	4137	5	23	19	2	0	0	3	17	2	3	3	15
9	4137	12	59	17	5	0	5	20	2	3	29	18	10
10	4137	14	61	13	8	0	2	25	5	0	12	25	11
11	4137	23	105	24	48	0	2	0	49	0	64	64	11
12	4137	9	37	0	18	0	0	0	4	11	18	11	0
13	4137	31	183	110	59	6	33	29	46	49	84	114	40
14	4137	27	80	50	24	1	11	16	18	2	8	42	13
15	4137	24	113	71	54	3	8	10	6	19	50	47	1
16	4137	25	154	100	72	0	21	72	4	6	52	71	8
17	4137	7	25	16	5	12	12	12	1	1	14	13	7
18	4137	17	60	26	8	2	0	4	13	19	22	24	10
19	4137	14	59	46	26	1	29	9	15	15	20	39	1
20	4137	41	171	69	44	30	7	26	75	36	69	45	41
21	4137	45	314	219	70	1	34	96	55	18	120	90	16
22	4137	53	194	92	27	2	45	30	30	37	68	40	15
23	4137	217	979	387	24	178	121	194	414	170	492	372	108
24	4137	299	1513	522	135	336	118	351	858	303	907	610	130
25	4137	125	675	284	85	187	21	117	293	148	310	276	71

Table A1. Continued

Segment	Sample	Trip takers	Trips	Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
26	4137	70	399	186	24	26	5	113	155	102	234	226	16
27	4137	19	84	53	15	0	19	40	40	20	41	37	5
28	4137	25	123	26	6	5	0	2	41	11	18	21	43
29	4137	32	175	49	22	0	36	30	87	30	69	109	24
30	4137	24	104	52	12	0	3	4	15	3	20	55	4
31	4137	10	58	8	16	2	0	1	3	0	0	3	36
32	4137	24	82	25	1	21	8	38	54	4	43	42	18
33	4137	53	193	96	44	28	42	53	60	60	96	63	34
34	4137	95	468	118	14	1	108	145	266	52	279	148	63
35	4137	38	234	171	60	9	31	104	28	36	154	74	51
36	4137	48	272	164	46	37	103	142	88	70	137	135	17
37	4137	10	20	8	0	0	4	1	9	2	1	0	5
38	4137	24	116	33	14	2	1	19	44	19	44	73	26
39	4137	31	68	21	6	0	22	11	38	23	19	14	5
40	4137	56	293	70	27	0	56	66	232	12	182	111	69
41	4137	43	232	178	90	45	16	58	56	94	98	91	12
42	4137	23	113	73	53	1	32	28	12	4	73	54	17
43	4137	54	303	188	28	107	51	42	83	130	182	127	28
44	4137	8	31	7	0	0	4	0	6	0	11	26	0
45	4137	85	533	342	170	127	199	192	208	91	287	245	72
46	4137	160	800	373	146	255	38	242	397	180	383	329	28
47	4137	150	737	189	7	90	74	89	511	85	391	307	116
48	4137	20	76	50	32	14	1	15	9	12	7	22	17
49	4137	66	462	184	79	51	36	28	221	68	277	288	78
50	4137	91	381	206	25	53	77	62	65	117	235	169	74

Table A1. Continued

Segment	Sample	Trip takers	Trips	Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
51	4137	24	116	65	24	5	23	10	34	17	19	67	2
52	4137	155	1071	509	175	205	243	302	595	277	610	548	140
53	4137	162	877	279	54	190	123	119	489	117	464	269	208
54	4137	126	653	205	59	68	78	40	328	45	313	240	64
55	4137	73	308	161	87	28	50	41	84	32	139	90	30
56	4137	149	742	415	60	126	179	121	246	235	434	257	92
57	4137	23	85	29	20	0	2	22	15	16	24	24	12
58	4137	141	659	469	125	254	157	234	241	145	331	201	162
59	4137	30	84	37	11	1	12	8	15	19	17	12	26
60	4137	64	248	147	27	5	74	50	39	85	115	91	11
61	4137	61	142	47	26	10	21	5	26	28	58	34	31
62	4137	61	232	127	70	22	17	9	83	68	107	51	34
63	4137	55	111	55	0	0	44	20	34	51	52	49	13
64	4137	104	314	121	23	6	170	82	150	122	151	105	27
65	4137	59	208	66	10	4	32	12	114	27	74	74	7
66	4137	160	884	317	19	342	32	120	504	164	560	437	235
67	4137	55	245	52	23	61	0	4	92	76	114	76	85
68	4137	179	676	353	2	299	6	150	143	129	380	315	152
69	4137	291	1246	622	47	596	18	359	328	256	632	408	158
70	4137	258	1578	607	80	692	69	372	642	205	946	721	363
71	4137	237	1591	487	70	434	66	160	774	178	893	631	362
72	4137	97	483	278	7	187	0	150	194	76	292	205	27
73	4137	97	740	404	93	256	5	202	200	83	549	454	154
Total	4137	1976	25831	11465	3100	5503	3135	5338	10438	4750	13445	10426	4001

Table A2. Mean Activities among Trip Takers

Segment	Trip takers	Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
1	80	2.56	1.74	0.71	1.78	0.98	1.10	0.83	1.91	1.40	0.58
2	50	2.72	1.60	0.06	0.50	0.60	2.18	1.06	2.14	0.76	1.02
3	39	2.33	1.08	0.00	0.92	0.51	2.21	0.18	1.03	1.28	0.54
4	12	0.58	1.25	0.00	0.67	0.50	0.92	0.08	4.17	2.58	3.67
5	65	1.97	0.43	0.00	0.34	0.40	1.83	0.55	2.11	1.60	0.92
6	48	1.90	0.42	0.40	0.81	0.77	0.33	1.27	1.13	0.92	0.21
7	13	1.54	1.00	0.00	0.54	0.77	0.46	0.85	0.54	1.15	0.62
8	5	3.80	0.40	0.00	0.00	0.60	3.40	0.40	0.60	0.60	3.00
9	12	1.42	0.42	0.00	0.42	1.67	0.17	0.25	2.42	1.50	0.83
10	14	0.93	0.57	0.00	0.14	1.79	0.36	0.00	0.86	1.79	0.79
11	23	1.04	2.09	0.00	0.09	0.00	2.13	0.00	2.78	2.78	0.48
12	9	0.00	2.00	0.00	0.00	0.00	0.44	1.22	2.00	1.22	0.00
13	31	3.55	1.90	0.19	1.06	0.94	1.48	1.58	2.71	3.68	1.29
14	27	1.85	0.89	0.04	0.41	0.59	0.67	0.07	0.30	1.56	0.48
15	24	2.96	2.25	0.13	0.33	0.42	0.25	0.79	2.08	1.96	0.04
16	25	4.00	2.88	0.00	0.84	2.88	0.16	0.24	2.08	2.84	0.32
17	7	2.29	0.71	1.71	1.71	1.71	0.14	0.14	2.00	1.86	1.00
18	17	1.53	0.47	0.12	0.00	0.24	0.76	1.12	1.29	1.41	0.59
19	14	3.29	1.86	0.07	2.07	0.64	1.07	1.07	1.43	2.79	0.07
20	41	1.68	1.07	0.73	0.17	0.63	1.83	0.88	1.68	1.10	1.00
21	45	4.87	1.56	0.02	0.76	2.13	1.22	0.40	2.67	2.00	0.36
22	53	1.74	0.51	0.04	0.85	0.57	0.57	0.70	1.28	0.75	0.28
23	217	1.78	0.11	0.82	0.56	0.89	1.91	0.78	2.27	1.71	0.50
24	299	1.75	0.45	1.12	0.39	1.17	2.87	1.01	3.03	2.04	0.43
25	125	2.27	0.68	1.50	0.17	0.94	2.34	1.18	2.48	2.21	0.57

Table A2. Continued

Segment	Trip takers	Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
26	70	2.66	0.34	0.37	0.07	1.61	2.21	1.46	3.34	3.23	0.23
27	19	2.79	0.79	0.00	1.00	2.11	2.11	1.05	2.16	1.95	0.26
28	25	1.04	0.24	0.20	0.00	0.08	1.64	0.44	0.72	0.84	1.72
29	32	1.53	0.69	0.00	1.13	0.94	2.72	0.94	2.16	3.41	0.75
30	24	2.17	0.50	0.00	0.13	0.17	0.63	0.13	0.83	2.29	0.17
31	10	0.80	1.60	0.20	0.00	0.10	0.30	0.00	0.00	0.30	3.60
32	24	1.04	0.04	0.88	0.33	1.58	2.25	0.17	1.79	1.75	0.75
33	53	1.81	0.83	0.53	0.79	1.00	1.13	1.13	1.81	1.19	0.64
34	95	1.24	0.15	0.01	1.14	1.53	2.80	0.55	2.94	1.56	0.66
35	38	4.50	1.58	0.24	0.82	2.74	0.74	0.95	4.05	1.95	1.34
36	48	3.42	0.96	0.77	2.15	2.96	1.83	1.46	2.85	2.81	0.35
37	10	0.80	0.00	0.00	0.40	0.10	0.90	0.20	0.10	0.00	0.50
38	24	1.38	0.58	0.08	0.04	0.79	1.83	0.79	1.83	3.04	1.08
39	31	0.68	0.19	0.00	0.71	0.35	1.23	0.74	0.61	0.45	0.16
40	56	1.25	0.48	0.00	1.00	1.18	4.14	0.21	3.25	1.98	1.23
41	43	4.14	2.09	1.05	0.37	1.35	1.30	2.19	2.28	2.12	0.28
42	23	3.17	2.30	0.04	1.39	1.22	0.52	0.17	3.17	2.35	0.74
43	54	3.48	0.52	1.98	0.94	0.78	1.54	2.41	3.37	2.35	0.52
44	8	0.88	0.00	0.00	0.50	0.00	0.75	0.00	1.38	3.25	0.00
45	85	4.02	2.00	1.49	2.34	2.26	2.45	1.07	3.38	2.88	0.85
46	160	2.33	0.91	1.59	0.24	1.51	2.48	1.13	2.39	2.06	0.18
47	150	1.26	0.05	0.60	0.49	0.59	3.41	0.57	2.61	2.05	0.77
48	20	2.50	1.60	0.70	0.05	0.75	0.45	0.60	0.35	1.10	0.85
49	66	2.79	1.20	0.77	0.55	0.42	3.35	1.03	4.20	4.36	1.18
50	91	2.26	0.27	0.58	0.85	0.68	0.71	1.29	2.58	1.86	0.81

Table A2. Continued

Segment	Trip takers	Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
51	24	2.71	1.00	0.21	0.96	0.42	1.42	0.71	0.79	2.79	0.08
52	155	3.28	1.13	1.32	1.57	1.95	3.84	1.79	3.94	3.54	0.90
53	162	1.72	0.33	1.17	0.76	0.73	3.02	0.72	2.86	1.66	1.28
54	126	1.63	0.47	0.54	0.62	0.32	2.60	0.36	2.48	1.90	0.51
55	73	2.21	1.19	0.38	0.68	0.56	1.15	0.44	1.90	1.23	0.41
56	149	2.79	0.40	0.85	1.20	0.81	1.65	1.58	2.91	1.72	0.62
57	23	1.26	0.87	0.00	0.09	0.96	0.65	0.70	1.04	1.04	0.52
58	141	3.33	0.89	1.80	1.11	1.66	1.71	1.03	2.35	1.43	1.15
59	30	1.23	0.37	0.03	0.40	0.27	0.50	0.63	0.57	0.40	0.87
60	64	2.30	0.42	0.08	1.16	0.78	0.61	1.33	1.80	1.42	0.17
61	61	0.77	0.43	0.16	0.34	0.08	0.43	0.46	0.95	0.56	0.51
62	61	2.08	1.15	0.36	0.28	0.15	1.36	1.11	1.75	0.84	0.56
63	55	1.00	0.00	0.00	0.80	0.36	0.62	0.93	0.95	0.89	0.24
64	104	1.16	0.22	0.06	1.63	0.79	1.44	1.17	1.45	1.01	0.26
65	59	1.12	0.17	0.07	0.54	0.20	1.93	0.46	1.25	1.25	0.12
66	160	1.98	0.12	2.14	0.20	0.75	3.15	1.03	3.50	2.73	1.47
67	55	0.95	0.42	1.11	0.00	0.07	1.67	1.38	2.07	1.38	1.55
68	179	1.97	0.01	1.67	0.03	0.84	0.80	0.72	2.12	1.76	0.85
69	291	2.14	0.16	2.05	0.06	1.23	1.13	0.88	2.17	1.40	0.54
70	258	2.35	0.31	2.68	0.27	1.44	2.49	0.79	3.67	2.79	1.41
71	237	2.05	0.30	1.83	0.28	0.68	3.27	0.75	3.77	2.66	1.53
72	97	2.87	0.07	1.93	0.00	1.55	2.00	0.78	3.01	2.11	0.28
73	97	4.16	0.96	2.64	0.05	2.08	2.06	0.86	5.66	4.68	1.59
Total	1976	5.80	1.57	2.78	1.59	2.70	5.28	2.40	6.80	5.28	2.02

Table A3. Total Trips, by Activity and Group

Category		Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camp	Relaxing	Wildlife	Other
Age	Under 25	326	171	119	94	203	176	134	271	67	18
	26-34	977	308	397	223	586	748	342	968	597	246
	35-49	3927	1006	2143	1259	2308	3235	1739	4263	2846	917
	50-59	2579	851	1433	815	1284	3038	1388	3677	2985	992
	60-75	2805	633	1180	676	779	2633	883	3325	3083	1299
	75+	735	96	161	31	97	500	187	718	728	482
Gender	Female	1564	145	860	444	1121	2495	778	3350	2297	1315
	Male	9751	2892	4546	2656	4131	7792	3897	9862	7942	2614
Education	Less High	463	91	156	45	194	229	263	398	211	57
	High school	3186	809	1523	616	1188	1636	1361	2843	2133	1140
	some college	4227	1245	1914	1295	1882	2871	1650	4262	3640	1418
	college	2714	763	1455	824	1539	3585	1205	3959	2927	950
	advanced	805	157	406	351	498	2060	231	1842	1455	420
Family Size	1 adults	1364	258	515	472	691	1779	600	2266	1630	899
	2 adults	8514	2315	4150	2120	3831	7285	3522	9442	7509	2539
	3 adults	1081	371	638	393	536	940	463	1191	929	449
	4 adults	354	121	151	146	218	318	125	352	244	48
Children	0	6722	1531	3126	1562	2525	6330	2778	8566	7243	2915
	1	1889	627	976	650	974	1581	630	1896	1337	358
	2	1872	676	1039	577	1191	1823	882	2148	1346	529
	3	982	266	362	346	648	704	460	835	500	199
Employment Status	Full time	7303	2328	3794	2316	3854	6438	3364	8296	5942	1819
	Part time	586	154	326	231	400	765	246	1107	753	298
	Student	83	36	48	30	60	99	56	100	45	6
	Unemployment	542	54	181	154	314	527	189	667	619	260
	Retired	2852	493	1088	380	608	2460	834	3044	2955	1599

Table A3. Continued

Category		Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
Income	Under 10,000	151	10	35	14	83	209	58	296	217	169
	10,000-14,999	378	26	101	123	162	204	172	321	267	132
	15,000-19,999	287	6	58	73	139	218	101	353	404	258
	20,000-24,999	544	109	181	94	155	382	140	579	450	338
	25,000-29,999	532	182	129	91	212	447	236	638	595	227
	30,000-34,999	691	111	203	59	285	330	262	779	456	126
	35,000-39,999	658	121	283	131	329	514	335	663	513	215
	40,000-49,999	982	223	400	314	543	1119	523	1253	1077	513
	50,000-59,999	1521	510	708	506	568	1048	423	1616	1358	250
	60,000-74,999	1705	428	859	484	795	1377	662	1747	1279	561
	75,000-99,999	1989	645	1154	529	929	1564	837	2071	1567	413
	100,000-124,999	1080	513	718	351	617	1295	525	1459	1133	277
	125,000-149,999	292	46	191	162	187	504	126	441	220	119
	over 150,000	244	91	211	132	162	688	106	450	297	66
Boat Ownership1[a]	0	2314	486	537	160	867	4756	1045	5588	4471	2444
	1	9151	2614	4966	2975	4471	5682	3705	7857	5955	1557
Boat Ownership2[b]	0	2314	486	537	160	867	4756	1045	5588	4471	2444
	1	2582	618	1175	892	1527	2584	1126	3197	2069	511
	2	6569	1996	3791	2083	2944	3098	2579	4660	3886	1046
Total		11465	3100	5503	3135	5338	10438	4750	13445	10426	4001

[a]Boat Ownership1 = 1 if the individual owned, borrowed, or rented any type of boat in 2009; = 0 otherwise.

[b]Boat Ownership2 = 1 if the individual borrowed or rented any type of boat in 2009; = 2 if the individual owned a boat in 2009; = 0 otherwise.

Table A4. Mean Activities Among Visitors, by Group

Category		Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
Age	Under 25	9.9	5.2	3.6	2.8	6.2	5.3	4.1	8.2	2	0.5
	26-34	6.9	2.2	2.8	1.6	4.1	5.3	2.4	6.8	4.2	1.7
	35-49	7.2	1.8	3.9	2.3	4.2	5.9	3.2	7.8	5.2	1.7
	50-59	4.9	1.6	2.7	1.6	2.5	5.8	2.7	7	5.7	1.9
	60-75	5.1	1.1	2.1	1.2	1.4	4.8	1.6	6	5.6	2.3
	75+	4.7	0.6	1	0.2	0.6	3.2	1.2	4.6	4.7	3.1
Gender	Female	3.3	0.3	1.8	0.9	2.4	5.3	1.7	7.2	4.9	2.8
	Male	6.6	2	3.1	1.8	2.8	5.3	2.7	6.7	5.4	1.8
Education	Less High	7.8	1.5	2.6	0.8	3.3	3.9	4.5	6.7	3.6	1
	High school	7.3	1.8	3.5	1.4	2.7	3.7	3.1	6.5	4.9	2.6
	some college	7	2.1	3.2	2.1	3.1	4.7	2.7	7	6	2.3
	college	4.4	1.2	2.4	1.3	2.5	5.9	2	6.5	4.8	1.6
	advanced	3.3	0.6	1.7	1.4	2	8.4	0.9	7.5	5.9	1.7
Family Size	1 adults	4.1	0.8	1.6	1.4	2.1	5.4	1.8	6.9	5	2.7
	2 adults	6	1.6	2.9	1.5	2.7	5.1	2.5	6.6	5.3	1.8
	3 adults	6.8	2.3	4	2.5	3.4	5.9	2.9	7.5	5.8	2.8
	4 adults	7.4	2.5	3.1	3	4.5	6.6	2.6	7.3	5.1	1
Children	0	5.2	1.2	2.4	1.2	2	4.9	2.2	6.7	5.6	2.3
	1	7.3	2.4	3.8	2.5	3.8	6.1	2.4	7.3	5.2	1.4
	2	6.5	2.3	3.6	2	4.1	6.3	3.1	7.5	4.7	1.8
	3	6.9	1.9	2.5	2.4	4.5	4.9	3.2	5.8	3.5	1.4
Employment Status	Full time	6.2	2	3.2	2	3.3	5.4	2.8	7	5	1.5
	Part time	4.7	1.2	2.6	1.9	3.2	6.2	2	8.9	6.1	2.4
	Student	6.4	2.8	3.7	2.3	4.6	7.6	4.3	7.7	3.5	0.5
	Unemployment	7.2	0.7	2.4	2.1	4.2	7	2.5	8.9	8.3	3.5
	Retired	5.2	0.9	2	0.7	1.1	4.5	1.5	5.5	5.4	2.9

Table A4. Continued

Category		Fishing	Hunting	Boating	Canoeing	Swimming	Trails	Camping	Relaxing	Wildlife	Other
Income	Under 10,000	5.6	0.4	1.3	0.5	3.1	7.7	2.1	11	8	6.3
	10,000-14,999	7.3	0.5	1.9	2.4	3.1	3.9	3.3	6.2	5.1	2.5
	15,000-19,999	6.4	0.1	1.3	1.6	3.1	4.8	2.2	7.8	9	5.7
	20,000-24,999	6.8	1.4	2.3	1.2	1.9	4.8	1.8	7.2	5.6	4.2
	25,000-29,999	5.8	2	1.4	1	2.3	4.9	2.6	6.9	6.5	2.5
	30,000-34,999	6.5	1	1.9	0.6	2.7	3.1	2.5	7.3	4.3	1.2
	35,000-39,999	6.5	1.2	2.8	1.3	3.3	5.1	3.3	6.6	5.1	2.1
	40,000-49,999	5.3	1.2	2.2	1.7	2.9	6	2.8	6.8	5.8	2.8
	50,000-59,999	7.1	2.4	3.3	2.4	2.6	4.9	2	7.5	6.3	1.2
	60,000-74,999	6.3	1.6	3.2	1.8	2.9	5.1	2.4	6.4	4.7	2.1
	75,000-99,999	6.4	2.1	3.7	1.7	3	5.1	2.7	6.7	5.1	1.3
	100,000-124,999	5.2	2.5	3.5	1.7	3	6.2	2.5	7	5.4	1.3
	125,000-149,999	3.7	0.6	2.4	2.1	2.4	6.4	1.6	5.6	2.8	1.5
	over 150,000	3	1.1	2.6	1.6	2	8.5	1.3	5.6	3.7	0.8
Boat Ownership1[a]	0	2.6	0.5	0.6	0.2	1	5.4	1.2	6.3	5	2.8
	1	8.4	2.4	4.6	2.7	4.1	5.2	3.4	7.2	5.5	1.4
Boat Ownership2[b]	0	2.6	0.5	0.6	0.2	1	5.4	1.2	6.3	5	2.8
	1	6.2	1.5	2.8	2.1	3.7	6.2	2.7	7.7	5	1.2
	2	9.8	3	5.6	3.1	4.4	4.6	3.8	6.9	5.8	1.6
Total		5.8	1.6	2.8	1.6	2.7	5.3	2.4	6.8	5.3	2

[a]Boat Ownership1 = 1 if the individual owned, borrowed, or rented any type of boat in 2009; = 0 otherwise.

[b]Boat Ownership2 = 1 if the individual borrowed or rented any type of boat in 2009; = 2 if the individual owned a boat in 2009; = 0 otherwise.

Table A5. Trip Duration, by Group

Category		Half-day #	One-day #	2+ days #	Half-day %	One-day %	2+ days %
Age	Under 25	19	10	4	58	30	12
	26-34	88	41	11	63	29	8
	35-49	344	146	45	64	27	8
	50-59	317	150	43	62	29	8
	60-75	351	130	47	66	25	9
	75+	104	33	8	72	23	6
Gender	Female	318	109	27	70	24	6
	Male	897	395	130	63	28	9
Education	Less High	32	19	5	57	34	9
	High school	245	116	59	58	28	14
	some college	340	180	59	59	31	10
	College	419	153	30	70	25	5
	Advanced	192	44	5	80	18	2
Family Size	1 adults	211	88	15	67	28	5
	2 adults	892	361	122	65	26	9
	3 adults	92	47	18	59	30	11
	4 adults	29	15	3	62	32	6
Children	0	798	329	101	65	27	8
	1	168	66	18	67	26	7
	2	178	80	27	62	28	9
	3	85	40	12	62	29	9
Employment Status	Full time	727	327	97	63	28	8
	Part time	77	36	7	64	30	6
	Student	9	3	1	69	23	8
	Unemployment	54	13	4	76	18	6
	Retired	353	128	47	67	24	9
Income	Under 10,000	15	8	1	63	33	4
	10,000-14,999	34	11	6	67	22	12
	15,000-19,999	30	10	4	68	23	9
	20,000-24,999	50	21	3	68	28	4
	25,000-29,999	60	20	8	68	23	9
	30,000-34,999	65	21	12	66	21	12
	35,000-39,999	56	31	10	58	32	10
	40,000-49,999	109	54	12	62	31	7
	50,000-59,999	131	60	18	63	29	9
	60,000-74,999	166	80	21	62	30	8
	75,000-99,999	203	71	29	67	23	10
	100,000-124,999	127	61	18	62	30	9
	125,000-149,999	54	16	7	70	21	9
	over 150,000	57	21	2	71	26	3

Table A5. Continued

Category		Half-day #	One-day #	2+ days #	Half-day %	One-day %	2+ days %
Boat Ownership1[a]	0	666	134	49	78	16	6
	1	563	381	109	53	36	10
Boat Ownership2[b]	0	666	134	49	78	16	6
	1	227	144	35	56	35	9
	2	336	237	74	52	37	11
Total		1229	515	158	65	27	8

[a]Boat Ownership1 = 1 if the individual owned, borrowed, or rented any type of boat in 2009; = 0 otherwise.
[b]Boat Ownership2 = 1 if the individual borrowed or rented any type of boat in 2009; = 2 if the individual owned a boat in 2009; = 0 otherwise.

Table A6. Most Important Factors

Category		Proximity to Home	Water Quality and Habitats	Convenient Location to meet Friends	Available Recreation Activities	Available Facilities	Other
Age	Under 25	40	19	13	12	9	8
	26-34	40	19	15	13	10	3
	35-49	43	19	12	11	12	4
	50-59	41	19	12	11	12	5
	60-75	45	14	14	9	13	6
	75+	50	14	14	5	9	8
Gender	Female	42	15	16	9	13	5
	Male	43	18	12	10	11	5
Education	Less High	52	15	12	6	12	4
	High school	43	16	16	7	12	6
	some college	43	18	12	8	12	6
	college	41	18	13	12	11	5
	advanced	47	16	10	14	9	5
Family Size	1 adults	41	16	16	9	10	7
	2 adults	44	17	12	10	12	5
	3 adults	40	19	11	13	12	5
	4 adults	37	16	14	11	13	9
Children	0	43	16	13	9	12	6
	1	40	20	13	13	11	4
	2	43	18	12	11	12	4
	3	46	19	11	11	9	4
Employment Status	Full time	42	18	12	11	11	5
	Part time	41	18	13	11	13	4
	Student	47	18	12	7	6	9
	Unemployment	42	19	15	8	12	4
	Retired	46	15	14	7	11	7

Table A6. Continued

Category		Proximity to Home	Water Quality and Habitats	Convenient Location to meet Friends	Available Recreation Activities	Available Facilities	Other
Income	Under 10,000	51	10	20	6	9	3
	10,000-14,999	48	17	17	8	8	2
	15,000-19,999	48	14	17	5	11	5
	20,000-24,999	41	17	15	7	14	7
	25,000-29,999	45	12	19	7	11	6
	30,000-34,999	40	18	15	10	12	6
	35,000-39,999	43	16	14	7	13	6
	40,000-49,999	42	18	13	10	11	6
	50,000-59,999	45	17	12	9	12	6
	60,000-74,999	43	19	13	10	12	4
	75,000-99,999	42	18	12	10	11	6
	100,000-124,999	43	20	10	11	11	4
	125,000-149,999	42	16	10	15	11	7
	over 150,000	41	19	12	15	9	4
Boat Ownership1[a]	0	47	13	14	9	11	6
	1	40	21	12	11	12	5
Boat Ownership2[b]	0	47	13	14	9	11	6
	1	38	20	15	13	12	3
	2	42	21	10	9	11	6
Total		43	17	13	10	11	6

[a]Boat Ownership1 = 1 if the individual owned, borrowed, or rented any type of boat in 2009; = 0 otherwise.
[b]Boat Ownership2 = 1 if the individual borrowed or rented any type of boat in 2009; = 2 if the individual owned a boat in 2009; = 0 otherwise.

Table A7. Ranking Factors, by Group (raw score)

Factor	Visitor	Non Visitor	Fishing	Hunting	Boating	Canoeing	Swimming	Non Swimming	Trails	Camping	Relaxing	Wildlife	Other
1	2.55	2.83	2.63	2.45	2.76	2.48	2.72	2.76	2.67	2.58	2.68	2.62	2.68
2	3.32	3.33	3.54	3.76	3.45	3.79	3.49	3.4	3.56	3.51	3.51	3.64	3.5
3	2.53	2.78	2.6	2.72	2.62	2.5	2.62	2.74	2.65	2.56	2.67	2.65	2.71
4	2.3	2.56	2.35	2.31	2.37	2.26	2.38	2.51	2.41	2.36	2.44	2.43	2.53
5	4	3.94	4.18	4.35	4.16	4.38	4.18	4.05	4.33	4.22	4.22	4.37	4.21
6	3.64	3.58	3.77	3.87	3.81	4.11	3.85	3.69	4.01	3.89	3.86	3.99	3.83
7	2.01	2.42	2	1.8	2.13	1.85	2.01	2.3	2.02	1.95	2.08	1.98	2.25
8	1.59	1.83	1.7	1.54	1.67	1.52	1.67	1.76	1.48	1.65	1.64	1.55	1.71
9	1.78	1.99	1.86	1.8	1.87	1.71	1.86	1.94	1.7	1.85	1.83	1.74	1.88
10	1.84	2.05	2.02	1.89	2	1.8	1.94	1.99	1.77	1.96	1.89	1.81	1.96
11	3.77	3.77	4.51	4.58	4.25	4.02	4.05	3.85	3.86	4.15	3.89	3.96	3.8
12	2.34	2.56	2.37	2.31	2.38	2.33	2.43	2.52	2.43	2.35	2.48	2.45	2.56
13	3.08	3.33	2.93	2.79	3.28	2.93	3.1	3.28	3.26	3.04	3.27	3.21	3.34
14	2.95	3.34	2.91	2.78	3.17	2.94	3.07	3.24	3.21	3.06	3.19	3.13	3.22
15	4.17	4.24	4.42	4.43	4.51	4.45	4.51	4.27	4.4	4.49	4.37	4.41	4.31
16	3.63	3.8	3.81	3.8	3.91	4.03	3.85	3.78	3.82	3.84	3.76	3.82	3.71
17	2.17	2.23	2.34	2.33	2.29	2.3	2.33	2.26	2.26	2.33	2.28	2.25	2.32
18	1.58	1.75	1.76	1.6	1.71	1.51	1.68	1.71	1.47	1.73	1.63	1.52	1.7
19	3.54	3.77	3.72	3.71	3.72	3.62	3.7	3.77	3.8	3.71	3.8	3.82	3.74
20	3.28	3.64	3.26	3.25	3.34	3.41	3.36	3.57	3.65	3.41	3.58	3.61	3.59
21	2.98	3.08	3.3	3.21	3.84	2.94	3.37	3.07	2.99	3.24	3.08	3.01	3.05
22	3.28	3.44	3.42	3.49	3.59	4.25	3.78	3.4	3.58	3.67	3.47	3.51	3.34
23	3.65	3.68	3.52	3.51	3.67	3.9	3.8	3.74	4.35	3.79	3.94	3.98	3.77
24	1.36	1.64	1.49	1.37	1.47	1.33	1.45	1.54	1.26	1.5	1.39	1.31	1.43
25	3.58	3.84	3.51	3.24	3.72	3.56	3.67	3.8	3.86	3.83	3.87	3.76	3.82
26	2.82	3.18	2.85	2.57	3.05	3.09	3.05	3.07	3.05	2.99	3.03	3.02	2.93
27	3.12	3.32	3.14	2.98	3.34	3.28	3.31	3.3	3.39	3.2	3.33	3.32	3.32
28	3.26	3.33	3.52	3.57	3.46	3.54	3.48	3.37	3.47	3.53	3.45	3.51	3.4
29	3.31	3.21	3.62	3.97	3.5	3.78	3.59	3.32	3.5	3.65	3.45	3.57	3.4
30	3.33	3.51	3.36	3.32	3.56	3.74	3.54	3.5	3.72	3.59	3.58	3.6	3.54

Table A8. Ranking Factors, by Group (ranks)

Factor	Visitor	Non Visitor	Fishing	Hunting	Boating	Canoeing	Swimming	Non Swimming	Trails	Camping	Relaxing	Wildlife	Other
1	20	20	20	21	20	21	20	20	20	20	20	21	21
2	10	14	8	7	14	8	12	11	12	13	11	9	11
3	21	21	21	19	21	20	21	21	21	21	21	20	20
4	23	22	23	23	23	24	23	23	23	22	23	23	23
5	2	2	3	3	3	2	2	2	3	2	2	2	2
6	5	9	5	5	6	4	4	8	4	4	6	3	3
7	25	24	26	27	25	25	25	24	25	26	25	25	25
8	28	28	29	29	29	28	29	28	28	29	28	28	28
9	27	27	27	26	27	27	27	27	27	27	27	27	27
10	26	26	25	25	26	26	26	26	26	25	26	26	26
11	3	6	1	1	2	6	3	3	5	3	4	5	5
12	22	23	22	24	22	22	22	22	22	23	22	22	22
13	16	13	17	17	17	19	17	16	16	18	16	16	14
14	18	12	18	18	18	18	18	17	17	17	17	17	17
15	1	1	2	2	1	1	1	1	1	1	1	1	1
16	6	4	4	6	4	5	5	5	7	5	8	6	8
17	24	25	24	22	24	23	24	25	24	24	24	24	24
18	29	29	28	28	28	29	28	29	29	28	29	29	29
19	8	5	6	8	7	11	8	6	8	8	7	7	7
20	12	8	15	13	15	14	15	9	10	14	10	10	9
21	17	19	14	15	5	17	14	18	19	15	18	19	18
22	13	11	12	11	10	3	7	12	11	9	12	13	15
23	4	7	10	10	9	7	6	7	2	7	3	4	6
24	30	30	30	30	30	30	30	30	30	30	30	30	30
25	7	3	11	14	8	12	9	4	6	6	5	8	4
26	19	18	19	20	19	16	19	19	18	19	19	18	19
27	15	16	16	16	16	15	16	15	15	16	15	15	16
28	14	15	9	9	13	13	13	13	14	12	13	14	12
29	11	17	7	4	12	9	10	14	13	10	14	12	13
30	9	10	13	12	11	10	11	10	9	11	9	11	10

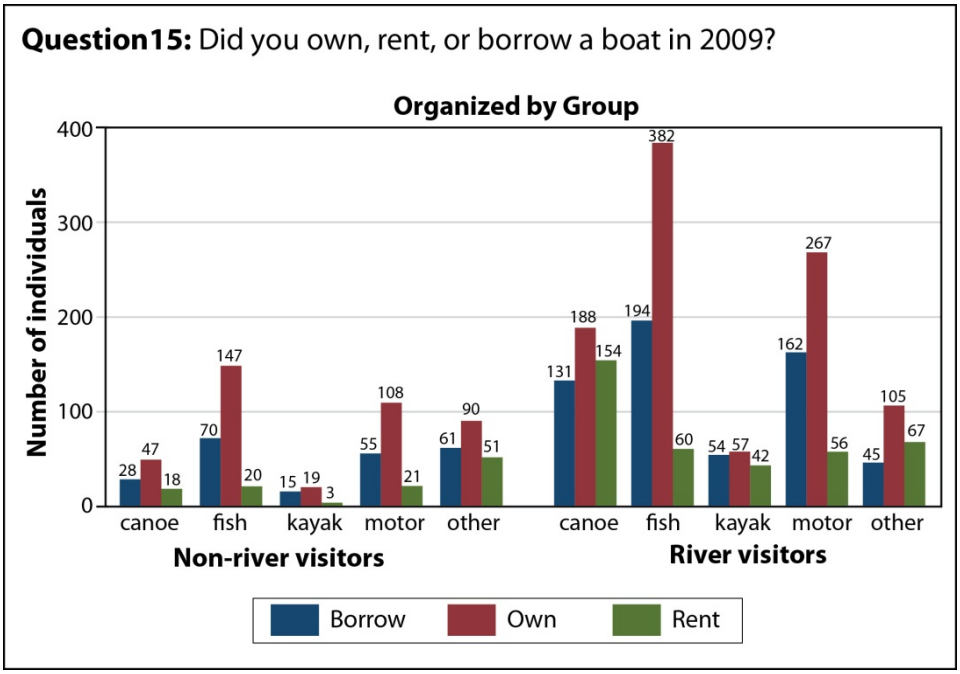


Figure A1.1. Boat Ownership Counted by Numbers, by Group

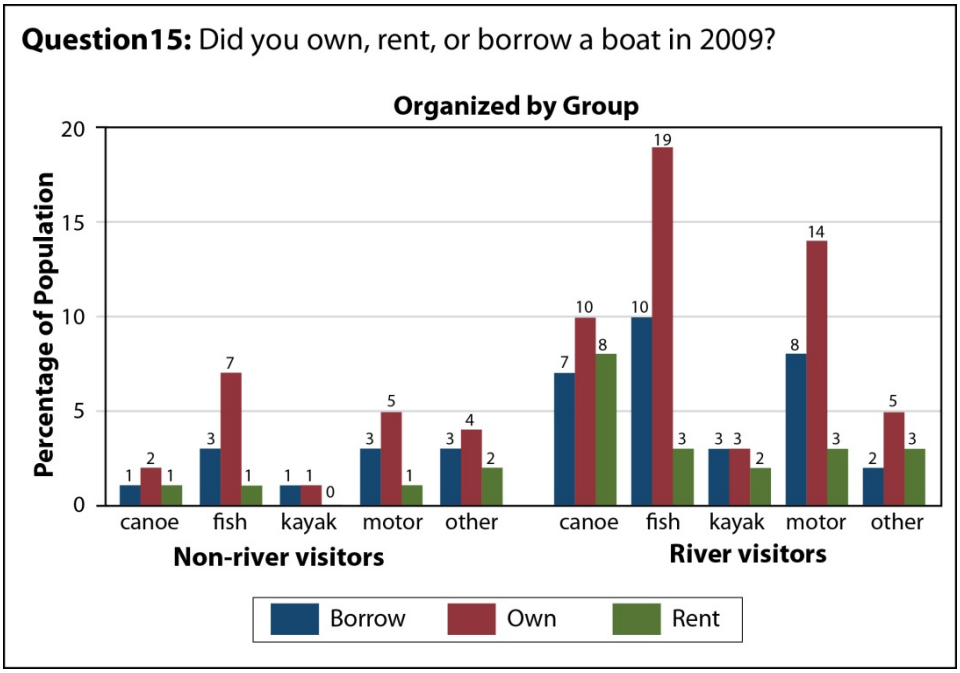
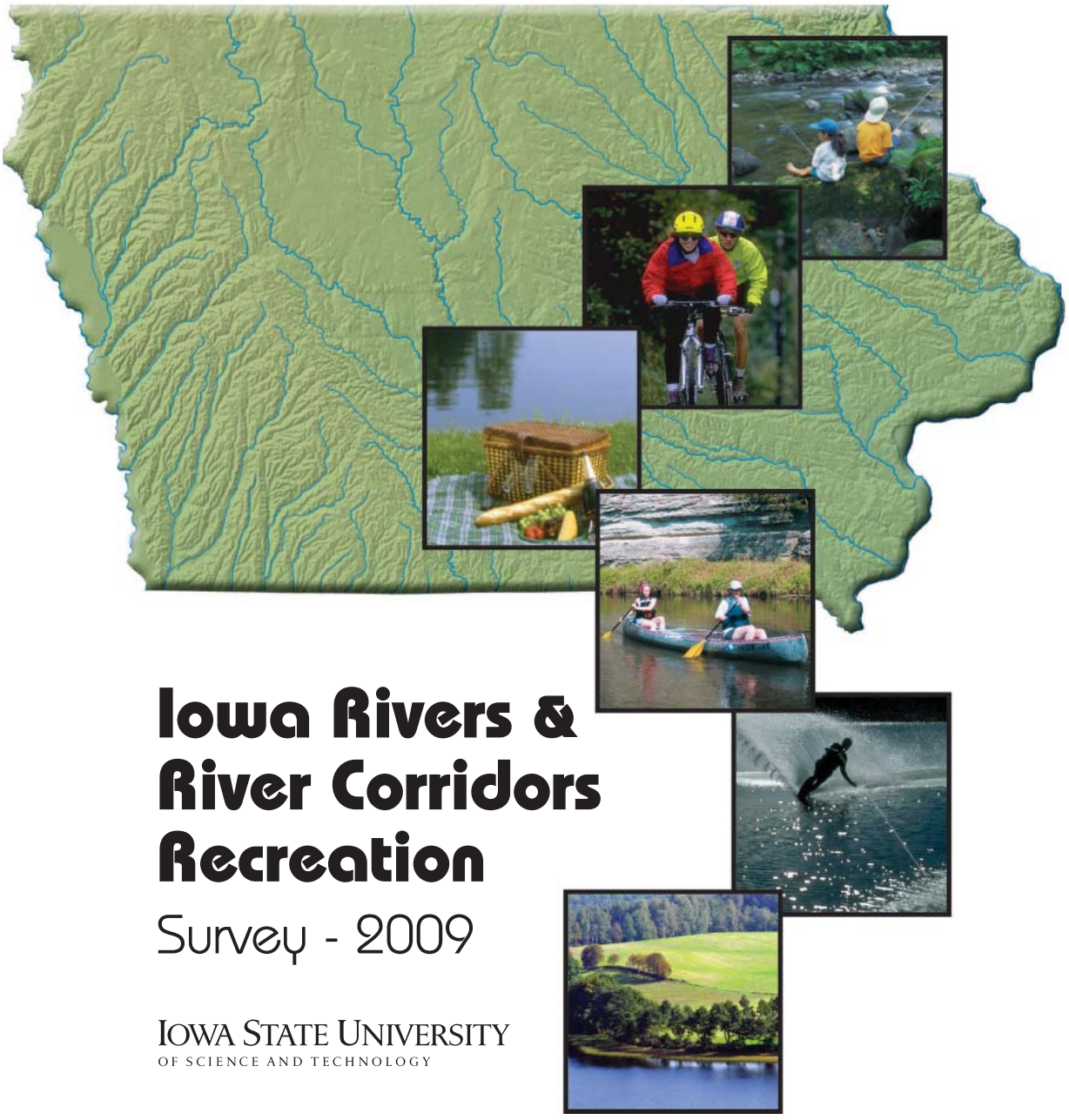


Figure A1.2. Boat Ownership Counted in Percentages, by Group (Q15 boats 1)

APPENDIX B

Survey



Iowa Rivers & River Corridors Recreation

Survey - 2009

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

In order to make sound decisions concerning the future of Iowa rivers and streams, it is important to understand how the rivers and streams are used, as well as what factors influence your selection of rivers and streams to visit. The answers you give to the questions in this survey may be important in determining where investments may be made to protect, develop or restore rivers and streams. Even if you have not visited any rivers and streams 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 rivers and streams.

In this first section, we would like to find out which of the river or stream segments on the enclosed map you visited and what you did there. A "visit" includes not only those times you entered the stream or river itself (swimming, canoeing, fishing, etc.), but also the times you spent right next to the river or stream (hiking, bicycling, bird watching, etc.). The lands right next to the rivers and streams are often referred to as the river and stream "corridors."

If you have not visited any rivers or streams in Iowa this year please check this box and proceed to question 7 on page 9.

❑ **I have not visited or plan to visit any rivers in Iowa this year.**

1. **Using the enclosed map, identify the river or stream segments (including the adjacent stream corridors) that you visited during 2009.** Once you have identified these stream(s) please mark with an "X" on the map the location where you *most often access* a river or stream. An approximate location is adequate.

2. **Next, please tell us about all of your river/stream visits during the entirety of 2009. On the following tables on pages 4-7, please record the number of visits you made, or plan to make in the remainder of the year, and place a checkmark in *each* of the appropriate boxes to indicate the activities you undertook or plan to undertake. (**Please count as a "visit" any trip you took for the purpose of viewing or using the river. Also, if you go out of your way to bike, walk, etc. along the river, include that as a trip as well.)

Please check all that apply

River segment ID	Major river or tributary label	Total number of trips in 2009	Fishing	Hunting or trapping	Boating with motor, water skiing	Canoeing or kayaking	Swimming, tubing or playing in water	Use of trails for hiking, biking, XC-skiing, etc.	Camping	Relaxing, picnicking	Wildlife/ bird watching	Other _____
1	Big Sioux	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
2	Rock	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
3	Floyd	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
4	Ocheyedan	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
5	Little Sioux (above Cherokee)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
6	Little Sioux (below Cherokee)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
7	Maple	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
8	Soldier	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
9	Boyer (above Denison)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
10	Boyer (below Denison)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
11	Mosquito Creek	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
12	Keg Creek	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
13	West Nishnabotna	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
14	East Nishnabotna (above Red Oak)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
15	East Nishnabotna (below Red Oak)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
16	West Nodaway	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
17	Platte	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
18	Grand	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
19	Grand (Thompson Fork)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
20	Chariton River*	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
21	East Fork Des Moines	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

**Not including Rathburn Lake*

Please check all that apply

River segment ID	Major river or tributary label	Total number of trips in 2009	Fishing	Hunting or trapping	Boating with motor, water skiing	Canoeing or kayaking	Swimming, tubing or playing in water	Use of trails for hiking, biking, XC-skiing, etc.	Camping	Relaxing, picnicking	Wildlife/ bird watching	Other _____
22	West Fork Des Moines	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
23	Des Moines (Humboldt to Saylorville*)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
24	Des Moines (Saylorville Dam to Red Rock*)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
25	Des Moines (Red Rock Dam to Ottumwa)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
26	Des Moines (below Ottumwa)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
27	Lizard Creek	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
28	South	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
29	Middle	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
30	North	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
31	Cedar Creek	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
32	South Raccoon (above Redfield)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
33	Middle Raccoon (above Redfield)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
34	Raccoon (below Redfield)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
35	North Raccoon (above Jefferson)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
36	North Raccoon (below Jefferson)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
37	Big Cedar Creek	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
38	Boone (above Webster City)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
39	Boone (below Webster City)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
40	South Skunk (above Ames)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

**Not including Saylorville or Red Rock Lake*

Please check all that apply

River segment ID	Major river or tributary label	Total number of trips in 2009	Fishing	Hunting or trapping	Boating with motor, water skiing	Canoeing or kayaking	Swimming, tubing or playing in water	Use of trails for hiking, biking, XC-skiing, etc.	Camping	Relaxing, picnicking	Wildlife/ bird watching	Other _____
41	South Skunk (Ames to junction with North Skunk)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
42	North Skunk	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
43	Skunk	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
44	Big Cedar Creek	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
45	Iowa (above Marshalltown)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
46	Iowa (Marshalltown to Coralville*)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
47	Iowa (below Coralville Dam)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
48	English	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
49	Winnebago	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
50	Shell Rock	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
51	West Fork Cedar	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
52	Cedar (above Waterloo)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
53	Cedar (Waterloo to Cedar Rapids)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
54	Cedar (below Cedar Rapids)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
55	Wapsipinicon (above Indepen-dence)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
56	Wapsipinicon (below Indepen-dence)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
57	Buffalo Creek	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
58	Maquoketa	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
59	North Fork Maquoketa	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

**Not including Coralville Lake*

Please check all that apply

River segment ID	Major river or tributary label	Total number of trips in 2009	Fishing	Hunting or trapping	Boating with motor, water skiing	Canoeing or kayaking	Swimming, tubing or playing in water	Use of trails for hiking, biking, XC-skiing, etc.	Camping	Relaxing, picnicking	Wildlife/ bird watching	Other _____
60	Turkey (above Elkader)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
61	Turkey (below Elkader)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
62	Volga	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
63	Yellow	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
64	Upper Iowa (above Decorah)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
65	Upper Iowa (below Decorah)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
66	Missouri (Sioux City to Council Bluffs)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
67	Missouri (below Council Bluffs)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
68	Mississippi (Minnesota to MacGregor)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
69	Mississippi (MacGregor to Dubuque)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
70	Mississippi (Dubuque to Clinton)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
71	Mississippi (Clinton to Muscatine)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
72	Mississippi (Muscatine to Burlington)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
73	Mississippi (Burlington to Keokuk)	_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
Other river (county)		_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
stream or creek (county)		_____#	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

3. How long is your typical visit to a river?

❑ half-day or less ❑ 1 day ❑ 2 or more days

4. On your typical visit, what perentage of your time do you spend on the following activites?

_____ Fishing
_____ Hunting or trapping
_____ Boating with motor, water skiing
_____ Canoeing or kayaking
_____ Swimming, tubing, or playing in water
_____ Use of trails for hiking, biking, XC-skiing, etc.
_____ Camping
_____ Relaxing, picnicking
_____ Wildlife/bird watching
100%

5. What was most important to you when SELECTING the rivers and/or streams you have visited this past year? In particular, if you were given 100 points to distribute according to what is most important for choosing a river or stream to visit, how would you distribute them? To indicate one item is more important to you than another, you should allocate more points to it. You do not need to give points to all of the items, but remember that the total needs to equal 100.

_____ Proximity to home
_____ Water quality and habitat
_____ A convenient location to meet friends/relatives
_____ Available recreational activites (i.e., kayaking, biking, etc.)
_____ Available facilities (i.e., bathrooms, trails, boat ramps, etc.)
_____ Other (describe _____)
100 pts.

6. In addition to our river/river corridor activites, which of these other activities are you most likely to enjoy:

❑ Casino gambling
❑ Visit friends/family
❑ Visit historical areas
❑ Shopping
❑ General sightseeing
❑ Visit museums
❑ Visit ethnic attractions
❑ Travel scenic byways
❑ Attend festivals/events
❑ None

7. How do you decide whether to visit rivers and/or where to go? Rank how each of the following factors affect whether you visit rivers and streams and your decisions about which river or stream segment you use.

	Most negatively affecting				Most positively affecting
Straightened section of stream	1	2	3	4	5
A curving stream with numerous bends	1	2	3	4	5
Row Crop Agriculture visible along river banks (fields, pasture, etc.)	1	2	3	4	5
Livestock Agriculture visible along river banks (grazing, feedlots)					
Natural setting dominates river banks (forest, prairie, etc.)	1	2	3	4	5
Rock outcroppings	1	2	3	4	5
Mostly residential areas visible	1	2	3	4	5
Stream section with possible bacterial contamination	1	2	3	4	5
Stream section with possible sediment and nutrient contamination	1	2	3	4	5
Stream section with abundant algae	1	2	3	4	5
A stream with abundant game fish	1	2	3	4	5
A stream dominated by carp or other rough fish	1	2	3	4	5
Nearby urban areas with places to eat, drink, and shop	1	2	3	4	5
Nearby lodging	1	2	3	4	5
A stream section where water quality is safe for human contact	1	2	3	4	5
A flowing stream section where there is no need to get around obstructions such as dams and fences	1	2	3	4	5

Continued on next page

	Most negatively affecting				Most positively affecting
A stream section where the river is muddy	1	2	3	4	5
A stream section where the river smells unpleasant	1	2	3	4	5
A stream with gently flowing water	1	2	3	4	5
A stream section where I expect to finD historical sites	1	2	3	4	5
A river section with adequate access for motorboats	1	2	3	4	5
A river section with adequate access for canoes, kayaks, and inner tubes	1	2	3	4	5
A river section with adequate trail access (for hiking, biking, running, etc.)	1	2	3	4	5
Riverbanks lined with trash	1	2	3	4	5
Adequate on site facilities such as restrooms, shelters, picnic facilities	1	2	3	4	5
A river section near restaurants and/or shopping	1	2	3	4	5
A river section with boat rental and/or shuttle service nearby	1	2	3	4	5
Access points are located in cities or small towns	1	2	3	4	5
Access points are located in rural areas	1	2	3	4	5
Stream segment in very remote rural settings	1	2	3	4	5
Other(please specify)____ _____	1	2	3	4	5
Other (please specify)_____	1	2	3	4	5

Information on you and other members of your household will help us better understand how household characteristics affect an individual's use of Iowa rivers and streams 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?

❑Under 18 ❑26 – 34 ❑50 - 59 ❑76 +
❑18 – 25 ❑35 – 49 ❑60 - 75

9. Are you

❑male ❑female

10. What is the highest level of schooling that you have completed? (Please check only one)

❑Some high school or less ❑Some college or trade/vocational school ❑Advanced degree
❑High school graduate ❑College graduate

11. How many adults (including yourself) live in your household? _____

12. How many children (18 or under) live in your household?_____

13. What is your current employment status?

❑full time ❑part time ❑student ❑unemployed ❑retired

14. What is your total household income (before taxes) for 2009?

❑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

15. Do you own a boat or did you rent one in 2009?

	Canoe	Kayak	Motorboat	Fishing boat	Other
Own	❑	❑	❑	❑	❑
Rent	❑	❑	❑	❑	❑

Thank you for your participation in this survey. After completion, surveys should be returned to:

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