



Iowa Lakes Survey 2009

A Report to the Iowa Department of Natural Resources

The Iowa Lakes Valuation Project 2009

Summary and Findings

Keith S. Evans, Joseph A. Herriges, and Catherine L. Kling

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The Iowa Lakes Valuation Project is an ongoing economic study of the use and value Iowans place on water quality in Iowa lakes. In this report, we summarize and interpret the main findings of the 2009 data collection component of the overall study. We begin with a brief introduction to the overall project, and then turn to a description of the survey design and implementation for the 2009 data collection effort. Finally, we present a summary of results from the survey.

I. Overview of the Iowa Lakes Valuation Project

The Iowa Lakes Valuation Project is a large, ongoing project to advance understanding about the lake visitation patterns and preferences of Iowans at a number of important lakes in the state. The project was designed to complement the research being done by Dr. John Downing and other members of the ISU Limnology Laboratory. This research has provided the Iowa Department of Natural Resources with a lake database that includes water chemistry, biological analysis, and watershed geographic information systems (GIS) data for 129 of Iowa's principal recreational lakes. Thus, the combined effort has resulted in detailed information on both the biological condition of Iowa lakes and the value and use of water quality improvements at those lakes.

The study has been jointly funded by the Iowa Department of Natural Resources and the U.S. Environmental Protection Agency. The first year of data collection for the study in 2002 focused on providing a baseline of information on use and attitudes toward water quality measures and economic development. The second through fourth years of data collection also included collecting information on use but additionally provided scenarios to survey respondents to elicit their

willingness to pay for quality improvements. A website (<http://www.card.iastate.edu/lakes/>) created with funding from the Iowa Department of Natural Resources has been developed that allows potential recreationists and policymakers to access the summary information on lake usage and water quality in an easily accessible manner.

To gather the four years of data for the Iowa Lakes Survey Project, we administered surveys in 2002, 2003, 2004, and 2005 to a large sample of about 8,000 Iowans. This report provides information on the fifth year of data collection, which occurred in 2009.

II. Design and Implementation of the Iowa Lakes Survey 2009

Structure of the Survey

The Iowa Lakes Survey—2009 was divided into two main sections. In the first section, respondents were asked about their household lake visitation patterns during the 2009 calendar year. Respondents were asked to report the number of trips (including multi-day trips) to the 132 lakes listed in Table 1, identified by the Iowa Department of Natural Resources, and they were provided with a map (Figure 1) showing the names and locations of the lakes. (All tables and figures are located at the end of the report.) Respondents were also asked about visitation patterns to lakes in bordering states and whether trips were taken to river or stream segments in Iowa. Additionally, respondents were asked to indicate which activities their household participated in during lake visits. The actual survey questions can be found in a copy of the final survey instrument included in the appendix.

Additionally, respondents were presented with a pair of choice experiments. In each experiment, respondents were asked to consider two hypothetical lakes with the same shape but which differed in terms of water quality, distance from home, and entrance fee.¹

¹ Data summaries and analysis of the choice experiment data will be available in separate research articles when completed.

In the final section, sociodemographic information was gathered from respondents. Information collected in this section included age, gender, education, household size, employment status, income, and whether the individual owned a boat in 2009.

Design of the Survey Instrument

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 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.

Administration of the Survey

After revising the survey instrument in response to the focus groups and the pre-test sample, the final survey was mailed to 10,000 Iowa households: 4,600 Iowa residents that responded to the 2005 Iowa Lakes Survey and 5,400 randomly selected Iowa residents. Sample households were sent a packet that contained the survey, a map of Iowa lakes, 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 \$12 as a partial compensation for their time. Respondents who did not return the survey within three weeks were sent a postcard reminder. 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.

Versions 1 through 3 of the survey were sent to 2,500 households, randomly assigned between previous participants and the random sample. Version 4 of the survey was sent to a random sample of 2,500 Iowa households. Of the 10,000 surveys sent out, 144 were returned by the postal service as undeliverable because

the addressee was deceased or had moved, and 138 households refused the mailing. There were 6,043 respondents who chose to return the survey by mail, generating a 61.3% response rate among deliverable surveys.

III. Survey Results

Lake Usage of Respondents

On average, a large proportion of respondents reported taking at least one single-day trip during the 2009 calendar year. Approximately 59% of respondents reported at least one single-day trip, while about 2% reported taking at least one overnight trip. The average number of single-day trips by respondents was 8.6; the average number of single-day trips by households that reported taking at least one trip was 14.5. The average number of overnight trips by respondents was significantly lower, with 1.4 over the complete sample of respondents and 6.3 among trip-takers.

Tables 2 and 3 list some basic summary statistics on the visitation patterns of respondents categorized by lake. The average number of single-day trips to a particular lake among all respondents varied between 0.01 and 0.75 (Mean 1). When conditioned on households that answered affirmatively to taking trips to the specific lake, the average number of trips varied between 1.48 and 7.44 (Mean 3). The column labeled Mean 2 contains the average number of single-day trips to a particular lake by trip-takers. The top five most visited lakes by respondents were Saylorville Lake, Clear Lake, West Okoboji Lake, Coralville Lake, and Big Creek Lake, respectively. The five least visited lakes by respondents were Slip Bluff Lake, Pierce Creek Lake, Windmill Lake, Fogle Lake, and Bob White Lake.

Respondents also took trips to lakes in the states bordering Iowa, as well as to the Mississippi and Missouri Rivers. Tables 4 and 5 list some basic statistics on the respondents' visitation patterns to these lakes and rivers. In contrast with the previously reported statistics, only 19.1% of respondents reported at least one single-day trip to a lake in a bordering state; 20.1% reported taking at least one

overnight trip. When asked about trips to the bordering rivers, approximately 26.5% of respondents reported at least one single-day trip while only 7.8% reported taking at least one overnight trip. Sixty-one percent of respondents reported visiting a river or stream segment in Iowa, including the Mississippi and Missouri Rivers, in the 2009 calendar year.

The majority of single-day trips to lakes in states bordering Iowa were in Minnesota, averaging 0.21 trips in the 2009 calendar year. In contrast, the fewest number of single-day trips took place to lakes in Nebraska, averaging 0.04 trips. Respondents took a sizable number of single-day trips to the Mississippi River, averaging 1.25 trips, whereas respondents participated in an average of only 0.29 trips to the Missouri River.

The same visitation pattern is observed with overnight trips to lakes in bordering states and the river segments bordering Iowa. Respondents reported an average of 0.25 overnight trips to lakes in Minnesota in the 2009 calendar year but only 0.02 on average to lakes in Nebraska. The Mississippi River received an average of 0.24 overnight trips whereas respondents participated in an average of only 0.05 overnight trips to the Missouri River.

Lake Activities of Respondents

Respondents were asked to select the activities that they commonly participate in during a visit to an Iowa lake. Figure 2 depicts the frequency with which respondents selected these activities. The top four activities selected by respondents were fishing, picnicking, nature/wildlife watching, and boating, respectively. The bottom four activities were sailing, snowmobiling, jet skiing, and hunting, respectively. These results are consistent with 25% of respondents reporting boat ownership.

Respondent Demographics

Respondents varied in age, employment status, size of their household, income, and education. In this section, we provide some basic summary statistics regarding the demographic characteristics of respondents.

Figure 3 illustrates the age distribution among respondents. The majority of respondents were between the ages of 35 and 75, with 61% being male. The largest group of respondents contained individuals between the ages of 60 and 75. This is consistent with Figure 4, which displays the employment status of respondents: 36% were retired, while 52% were employed full time.

Table 6 contains information on the households of respondents. The average number of adults within households was 1.91. On average, these households contained 0.53 children. This created an average household (family) size of about 2.33, which is in line with the 2008 average Iowa family size of 2.37.²

Figure 5 depicts the distribution of income among respondents. Forty-eight percent reported an annual income between \$40,000 and \$99,999, with the largest portion of those falling between \$75,000 and \$99,999.

This is consistent with reported education levels among respondents, illustrated in Figure 6. A majority of respondents, 69%, have received at least some college education. Approximately 37% of respondents reported obtaining at least a college degree, and 12% reported having an advanced degree.

Total Usage of Iowa Lakes by Iowa Households

Using information collected from the Iowa Lakes surveys 2002 through 2005 and 2009 and a follow-up survey of non-respondents in 2002, we estimated the total

² For more information about Iowa demographics, refer to the State Data Center at the State Library of Iowa (<http://www.iowadatacenter.org/>).

number of single-day household trips to 132 Iowa lakes by all Iowans.³ Table 7 contains estimated household trips categorized by lake. The four-year average between 2002 and 2005 and the percentage change between this four-year average and 2009 are also included. Overall, Iowa lakes experienced an increase in the intensity of visitation. Specifically, the average lake in Iowa experienced a 32.7% increase in visitation. Part of this increase is explained simply by an increase in the number of households in Iowa.

The overall predicted increase is not uniformly enjoyed at all lakes. There exists a considerable amount of variation at the individual lake level, ranging from over a 150% increase in household visitation to a 22% decrease. The top five most heavily visited lakes in 2009 were Saylorville Lake, Coralville Lake, Clear Lake, West Okoboji Lake, and Big Creek Lake, respectively. The five least visited lakes were Slip Bluff Lake, Manteno Lake, Pierce Creek Lake, Meadow Lake, and Oldham Lake.

Table 8 contains the ranking of Iowa lakes according to the intensity of household visitation under the four-year average and in 2009, as described in Table 7. Also included is the change in overall ranking between the four-year average and 2009. This column captures substitution between lakes. The five lakes with the largest change in rankings between the four-year average and 2009 are Silver Lake (Dickinson County), Lake Minnewashta, Viking Lake, Roberts Creek Lake, and Silver Lake (Delaware County), respectively. In contrast, the five lakes that experienced the largest drop in rankings are Hawthorn lake (aka Barnes City Lake), Badger Lake, Beeds Lake, Lower Pine Lake, and Upper Pine Lake.

³ A complete description of the calculation is available from the authors upon request.

TABLES AND FIGURES

Table 1. Iowa Lakes Included in Survey

DNR #	Lake Name	DNR #	Lake Name
1	Arbor Lake	38	George Wyth Lake
2	Arrowhead Lake (Pottawattamie County)	39	Green Belt Lake
3	Arrowhead Lake (Sac County)	40	Green Castle Lake
4	Avenue of the Saints Lake	41	Green Valley Lake
5	Badger Creek Lake	42	Greenfield Lake
6	Badger Lake	43	Hannen Lake
7	Beaver Lake	44	Hawthorn Lake (aka Barnes City Lake)
8	Beeds Lake	45	Hickory Grove Lake
9	Big Creek Lake	46	Hooper Area Pond
10	Big Spirit Lake	47	Indian Lake
11	Black Hawk Lake	48	Ingham Lake
12	Blue Lake	49	Kent Park Lake
13	Bob White Lake	50	Lacey Keosauqua Park Lake
14	Briggs Woods Lake	51	Lake Ahquabi
15	Browns Lake	52	Lake Anita
16	Brushy Creek Lake	53	Lake Cornelia
17	Carter Lake	54	Lake Darling
18	Casey Lake (aka Hickory Hills Lake)	55	Lake Geode
19	Center Lake	56	Lake Hendricks
20	Central Park Lake	57	Lake Icaria
21	Clear Lake	58	Lake Iowa
22	Cold Springs Lake	59	Lake Keomah
23	Coralville Lake	60	Lake Manawa
24	Crawford Creek Impoundment	61	Lake MacBride
25	Crystal Lake	62	Lake Meyer
26	Dale Maffitt Lake	63	Lake Miami
28	DeSoto Bend Lake	64	Lake Minnewashta
29	Diamond Lake	65	Lake of the Hills
30	Dog Creek Lake	66	Lake of Three Fires
31	Don Williams Lake	67	Lake Orient
32	East Lake (Osceola)	68	Lake Pahoja
33	East Okoboji Lake	69	Lake Smith
34	Easter Lake	70	Lake Sugema
35	Eldred Sherwood Lake	71	Lake Wapello
36	Five Island Lake	72	Little River
37	Fogle Lake	73	Little Sioux Park Lake

Table 1. Continued

DNR #	Lake Name	DNR #	Lake Name
74	Little Spirit Lake	104	Saylorville Lake
75	Little Wall Lake	105	Silver Lake (Dickinson County)
76	Littlefield Lake	106	Silver Lake (Worth County)
77	Lost Island Lake	107	Silver Lake (Delaware County)
78	Lower Gar Lake	108	Silver Lake (Palo Alto County)
79	Lower Pine Lake	109	Slip Bluff Lake
80	Manteno Lake	110	South Prairie Lake
81	Mariposa Lake	111	Spring Lake
82	Meadow Lake	112	Springbrook Lake
83	Meyers Lake	113	Storm Lake (incl Little Storm Lake)
84	Mill Creek (Lake)	114	Swan Lake
85	Mitchell Lake	115	Thayer Lake
86	Moorehead Lake	116	Three Mile Lake
87	Mormon Trail Lake	117	Trumbull Lake
88	Nelson Park Lake	118	Tuttle Lake
89	Nine Eagles Lake	119	Twelve Mile Creek Lake
90	North Twin Lake	120	Union Grove Lake
91	Oldham Lake	121	Upper Gar Lake
92	Otter Creek Lake	122	Upper Pine Lake
93	Ottumwa Lagoon	123	Viking Lake
94	Pierce Creek Lake	124	Volga Lake
95	Pleasant Creek Lake	125	West Okoboji Lake
96	Pollmiller Park Lake	126	West Osceola
97	Prairie Rose Lake	127	White Oak Lake
98	Rathbun Lake	128	Williamson Pond
99	Red Haw Lake	129	Willow Lake
100	Red Rock Lake	130	Wilson Park Lake
101	Roberts Creek Lake	131	Windmill Lake
102	Rock Creek Lake	132	Yellow Smoke Park Lake
103	Rodgers Park Lake	133	Other lakes in Iowa

Table 2. Single-Day Trips to Iowa Lakes

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
1	Arbor Lake	108	0	15	0.018	0.030	2.700	0.22%
2	Arrowhead Lake (Pottawattamie County)	126	0	20	0.021	0.035	1.800	0.25%
3	Arrowhead Lake (Sac County)	82	0	16	0.014	0.023	2.158	0.16%
4	Avenue of the Saints Lake	134	0	40	0.022	0.038	2.680	0.27%
5	Badger Creek Lake	292	0	30	0.048	0.082	2.921	0.58%
6	Badger Lake	179	0	11	0.030	0.050	2.558	0.36%
7	Beaver Lake	104	0	20	0.017	0.029	2.364	0.21%
8	Beeds Lake	289	0	20	0.048	0.081	2.833	0.58%
9	Big Creek Lake	1793	0	35	0.297	0.502	3.508	3.57%
10	Big Spirit Lake	1432	0	52	0.237	0.401	4.250	2.86%
11	Black Hawk Lake	637	0	52	0.105	0.178	3.285	1.27%
12	Blue Lake	220	0	30	0.036	0.062	4.314	0.44%
13	Bob White Lake	34	0	3	0.006	0.010	1.478	0.07%
14	Briggs Woods Lake	394	0	52	0.065	0.110	3.753	0.79%
15	Browns Lake	432	0	52	0.071	0.121	4.501	0.86%
16	Brushy Creek Lake	666	0	40	0.110	0.187	3.029	1.33%
17	Carter Lake	386	0	52	0.064	0.108	4.021	0.77%
18	Casey Lake (aka Hickory Hills Lake)	193	0	12	0.032	0.054	2.271	0.38%
19	Center Lake	195	0	13	0.032	0.055	2.269	0.39%
20	Central Park Lake	196	0	20	0.032	0.055	3.015	0.39%
21	Clear Lake	2477	0	52	0.410	0.694	4.456	4.94%
22	Cold Springs Lake	133	0	18	0.022	0.037	3.326	0.27%
23	Coralville Lake	1911	0	52	0.316	0.535	3.711	3.81%
24	Crawford Creek Impoundment	137	0	12	0.023	0.038	3.262	0.27%
25	Crystal Lake	225	0	40	0.037	0.063	2.962	0.45%
26	Dale Maffitt Lake	282	0	30	0.047	0.079	2.611	0.56%

Table 2. Continued

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
28	DeSoto Bend Lake	257	0	20	0.043	0.072	2.275	0.51%
29	Diamond Lake	265	0	50	0.044	0.074	3.011	0.53%
30	Dog Creek Lake	129	0	15	0.021	0.036	2.932	0.26%
31	Don Williams Lake	332	0	30	0.055	0.093	2.442	0.66%
32	East Lake (Osceola)	296	0	48	0.049	0.083	3.482	0.59%
33	East Okoboji Lake	1579	0	52	0.261	0.442	4.155	3.15%
34	Easter Lake	500	0	50	0.083	0.140	3.031	1.00%
35	Eldred Sherwood Lake	59	0	15	0.010	0.017	3.471	0.12%
36	Five Island Lake	394	0	25	0.065	0.110	3.903	0.79%
37	Fogle Lake	31	0	6	0.005	0.009	1.824	0.06%
38	George Wyth Lake	1015	0	52	0.168	0.284	4.414	2.02%
39	Green Belt Lake	181	0	50	0.030	0.051	3.549	0.36%
40	Green Castle Lake	103	0	10	0.017	0.029	2.943	0.21%
41	Green Valley Lake	277	0	30	0.046	0.078	3.420	0.55%
42	Greenfield Lake	224	0	52	0.037	0.063	4.667	0.45%
43	Hannen Lake	211	0	30	0.035	0.059	3.051	0.42%
44	Hawthorn Lake (aka Barnes City Lake)	201	0	52	0.033	0.056	2.913	0.40%
45	Hickory Grove Lake	294	0	20	0.049	0.082	2.492	0.59%
46	Hooper Area Pond	113	0	20	0.019	0.032	3.229	0.23%
47	Indian Lake	121	0	15	0.020	0.034	2.420	0.24%
48	Ingham Lake	126	0	18	0.021	0.035	2.520	0.25%
49	Kent Park Lake	500	0	50	0.083	0.140	3.247	1.00%
50	Lacey Keosauqua Park Lake	225	0	14	0.037	0.063	2.184	0.45%
51	Lake Ahquabi	642	0	50	0.106	0.180	2.842	1.28%
52	Lake Anita	288	0	20	0.048	0.081	2.595	0.57%
53	Lake Cornelia	306	0	30	0.051	0.086	3.644	0.61%

Table 2. Continued

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
54	Lake Darling	237	0	12	0.039	0.066	1.976	0.47%
55	Lake Geode	565	0	50	0.094	0.158	3.405	1.13%
56	Lake Hendricks	113	0	15	0.019	0.032	2.628	0.23%
57	Lake Icaria	260	0	20	0.043	0.073	2.708	0.52%
58	Lake Iowa	250	0	20	0.041	0.070	2.315	0.50%
59	Lake Keomah	227	0	50	0.038	0.064	3.028	0.45%
60	Lake Manawa	953	0	52	0.158	0.267	6.441	1.90%
61	Lake MacBride	1450	0	50	0.240	0.406	3.428	2.89%
62	Lake Meyer	181	0	40	0.030	0.051	2.967	0.36%
63	Lake Miami	140	0	10	0.023	0.039	2.500	0.28%
64	Lake Minnewashta	437	0	52	0.072	0.122	5.603	0.87%
65	Lake of the Hills	549	0	52	0.091	0.154	5.383	1.09%
66	Lake of Three Fires	152	0	20	0.025	0.043	2.667	0.30%
67	Lake Orient	130	0	30	0.022	0.036	4.484	0.26%
68	Lake Pahoja	146	0	15	0.024	0.041	3.319	0.29%
69	Lake Smith	240	0	52	0.040	0.067	4.801	0.48%
70	Lake Sugema	406	0	52	0.067	0.114	3.867	0.81%
71	Lake Wapello	300	0	50	0.050	0.084	3.095	0.60%
72	Little River	167	0	30	0.028	0.047	3.480	0.33%
73	Little Sioux Park Lake	195	0	52	0.032	0.055	3.546	0.39%
74	Little Spirit Lake	505	0	52	0.084	0.141	2.746	1.01%
75	Little Wall Lake	311	0	18	0.051	0.087	2.659	0.62%
76	Littlefield Lake	132	0	25	0.022	0.037	3.301	0.26%
77	Lost Island Lake	368	0	20	0.061	0.103	2.629	0.73%
78	Lower Gar Lake	534	0	52	0.088	0.150	3.735	1.07%
79	Lower Pine Lake	332	0	52	0.055	0.093	3.532	0.66%

Table 2. Continued

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
80	Manteno Lake	34	0	4	0.006	0.010	1.789	0.07%
81	Mariposa Lake	83	0	6	0.014	0.023	2.184	0.17%
82	Meadow Lake	39	0	7	0.006	0.011	1.696	0.08%
83	Meyers Lake	206	0	20	0.034	0.058	2.641	0.41%
84	Mill Creek (Lake)	121	0	30	0.020	0.034	3.458	0.24%
85	Mitchell Lake	169	0	50	0.028	0.047	3.380	0.34%
86	Moorehead Lake	80	0	20	0.013	0.022	3.478	0.16%
87	Mormon Trail Lake	87	0	30	0.014	0.024	3.108	0.17%
88	Nelson Park Lake	62	0	10	0.010	0.017	2.214	0.12%
89	Nine Eagles Lake	59	0	4	0.010	0.017	1.686	0.12%
90	North Twin Lake	440	0	50	0.073	0.123	4.537	0.88%
91	Oldham Lake	36	0	12	0.006	0.010	3.273	0.07%
92	Otter Creek Lake	212	0	20	0.035	0.059	2.554	0.42%
93	Ottumwa Lagoon	550	0	52	0.091	0.154	8.091	1.10%
94	Pierce Creek Lake	24	0	5	0.004	0.007	1.600	0.05%
95	Pleasant Creek Lake	683	0	52	0.113	0.191	3.753	1.36%
96	Pollmiller Park Lake	152	0	36	0.025	0.043	3.535	0.30%
97	Prairie Rose Lake	244	0	50	0.040	0.068	3.129	0.49%
98	Rathbun Lake	1227	0	52	0.203	0.343	3.051	2.45%
99	Red Haw Lake	175	0	12	0.029	0.049	2.134	0.35%
100	Red Rock Lake	1644	0	58	0.272	0.460	3.896	3.28%
101	Roberts Creek Lake	382	0	30	0.063	0.107	4.109	0.76%
102	Rock Creek Lake	337	0	25	0.056	0.094	3.241	0.67%
103	Rodgers Park Lake	170	0	20	0.028	0.048	3.333	0.34%
104	Saylorville Lake	2751	0	50	0.455	0.770	4.213	5.49%
105	Silver Lake (Dickinson County)	345	0	50	0.057	0.097	3.967	0.69%

Table 2. Continued

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
106	Silver Lake (Worth County)	76	0	10	0.013	0.021	2.621	0.15%
107	Silver Lake (Delaware County)	180	0	20	0.030	0.050	2.951	0.36%
108	Silver Lake (Palo Alto County)	180	0	30	0.030	0.050	2.813	0.36%
109	Slip Bluff Lake	21	0	3	0.003	0.006	1.500	0.04%
110	South Prairie Lake	275	0	52	0.046	0.077	5.189	0.55%
111	Spring Lake	237	0	45	0.039	0.066	3.386	0.47%
112	Springbrook Lake	219	0	10	0.036	0.061	2.258	0.44%
113	Storm Lake (incl Little Storm Lake)	1362	0	52	0.225	0.381	4.601	2.72%
114	Swan Lake	560	0	50	0.093	0.157	4.957	1.12%
115	Thayer Lake	97	0	30	0.016	0.027	4.409	0.19%
116	Three Mile Lake	356	0	50	0.059	0.100	3.360	0.71%
117	Trumbull Lake	127	0	20	0.021	0.036	3.735	0.25%
118	Tuttle Lake	123	0	52	0.020	0.034	4.393	0.25%
119	Twelve Mile Creek Lake	320	0	50	0.053	0.090	3.107	0.64%
120	Union Grove Lake	226	0	52	0.037	0.063	3.054	0.45%
121	Upper Gar Lake	481	0	50	0.080	0.135	4.335	0.96%
122	Upper Pine Lake	302	0	75	0.050	0.085	3.020	0.60%
123	Viking Lake	341	0	35	0.056	0.095	3.966	0.68%
124	Volga Lake	384	0	52	0.064	0.108	3.589	0.77%
125	West Okoboji Lake	2207	0	52	0.365	0.618	5.230	4.40%
126	West Osceola	291	0	52	0.048	0.081	4.851	0.58%
127	White Oak Lake	42	0	5	0.007	0.012	2.211	0.08%
128	Williamson Pond	34	0	15	0.006	0.010	2.615	0.07%
129	Willow Lake	57	0	12	0.009	0.016	2.478	0.11%
130	Wilson Park Lake	38	0	15	0.006	0.011	2.923	0.08%
131	Windmill Lake	28	0	6	0.005	0.008	2.545	0.06%

Table 2. Continued

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
132	Yellow Smoke Park Lake	262	0	52	0.043	0.073	4.226	0.52%
133	Other lakes in Iowa	1782	0	52	0.295	0.499	6.123	-
	Total	51,932			8.594	14.539		

^aMean 1 = average sample trips to lake

^bMean 2 = average trips to lake by all trip takers

^cMean 3 = average trips to trip takers at that lake

Table 3. Overnight Trips to Iowa Lakes

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
1	Arbor Lake	2	0	1	0.000	0.002	0.667	0.02%
2	Arrowhead Lake (Pottawattamie County)	25	0	4	0.004	0.019	1.667	0.30%
3	Arrowhead Lake (Sac County)	5	0	3	0.001	0.004	1.667	0.06%
4	Avenue of the Saints Lake	1	0	1	0.000	0.001	1.000	0.01%
5	Badger Creek Lake	10	0	6	0.002	0.008	2.000	0.12%
6	Badger Lake	23	0	11	0.004	0.017	2.556	0.27%
7	Beaver Lake	6	0	6	0.001	0.005	3.000	0.07%
8	Beeds Lake	37	0	4	0.006	0.028	1.850	0.44%
9	Big Creek Lake	69	0	10	0.011	0.052	2.226	0.82%
10	Big Spirit Lake	332	0	52	0.055	0.251	3.862	3.96%
11	Black Hawk Lake	202	0	52	0.033	0.153	4.298	2.41%
12	Blue Lake	32	0	4	0.005	0.024	1.600	0.38%
13	Bob White Lake	7	0	6	0.001	0.005	3.500	0.08%
14	Briggs Woods Lake	48	0	15	0.008	0.036	3.429	0.57%
15	Browns Lake	51	0	10	0.008	0.039	2.834	0.61%
16	Brushy Creek Lake	112	0	12	0.019	0.085	2.435	1.34%
17	Carter Lake	22	0	10	0.004	0.017	2.750	0.26%
18	Casey Lake (aka Hickory Hills Lake)	25	0	6	0.004	0.019	1.923	0.30%
19	Center Lake	32	0	8	0.005	0.024	1.883	0.38%
20	Central Park Lake	30	0	6	0.005	0.023	1.765	0.36%
21	Clear Lake	719	0	52	0.119	0.543	4.230	8.58%
22	Cold Springs Lake	5	0	4	0.001	0.004	2.500	0.06%
23	Coralville Lake	207	0	40	0.034	0.156	2.407	2.47%
24	Crawford Creek Impoundment	24	0	10	0.004	0.018	2.667	0.29%
25	Crystal Lake	48	0	20	0.008	0.036	4.801	0.57%
26	Dale Maffitt Lake	6	0	2	0.001	0.005	1.500	0.07%

Table 3. Continued

DNR #	Lake	Total	Min	Max	Mean 1 ^a	Mean 2 ^b	Mean 3 ^c	Share
28	DeSoto Bend Lake	16	0	7	0.003	0.012	2.667	0.19%
29	Diamond Lake	27	0	3	0.004	0.020	1.929	0.32%
30	Dog Creek Lake	22	0	9	0.004	0.017	2.444	0.26%
31	Don Williams Lake	82	0	52	0.014	0.062	4.824	0.98%
32	East Lake (Osceola)	2	0	1	0.000	0.002	1.000	0.02%
33	East Okoboji Lake	633	0	52	0.105	0.478	4.034	7.56%
34	Easter Lake	18	0	9	0.003	0.014	2.250	0.21%
35	Eldred Sherwood Lake	28	0	15	0.005	0.021	5.600	0.33%
36	Five Island Lake	8	0	2	0.001	0.006	1.600	0.10%
37	Fogle Lake	9	0	4	0.001	0.007	3.000	0.11%
38	George Wyth Lake	45	0	12	0.007	0.034	2.250	0.54%
39	Green Belt Lake	2	0	1	0.000	0.002	1.000	0.02%
40	Green Castle Lake	1	0	1	0.000	0.001	1.000	0.01%
41	Green Valley Lake	35	0	10	0.006	0.026	2.917	0.42%
42	Greenfield Lake	8	0	4	0.001	0.006	2.000	0.10%
43	Hannen Lake	34	0	15	0.006	0.025	3.045	0.40%
44	Hawthorn Lake (aka Barnes City Lake)	2	0	1	0.000	0.002	1.000	0.02%
45	Hickory Grove Lake	24	0	5	0.004	0.018	1.714	0.29%
46	Hooper Area Pond	11	0	6	0.002	0.008	2.750	0.13%
47	Indian Lake	17	0	4	0.003	0.013	2.125	0.20%
48	Ingham Lake	83	0	45	0.014	0.063	16.600	0.99%
49	Kent Park Lake	23	0	4	0.004	0.017	1.438	0.27%
50	Lacey Keosauqua Park Lake	82	0	20	0.014	0.062	2.828	0.98%
51	Lake Ahquabi	78	0	6	0.013	0.059	2.000	0.93%
52	Lake Anita	40	0	5	0.007	0.030	1.739	0.48%
53	Lake Cornelia	114	0	45	0.019	0.086	7.125	1.36%

Table 3. Continued

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
54	Lake Darling	21	0	5	0.003	0.016	1.500	0.25%
55	Lake Geode	83	0	30	0.014	0.063	2.964	0.99%
56	Lake Hendricks	18	0	5	0.003	0.014	2.250	0.21%
57	Lake Icaria	53	0	12	0.009	0.040	2.409	0.63%
58	Lake Iowa	25	0	4	0.004	0.019	1.667	0.30%
59	Lake Keomah	21	0	4	0.003	0.016	1.615	0.25%
60	Lake Manawa	33	0	10	0.005	0.025	3.300	0.39%
61	Lake MacBride	69	0	6	0.011	0.052	1.605	0.82%
62	Lake Meyer	12	0	3	0.002	0.009	2.000	0.14%
63	Lake Miami	36	0	10	0.006	0.027	3.600	0.43%
64	Lake Minnewashta	70	0	45	0.012	0.053	7.780	0.84%
65	Lake of the Hills	36	0	5	0.006	0.027	2.118	0.43%
66	Lake of Three Fires	45	0	13	0.007	0.034	2.647	0.54%
67	Lake Orient	9	0	3	0.001	0.007	2.250	0.11%
68	Lake Pahoja	22	0	4	0.004	0.017	1.692	0.26%
69	Lake Smith	57	0	30	0.009	0.043	9.500	0.68%
70	Lake Sugema	84	0	14	0.014	0.063	2.545	1.00%
71	Lake Wapello	6	0	3	0.001	0.005	1.500	0.07%
72	Little River	18	0	5	0.003	0.014	1.800	0.21%
73	Little Sioux Park Lake	27	0	5	0.004	0.020	1.800	0.32%
74	Little Spirit Lake	105	0	25	0.017	0.079	4.040	1.25%
75	Little Wall Lake	14	0	4	0.002	0.011	1.400	0.17%
76	Littlefield Lake	25	0	6	0.004	0.019	4.167	0.30%
77	Lost Island Lake	44	0	4	0.007	0.033	2.095	0.52%
78	Lower Gar Lake	30	0	8	0.005	0.023	1.876	0.36%
79	Lower Pine Lake	36	0	6	0.006	0.027	1.895	0.43%

Table 3. Continued

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
80	Manteno Lake	4	0	2	0.001	0.003	2.000	0.05%
81	Mariposa Lake	3	0	2	0.000	0.002	1.500	0.04%
82	Meadow Lake	1	0	1	0.000	0.001	1.000	0.01%
83	Meyers Lake	4	0	3	0.001	0.003	2.000	0.05%
84	Mill Creek (Lake)	17	0	3	0.003	0.013	1.889	0.20%
85	Mitchell Lake	3	0	2	0.000	0.002	1.500	0.04%
86	Moorehead Lake	0	0	0	0.000	0.000	0.000	0.00%
87	Mormon Trail Lake	10	0	8	0.002	0.008	3.333	0.12%
88	Nelson Park Lake	14	0	6	0.002	0.011	2.333	0.17%
89	Nine Eagles Lake	8	0	4	0.001	0.006	1.600	0.10%
90	North Twin Lake	272	0	52	0.045	0.205	10.074	3.25%
91	Oldham Lake	6	0	6	0.001	0.005	6.000	0.07%
92	Otter Creek Lake	15	0	2	0.002	0.011	1.667	0.18%
93	Ottumwa Lagoon	36	0	20	0.006	0.027	5.143	0.43%
94	Pierce Creek Lake	0	0	0	0.000	0.000	0.000	0.00%
95	Pleasant Creek Lake	46	0	7	0.008	0.035	2.000	0.55%
96	Pollmiller Park Lake	9	0	3	0.001	0.007	2.250	0.11%
97	Prairie Rose Lake	45	0	8	0.007	0.034	2.500	0.54%
98	Rathbun Lake	512	0	25	0.085	0.387	3.122	6.11%
99	Red Haw Lake	22	0	8	0.004	0.017	1.571	0.26%
100	Red Rock Lake	184	0	14	0.030	0.139	2.556	2.20%
101	Roberts Creek Lake	34	0	5	0.006	0.026	1.889	0.41%
102	Rock Creek Lake	82	0	25	0.014	0.062	2.929	0.98%
103	Rodgers Park Lake	38	0	15	0.006	0.028	3.750	0.45%
104	Saylorville Lake	360	0	50	0.060	0.272	3.830	4.30%
105	Silver Lake (Dickinson County)	24	0	12	0.004	0.018	4.001	0.29%

Table 3. Continued

DNR #	Lake	Total	Min	Max	Mean 1 ^a	Mean 2 ^b	Mean 3 ^c	Share
106	Silver Lake (Worth County)	3	0	3	0.000	0.002	3.000	0.04%
107	Silver Lake (Delaware County)	11	0	3	0.002	0.008	1.375	0.13%
108	Silver Lake (Palo Alto County)	0	0	0	0.000	0.000	0.000	0.00%
109	Slip Bluff Lake	0	0	0	0.000	0.000	0.000	0.00%
110	South Prairie Lake	1	0	1	0.000	0.001	1.000	0.01%
111	Spring Lake	39	0	10	0.006	0.029	2.600	0.47%
112	Springbrook Lake	58	0	7	0.010	0.044	1.706	0.69%
113	Storm Lake (incl Little Storm Lake)	120	0	30	0.020	0.091	2.500	1.43%
114	Swan Lake	28	0	4	0.005	0.021	1.750	0.33%
115	Thayer Lake	32	0	25	0.005	0.024	6.400	0.38%
116	Three Mile Lake	94	0	10	0.016	0.071	2.350	1.12%
117	Trumbull Lake	7	0	3	0.001	0.005	2.333	0.08%
118	Tuttle Lake	80	0	52	0.013	0.060	16.000	0.95%
119	Twelve Mile Creek Lake	24	0	3	0.004	0.018	1.412	0.29%
120	Union Grove Lake	5	0	2	0.001	0.004	1.250	0.06%
121	Upper Gar Lake	27	0	10	0.004	0.020	5.400	0.32%
122	Upper Pine Lake	23	0	3	0.004	0.017	1.643	0.27%
123	Viking Lake	53	0	12	0.009	0.040	2.944	0.63%
124	Volga Lake	25	0	11	0.004	0.019	2.273	0.30%
125	West Okoboji Lake	960	0	52	0.159	0.725	4.617	11.46%
126	West Osceola	22	0	6	0.004	0.017	1.833	0.26%
127	White Oak Lake	0	0	0	0.000	0.000	0.000	0.00%
128	Williamson Pond	6	0	6	0.001	0.005	6.000	0.07%
129	Willow Lake	10	0	6	0.002	0.008	2.000	0.12%
130	Wilson Park Lake	0	0	0	0.000	0.000	0.000	0.00%
131	Windmill Lake	9	0	4	0.001	0.007	2.250	0.11%

Table 3. Continued

DNR #	Lake	Total	Min	Max	Mean 1^a	Mean 2^b	Mean 3^c	Share
132	Yellow Smoke Park Lake	25	0	7	0.004	0.019	2.500	0.30%
133	Other lakes in Iowa	447	0	52	0.074	0.338	5.882	5.33%
	Total	8,381			1.387	6.330		

^aMean 1 = average sample trips to lake

^bMean 2 = average trips to lake by all trip takers

^cMean 3 = average trips to trip takers at that lake

Table 4. Single-Day Trips to Bordering State Lakes and Rivers

Lake	Total	Min	Max	Mean
Lakes in Illinois	379	0	32	0.063
Lakes in Minnesota	1270	0	50	0.210
Lakes in Missouri	609	0	15	0.101
Lakes in Nebraska	260	0	14	0.043
Lakes in South Dakota	452	0	50	0.075
Lakes in Wisconsin	552	0	30	0.091
Missouri River	1768	0	50	0.293
Mississippi River	7494	0	52	1.245

Table 5. Overnight Trips to Bordering State Lakes and Rivers

Lake	Total	Min	Max	Mean
Lakes in Illinois	136	0	11	0.023
Lakes in Minnesota	1529	0	40	0.253
Lakes in Missouri	819	0	32	0.136
Lakes in Nebraska	110	0	12	0.018
Lakes in South Dakota	472	0	50	0.078
Lakes in Wisconsin	662	0	38	0.109
Missouri River	324	0	30	0.054
Mississippi River	1436	0	50	0.238

Table 6. Household Size

Number	Adults	Children	Family
0	-	3973	-
1	1199	562	1079
2	3860	621	2765
3	407	234	638
4	116	70	693
5	21	23	280
>5	4	13	155
Mean	1.91	0.53	2.33

Table 7. Estimated Household Trips

DNR #	Lake	2002	2003	2004	2005	4-Year Average	2009	% Change 4-Year to 2009
1	Arbor Lake	31087	39462	26614	24185	30337	37885	24.9%
2	Arrowhead Lake (Pottawattamie County)	40286	39406	35694	42354	39435	41501	5.2%
3	Arrowhead Lake (Sac County)	8527	11788	12628	12189	11283	18657	65.4%
4	Avenue of the Saints Lake	16803	16628	22671	16695	18199	29587	62.6%
5	Badger Creek Lake	74291	74752	62145	58635	67456	78978	17.1%
6	Badger Lake	78957	93249	66826	68575	76902	72648	-5.5%
7	Beaver Lake	23574	23486	22938	28502	24625	28840	17.1%
8	Beeds Lake	80568	89139	82652	90205	85641	78158	-8.7%
9	Big Creek Lake	418098	460250	366101	364206	402164	467169	16.2%
10	Big Spirit Lake	199302	309264	259862	261956	257596	327117	27.0%
11	Black Hawk Lake	101790	109222	116043	116271	110831	145411	31.2%
12	Blue Lake	42132	53803	57908	53780	51906	59866	15.3%
13	Bob White Lake	7170	13955	11976	12311	11353	11604	2.2%
14	Briggs Woods Lake	53167	64497	54489	63907	59015	75131	27.3%
15	Browns Lake	52934	63939	57934	56562	57842	90021	55.6%
16	Brushy Creek Lake	131088	159335	156702	149098	149056	176201	18.2%
17	Carter Lake	53385	58958	50586	68693	57905	78472	35.5%
18	Casey Lake (aka Hickory Hills Lake)	35208	54439	50956	48153	47189	51677	9.5%
19	Center Lake	16767	40386	33697	32316	30791	42873	39.2%
20	Central Park Lake	53794	44621	41928	50708	47763	60064	25.8%
21	Clear Lake	381209	410013	370513	373239	383743	501916	30.8%
22	Cold Springs Lake	29070	24904	23381	35612	28242	33097	17.2%
23	Coralville Lake	441657	484993	419338	438140	446032	529593	18.7%
24	Crawford Creek Impoundment	14546	11910	14018	15355	13957	29109	108.6%

Table 7. Continued

DNR #	Lake	2002	2003	2004	2005	4 Year Average	2009	% Change 4 Year to 2009
25	Crystal Lake	46270	53449	34493	38139	43088	54926	27.5%
26	Dale Maffitt Lake	49400	68790	53675	54584	56612	69747	23.2%
28	DeSoto Bend Lake	59336	61763	50150	53869	56280	68086	21.0%
29	Diamond Lake	39804	43532	46762	41215	42828	60255	40.7%
30	Dog Creek Lake	10823	22145	22464	20987	19105	24389	27.7%
31	Don Williams Lake	90426	74245	77687	74435	79198	94433	19.2%
32	East Lake (Osceola)	44978	38781	45053	45844	43664	62105	42.2%
33	East Okoboji Lake	295118	351759	292489	303529	310723	368567	18.6%
34	Easter Lake	131876	133412	122410	132837	130134	158991	22.2%
35	Eldred Sherwood Lake	11864	20925	15515	14654	15739	18647	18.5%
36	Five Island Lake	67973	81704	62366	82147	73547	97340	32.3%
37	Fogle Lake	6305	17705	9947	11024	11245	11058	-1.7%
38	George Wyth Lake	199718	165704	154659	158482	169641	234907	38.5%
39	Green Belt Lake	15214	22264	42573	34530	28645	44953	56.9%
40	Green Castle Lake	16029	19098	13603	17233	16491	24142	46.4%
41	Green Valley Lake	56565	70893	67285	71942	66671	69962	4.9%
42	Greenfield Lake	16171	25795	24533	31050	24387	32670	34.0%
43	Hannen Lake	50725	53509	61148	59610	56248	67322	19.7%
44	Hawthorn Lake (aka Barnes City Lake)	58821	49528	55540	50189	53519	41748	-22.0%
45	Hickory Grove Lake	72566	62080	62327	56580	63388	74573	17.6%
46	Hooper Area Pond	12038	13924	15418	17163	14636	25330	73.1%
47	Indian Lake	16522	20807	19119	22678	19782	28069	41.9%
48	Ingham Lake	27302	30262	24376	35237	29294	31491	7.5%
49	Kent Park Lake	92654	99702	79869	88045	90068	127109	41.1%
50	Lacey Keosauqua Park Lake	63809	55833	55189	51542	56593	69248	22.4%

Table 7. Continued

DNR #	Lake	2002	2003	2004	2005	4 Year Average	2009	% Change 4 Year to 2009
51	Lake Ahquabi	92908	138969	116833	129368	119519	165246	38.3%
52	Lake Anita	49750	59944	53536	54410	54410	71262	31.0%
53	Lake Cornelia	54227	80153	75414	71118	70228	78643	12.0%
54	Lake Darling	77838	79695	57567	74118	72305	79059	9.3%
55	Lake Geode	101514	102686	97732	104651	101646	147400	45.0%
56	Lake Hendricks	15538	37525	24823	24194	25520	28902	13.3%
57	Lake Icaria	65889	68288	57758	61047	63245	71108	12.4%
58	Lake Iowa	35582	58852	42147	48697	46319	61888	33.6%
59	Lake Keomah	48354	54157	48746	45855	49278	58214	18.1%
60	Lake Manawa	196768	108089	123082	158174	146528	198703	35.6%
61	Lake MacBride	292773	163220	296738	291093	260956	360449	38.1%
63	Lake Miami	39230	33597	40670	39229	38182	45878	20.2%
64	Lake Minnewashta	47159	47464	58204	55725	52138	84072	61.2%
65	Lake of the Hills	67963	74725	77533	78438	74665	94770	26.9%
66	Lake of Three Fires	31035	19049	19662	21844	22897	35546	55.2%
67	Lake Orient	16176	22704	18266	18018	18791	31016	65.1%
68	Lake Pahoja	16050	14458	17294	20718	17130	29611	72.9%
69	Lake Smith	25079	57881	20469	37322	35188	46065	30.9%
70	Lake Sugema	52230	38096	59339	53509	50793	68619	35.1%
71	Lake Wapello	61889	83202	68855	82971	74229	85573	15.3%
72	Little River	21972	31497	38296	32733	31125	43127	38.6%
73	Little Sioux Park Lake	21066	31340	27122	25816	26336	33748	28.1%
74	Little Spirit Lake	57157	79633	67341	87307	72859	99594	36.7%
75	Little Wall Lake	57288	56097	53287	53396	55017	71603	30.1%
76	Littlefield Lake	20741	23745	36595	30421	27875	34420	23.5%

Table 7. Continued

DNR #	Lake	2002	2003	2004	2005	4 Year Average	2009	% Change 4 Year to 2009
77	Lost Island Lake	94092	76311	67206	70327	76984	81855	6.3%
78	Lower Gar Lake	66164	83229	67358	73203	72489	107966	48.9%
79	Lower Pine Lake	57657	65978	66522	64438	63649	66537	4.5%
80	Manteno Lake	3260	4886	5672	4350	4542	6866	51.2%
81	Mariposa Lake	24989	21258	14975	23896	21279	23683	11.3%
82	Meadow Lake	4013	4980	6040	5608	5160	8519	65.1%
83	Meyers Lake	31098	31695	44943	46105	38460	58248	51.4%
84	Mill Creek (Lake)	14546	33016	30413	27029	26251	28766	9.6%
85	Mitchell Lake	16585	10624	13434	16886	14382	29296	103.7%
86	Moorehead Lake	15764	6479	6942	8185	9342	18285	95.7%
87	Mormon Trail Lake	19589	12067	12299	11372	13832	23303	68.5%
88	Nelson Park Lake	10533	11239	9159	7822	9688	15457	59.5%
89	Nine Eagles Lake	14997	13360	14653	15515	14631	16566	13.2%
90	North Twin Lake	71829	107034	89254	98710	91707	109641	19.6%
91	Oldham Lake	4514	8636	5237	3224	5403	8646	60.0%
92	Otter Creek Lake	18809	33387	30856	35096	29537	44821	51.7%
93	Ottumwa Lagoon	92863	102974	77103	102108	93762	132498	41.3%
94	Pierce Creek Lake	9028	7870	6897	9866	8415	7863	-6.6%
95	Pleasant Creek Lake	161059	204723	185636	184384	183950	202631	10.2%
96	Pollmiller Park Lake	32602	30927	23719	38866	31528	40490	28.4%
97	Prairie Rose Lake	39046	45192	41774	42131	42036	61474	46.2%
98	Rathbun Lake	214348	256184	245407	237253	238298	305917	28.4%
99	Red Haw Lake	41753	35076	39529	38335	38673	45269	17.1%
100	Red Rock Lake	341561	320510	299995	317359	319856	392157	22.6%
101	Roberts Creek Lake	33794	55060	53553	40043	45612	73200	60.5%

Table 7. Continued

DNR #	Lake	2002	2003	2004	2005	4 Year Average	2009	% Change 4 Year to 2009
102	Rock Creek Lake	66991	77437	82402	79083	76478	90988	19.0%
103	Rodgers Park Lake	18272	17116	25995	34088	23868	36478	52.8%
104	Saylorville Lake	667754	656670	540626	590629	613919	760563	23.9%
105	Silver Lake (Dickinson County)	46407	59013	47693	37348	47615	78659	65.2%
106	Silver Lake (Worth County)	11823	8837	12394	12683	11434	17303	51.3%
107	Silver Lake (Delaware County)	8509	16633	16588	14759	14122	35539	151.6%
108	Silver Lake (Palo Alto County)	35361	32110	27031	47711	35553	41405	16.5%
109	Slip Bluff Lake	2048	4179	4645	3182	3514	5290	50.6%
110	South Prairie Lake	49340	51590	49076	53455	50865	58472	15.0%
111	Spring Lake	27931	34770	39916	42656	36319	51001	40.4%
112	Springbrook Lake	48353	57777	50741	50472	51836	60329	16.4%
113	Storm Lake (incl Little Storm Lake)	164622	202680	151102	180091	174624	271983	55.8%
114	Swan Lake	108062	100257	85025	90090	95858	128717	34.3%
115	Thayer Lake	5732	9434	7727	7298	7548	19037	152.2%
116	Three Mile Lake	103410	99184	110754	85821	99792	93333	-6.5%
117	Trumbull Lake	22069	36095	19460	21781	24851	25461	2.5%
118	Tuttle Lake	13643	23907	22562	24226	21085	20534	-2.6%
119	Twelve Mile Creek Lake	71728	72593	63122	43713	62789	75686	20.5%
120	Union Grove Lake	34084	48263	47876	47672	44474	48650	9.4%
121	Upper Gar Lake	63821	77433	75854	83518	75157	110104	46.5%
122	Upper Pine Lake	74029	70008	65079	64292	68352	68629	0.4%
123	Viking Lake	46756	60185	51815	50390	52287	81893	56.6%
124	Volga Lake	62794	74989	83355	71309	73112	84363	15.4%
125	West Okoboji Lake	383026	438669	405047	395941	405671	485660	19.7%
126	West Osceola	44878	50448	56809	69809	55486	61558	10.9%

Table 7. Continued

DNR #	Lake	2002	2003	2004	2005	4 Year Average	2009	% Change 4 Year to 2009
127	White Oak Lake	5779	7909	10269	6044	7501	10202	36.0%
128	Williamson Pond	8125	7303	5620	5611	6665	9428	41.5%
129	Willow Lake	14187	10097	11565	7702	10888	14891	36.8%
130	Wilson Park Lake	4483	7896	8932	6646	6989	10387	48.6%
131	Windmill Lake	7022	8390	5626	7783	7205	9648	33.9%
132	Yellow Smoke Park Lake	55711	37330	41587	39337	43491	51329	18.0%

Table 8. Lake Rankings (green shading indicating top 10%, blue shading indicating bottom 10%)

DNR #	Lake	Rank by 4-Year Average	Rank by 2009	Rank Change
1	Arbor Lake	85	87	-2
2	Arrowhead Lake (Pottawattamie County)	75	84	-9
3	Arrowhead Lake (Sac County)	116	113	3
4	Avenue of the Saints Lake	104	98	6
5	Badger Creek Lake	40	39	1
6	Badger Lake	28	48	-20
7	Beaver Lake	95	102	-7
8	Beeds Lake	25	43	-18
9	Big Creek Lake	4	5	-1
10	Big Spirit Lake	9	9	0
11	Black Hawk Lake	18	19	-1
12	Blue Lake	59	67	-8
13	Bob White Lake	115	120	-5
14	Briggs Woods Lake	46	45	1
15	Browns Lake	48	32	16
16	Brushy Creek Lake	14	15	-1
17	Carter Lake	47	42	5
18	Casey Lake (aka Hickory Hills Lake)	66	72	-6
19	Center Lake	84	82	2
20	Central Park Lake	64	66	-2
21	Clear Lake	5	3	2
22	Cold Springs Lake	89	93	-4
23	Coralville Lake	2	2	0
24	Crawford Creek Impoundment	112	100	12
25	Crystal Lake	72	71	1
26	Dale Maffitt Lake	49	53	-4
28	DeSoto Bend Lake	51	57	-6
29	Diamond Lake	73	65	8
30	Dog Creek Lake	102	107	-5
31	Don Williams Lake	26	29	-3
32	East Lake (Osceola)	70	60	10
33	East Okoboji Lake	7	7	0
34	Easter Lake	16	17	-1
35	Eldred Sherwood Lake	107	114	-7
36	Five Island Lake	33	27	6
37	Fogle Lake	117	121	-4
38	George Wyth Lake	13	12	1
39	Green Belt Lake	88	79	9

Table 8. Continued

DNR #	Lake	Rank by 4-Year Average	Rank by 2009	Rank Change
40	Green Castle Lake	106	108	-2
41	Green Valley Lake	41	52	-11
42	Greenfield Lake	96	94	2
43	Hannen Lake	52	58	-6
44	Hawthorn Lake (aka Barnes City Lake)	56	83	-27
45	Hickory Grove Lake	43	46	-3
46	Hooper Area Pond	108	106	2
47	Indian Lake	101	104	-3
48	Ingham Lake	87	95	-8
49	Kent Park Lake	24	22	2
50	Lacey Keosauqua Park Lake	50	54	-4
51	Lake Ahquabi	17	16	1
52	Lake Anita	55	50	5
53	Lake Cornelia	38	41	-3
54	Lake Darling	37	38	-1
55	Lake Geode	19	18	1
56	Lake Hendricks	93	101	-8
57	Lake Icaria	44	51	-7
58	Lake Iowa	67	61	6
59	Lake Keomah	63	70	-7
60	Lake Manawa	15	14	1
61	Lake MacBride	8	8	0
63	Lake Miami	78	77	1
64	Lake Minnewashta	58	35	23
65	Lake of the Hills	31	28	3
66	Lake of Three Fires	98	89	9
67	Lake Orient	103	96	7
68	Lake Pahoja	105	97	8
69	Lake Smith	81	76	5
70	Lake Sugema	62	56	6
71	Lake Wapello	32	33	-1
72	Little River	83	81	2
73	Little Sioux Park Lake	91	92	-1
74	Little Spirit Lake	35	26	9
75	Little Wall Lake	54	49	5
76	Littlefield Lake	90	91	-1
77	Lost Island Lake	27	37	-10
78	Lower Gar Lake	36	25	11
79	Lower Pine Lake	42	59	-17
80	Manteno Lake	129	129	0

Table 8. Continued

DNR #	Lake	Rank by 4-Year Average	Rank by 2009	Rank Change
81	Mariposa Lake	99	109	-10
82	Meadow Lake	128	127	1
83	Meyers Lake	77	69	8
84	Mill Creek (Lake)	92	103	-11
85	Mitchell Lake	110	99	11
86	Moorehead Lake	120	115	5
87	Mormon Trail Lake	113	110	3
88	Nelson Park Lake	119	118	1
89	Nine Eagles Lake	109	117	-8
90	North Twin Lake	23	24	-1
91	Oldham Lake	127	126	1
92	Otter Creek Lake	86	80	6
93	Ottumwa Lagoon	22	20	2
94	Pierce Creek Lake	121	128	-7
95	Pleasant Creek Lake	11	13	-2
96	Pollmiller Park Lake	82	86	-4
97	Prairie Rose Lake	74	63	11
98	Rathbun Lake	10	10	0
99	Red Haw Lake	76	78	-2
100	Red Rock Lake	6	6	0
101	Roberts Creek Lake	68	47	21
102	Rock Creek Lake	29	31	-2
103	Rodgers Park Lake	97	88	9
104	Saylorville Lake	1	1	0
105	Silver Lake (Dickinson County)	65	40	25
106	Silver Lake (Worth County)	114	116	-2
107	Silver Lake (Delaware County)	111	90	21
108	Silver Lake (Palo Alto County)	80	85	-5
109	Slip Bluff Lake	130	130	0
110	South Prairie Lake	61	68	-7
111	Spring Lake	79	74	5
112	Springbrook Lake	60	64	-4
113	Storm Lake (incl. Little Storm Lake)	12	11	1
114	Swan Lake	21	21	0
115	Thayer Lake	122	112	10
116	Three Mile Lake	20	30	-10
117	Trumbull Lake	94	105	-11
118	Tuttle Lake	100	111	-11
119	Twelve Mile Creek Lake	45	44	1
120	Union Grove Lake	69	75	-6

Table 8. Continued

DNR #	Lake	Rank by 4-Year Average	Rank by 2009	Rank Change
121	Upper Gar Lake	30	23	7
122	Upper Pine Lake	39	55	-16
123	Viking Lake	57	36	21
124	Volga Lake	34	34	0
125	West Okoboji Lake	3	4	-1
126	West Osceola	53	62	-9
127	White Oak Lake	123	123	0
128	Williamson Pond	126	125	1
129	Willow Lake	118	119	-1
130	Wilson Park Lake	125	122	3
131	Windmill Lake	124	124	0
132	Yellow Smoke Park Lake	71	73	-2

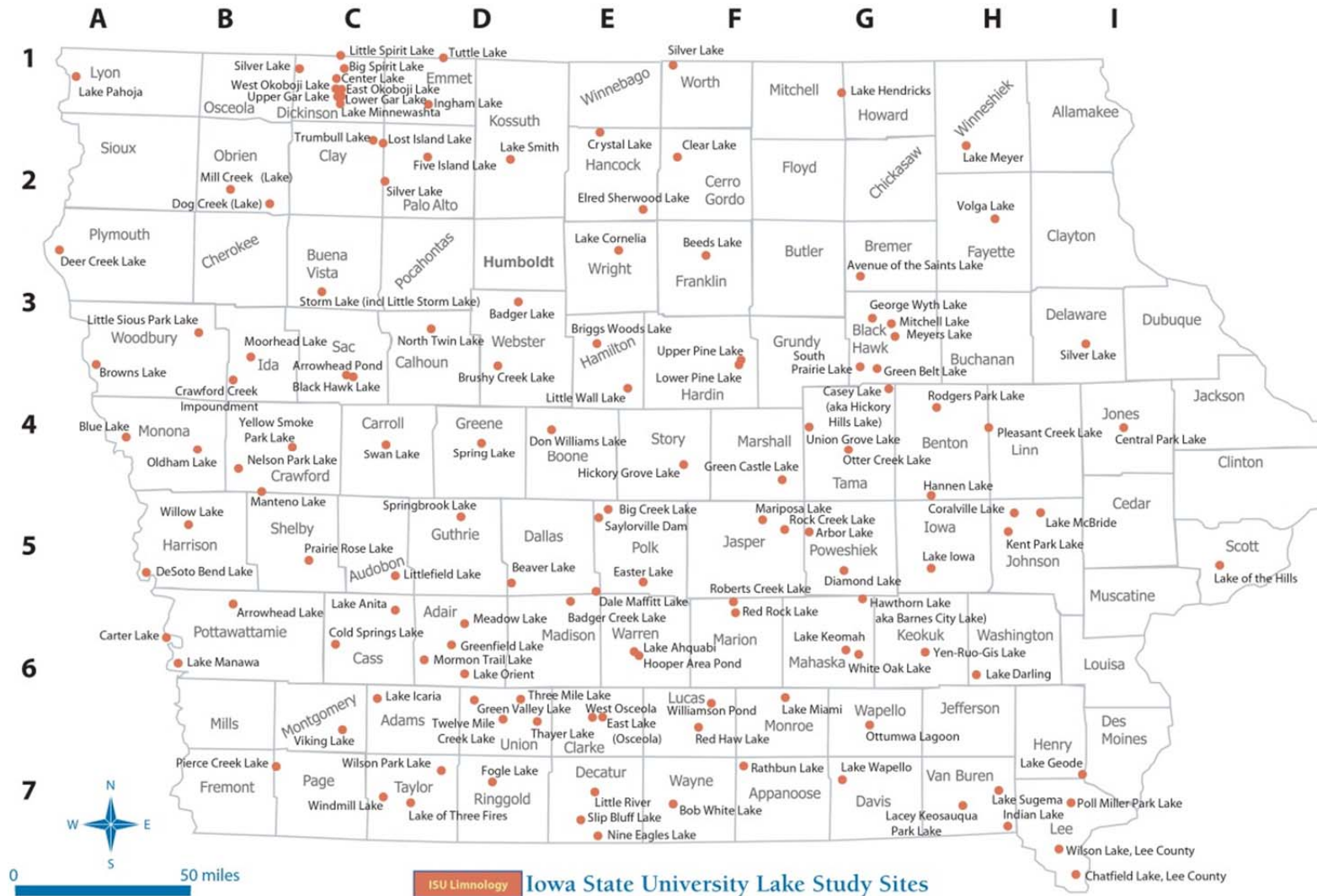


Figure 1. Map of Iowa Lakes Surveyed

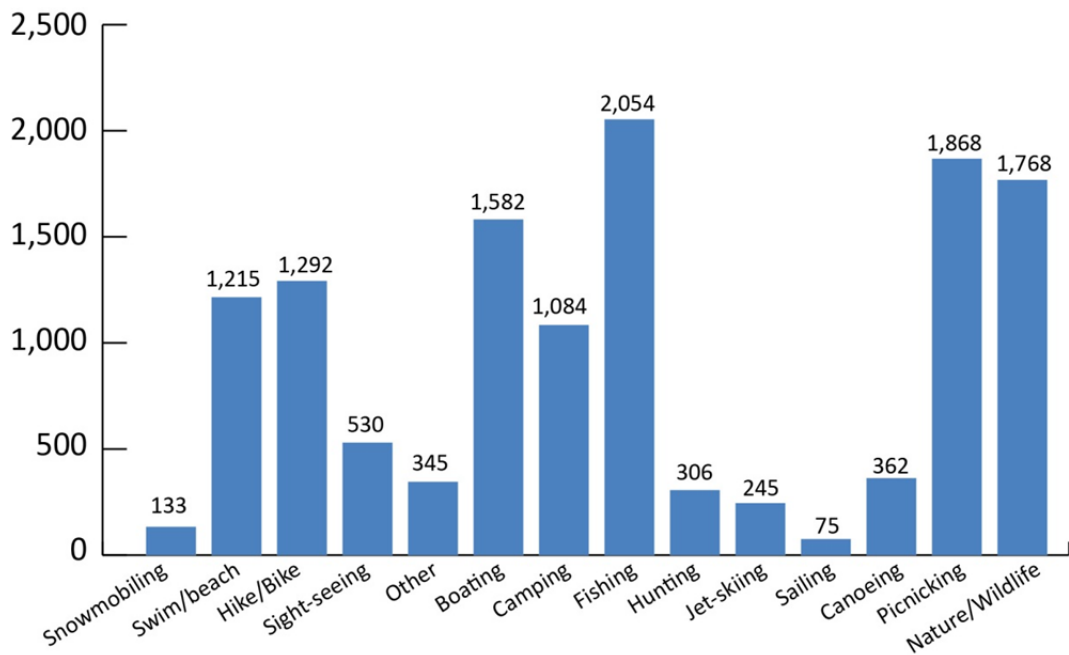


Figure 2. Lake Activities

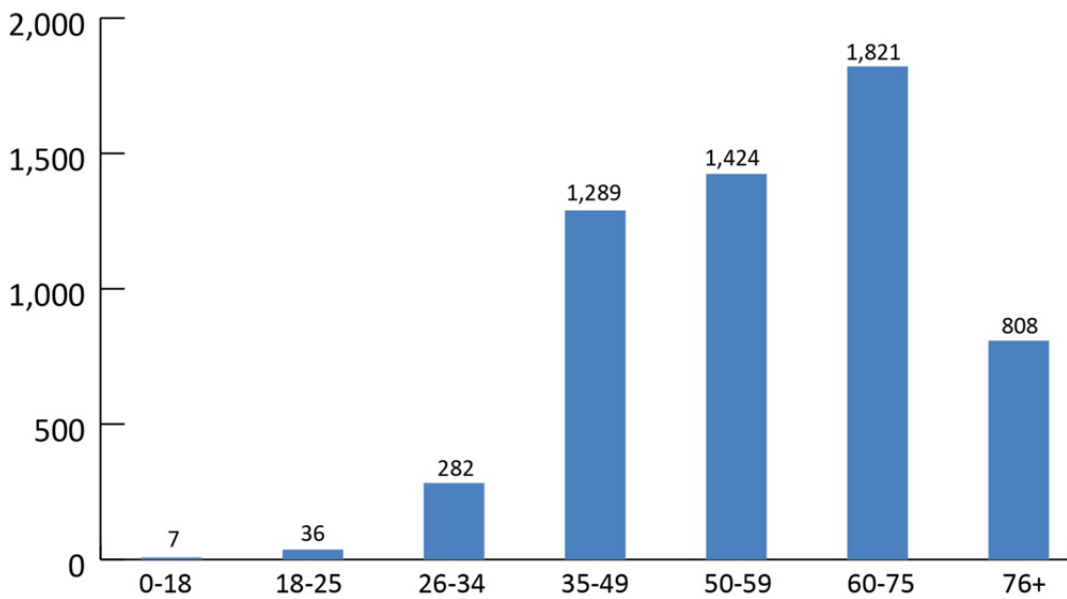


Figure 3. Age Distribution

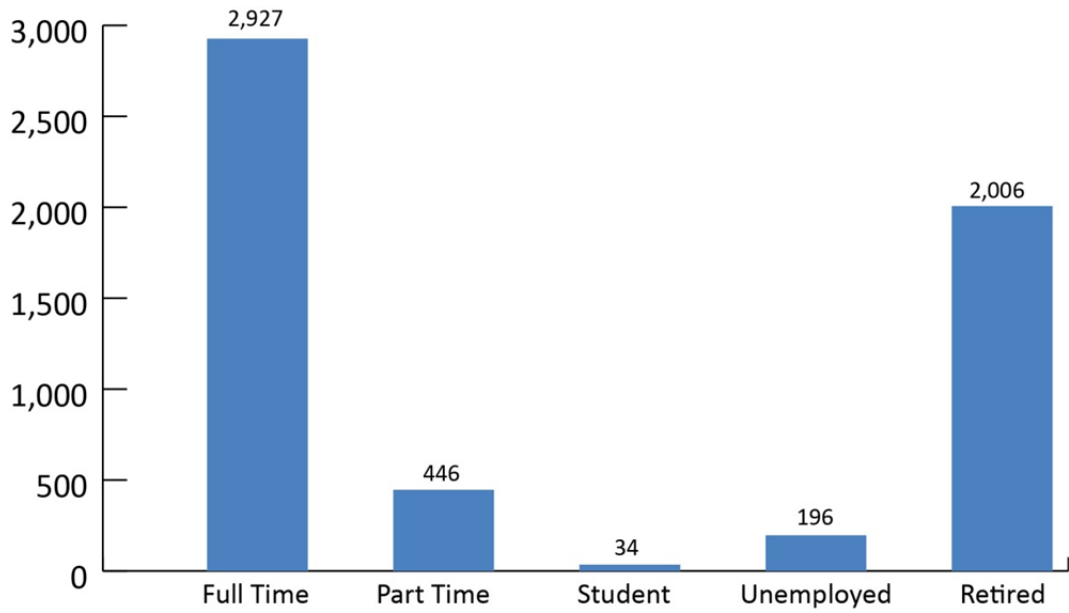


Figure 4. Employment Status

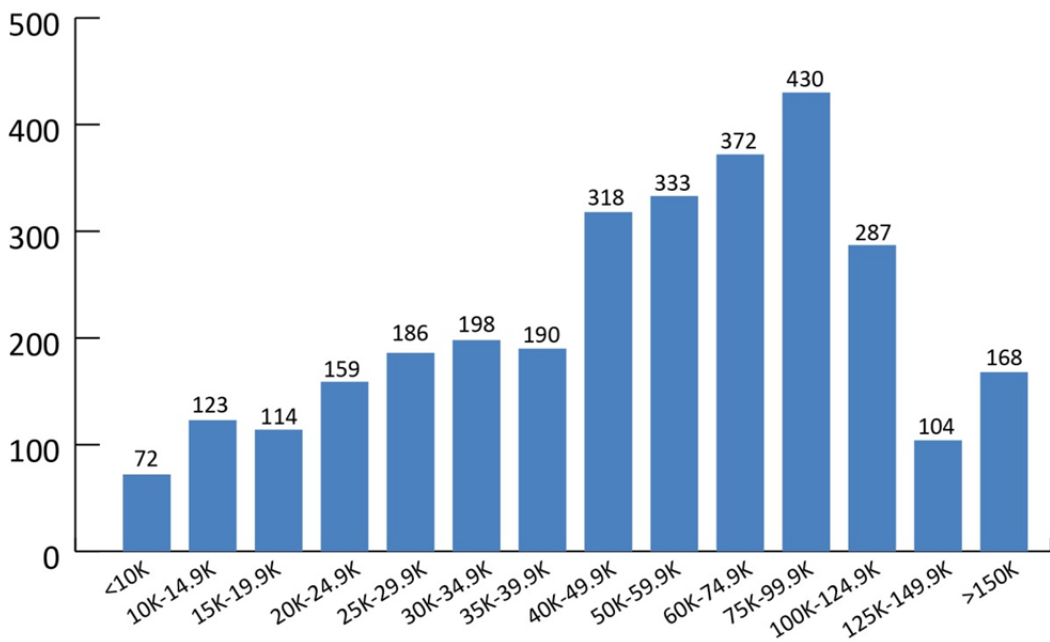


Figure 5. Income Distribution

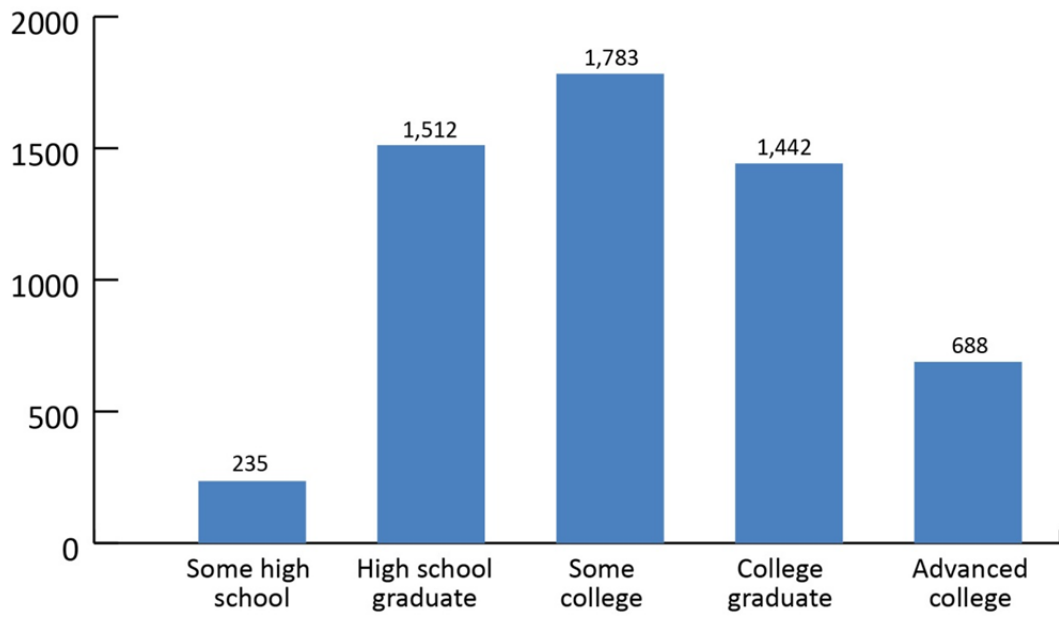


Figure 6. Education