

A Report to the Iowa Department of Natural Resources

The Iowa Lakes Valuation Project 2014

Summary and Findings

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The Iowa Lakes Valuation Project is an ongoing study to collect information on how, where, and when Iowans make use of the state's recreational lakes. The project allows us to properly analyze and evaluate the return on investment for water quality improvement. In this report, we summarize and interpret the main findings of the 2014 data collection component of the overall study. The report is organized as follows: Section I provides the overview of the Iowa Lakes Valuation Project; Section II describes the survey design and implementation for the 2014 data collection; and, Section III shows summary results and analysis of the 2014 Iowa Lakes Valuation Project.

I. Overview of the Iowa Lakes Valuation Project

The Iowa Lakes Valuation Project is an ongoing economic study of the use of Iowa's lakes and the value Iowans place on water quality. The Limnology Laboratory at Iowa State had completed a five-year study that provided the Iowa Department of Natural Resources with a lake database that included biological analysis, watershed GIS, and water chemistry for 132 recreational lakes across the state. In 2002, the Center for Agricultural and Rural Development, the Departments of Economics, Evolutionary Ecology and Organismal Biology, and the Limnology Laboratory at Iowa State worked together to create the Iowa Lakes Valuation Project, which takes the information one step further to determine use and valuation information for the same set of lakes over a comparable time period.

The economic use and valuation information for the study was collected via a survey of Iowa households. The survey, conducted in 2002, 2003, 2004, 2005, 2009, and 2014, is jointly funded by the Iowa DNR and the U.S. Environmental Protection Agency. The first year of data collection focused on providing a baseline of information on use and attitudes toward water quality measures and economic development. The second through fifth years of data collection also included information on use and 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 DNR, has been developed that allows potential recreationists and policymakers to easily access the summary information on lake usage and water quality.

This report provides information on the 2014 data.

II. Design and Implementation of the Iowa Lake Survey

The 2014 Iowa Lakes Survey was implemented in two ways. As in previous years, the survey was sent by mail and respondents returned it following instructions included in the appendix. CARD also created a web version (including mobile version with QR code) to increase participation rates and ease of access to the survey.

The 2014 Iowa Lakes Survey consists of two main sections. The first section asked respondents about their household lake visitation patterns during the 2014 calendar year. Respondents were provided with a map (Figure 1) and asked to report the number of trips (including overnight trips) to any of the 139 DNR-identified lakes (shown in Table 1).¹ Respondents were also asked which activities their household participated in during lake visits and visitation patterns to lakes in bordering states. In addition, respondents were asked several questions about which social media sites (Facebook, Twitter, etc.) or informational websites (such as the DNR website) they use for sharing or finding information about lakes.

¹ All tables and figures are located at the end of the report.

In the second section, sociodemographic information was gathered from respondents, including age, years living in Iowa, gender, education, household size, employment status, income, and whether the individual owned a boat in 2014.

An initial survey design with each of these components was completed in early fall of 2014. Based on that design, we constructed and tested a web version of the survey. In October, we fine-tuned the wording of the survey to ensure that questions and instructions were clear to potential survey respondents; moreover, we created and checked an individually unique password system to control web access to the survey.

The Iowa Lakes Valuation Projects had already been conducted in 2002–2005 and 2009, and we maintained the sample randomly selected in previous years to measure the change of visitation patterns by panel data set. Some households, however, were not available to participate in subsequent years. Moreover, our project tries to reflect current Iowans' lake visitation patterns using representative samples, but using prior samples does not fully represent Iowa's current households, as older households were a higher portion of the prior sample. Therefore, we merged the new wave of data with prior waves to provide comprehensive coverage of Iowan households. The final survey was mailed to 6,885 Iowa households—3,464 Iowa residents that responded to prior surveys and 3,421 new 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, stamped envelope for the completed survey, and a web address, QR code, and unique password to access the web survey. When respondents returned their survey via mail with a copy of the payment slip completed, they were sent a check for \$12 as compensation for their time. When respondents filled out the web survey, they were sent a check for \$15, because online submissions reduce the implementation cost. Respondents who did not return the survey within 50 days were sent a postcard reminder. If they still did not respond after another month, they were sent a replacement packet containing the complete set of materials. One month after mailing replacement packets, a second postcard reminder was sent to those who had still not responded.

Of the 6,885 surveys sent out, 72 were returned by the postal service as undeliverable because the addressee was deceased, had moved, or refused the mailing, and 25 were a duplicate sample. Ultimately, there were 2,058 mail

respondents and 1,515 online respondents for our data set. However, 12 respondents completed both the web version and returned a paper copy in the mail—in these cases, we used only answers from the web version. Therefore, there are 3,555 valid household respondents, generating a 52.4% response rate among deliverable surveys.

III. Survey Results

In this section, we summarize the results of the 2014 Iowa Lake valuation survey, and report the estimated usage statistics. In addition, we have constructed an interactive usage map for each surveyed lake based on survey results (http://www.card.iastate.edu/ag_policy_review/f15-lakes/).

III.1. Lake Usage of Respondents

On average, a large proportion of respondents reported taking at least one single-day trip during the 2014 calendar year. Approximately 60% of respondents reported at least one single-day trip, while about 22% reported taking at least one overnight trip. The average number of single-day trips by all respondents was 8.6, and the average number of single-day trips by households that reported taking at least one trip was 14.4. The average number of overnight trips by all respondents was 1.7, and 7.7 among respondents taking at least one overnight trip.

Figure 2 shows the trend of the proportion of respondents reported taking at least one single-day trip and average trips. Even though the lowest proportion and average trips are reported in 2009, the proportions fall in the range of 57.4% to 62.5%. In addition, the average trips also show similar patterns.

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 0.001 and 0.53 (Mean 1). When conditioned on households that answered affirmatively to taking trips to a specific lake, the average number of trips varied between 1.65 and 7.37 (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, Grays Lake, and Big Creek Lake, respectively. The five least visited lakes by respondents were Wilson Park Lake, Thayer Lake, Slip Bluff Lake, Pierce Creek Lake, and Lizard 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. Eighteen percent of respondents reported at least one single-day trip to a lake in a bordering state, and 21.7% reported taking at least one overnight trip. When asked about trips to the bordering rivers, approximately 25.7% of respondents reported at least one single-day trip, while only 7.7% reported taking at least one overnight trip. Almost half, 47.6%, of respondents reported visiting a river or stream segment in Iowa, including the Mississippi and Missouri Rivers, in the 2014 calendar year.

The majority of single-day trips to lakes in states bordering Iowa were in Minnesota, averaging 0.23 trips in the 2014 calendar year. In contrast, the fewest number of single-day trips to lakes in states bordering Iowa were in Nebraska, averaging 0.04 trips. Respondents took a sizable number of single-day trips to the Mississippi River, averaging 1.14 trips, whereas respondents participated in an average of only 0.19 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 0.31 overnight trips to lakes in Minnesota in the 2014 calendar year, but only 0.01 on average to lakes in South Dakota. The Mississippi River received an average of 0.24 overnight trips, whereas respondents participated in an average of only 0.07 overnight trips to the Missouri River.

III.2. Activities in Lakes and Others Answers of Respondents

Respondents were asked to select the activities that they commonly participate in during a visit to an Iowa lake. Figure 3 depicts the distribution with which respondents selected these activities. The top three activities selected

by respondents were relaxing and/or picnicking, fishing, and nature/wildlife watching, respectively. For example, of total activities that respondents undertake at all lakes, about 11 % of them are boating and about 18% are fishing. Note that this is not the same as how many households participate in boating or fishing. That information is available at (http://www.card.iastate.edu/ag_policy_review/f15-lakes/).

We collect the information on important characteristics and factors when people choose a lake for recreation in 2002 and this survey. Figure 4 show that the important characteristics are similar between two years. ‘Safety from bacterial contamination/no health advisories’ is the most important and water clarity is also considered as one of the important characteristics. Figure 5 also show the important factors when choosing a lake recreation are not changed much between 2002 and 2014. The water quality is the most important, and then proximity and park facilities are similarity important.

One of most important questions in 2014 Iowa Lake Project is the assessment of water quality compared to lakes in surrounding states. Figure 7 shows the distribution of respondents’ evaluations of Iowa’s relative lake water quality. Even though 41.6% of respondents reported ‘I don’t know,’ 24.6% reported ‘about the same.’ In contrast, 21.3% of respondents reported ‘slightly worse’ or ‘way worse’ water quality. Regarding the assessment of water quality, Figure 8 shows the relative single-day visitation patterns by respondents’ water quality assessment compared to lake water quality in bordering states, while Figure 9 describes overnight visitations. In Figure 8, we can see that the rate of visitations to bordering state lakes or rivers between households reporting ‘way better’ or ‘slightly better’ and ‘way worse’ or ‘slightly worse’ are not very different. On the other hand, households reporting ‘way worse’ or ‘slightly worse’ show more frequent visits to bordering state lakes or rivers than households reporting ‘way better’ or ‘slightly better.’

Figure 10 depicts the ten best lakes for water quality as assessed by trip-takers.² Lake Darling, Blue Heron Lake, Lake Iowa, Lake of the Hills, and West Lake were assessed over eight points by trip-takers.

² We asked respondents to assess water quality on a scale of 0 to 10. Therefore, it may be different to real water quality measured by scientific devices.

As the number of social media users has grown in recent years, many people now turn to sites like Facebook to share vacation photos and experiences, and to seek information and recommendations from other users. In that regard, we surveyed how Iowans use social media in general, and in relation to their lake visitation. Figures 11–15 show the percentage of respondents that use social media for any purpose and specifically for the purpose of finding or sharing information about lakes in Iowa. The majority of respondents use some social media site for any purpose—less than 10% of respondents said they didn’t use a social media site at all. Facebook was clearly the most used site for general purposes, with about 70% of respondents saying they used the site. Most people—about 85%—indicated they use social media to find information about travel or lakes.³ Close to 30% of respondents however, said they do not share any information about any trips on social media sites, and almost 40% said they do not specifically share information about lake visitation. Those that do share information about lake visitation or trips in general indicated they mostly do so through Facebook.

III.3. Respondent Demographics

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

Figure 17 illustrates the age distribution among respondents. The majority of respondents were between the ages of 35 and 75. The largest group of respondents contained individuals between the ages of 60 and 75.⁴ This is consistent with Figure 18, which displays the employment status of respondents: 37.4% were retired, while 53.6% were employed full time.

Figure 19 depicts the distribution of income among respondents. Fifty-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

³ Even though we restricted Google Ads to Google’s social media such as Google Plus, we guess many respondents misunderstood Google Ads as Google search engine.

⁴ According to the 2009–2013 American Community Survey, 60 to 75-year old household heads account for 19.7% of Iowa households. Therefore, we correct the visitation estimates with sampling weight.

consistent with reported education levels among respondents, illustrated in Figure 20. A majority of respondents, 74.4%, have received at least some college education. Approximately 43.7% of respondents reported obtaining at least a college degree, and 13.9% reported having an advanced degree.

III.4. Total Usage Estimates of Iowa Lakes by Iowa Households

Using information collected from the Iowa Lakes surveys from 2002 to 2009 and 2014, and a follow-up survey of non-respondents in 2002, we estimate the total number of single-day household trips to Iowa lakes by all Iowans.⁵ Table 6 contains estimated household trips categorized by lake. The five-year average between 2002 and 2009 is also included.⁶ For 2014 Iowa lake usage estimates, we present mean values, standard error, and upper and lower bound as well.

The estimates of 2014 Iowa lake visits are slightly lower than the five-year average, while the numbers are greater than 2009 Iowa lake usage estimates—partially explainable by the 2008–2009 economic downturn. In general, usage of Iowa’s lakes could be said to be quite stable over the surveyed years. While there are increases and declines on individual annual bases, overall, there has been a steady amount of use. Figure 16 shows the trend of the estimated total trips and estimated average trips per lake.

The average observed decrease is not uniform across all lakes. A considerable amount of variation at the individual lake level exists, ranging from an over 335% increase in household visitation to an 87% decrease. The top five most heavily visited lakes in 2014 were Saylorville Lake, Clear Lake, Big Creek Lake, Gray Lake, and West Okoboji Lake respectively.

⁵ A complete description of the calculation is available from the authors upon request.

⁶ We found that there were some mistakes in calculation of 2009 Iowa households lake usage estimates, so we correct the numbers.

Table 7 contains the ranking of Iowa lakes according to the intensity of household visitation under the five-year average and in 2014, as described in Table 6. Also included is the change in overall ranking between the five-year average and 2014. This column captures substitution between lakes. The five lakes with the largest change in rankings between the five-year average and 2014 are Williamson Pond, South Prairie Lake, Lake Iowa, Lake Sugema, and Crystal Lake, respectively. In contrast, the five lakes that experienced the largest drop in rankings are Carter Lake, Lake Miami, DeSoto Bend Lake, Hawthorn Lake (aka Barnes City Lake), and Lake Keomah.

Table 8 contains the average number of miles visitors travel to each lake calculated with the number of trips as a weight. Visitors to urban lakes such as Gray Lake, Clear Lake, Big Creek Lake, and Ada Hayden Lake live in close proximity to the lake, while non-urban lakes such as West and East Okoboji Lakes and Big Spirit Lake have a relatively larger number of visitors traveling long distances.

Table 9 shows the economic impact lake visitation has on local economies. The estimated direct spending is based on an intercept survey conducted at three Iowa lakes (Clear Lake, Pleasant Lake, and Lake Manawa) during the summers of 2009 and 2010, and two Iowa lakes (Storm lake and Rock Creek lake) in 2002.⁷ Direct spending is applied to each lake visit according to lake characteristics, and ranges from \$75 to \$146. The estimated total direct spending associated with Iowa's 139 lake visits in 2014 is slightly less than \$1 billion, average direct spending per lake is \$700,000.

⁷ To consider an increase in cost of living, we use the Consumer Price Index (CPI).

Tables and Figures

Table 1. Iowa Lakes Included in Survey

DNR Lake ID	Lake	DNR Lake ID	Lake
AHL85	Ada Hayden Lake*	SMI55	Lake Smith
ARB79	Arbor Lake	SUG89	Lake Sugema
ARR81	Arrowhead Lake (Sac County)	WAP26	Lake Wapello
ARR78	Arrowhead Lake (Pottawattamie County)	LRI27	Little River
ASA09	Avenue of the Saints Lake	LSP97	Little Sioux Park Lake
BAC61	Badger Creek Lake	LSP30	Little Spirit Lake
BAD94	Badger Lake	LWA40	Little Wall Lake
BEA25	Beaver Lake	LIT05	Littlefield Lake
BEE35	Beeds Lake	LIZ76	Lizard Lake*
BDL54	Belva Deer Lake*	LGR82	Lost Grove Lake*
BIC77	Big Creek Lake	LIS74	Lost Island Lake
BHO29	Big Hollow Lake*	LGA30	Lower Gar Lake
SPL30	Big Spirit Lake	LPI42	Lower Pine Lake
BHA81	Black Hawk Lake	MAP83	Manteno Lake
BLU67	Blue Lake	MAR50	Mariposa Lake
RRP77	Blue Heron Lake*	MEA01	Meadow Lake
BWH93	Bob White Lake	MEY07	Meyers Lake
BWO40	Briggs Woods Lake	MIC71	Mill Creek (Lake)
BRO97	Browns Lake	MIN30	Lake Minnewashta
BRC94	Brushy Creek Lake	MIT07	Mitchell Lake
CAR78	Carter Lake	MOO47	Moorehead Lake
CAS86	Casey Lake (aka Hickory Hills Lake)	MTR01	Mormon Trail Lake
CEN30	Center Lake	NEL24	Nelson Park Lake
CEN53	Central Park Lake	NEA27	Nine Eagles Lake
CLE17	Clear Lake	NOD01	Nodaway Lake*
CSP15	Cold Springs Lake	NTW13	North Twin Lake
COR52	Coralville Lake	OLD67	Oldham Lake
CRC47	Crawford Creek Impoundment	ORI01	Lake Orient
CRY41	Crystal Lake	OTC86	Otter Creek Lake
DMA77	Dale Maffitt Lake**	OTL90	Ottumwa Lagoon
DBE43	DeSoto Bend Lake	PIC73	Pierce Creek Lake
DIA79	Diamond Lake	PLC57	Pleasant Creek Lake
DCR71	Dog Creek Lake	POL56	Pollmiller Park Lake
DWI08	Don Williams Lake	PRO83	Prairie Rose Lake
EOS20	East Lake (Osceola)	RAT04	Rathbun Lake
EOK30	East Okoboji Lake	RHA59	Red Haw Lake
EAS77	Easter Lake	RRO63	Red Rock Lake
ESH41	Eldred Sherwood Lake	ROC63	Roberts Creek Lake
FIS74	Five Island Lake	ROC50	Rock Creek Lake
FOG80	Fogle Lake	ROG06	Rodgers Park Lake

Table 1. Iowa Lakes Included in Survey

DNR Lake ID	Lake	DNR Lake ID	Lake
VOL33	Volga Lake	RDL34	Rudd Lake*
GEO44	Lake Geode	SAY77	Saylorville Lake
GWY07	George Wyth Lake	SIL98	Silver Lake (Worth County)
GRL77	Grays Lake*	SIL74	Silver Lake (Palo Alto County)
GBE07	Green Belt Lake	SIL30	Silver Lake (Dickinson County)
GCA64	Green Castle Lake	SIL28	Silver Lake (Delaware County)
GVA88	Green Valley Lake	SBL27	Slip Bluff Lake
GRL01	Greenfield Lake	SBE97	Snyder Bend Lake*
HAN06	Hannen Lake	SPR07	South Prairie Lake
HAW62	Hawthorn Lake (aka Barnes City Lake)	SPR37	Spring Lake
HGR85	Hickory Grove Lake	SPR39	Springbrook Lake
HOO91	Hooper Area Pond	STL11	Storm Lake (incl Little Storm Lake)
IND89	Indian Lake	SUM88	Summit Lake*
ING32	Ingham Lake	SWA14	Swan Lake
IOW48	Lake Iowa	THY88	Thayer Lake
KEP52	Kent Park Lake	THM88	Three Mile Lake
LKE89	Lacey Keosauqua Park Lake	TRU21	Trumbull Lake**
AHQ91	Lake Ahquabi	TUT32	Tuttle Lake**
ANI15	Lake Anita	TMI88	Twelve Mile Creek Lake
COR99	Lake Cornelia	UGR86	Union Grove Lake
DAR92	Lake Darling	UGR30	Upper Gar Lake
HEN45	Lake Hendricks	UPI42	Upper Pine Lake
ICA02	Lake Icaria	VIK69	Viking Lake
KEO62	Lake Keomah	WOS20	West Osceola
MAC52	Lake Macbride	WOK30	West Okoboji Lake
MAN78	Lake Manawa	WOA62	White Oak Lake
MEY96	Lake Meyer*	WIP59	Williamson Pond
MIA68	Lake Miami	WIL43	Willow Lake
LTH82	Lake of the Hills	WIL87	Wilson Park Lake
TFI87	Lake of Three Fires	WIN87	Windmill Lake
PAH60	Lake Pahoja	YSM24	Yellow Smoke Park Lake

* : included only in 2014.

** : included in 2002 to 2009, but not in 2014.

Table 2. Single-Day Trips to Iowa Lakes

No.	DNR ID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
1	AHL85	Ada Hayden Lake	780	0.220	0.031	0.367	6.846	2.63
2	ARB79	Arbor Lake	93	0.026	0.009	0.044	5.813	0.31
3	ARR81	Arrowhead Lake (Sac County)	60	0.017	0.005	0.028	3.529	0.20
4	ARR78	Arrowhead Lake (Pottawattamie County)	98	0.028	0.008	0.046	3.920	0.33
5	ASA09	Avenue of the Saints Lake	28	0.008	0.002	0.013	1.647	0.09
6	BAC61	Badger Creek Lake	132	0.037	0.008	0.062	3.568	0.45
7	BAD94	Badger Lake	123	0.035	0.008	0.058	3.154	0.42
8	BEA25	Beaver Lake	82	0.023	0.009	0.039	3.565	0.28
9	BEE35	Beeds Lake	184	0.052	0.013	0.087	3.290	0.62
10	BDL54	Belva Deer Lake	255	0.072	0.018	0.120	4.250	0.86
11	BIC77	Big Creek Lake	1,117	0.314	0.029	0.526	4.329	3.77
12	BHO29	Big Hollow Lake	128	0.036	0.009	0.060	3.459	0.43
13	SPL30	Big Spirit Lake	774	0.218	0.028	0.364	4.553	2.61
14	BHA81	Black Hawk Lake	205	0.058	0.009	0.096	2.808	0.69
15	BLU67	Blue Lake	120	0.034	0.010	0.056	3.750	0.40
16	RRP77	Blue Heron Lake	139	0.039	0.012	0.065	4.964	0.47
17	BWH93	Bob White Lake	31	0.009	0.003	0.015	2.385	0.10
18	BWO40	Briggs Woods Lake	141	0.040	0.009	0.066	3.917	0.48
19	BRO97	Browns Lake	158	0.044	0.009	0.074	3.362	0.53
20	BRC94	Brushy Creek Lake	423	0.119	0.019	0.199	3.585	1.43
21	CAR78	Carter Lake	94	0.027	0.009	0.044	3.932	0.32
22	CAS86	Casey Lake (aka Hickory Hills Lake)	77	0.022	0.004	0.036	1.974	0.26
23	CEN30	Center Lake	71	0.020	0.006	0.033	2.840	0.24
24	CEN53	Central Park Lake	102	0.029	0.008	0.048	3.643	0.34
25	CLE17	Clear Lake	1,549	0.436	0.047	0.729	5.758	5.23
26	CSP15	Cold Springs Lake	93	0.026	0.007	0.044	5.167	0.31
27	COR52	Coralville Lake	947	0.266	0.027	0.446	4.101	3.20
28	CRC47	Crawford Creek Impoundment	66	0.019	0.005	0.031	2.750	0.22
29	CRY41	Crystal Lake	188	0.053	0.013	0.089	3.922	0.64
30	DBE43	DeSoto Bend Lake	90	0.025	0.006	0.042	2.308	0.30
31	DIA79	Diamond Lake	133	0.038	0.012	0.063	3.923	0.45

Table 2. Single-Day Trips to Iowa Lakes (continued)

No.	DNR ID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
32	DCR71	Dog Creek Lake	62	0.017	0.006	0.029	3.100	0.21
33	DWI08	Don Williams Lake	169	0.048	0.009	0.080	2.864	0.57
34	EOS20	East Lake (Osceola)	128	0.036	0.015	0.060	5.818	0.43
35	EOK30	East Okoboji Lake	868	0.244	0.029	0.408	4.405	2.93
36	EAS77	Easter Lake	282	0.079	0.017	0.133	3.357	0.95
37	ESH41	Eldred Sherwood Lake	21	0.006	0.003	0.010	3.000	0.07
38	FIS74	Five Island Lake	209	0.059	0.018	0.098	5.225	0.71
39	FOG80	Fogle Lake	50	0.014	0.007	0.024	5.000	0.17
40	VOL33	Volga Lake	222	0.062	0.012	0.104	3.639	0.75
41	GEO44	Lake Geode	244	0.069	0.012	0.115	3.813	0.82
42	GWY07	George Wyth Lake	573	0.161	0.024	0.270	4.775	1.93
43	GRL77	Grays Lake	1,142	0.321	0.036	0.537	5.336	3.85
44	GBE07	Green Belt Lake	84	0.024	0.015	0.040	6.462	0.28
45	GCA64	Green Castle Lake	39	0.011	0.003	0.018	2.786	0.13
46	GVA88	Green Valley Lake	157	0.044	0.011	0.074	3.925	0.53
47	GRL01	Greenfield Lake	111	0.031	0.010	0.052	4.443	0.37
48	HAN06	Hannen Lake	120	0.034	0.009	0.056	3.077	0.40
49	HAW62	Hawthorn Lake (aka Barnes City Lake)	71	0.020	0.005	0.033	3.087	0.24
50	HGR85	Hickory Grove Lake	155	0.044	0.008	0.073	2.719	0.52
51	HOO91	Hooper Area Pond	44	0.012	0.004	0.021	3.667	0.15
52	IND89	Indian Lake	62	0.017	0.005	0.029	3.263	0.21
53	ING32	Ingham Lake	62	0.017	0.004	0.029	2.583	0.21
54	IOW48	Lake Iowa	152	0.043	0.011	0.072	3.102	0.51
55	KEP52	Kent Park Lake	220	0.062	0.012	0.104	2.933	0.74
56	LKE89	Lacey Keosauqua Park Lake	146	0.041	0.008	0.069	2.607	0.49
57	AHQ91	Lake Ahquabi	316	0.089	0.015	0.149	3.950	1.07
58	ANI15	Lake Anita	167	0.047	0.009	0.079	3.408	0.56
59	COR99	Lake Cornelia	234	0.066	0.019	0.110	5.707	0.79
60	DAR92	Lake Darling	170	0.048	0.011	0.080	2.982	0.57
61	HEN45	Lake Hendricks	110	0.031	0.009	0.052	3.667	0.37
62	ICA02	Lake Icaria	155	0.044	0.012	0.073	3.100	0.52
63	KEO62	Lake Keomah	75	0.021	0.006	0.035	3.000	0.25

Table 2. Single-Day Trips to Iowa Lakes (continued)

No.	DNR ID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
64	MAC52	Lake Macbride	1,004	0.282	0.033	0.472	4.272	3.39
65	MAN78	Lake Manawa	472	0.133	0.028	0.222	7.614	1.59
66	MEY96	Lake Meyer	67	0.019	0.004	0.032	2.161	0.23
67	MIA68	Lake Miami	47	0.013	0.004	0.022	2.474	0.16
68	LTH82	Lake of the Hills	198	0.056	0.011	0.093	4.400	0.67
69	TFI87	Lake of Three Fires	46	0.013	0.004	0.022	2.556	0.16
70	PAH60	Lake Pahoja	60	0.017	0.005	0.028	3.000	0.20
71	SMI55	Lake Smith	74	0.021	0.007	0.035	4.353	0.25
72	SUG89	Lake Sugema	208	0.058	0.013	0.098	5.061	0.70
73	WAP26	Lake Wapello	121	0.034	0.007	0.057	3.270	0.41
74	LRI27	Little River	70	0.020	0.005	0.033	2.692	0.24
75	LSP97	Little Sioux Park Lake	78	0.022	0.007	0.037	3.120	0.26
76	LSP30	Little Spirit Lake	138	0.039	0.006	0.065	2.556	0.47
77	LWA40	Little Wall Lake	162	0.046	0.009	0.076	3.176	0.55
78	LIT05	Littlefield Lake	126	0.035	0.012	0.059	5.250	0.43
79	LIZ76	Lizard Lake	15	0.004	0.002	0.007	1.667	0.05
80	LGR82	Lost Grove Lake	198	0.056	0.011	0.093	3.143	0.67
81	LIS74	Lost Island Lake	259	0.073	0.018	0.122	4.625	0.87
82	LGA30	Lower Gar Lake	271	0.076	0.015	0.127	4.919	0.91
83	LPI42	Lower Pine Lake	200	0.056	0.015	0.094	4.255	0.67
84	MAP83	Manteno Lake	40	0.011	0.006	0.019	5.714	0.13
85	MAR50	Mariposa Lake	91	0.026	0.010	0.043	4.333	0.31
86	MEA01	Meadow Lake	25	0.007	0.002	0.012	2.500	0.08
87	MEY07	Meyers Lake	85	0.024	0.009	0.040	3.148	0.29
88	MIC71	Mill Creek (Lake)	120	0.034	0.011	0.056	5.455	0.40
89	MIN30	Lake Minnewashta	226	0.064	0.014	0.106	5.139	0.76
90	MIT07	Mitchell Lake	50	0.014	0.005	0.024	3.333	0.17
91	MOO47	Moorehead Lake	63	0.018	0.006	0.030	4.500	0.21
92	MTR01	Mormon Trail Lake	41	0.012	0.004	0.019	2.929	0.14
93	NEL24	Nelson Park Lake	41	0.012	0.004	0.019	2.563	0.14
94	NEA27	Nine Eagles Lake	53	0.015	0.005	0.025	2.650	0.18
95	NOD01	Nodaway Lake	84	0.024	0.010	0.040	5.631	0.29

Table 2. Single-Day Trips to Iowa Lakes (continued)

No.	DNR ID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
96	NTW13	North Twin Lake	164	0.046	0.012	0.077	3.500	0.56
97	OLD67	Oldham Lake	23	0.006	0.003	0.011	3.286	0.08
98	ORI01	Lake Orient	74	0.021	0.008	0.035	4.111	0.25
99	OTC86	Otter Creek Lake	110	0.031	0.010	0.052	3.548	0.37
100	OTL90	Ottumwa Lagoon	175	0.049	0.017	0.082	6.250	0.59
101	PIC73	Pierce Creek Lake	3	0.001	0.001	0.001	3.000	0.01
102	PLC57	Pleasant Creek Lake	415	0.117	0.017	0.195	3.990	1.40
103	POL56	Pollmiller Park Lake	105	0.030	0.008	0.049	4.773	0.35
104	PRO83	Prairie Rose Lake	92	0.026	0.008	0.043	3.407	0.31
105	RAT04	Rathbun Lake	557	0.157	0.021	0.262	3.201	1.88
106	RHA59	Red Haw Lake	138	0.039	0.011	0.065	3.632	0.47
107	RRO63	Red Rock Lake	893	0.251	0.031	0.420	4.556	3.01
108	ROC63	Roberts Creek Lake	185	0.052	0.014	0.087	3.776	0.62
109	ROC50	Rock Creek Lake	197	0.055	0.012	0.093	3.397	0.66
110	ROG06	Rodgers Park Lake	57	0.016	0.009	0.027	4.071	0.19
111	RDL34	Rudd Lake	101	0.028	0.009	0.048	4.591	0.34
112	SAY77	Saylorville Lake	1,882	0.529	0.047	0.886	5.774	6.35
113	SIL98	Silver Lake (Worth County)	34	0.010	0.005	0.016	3.091	0.11
114	SIL74	Silver Lake (Palo Alto County)	109	0.031	0.009	0.051	5.190	0.37
115	SIL30	Silver Lake (Dickinson County)	141	0.040	0.010	0.066	3.711	0.48
116	SIL28	Silver Lake (Delaware County)	61	0.017	0.007	0.029	4.067	0.21
117	SBL27	Slip Bluff Lake	13	0.004	0.002	0.006	2.167	0.04
118	SBE97	Snyder Bend Lake	92	0.026	0.007	0.043	3.286	0.31
119	SPR07	South Prairie Lake	221	0.062	0.019	0.104	7.367	0.75
120	SPR37	Spring Lake	152	0.043	0.017	0.071	5.840	0.51
121	SPR39	Springbrook Lake	111	0.031	0.009	0.052	3.171	0.37
122	STL11	Storm Lake (incl Little Storm Lake)	580	0.163	0.029	0.273	5.273	1.96
123	SUM88	Summit Lake	28	0.008	0.003	0.013	4.000	0.09
124	SWA14	Swan Lake	272	0.076	0.021	0.128	5.430	0.92
125	THY88	Thayer Lake	16	0.005	0.002	0.008	2.286	0.05
126	THM88	Three Mile Lake	257	0.072	0.020	0.121	4.849	0.87
127	TMI88	Twelve Mile Creek Lake	176	0.050	0.010	0.083	2.933	0.59

Table 2. Single-Day Trips to Iowa Lakes (continued)

No.	DNR ID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
128	UGR86	Union Grove Lake	124	0.035	0.011	0.058	3.875	0.42
129	UGR30	Upper Gar Lake	274	0.077	0.015	0.129	4.724	0.92
130	UPI42	Upper Pine Lake	192	0.054	0.014	0.090	3.918	0.65
131	VIK69	Viking Lake	198	0.056	0.015	0.093	5.211	0.67
132	WOS20	West Osceola	122	0.034	0.008	0.057	3.577	0.41
133	WOK30	West Okoboji Lake	1,179	0.332	0.038	0.555	5.287	3.98
134	WOA62	White Oak Lake	31	0.009	0.003	0.015	2.214	0.10
135	WIP59	Williamson Pond	71	0.020	0.009	0.033	5.071	0.24
136	WIL43	Willow Lake	50	0.014	0.005	0.024	3.571	0.17
137	WIL87	Wilson Park Lake	4	0.001	0.001	0.002	2.000	0.01
138	WIN87	Windmill Lake	21	0.006	0.002	0.010	2.333	0.07
139	YSM24	Yellow Smoke Park Lake	98	0.027	0.007	0.046	3.490	0.33
140	-	Other lake1 in Iowa	796	0.224	0.033	0.375	6.370	-
141	-	Other lake2 in Iowa	172	0.048	0.016	0.081	6.143	-
Total			30,601	8.608		14.401		

Mean 1: average sample trips to lake.

Mean 2: average trips to lake by all trip-takers.

Mean 3: average trips for trip-takers at that lake.

Table 3. Overnight Trips to Iowa Lakes

No.	DNRID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
1	AHL85	Ada Hayden Lake	2	0.001	0.001	0.003	2.000	0.04
2	ARB79	Arbor Lake	2	0.001	0.001	0.003	2.000	0.04
3	ARR81	Arrowhead Lake (Sac County)	11	0.003	0.002	0.014	2.750	0.20
4	ARR78	Arrowhead Lake (Pottawattamie County)	8	0.002	0.001	0.010	1.600	0.14
5	ASA09	Avenue of the Saints Lake	2	0.001	0.001	0.003	2.000	0.04
6	BAC61	Badger Creek Lake	3	0.001	0.001	0.004	1.500	0.05
7	BAD94	Badger Lake	18	0.005	0.002	0.023	3.000	0.32
8	BEA25	Beaver Lake	5	0.001	0.001	0.006	2.500	0.09
9	BEE35	Beeds Lake	48	0.014	0.007	0.062	3.200	0.85
10	BDL54	Belva Deer Lake	62	0.017	0.006	0.080	2.952	1.10
11	BIC77	Big Creek Lake	27	0.008	0.003	0.035	2.700	0.48
12	BHO29	Big Hollow Lake	8	0.002	0.001	0.010	2.667	0.14
13	SPL30	Big Spirit Lake	162	0.046	0.008	0.208	2.945	2.88
14	BHA81	Black Hawk Lake	106	0.030	0.009	0.136	3.533	1.88
15	BLU67	Blue Lake	36	0.010	0.005	0.046	3.000	0.64
16	RRP77	Blue Heron Lake	4	0.001	0.001	0.005	4.000	0.07
17	BWH93	Bob White Lake	8	0.002	0.002	0.010	4.000	0.14
18	BWO40	Briggs Woods Lake	41	0.012	0.004	0.053	3.727	0.73
19	BRO97	Browns Lake	24	0.007	0.003	0.031	4.000	0.43
20	BRC94	Brushy Creek Lake	92	0.026	0.007	0.118	2.968	1.63
21	CAR78	Carter Lake	6	0.002	0.001	0.008	2.000	0.11
22	CAS86	Casey Lake (aka Hickory Hills Lake)	15	0.004	0.002	0.019	1.667	0.27
23	CEN30	Center Lake	32	0.009	0.006	0.041	4.000	0.57
24	CEN53	Central Park Lake	25	0.007	0.002	0.032	2.273	0.44
25	CLE17	Clear Lake	433	0.122	0.024	0.555	5.342	7.69
26	CSP15	Cold Springs Lake	8	0.002	0.001	0.010	2.667	0.14
27	COR52	Coralville Lake	168	0.047	0.009	0.216	4.421	2.98
28	CRC47	Crawford Creek Impoundment	12	0.003	0.002	0.015	2.400	0.21
29	CRY41	Crystal Lake	55	0.015	0.008	0.071	6.111	0.98
30	DBE43	DeSoto Bend Lake	6	0.002	0.001	0.008	3.000	0.11
31	DIA79	Diamond Lake	34	0.010	0.004	0.044	3.778	0.60
32	DCR71	Dog Creek Lake	8	0.002	0.001	0.010	2.000	0.14

Table 3. Overnight Trips to Iowa Lakes

No.	DNRID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
33	DWI08	Don Williams Lake	38	0.011	0.005	0.049	4.222	0.68
34	EOS20	East Lake (Osceola)	7	0.002	0.001	0.009	2.333	0.12
35	EOK30	East Okoboji Lake	513	0.144	0.029	0.658	5.571	9.11
36	EAS77	Easter Lake	18	0.005	0.004	0.023	6.000	0.32
37	ESH41	Eldred Sherwood Lake	6	0.002	0.001	0.008	2.000	0.11
38	FIS74	Five Island Lake	12	0.003	0.002	0.015	2.000	0.21
39	FOG80	Fogle Lake	7	0.002	0.001	0.009	1.750	0.12
40	VOL33	Volga Lake	15	0.004	0.002	0.019	1.500	0.27
41	GEO44	Lake Geode	28	0.008	0.002	0.036	2.000	0.50
42	GWY07	George Wyth Lake	25	0.007	0.002	0.032	1.667	0.44
43	GRL77	Grays Lake	2	0.001	0.001	0.003	2.000	0.04
44	GBE07	Green Belt Lake	6	0.002	0.001	0.008	2.000	0.11
45	GCA64	Green Castle Lake	4	0.001	0.001	0.005	4.000	0.07
46	GVA88	Green Valley Lake	25	0.007	0.002	0.032	1.563	0.44
47	GRL01	Greenfield Lake	2	0.001	0.001	0.003	2.000	0.04
48	HAN06	Hannen Lake	23	0.006	0.003	0.030	2.556	0.41
49	HAW62	Hawthorn Lake (aka Barnes City Lake)	13	0.004	0.002	0.017	3.250	0.23
50	HGR85	Hickory Grove Lake	40	0.011	0.004	0.051	2.667	0.71
51	HOO91	Hooper Area Pond	3	0.001	0.001	0.004	1.500	0.05
52	IND89	Indian Lake	13	0.004	0.002	0.017	2.600	0.23
53	ING32	Ingham Lake	3	0.001	0.001	0.004	1.500	0.05
54	IOW48	Lake Iowa	26	0.007	0.003	0.033	2.364	0.46
55	KEP52	Kent Park Lake	16	0.005	0.002	0.021	1.778	0.28
56	LKE89	Lacey Keosauqua Park Lake	46	0.013	0.003	0.059	2.190	0.82
57	AHQ91	Lake Ahquabi	51	0.014	0.008	0.065	3.643	0.91
58	ANI15	Lake Anita	59	0.017	0.008	0.076	3.688	1.05
59	COR99	Lake Cornelia	88	0.025	0.012	0.113	8.778	1.56
60	DAR92	Lake Darling	27	0.008	0.003	0.035	2.455	0.48
61	HEN45	Lake Hendricks	15	0.004	0.002	0.019	2.500	0.27
62	ICA02	Lake Icaria	17	0.005	0.002	0.022	2.125	0.30
63	KEO62	Lake Keomah	14	0.004	0.002	0.018	2.000	0.25
64	MAC52	Lake Macbride	50	0.014	0.003	0.064	1.724	0.89

Table 3. Overnight Trips to Iowa Lakes

No.	DNRID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
65	MAN78	Lake Manawa	13	0.004	0.002	0.017	2.167	0.23
66	MEY96	Lake Meyer	13	0.004	0.001	0.017	1.857	0.23
67	MIA68	Lake Miami	8	0.002	0.001	0.010	2.667	0.14
68	LTH82	Lake of the Hills	48	0.014	0.008	0.062	4.800	0.85
69	TFI87	Lake of Three Fires	27	0.008	0.002	0.035	2.250	0.48
70	PAH60	Lake Pahoja	43	0.012	0.009	0.055	6.143	0.76
71	SMI55	Lake Smith	2	0.001	0.001	0.003	2.000	0.04
72	SUG89	Lake Sugema	63	0.018	0.007	0.081	3.938	1.12
73	WAP26	Lake Wapello	24	0.007	0.003	0.031	2.400	0.43
74	LRI27	Little River	42	0.012	0.007	0.054	6.000	0.75
75	LSP97	Little Sioux Park Lake	23	0.006	0.004	0.030	4.600	0.41
76	LSP30	Little Spirit Lake	59	0.017	0.008	0.076	4.538	1.05
77	LWA40	Little Wall Lake	51	0.014	0.008	0.065	5.667	0.91
78	LIT05	Littlefield Lake	19	0.005	0.002	0.024	2.714	0.34
79	LIZ76	Lizard Lake	2	0.001	0.001	0.003	2.000	0.04
80	LGR82	Lost Grove Lake	4	0.001	0.001	0.005	1.333	0.07
81	LIS74	Lost Island Lake	93	0.026	0.014	0.120	7.167	1.66
82	LGA30	Lower Gar Lake	63	0.018	0.007	0.081	5.250	1.12
83	LPI42	Lower Pine Lake	24	0.007	0.003	0.031	2.000	0.43
84	MAP83	Manteno Lake	11	0.003	0.002	0.014	2.750	0.20
85	MAR50	Mariposa Lake	4	0.001	0.001	0.005	1.333	0.07
86	MEA01	Meadow Lake	3	0.001	0.001	0.004	3.000	0.05
87	MEY07	Meyers Lake	33	0.009	0.008	0.042	16.500	0.59
88	MIC71	Mill Creek (Lake)	10	0.003	0.002	0.013	2.000	0.18
89	MIN30	Lake Minnewashta	41	0.012	0.007	0.053	5.857	0.73
90	MIT07	Mitchell Lake	2	0.001	0.001	0.003	2.000	0.04
91	MOO47	Moorehead Lake	4	0.001	0.001	0.005	4.000	0.07
92	MTR01	Mormon Trail Lake	4	0.001	0.001	0.005	4.000	0.07
93	NEL24	Nelson Park Lake	7	0.002	0.001	0.009	2.333	0.12
94	NEA27	Nine Eagles Lake	28	0.008	0.003	0.036	3.111	0.50
95	NOD01	Nodaway Lake	8	0.002	0.001	0.010	2.000	0.14
96	NTW13	North Twin Lake	73	0.021	0.011	0.094	7.333	1.30

Table 3. Overnight Trips to Iowa Lakes

No.	DNRID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
97	OLD67	Oldham Lake	4	0.001	0.001	0.005	4.000	0.07
98	ORI01	Lake Orient	2	0.001	0.001	0.003	2.000	0.04
99	OTC86	Otter Creek Lake	14	0.004	0.002	0.018	2.333	0.25
100	OTL90	Ottumwa Lagoon	11	0.003	0.002	0.014	3.667	0.20
101	PIC73	Pierce Creek Lake	3	0.001	0.001	0.004	3.000	0.05
102	PLC57	Pleasant Creek Lake	50	0.014	0.004	0.064	2.778	0.89
103	POL56	Pollmiller Park Lake	18	0.005	0.003	0.023	3.000	0.32
104	PRO83	Prairie Rose Lake	25	0.007	0.003	0.032	2.500	0.44
105	RAT04	Rathbun Lake	322	0.090	0.018	0.413	3.533	5.71
106	RHA59	Red Haw Lake	31	0.009	0.004	0.040	3.444	0.55
107	RRO63	Red Rock Lake	187	0.053	0.012	0.240	3.596	3.32
108	ROC63	Roberts Creek Lake	29	0.008	0.003	0.037	2.417	0.52
109	ROC50	Rock Creek Lake	51	0.014	0.005	0.065	3.000	0.91
110	ROG06	Rodgers Park Lake	5	0.001	0.001	0.006	1.667	0.09
111	RDL34	Rudd Lake	5	0.001	0.001	0.006	2.500	0.09
112	SAY77	Saylorville Lake	128	0.036	0.008	0.164	2.976	2.27
113	SIL98	Silver Lake (Worth County)	2	0.001	0.001	0.003	2.000	0.04
114	SIL74	Silver Lake (Palo Alto County)	3	0.001	0.001	0.004	3.000	0.05
115	SIL30	Silver Lake (Dickinson County)	59	0.017	0.010	0.076	8.429	1.05
116	SIL28	Silver Lake (Delaware County)	2	0.001	0.001	0.003	2.000	0.04
117	SBL27	Slip Bluff Lake	7	0.002	0.001	0.009	3.500	0.12
118	SBE97	Snyder Bend Lake	24	0.007	0.003	0.031	2.667	0.43
119	SPR07	South Prairie Lake	4	0.001	0.001	0.005	4.000	0.07
120	SPR37	Spring Lake	44	0.012	0.005	0.056	3.667	0.78
121	SPR39	Springbrook Lake	24	0.007	0.002	0.031	1.714	0.43
122	STL11	Storm Lake (incl Little Storm Lake)	63	0.018	0.005	0.081	2.625	1.12
123	SUM88	Summit Lake	4	0.001	0.001	0.005	4.000	0.07
124	SWA14	Swan Lake	14	0.004	0.002	0.018	2.000	0.25
125	THY88	Thayer Lake	2	0.001	0.001	0.003	2.000	0.04
126	THM88	Three Mile Lake	55	0.015	0.004	0.071	2.500	0.98
127	TMI88	Twelve Mile Creek Lake	45	0.013	0.004	0.058	2.800	0.80
128	UGR86	Union Grove Lake	9	0.003	0.001	0.012	1.500	0.16

Table 3. Overnight Trips to Iowa Lakes

No.	DNRID	Lake	Total	Mean 1	S.E.	Mean 2	Mean 3	Share (%)
129	UGR30	Upper Gar Lake	48	0.014	0.007	0.062	4.000	0.85
130	UPI42	Upper Pine Lake	24	0.007	0.002	0.031	1.846	0.43
131	VIK69	Viking Lake	22	0.006	0.002	0.028	1.538	0.38
132	WOS20	West Osceola	16	0.005	0.002	0.021	3.200	0.28
133	WOK30	West Okoboji Lake	704	0.198	0.032	0.904	5.104	12.51
134	WOA62	White Oak Lake	4	0.001	0.001	0.005	4.000	0.07
135	WIP59	Williamson Pond	2	0.001	0.001	0.003	2.000	0.04
136	WIL43	Willow Lake	19	0.005	0.003	0.024	4.750	0.34
137	WIL87	Wilson Park Lake	4	0.001	0.001	0.005	2.000	0.07
138	WIN87	Windmill Lake	2	0.001	0.001	0.003	2.000	0.04
139	YSM24	Yellow Smoke Park Lake	7	0.002	0.001	0.009	1.750	0.12
140	-	Other lake1 in Iowa	117	0.033	0.011	0.150	5.087	-
141	-	Other lake2 in Iowa	14	0.004	0.002	0.018	2.800	-
Total			5,760	1.620		7.394		

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

Lake	Total	Mean	S.E.	Min	Max
Lakes in Minnesota	824	0.232	0.025	0	50
Lakes in Missouri	514	0.145	0.019	0	27
Lakes in Nebraska	136	0.038	0.006	0	10
Lakes in South Dakota	281	0.079	0.011	0	15
Lakes in Wisconsin	538	0.151	0.021	0	30
Missouri River	657	0.185	0.020	0	30
Mississippi River	4,044	1.138	0.067	0	50

Table 5. Overnight Trips to Bordering State Lakes and Rivers

Lake	Total	Mean	S.E.	Min	Max
Lakes in Minnesota	1,083	0.305	0.025	0	30
Lakes in Missouri	752	0.212	0.027	0	33
Lakes in Nebraska	48	0.014	0.003	0	8
Lakes in South Dakota	338	0.095	0.013	0	20
Lakes in Wisconsin	548	0.154	0.019	0	40
Missouri River	242	0.068	0.017	0	30
Mississippi River	852	0.240	0.025	0	40

Table 6. Estimated Household Trips

DNR		2002	2003	2004	2005	2009	5 Yr Ave	2014			
Lake ID	Lake							Mean	S.E.	Lower	Upper
AHL85	Ada Hayden Lake	-	-	-	-	-	-	217,178	17,131	183,602	250,754
ARB79	Arbor Lake	31,087	39,462	26,614	24,185	20,611	28,392	27,112	4,883	17,541	36,682
ARR81	Arrowhead Lake (Sac County)	8,527	11,788	12,628	12,189	10,296	11,086	20,029	3,871	12,442	27,616
ARR78	Arrowhead Lake (Pottawattamie County)	40,286	39,406	35,694	42,354	23,619	36,272	31,673	5,354	21,179	42,166
ASA09	Avenue of the Saints Lake	16,803	16,628	22,671	16,695	20,772	18,714	7,668	956	5,794	9,542
BAC61	Badger Creek Lake	74,291	74,752	62,145	58,635	48,857	63,736	40,123	4,855	30,608	49,639
BAD94	Badger Lake	78,957	93,249	66,826	68,575	36,075	68,737	37,738	4,437	29,040	46,435
BEA25	Beaver Lake	23,574	23,486	22,938	28,502	16,200	22,940	24,095	4,398	15,476	32,715
BEE35	Beeds Lake	80,568	89,139	82,652	90,205	44,597	77,432	54,558	7,686	39,493	69,623
BDL54	Belva Deer Lake	-	-	-	-	-	-	79,867	10,159	59,957	99,778
BIC77	Big Creek Lake	418,098	460,250	366,101	364,206	282,686	378,268	376,000	27,820	321,473	430,526
BHO29	Big Hollow Lake	-	-	-	-	-	-	41,185	5,182	31,029	51,340
SPL30	Big Spirit Lake	199,302	309,264	259,862	261,956	196,095	245,296	233,385	18,445	197,234	269,536
BHA81	Black Hawk Lake	101,790	109,222	116,043	116,271	83,650	105,395	64,499	7,132	50,521	78,477
BLU67	Blue Lake	42,132	53,803	57,908	53,780	35,246	48,574	39,097	5,866	27,600	50,594
RRP77	Blue Heron Lake	-	-	-	-	-	-	53,353	14,701	24,541	82,166
BWH93	Bob White Lake	7,170	13,955	11,976	12,311	5,165	10,115	9,046	1,590	5,930	12,162
BWO40	Briggs Woods Lake	53,167	64,497	54,489	63,907	49,421	57,096	42,557	5,430	31,915	53,199
BRO97	Browns Lake	52,934	63,939	57,934	56,562	45,507	55,375	50,417	6,237	38,192	62,643
BRC94	Brushy Creek Lake	131,088	159,335	156,702	149,098	104,666	140,178	126,566	11,327	104,365	148,767
CAR78	Carter Lake	53,385	58,958	50,586	68,693	45,786	55,482	23,632	3,737	16,308	30,957
CAS86	Casey Lake (aka Hickory Hills Lake)	35,208	54,439	50,956	48,153	33,181	44,387	22,865	2,245	18,464	27,265
CEN30	Center Lake	16,767	40,386	33,697	32,316	26,792	29,992	19,836	3,423	13,127	26,545
CEN53	Central Park Lake	53,794	44,621	41,928	50,708	32,529	44,716	34,341	6,365	21,865	46,817
CLE17	Clear Lake	381,209	410,013	370,513	373,239	315,948	370,184	436,211	26,350	384,567	487,856
CSP15	Cold Springs Lake	29,070	24,904	23,381	35,612	17,916	26,177	25,204	3,608	18,132	32,276
COR52	Coralville Lake	441,657	484,993	419,338	438,140	290,602	414,946	330,536	28,104	275,454	385,618
CRC47	Crawford Creek Impoundment	14,546	11,910	14,018	15,355	19,548	15,075	24,469	6,096	12,522	36,416
CRY41	Crystal Lake	46,270	53,449	34,493	38,139	32,361	40,942	47,381	4,835	37,905	56,857
DMA77	Dale Maffitt Lake	49,400	68,790	53,675	54,584	40,158	53,321	-	-	-	-

Table 6. Estimated Household Trips

DNR		2002	2003	2004	2005	2009	5 Yr Ave	2014			
Lake ID	Lake							Mean	S.E.	Lower	Upper
DBE43	DeSoto Bend Lake	59,336	61,763	50,150	53,869	43,138	53,651	26,635	3,233	20,298	32,972
DIA79	Diamond Lake	39,804	43,532	46,762	41,215	34,984	41,259	36,616	5,770	25,307	47,925
DCR71	Dog Creek Lake	10,823	22,145	22,464	20,987	16,338	18,551	17,745	2,698	12,458	23,033
DWI08	Don Williams Lake	90,426	74,245	77,687	74,435	55,666	74,492	49,811	4,716	40,567	59,054
EOS20	East Lake (Osceola)	44,978	38,781	45,053	45,844	38,099	42,551	38,826	8,405	22,352	55,300
EOK30	East Okoboji Lake	295,118	351,759	292,489	303,529	224,813	293,541	251,097	14,691	222,303	279,892
EAS77	Easter Lake	131,876	133,412	122,410	132,837	79,960	120,099	94,675	11,440	72,253	117,098
ESH41	Eldred Sherwood Lake	11,864	20,925	15,515	14,654	11,273	14,846	6,784	2,114	2,640	10,928
FIS74	Five Island Lake	67,973	81,704	62,366	82,147	68,348	72,508	47,593	4,564	38,647	56,539
FOG80	Fogle Lake	6,305	17,705	9,947	11,024	6,265	10,249	12,958	2,348	8,356	17,559
VOL33	Volga Lake	62,794	74,989	83,355	71,309	52,765	69,042	66,096	6,927	52,519	79,672
GEO44	Lake Geode	101,514	102,686	97,732	104,651	94,250	100,167	73,392	6,302	61,039	85,744
GWY07	George Wyth Lake	199,718	165,704	154,659	158,482	168,770	169,467	180,416	17,203	146,698	214,134
GRL77	Grays Lake	-	-	-	-	-	-	358,923	24,711	310,490	407,356
GBE07	Green Belt Lake	15,214	22,264	42,573	34,530	33,539	29,624	22,725	5,280	12,376	33,073
GCA64	Green Castle Lake	16,029	19,098	13,603	17,233	13,080	15,809	11,558	1,860	7,912	15,204
GVA88	Green Valley Lake	56,565	70,893	67,285	71,942	36,783	60,694	44,756	5,445	34,083	55,428
GRL01	Greenfield Lake	16,171	25,795	24,533	31,050	28,044	25,118	29,990	4,697	20,785	39,196
HAN06	Hannen Lake	50,725	53,509	61,148	59,610	34,898	51,978	37,704	5,541	26,845	48,563
HAW62	Hawthorn Lake (aka Barnes City Lake)	58,821	49,528	55,540	50,189	25,938	48,003	21,475	3,082	15,433	27,516
HGR85	Hickory Grove Lake	72,566	62,080	62,327	56,580	47,948	60,300	43,836	4,311	35,387	52,284
HOO91	Hooper Area Pond	12,038	13,924	15,418	17,163	18,042	15,317	12,422	2,201	8,108	16,735
IND89	Indian Lake	16,522	20,807	19,119	22,678	15,048	18,835	18,461	2,893	12,791	24,132
ING32	Ingham Lake	27,302	30,262	24,376	35,237	19,405	27,316	15,825	1,756	12,384	19,267
IOW48	Lake Iowa	35,582	58,852	42,147	48,697	39,750	45,006	54,199	8,948	36,661	71,736
KEP52	Kent Park Lake	92,654	99,702	79,869	88,045	78,375	87,729	66,181	5,977	54,466	77,896
LKE89	Lacey Keosauqua Park Lake	63,809	55,833	55,189	51,542	40,332	53,341	45,184	4,713	35,945	54,422
AHQ91	Lake Ahquabi	92,908	138,969	116,833	129,368	98,118	115,239	99,994	9,558	81,261	118,727
ANI15	Lake Anita	49,750	59,944	53,536	54,410	47,019	52,932	46,366	4,354	37,834	54,899
COR99	Lake Cornelia	54,227	80,153	75,414	71,118	49,135	66,009	69,051	9,959	49,531	88,571

Table 6. Estimated Household Trips

DNR		2002	2003	2004	2005	2009	5 Yr Ave	2014			
Lake ID	Lake							Mean	S.E.	Lower	Upper
DAR92	Lake Darling	77,838	79,695	57,567	74,118	43,551	66,554	47,553	5,016	37,722	57,385
HEN45	Lake Hendricks	15,538	37,525	24,823	24,194	18,949	24,206	28,442	3,335	21,906	34,979
ICA02	Lake Icaria	65,889	68,288	57,758	61,047	40,540	58,704	41,344	4,341	32,836	49,852
KEO62	Lake Keomah	48,354	54,157	48,746	45,855	37,672	46,957	22,673	3,385	16,039	29,308
MAC52	Lake Macbride	292,773	163,220	296,738	291,093	212,649	251,295	334,914	26,119	283,721	386,106
MAN78	Lake Manawa	196,768	108,089	123,082	158,174	147,975	146,818	143,241	17,383	109,170	177,311
MEY96	Lake Meyer	-	-	-	-	-	-	18,212	1,798	14,687	21,736
MIA68	Lake Miami	39,230	33,597	40,670	39,229	25,160	35,577	13,324	1,662	10,067	16,581
LTH82	Lake of the Hills	67,963	74,725	77,533	78,438	77,232	75,178	59,131	6,032	47,309	70,953
TFI87	Lake of Three Fires	31,035	19,049	19,662	21,844	21,483	22,614	13,583	2,099	9,470	17,696
PAH60	Lake Pahoja	16,050	14,458	17,294	20,718	17,909	17,286	16,466	2,215	12,126	20,807
SMI55	Lake Smith	25,079	57,881	20,469	37,322	31,675	34,485	17,830	2,256	13,407	22,252
SUG89	Lake Sugema	52,230	38,096	59,339	53,509	60,175	52,670	63,961	8,116	48,054	79,868
WAP26	Lake Wapello	61,889	83,202	68,855	82,971	51,653	69,714	38,747	4,651	29,631	47,863
LRI27	Little River	21,972	31,497	38,296	32,733	27,080	30,316	23,480	4,433	14,791	32,169
LSP97	Little Sioux Park Lake	21,066	31,340	27,122	25,816	26,937	26,456	24,590	4,313	16,137	33,044
LSP30	Little Spirit Lake	57,157	79,633	67,341	87,307	61,111	70,510	39,694	3,383	33,063	46,325
LWA40	Little Wall Lake	57,288	56,097	53,287	53,396	44,046	52,823	45,429	4,487	36,636	54,223
LIT05	Littlefield Lake	20,741	23,745	36,595	30,421	20,806	26,461	36,816	6,230	24,605	49,026
LIZ76	Lizard Lake	-	-	-	-	-	-	4,454	1,023	2,450	6,458
LGR82	Lost Grove Lake	-	-	-	-	-	-	60,859	6,146	48,814	72,904
LIS74	Lost Island Lake	94,092	76,311	67,206	70,327	56,593	72,906	64,295	5,829	52,871	75,719
LGA30	Lower Gar Lake	66,164	83,229	67,358	73,203	71,335	72,258	75,543	6,972	61,878	89,208
LPI42	Lower Pine Lake	57,657	65,978	66,522	64,438	49,560	60,831	61,606	9,043	43,882	79,330
MAP83	Manteno Lake	3,260	4,886	5,672	4,350	4,723	4,578	13,035	4,206	4,792	21,277
MAR50	Mariposa Lake	24,989	21,258	14,975	23,896	14,450	19,914	25,734	3,977	17,939	33,529
MEA01	Meadow Lake	4,013	4,980	6,040	5,608	4,489	5,026	7,033	1,180	4,721	9,346
MEY07	Meyers Lake	31,098	31,695	44,943	46,105	38,022	38,372	26,696	5,698	15,529	37,864
MIC71	Mill Creek (Lake)	14,546	33,016	30,413	27,029	14,146	23,830	36,167	6,230	23,957	48,377
MIN30	Lake Minnewashta	47,159	47,464	58,204	55,725	59,986	53,708	63,324	6,732	50,130	76,518

Table 6. Estimated Household Trips

DNR		2002	2003	2004	2005	2009	5 Yr Ave	2014			
Lake ID	Lake							Mean	S.E.	Lower	Upper
MIT07	Mitchell Lake	16,585	10,624	13,434	16,886	28,583	17,222	16,678	3,629	9,566	23,790
MOO47	Moorehead Lake	15,764	6,479	6,942	8,185	10,792	9,632	19,486	3,704	12,226	26,746
MTR01	Mormon Trail Lake	19,589	12,067	12,299	11,372	14,693	14,004	10,895	1,690	7,582	14,208
NEL24	Nelson Park Lake	10,533	11,239	9,159	7,822	9,279	9,607	12,142	2,273	7,687	16,596
NEA27	Nine Eagles Lake	14,997	13,360	14,653	15,515	9,854	13,676	16,737	3,278	10,313	23,161
NOD01	Nodaway Lake	-	-	-	-	-	-	22,133	4,611	13,095	31,171
NTW13	North Twin Lake	71,829	107,034	89,254	98,710	54,779	84,321	43,502	5,652	32,423	54,580
OLD67	Oldham Lake	4,514	8,636	5,237	3,224	6,092	5,541	7,093	1,577	4,003	10,183
ORI01	Lake Orient	16,176	22,704	18,266	18,018	21,298	19,292	19,578	3,103	13,496	25,659
OTC86	Otter Creek Lake	18,809	33,387	30,856	35,096	22,438	28,117	32,240	4,444	23,530	40,951
OTL90	Ottumwa Lagoon	92,863	102,974	77,103	102,108	89,693	92,948	56,890	9,600	38,074	75,705
PIC73	Pierce Creek Lake	9,028	7,870	6,897	9,866	5,036	7,739	1,028	584	-115	2,172
PLC57	Pleasant Creek Lake	161,059	204,723	185,636	184,384	109,166	168,993	134,044	14,330	105,958	162,130
POL56	Pollmiller Park Lake	32,602	30,927	23,719	38,866	20,127	29,248	31,975	4,344	23,461	40,489
PRO83	Prairie Rose Lake	39,046	45,192	41,774	42,131	37,329	41,094	30,431	6,059	18,557	42,306
RAT04	Rathbun Lake	214,348	256,184	245,407	237,253	190,817	228,801	173,561	13,667	146,775	200,348
RHA59	Red Haw Lake	41,753	35,076	39,529	38,335	24,794	35,897	42,767	6,478	30,070	55,465
RRO63	Red Rock Lake	341,561	320,510	299,995	317,359	261,083	308,101	269,497	17,458	235,281	303,713
ROC63	Roberts Creek Lake	33,794	55,060	53,553	40,043	54,509	47,392	54,022	6,325	41,626	66,418
ROC50	Rock Creek Lake	66,991	77,437	82,402	79,083	54,175	72,018	57,494	5,348	47,011	67,976
ROG06	Rodgers Park Lake	18,272	17,116	25,995	34,088	23,630	23,820	17,744	4,985	7,974	27,513
RDL34	Rudd Lake	-	-	-	-	-	-	30,460	4,970	20,719	40,202
SAY77	Saylorville Lake	667,754	656,670	540,626	590,629	456,774	582,490	620,371	40,287	541,410	699,333
SIL98	Silver Lake (Worth County)	11,823	8,837	12,394	12,683	11,154	11,378	11,606	3,451	4,841	18,370
SIL74	Silver Lake (Palo Alto County)	35,361	32,110	27,031	47,711	20,477	32,538	28,278	3,926	20,584	35,973
SIL30	Silver Lake (Dickinson County)	46,407	59,013	47,693	37,348	51,534	48,399	41,189	5,309	30,784	51,594
SIL28	Silver Lake (Delaware County)	8,509	16,633	16,588	14,759	21,472	15,592	17,721	3,563	10,738	24,703
SBL27	Slip Bluff Lake	2,048	4,179	4,645	3,182	3,565	3,524	3,785	861	2,098	5,473
SBE97	Snyder Bend Lake	-	-	-	-	-	-	29,050	4,092	21,030	37,070
SPR07	South Prairie Lake	49,340	51,590	49,076	53,455	50,108	50,714	70,787	14,263	42,831	98,743

Table 6. Estimated Household Trips

DNR		2002	2003	2004	2005	2009	5 Yr Ave	2014			
Lake ID	Lake							Mean	S.E.	Lower	Upper
SPR37	Spring Lake	27,931	34,770	39,916	42,656	33,615	35,778	42,881	8,062	27,080	58,682
SPR39	Springbrook Lake	48,353	57,777	50,741	50,472	35,745	48,618	31,944	4,148	23,815	40,074
STL11	Storm Lake (incl Little Storm Lake)	164,622	202,680	151,102	180,091	161,665	172,032	194,833	27,687	140,568	249,098
SUM88	Summit Lake	-	-	-	-	-	-	8,488	1,792	4,976	12,001
SWA14	Swan Lake	108,062	100,257	85,025	90,090	69,395	90,566	71,997	7,808	56,693	87,301
THY88	Thayer Lake	5,732	9,434	7,727	7,298	16,115	9,261	4,980	1,083	2,858	7,102
THM88	Three Mile Lake	103,410	99,184	110,754	85,821	46,986	89,231	77,151	12,598	52,459	101,844
TRU21	Trumbull Lake	22,069	36,095	19,460	21,781	16,237	23,128	-	-	-	-
TUT32	Tuttle Lake	13,643	23,907	22,562	24,226	13,266	19,521	-	-	-	-
TMI88	Twelve Mile Creek Lake	71,728	72,593	63,122	43,713	38,318	57,895	53,965	6,621	40,989	66,942
UGR86	Union Grove Lake	34,084	48,263	47,876	47,672	23,531	40,285	37,291	5,523	26,466	48,117
UGR30	Upper Gar Lake	63,821	77,433	75,854	83,518	73,681	74,862	76,299	7,067	62,447	90,151
UPI42	Upper Pine Lake	74,029	70,008	65,079	64,292	45,503	63,782	59,079	8,658	42,110	76,048
VIK69	Viking Lake	46,756	60,185	51,815	50,390	55,491	52,927	53,281	6,546	40,452	66,111
WOS20	West Osceola	44,878	50,448	56,809	69,809	40,839	52,556	40,338	6,103	28,377	52,299
WOK30	West Okoboji Lake	383,026	438,669	405,047	395,941	327,270	389,990	336,213	19,184	298,613	373,813
WOA62	White Oak Lake	5,779	7,909	10,269	6,044	6,223	7,245	9,470	1,600	6,334	12,607
WIP59	Williamson Pond	8,125	7,303	5,620	5,611	6,578	6,647	28,891	12,685	4,030	53,752
WIL43	Willow Lake	14,187	10,097	11,565	7,702	10,063	10,723	13,768	2,345	9,172	18,364
WIL87	Wilson Park Lake	4,483	7,896	8,932	6,646	6,857	6,963	1,293	498	317	2,270
WIN87	Windmill Lake	7,022	8,390	5,626	7,783	5,648	6,894	6,990	1,507	4,036	9,944
YSM24	Yellow Smoke Park Lake	55,711	37,330	41,587	39,337	38,378	42,469	24,902	2,997	19,028	30,777

Table 7. Lake Rankings

DNR Lake ID	Lake	Rank by 5 Yr Ave	Rank by 2014	Rank Change
AHL85	Ada Hayden Lake	-	11	-
ARB79	Arbor Lake	86	87	-1
ARR81	Arrowhead Lake (Sac County)	115	103	12
ARR78	Arrowhead Lake (Pottawattamie County)	76	79	-3
ASA09	Avenue of the Saints Lake	103	130	-27
BAC61	Badger Creek Lake	40	64	-24
BAD94	Badger Lake	36	69	-33
BEA25	Beaver Lake	97	95	2
BEE35	Beeds Lake	25	40	-15
BDL54	Belva Deer Lake	-	20	-
BIC77	Big Creek Lake	4	3	1
BHO29	Big Hollow Lake	-	62	-
SPL30	Big Spirit Lake	9	10	-1
BHA81	Black Hawk Lake	18	30	-12
BLU67	Blue Lake	61	66	-5
RRP77	Blue Heron Lake	-	44	-
BWH93	Bob White Lake	118	128	-10
BWO40	Briggs Woods Lake	46	59	-13
BRO97	Browns Lake	48	46	2
BRC94	Brushy Creek Lake	15	17	-2
CAR78	Carter Lake	47	96	-49
CAS86	Casey Lake (aka Hickory Hills Lake)	68	98	-30
CEN30	Center Lake	83	104	-21
CEN53	Central Park Lake	67	75	-8
CLE17	Clear Lake	5	2	3
CSP15	Cold Springs Lake	91	91	0
COR52	Coralville Lake	2	7	-5
CRC47	Crawford Creek Impoundment	110	94	16
CRY41	Crystal Lake	73	50	23
DMA77	Dale Maffitt Lake	52	-	-
DBE43	DeSoto Bend Lake	50	89	-39
DIA79	Diamond Lake	71	73	-2
DCR71	Dog Creek Lake	104	110	-6
DWI08	Don Williams Lake	28	47	-19
EOS20	East Lake (Osceola)	69	67	2
EOK30	East Okoboji Lake	7	9	-2
EAS77	Easter Lake	16	19	-3
ESH41	Eldred Sherwood Lake	111	134	-23
FIS74	Five Island Lake	30	48	-18
FOG80	Fogle Lake	117	121	-4
VOL33	Volga Lake	35	29	6
GEO44	Lake Geode	19	24	-5

Table 7. Lake Rankings

DNR		Rank	Rank	Rank
Lake ID	Lake	by 5 Yr Ave	by 2014	Change
GWY07	George Wyth Lake	12	13	-1
GRL77	Grays Lake	-	4	-
GBE07	Green Belt Lake	84	99	-15
GCA64	Green Castle Lake	107	125	-18
GVA88	Green Valley Lake	42	54	-12
GRL01	Greenfield Lake	92	82	10
HAN06	Hannen Lake	58	70	-12
HAW62	Hawthorn Lake (aka Barnes City Lake)	63	102	-39
HGR85	Hickory Grove Lake	43	55	-12
HOO91	Hooper Area Pond	109	122	-13
IND89	Indian Lake	102	107	-5
ING32	Ingham Lake	88	116	-28
IOW48	Lake Iowa	66	41	25
KEP52	Kent Park Lake	23	28	-5
LKE89	Lacey Keosauqua Park Lake	51	53	-2
AHQ91	Lake Ahquabi	17	18	-1
ANI15	Lake Anita	53	51	2
COR99	Lake Cornelia	38	27	11
DAR92	Lake Darling	37	49	-12
HEN45	Lake Hendricks	93	85	8
ICA02	Lake Icaria	44	60	-16
KEO62	Lake Keomah	65	100	-35
MAC52	Lake Macbride	8	6	2
MAN78	Lake Manawa	14	15	-1
MEY96	Lake Meyer	-	108	-
MIA68	Lake Miami	79	119	-40
LTH82	Lake of the Hills	26	36	-10
TFI87	Lake of Three Fires	98	118	-20
PAH60	Lake Pahoja	105	115	-10
SMI55	Lake Smith	80	109	-29
SUG89	Lake Sugema	56	32	24
WAP26	Lake Wapello	34	68	-34
LRI27	Little River	82	97	-15
LSP97	Little Sioux Park Lake	90	93	-3
LSP30	Little Spirit Lake	33	65	-32
LWA40	Little Wall Lake	55	52	3
LIT05	Littlefield Lake	89	72	17
LIZ76	Lizard Lake	-	136	-
LGR82	Lost Grove Lake	-	35	-
LIS74	Lost Island Lake	29	31	-2
LGA30	Lower Gar Lake	31	23	8
LPI42	Lower Pine Lake	41	34	7

Table 7. Lake Rankings

DNR Lake ID	Lake	Rank by 5 Yr Ave	Rank by 2014	Rank Change
MAP83	Manteno Lake	129	120	9
MAR50	Mariposa Lake	99	90	9
MEA01	Meadow Lake	128	132	-4
MEY07	Meyers Lake	75	88	-13
MIC71	Mill Creek (Lake)	94	74	20
MIN30	Lake Minnewashta	49	33	16
MIT07	Mitchell Lake	106	114	-8
MOO47	Moorehead Lake	119	106	13
MTR01	Mormon Trail Lake	112	126	-14
NEL24	Nelson Park Lake	120	123	-3
NEA27	Nine Eagles Lake	113	113	0
NOD01	Nodaway Lake	-	101	-
NTW13	North Twin Lake	24	56	-32
OLD67	Oldham Lake	127	131	-4
ORI01	Lake Orient	101	105	-4
OTC86	Otter Creek Lake	87	76	11
OTL90	Ottumwa Lagoon	20	39	-19
PIC73	Pierce Creek Lake	122	139	-17
PLC57	Pleasant Creek Lake	13	16	-3
POL56	Pollmiller Park Lake	85	77	8
PRO83	Prairie Rose Lake	72	81	-9
RAT04	Rathbun Lake	10	14	-4
RHA59	Red Haw Lake	77	58	19
RRO63	Red Rock Lake	6	8	-2
ROC63	Roberts Creek Lake	64	42	22
ROC50	Rock Creek Lake	32	38	-6
ROG06	Rodgers Park Lake	95	111	-16
RDL34	Rudd Lake	-	80	-
SAY77	Saylorville Lake	1	1	0
SIL98	Silver Lake (Worth County)	114	124	-10
SIL74	Silver Lake (Palo Alto County)	81	86	-5
SIL30	Silver Lake (Dickinson County)	62	61	1
SIL28	Silver Lake (Delaware County)	108	112	-4
SBL27	Slip Bluff Lake	130	137	-7
SBE97	Snyder Bend Lake	-	83	-
SPR07	South Prairie Lake	59	26	33
SPR37	Spring Lake	78	57	21
SPR39	Springbrook Lake	60	78	-18
STL11	Storm Lake (incl Little Storm Lake)	11	12	-1
SUM88	Summit Lake	-	129	-
SWA14	Swan Lake	21	25	-4
THY88	Thayer Lake	121	135	-14

Table 7. Lake Rankings

DNR		Rank	Rank	Rank
Lake ID	Lake	by 5 Yr Ave	by 2014	Change
THM88	Three Mile Lake	22	21	1
TRU21	Trumbull Lake	96	-	-
TUT32	Tuttle Lake	100	-	-
TMI88	Twelve Mile Creek Lake	45	43	2
UGR86	Union Grove Lake	74	71	3
UGR30	Upper Gar Lake	27	22	5
UPI42	Upper Pine Lake	39	37	2
VIK69	Viking Lake	54	45	9
WOS20	West Osceola	57	63	-6
WOK30	West Okoboji Lake	3	5	-2
WOA62	White Oak Lake	123	127	-4
WIP59	Williamson Pond	126	84	42
WIL43	Willow Lake	116	117	-1
WIL87	Wilson Park Lake	124	138	-14
WIN87	Windmill Lake	125	133	-8
YSM24	Yellow Smoke Park Lake	70	92	-22

Table 8. Visitor's' Average Travel Distance to Each Lake

DNR Lake ID	Lake	Travel Miles	DNR Lake ID	Lake	Travel Miles
AHL85	Ada Hayden Lake	14.5	SMI55	Lake Smith	21.4
ARB79	Arbor Lake	19.1	SUG89	Lake Sugema	68.3
ARR81	Arrowhead Lake (Sac County)	95.0	WAP26	Lake Wapello	67.2
ARR78	Arrowhead Lake (Pottawattamie County)	97.6	LRI27	Little River	50.9
ASA09	Avenue of the Saints Lake	45.0	LSP97	Little Sioux Park Lake	36.1
BAC61	Badger Creek Lake	25.2	LSP30	Little Spirit Lake	83.7
BAD94	Badger Lake	37.6	LWA40	Little Wall Lake	34.3
BEA25	Beaver Lake	28.3	LIT05	Littlefield Lake	42.1
BEE35	Beeds Lake	34.6	LIZ76	Lizard Lake	60.9
BDL54	Belva Deer Lake	90.2	LGR82	Lost Grove Lake	21.2
BIC77	Big Creek Lake	28.5	LIS74	Lost Island Lake	35.3
BHO29	Big Hollow Lake	43.9	LGA30	Lower Gar Lake	79.9
SPL30	Big Spirit Lake	71.9	LPI42	Lower Pine Lake	27.6
BHA81	Black Hawk Lake	48.9	MAP83	Manteno Lake	34.2
BLU67	Blue Lake	38.8	MAR50	Mariposa Lake	23.2
RRP77	Blue Heron Lake	8.6	MEA01	Meadow Lake	36.8
BWH93	Bob White Lake	49.5	MEY07	Meyers Lake	18.0
BWO40	Briggs Woods Lake	38.3	MIC71	Mill Creek (Lake)	22.0
BRO97	Browns Lake	35.3	MIN30	Lake Minnewashta	66.6
BRC94	Brushy Creek Lake	54.2	MIT07	Mitchell Lake	19.1
CAR78	Carter Lake	40.6	MOO47	Moorehead Lake	25.8
CAS86	Casey Lake (aka Hickory Hills Lake)	27.4	MTR01	Mormon Trail Lake	35.1
CEN30	Center Lake	38.5	NEL24	Nelson Park Lake	51.7
CEN53	Central Park Lake	41.3	NEA27	Nine Eagles Lake	77.7
CLE17	Clear Lake	47.2	NOD01	Nodaway Lake	42.0
CSP15	Cold Springs Lake	33.3	NTW13	North Twin Lake	35.4
COR52	Coralville Lake	39.2	OLD67	Oldham Lake	35.6
CRC47	Crawford Creek Impoundment	38.7	ORI01	Lake Orient	22.5
CRY41	Crystal Lake	60.8	OTC86	Otter Creek Lake	30.4
DBE43	DeSoto Bend Lake	58.3	OTL90	Ottumwa Lagoon	30.7
DIA79	Diamond Lake	37.1	PIC73	Pierce Creek Lake	53.6
DCR71	Dog Creek Lake	43.6	PLC57	Pleasant Creek Lake	25.7
DWI08	Don Williams Lake	36.2	POL56	Pollmiller Park Lake	22.2
EOS20	East Lake (Osceola)	55.6	PRO83	Prairie Rose Lake	48.5
EOK30	East Okoboji Lake	78.4	RAT04	Rathbun Lake	91.3
EAS77	Easter Lake	18.8	RHA59	Red Haw Lake	52.3
ESH41	Eldred Sherwood Lake	126.0	RRO63	Red Rock Lake	52.3

Table 8. Visitor's' Average Travel Distance to Each Lake

DNR Lake ID	Lake	Travel Miles	DNR Lake ID	Lake	Travel Miles
FIS74	Five Island Lake	25.9	ROC63	Roberts Creek Lake	37.8
FOG80	Fogle Lake	34.5	ROC50	Rock Creek Lake	27.2
VOL33	Volga Lake	44.0	ROG06	Rodgers Park Lake	28.2
GEO44	Lake Geode	37.0	RDL34	Rudd Lake	34.7
GWY07	George Wyth Lake	21.0	SAY77	Saylorville Lake	25.7
GRL77	Grays Lake	16.4	SIL98	Silver Lake (Worth County)	165.6
GBE07	Green Belt Lake	16.2	SIL74	Silver Lake (Palo Alto County)	62.7
GCA64	Green Castle Lake	48.3	SIL30	Silver Lake (Dickinson County)	82.9
GVA88	Green Valley Lake	43.3	SIL28	Silver Lake (Delaware County)	196.9
GRL01	Greenfield Lake	21.2	SBL27	Slip Bluff Lake	57.8
HAN06	Hannen Lake	29.7	SBE97	Snyder Bend Lake	56.3
HAW62	Hawthorn Lake (aka Barnes City Lake)	46.8	SPR07	South Prairie Lake	12.1
HGR85	Hickory Grove Lake	29.6	SPR37	Spring Lake	24.2
HOO91	Hooper Area Pond	25.2	SPR39	Springbrook Lake	43.4
IND89	Indian Lake	54.1	STL11	Storm Lake (incl Little Storm Lake)	39.7
ING32	Ingham Lake	71.1	SUM88	Summit Lake	58.1
IOW48	Lake Iowa	47.6	SWA14	Swan Lake	26.3
KEP52	Kent Park Lake	26.8	THY88	Thayer Lake	58.8
LKE89	Lacey Keosauqua Park Lake	80.8	THM88	Three Mile Lake	62.5
AHQ91	Lake Ahquabi	24.3	TMI88	Twelve Mile Creek Lake	92.6
ANI15	Lake Anita	42.1	UGR86	Union Grove Lake	30.0
COR99	Lake Cornelia	36.3	UGR30	Upper Gar Lake	86.0
DAR92	Lake Darling	37.5	UPI42	Upper Pine Lake	33.8
HEN45	Lake Hendricks	42.9	VIK69	Viking Lake	21.5
ICA02	Lake Icaria	40.3	WOS20	West Osceola	80.2
KEO62	Lake Keomah	27.1	WOK30	West Okoboji Lake	79.1
MAC52	Lake Macbride	34.1	WOA62	White Oak Lake	68.3
MAN78	Lake Manawa	15.9	WIP59	Williamson Pond	43.1
MEY96	Lake Meyer	49.9	WIL43	Willow Lake	23.2
MIA68	Lake Miami	70.4	WIL87	Wilson Park Lake	140.0
LTH82	Lake of the Hills	21.2	WIN87	Windmill Lake	54.7
TFI87	Lake of Three Fires	50.8	YSM24	Yellow Smoke Park Lake	25.7
PAH60	Lake Pahojja	31.2			

Table 9. Estimated Economic Impact at Iowa Lakes for 2014

DNR Lake ID	Lake	Direct spending	Total expend impacts	Total income effects	Total job effects
AHL85	Ada Hayden Lake	16,284,094	25,777,723	4,066,668	199
ARB79	Arbor Lake	2,032,877	3,218,045	507,676	25
ARR81	Arrowhead Lake (Sac County)	1,501,774	2,377,308	375,041	18
ARR78	Arrowhead Lake (Pottawattamie County)	2,374,859	3,759,402	593,080	29
ASA09	Avenue of the Saints Lake	574,964	910,168	143,587	7
BAC61	Badger Creek Lake	3,008,478	4,762,420	751,314	37
BAD94	Badger Lake	2,829,593	4,479,245	706,641	35
BEA25	Beaver Lake	1,806,712	2,860,025	451,195	22
BEE35	Beeds Lake	4,090,781	6,475,706	1,021,601	50
BDL54	Belva Deer Lake	5,988,494	9,479,786	1,495,521	73
BIC77	Big Creek Lake	45,552,523	72,109,644	11,375,945	556
BHO29	Big Hollow Lake	3,088,047	4,888,378	771,186	38
SPL30	Big Spirit Lake	34,146,489	54,053,893	8,527,488	417
BHA81	Black Hawk Lake	7,814,067	12,369,668	1,951,426	95
BLU67	Blue Lake	2,931,527	4,640,607	732,098	36
RRP77	Blue Heron Lake	4,000,470	6,332,745	999,047	49
BWH93	Bob White Lake	678,308	1,073,762	169,396	8
BWO40	Briggs Woods Lake	3,190,969	5,051,304	796,888	39
BRO97	Browns Lake	3,780,355	5,984,302	944,078	46
BRC94	Brushy Creek Lake	15,333,474	24,272,889	3,829,266	187
CAR78	Carter Lake	2,863,070	4,532,239	715,002	35
CAS86	Casey Lake (aka Hickory Hills Lake)	1,714,397	2,713,890	428,140	21
CEN30	Center Lake	1,487,320	2,354,427	371,432	18
CEN53	Central Park Lake	2,574,905	4,076,075	643,038	31
CLE17	Clear Lake	63,821,871	101,030,022	15,938,395	779
CSP15	Cold Springs Lake	1,889,801	2,991,557	471,945	23
COR52	Coralville Lake	48,360,573	76,554,787	12,077,207	590
CRC47	Crawford Creek Impoundment	1,834,715	2,904,353	458,188	22
CRY41	Crystal Lake	3,552,694	5,623,915	887,223	43
DMA77	Dale Maffitt Lake	-	-	-	-
DBE43	DeSoto Bend Lake	1,997,099	3,161,408	498,741	24
DIA79	Diamond Lake	2,745,501	4,346,129	685,641	34
DCR71	Dog Creek Lake	1,330,542	2,106,247	332,280	16
DWI08	Don Williams Lake	3,734,878	5,912,311	932,721	46
EOS20	East Lake (Osceola)	2,911,237	4,608,487	727,030	36
EOK30	East Okoboji Lake	36,737,942	58,156,163	9,174,658	448
EAS77	Easter Lake	11,469,943	18,156,920	2,864,418	140
ESH41	Eldred Sherwood Lake	508,690	805,257	127,037	6
FIS74	Five Island Lake	5,765,912	9,127,438	1,439,935	70
FOG80	Fogle Lake	971,527	1,537,926	242,621	12

Table 9. Estimated Economic Impact at Iowa Lakes for 2014

DNR Lake ID	Lake	Direct spending	Total expend impacts	Total income effects	Total job effects
VOL33	Volga Lake	4,955,927	7,845,233	1,237,656	61
GEO44	Lake Geode	8,891,396	14,075,081	2,220,471	109
GWY07	George Wyth Lake	21,857,444	34,600,334	5,458,514	267
GRL77	Grays Lake	26,912,207	42,602,025	6,720,852	329
GBE07	Green Belt Lake	1,703,934	2,697,327	425,528	21
GCA64	Green Castle Lake	866,628	1,371,873	216,425	11
GVA88	Green Valley Lake	3,355,853	5,312,315	838,066	41
GRL01	Greenfield Lake	2,248,670	3,559,645	561,566	27
HAN06	Hannen Lake	2,827,083	4,475,273	706,015	34
HAW62	Hawthorn Lake (aka Barnes City Lake)	1,610,220	2,548,978	402,124	20
HGR85	Hickory Grove Lake	3,286,837	5,203,062	820,830	40
HOO91	Hooper Area Pond	931,402	1,474,409	232,601	11
IND89	Indian Lake	1,384,244	2,191,258	345,691	17
ING32	Ingham Lake	1,186,592	1,878,375	296,331	14
IOW48	Lake Iowa	4,063,893	6,433,144	1,014,886	50
KEP52	Kent Park Lake	8,017,900	12,692,335	2,002,330	98
LKE89	Lacey Keosauqua Park Lake	3,387,885	5,363,022	846,065	41
AHQ91	Lake Ahquabi	12,114,277	19,176,900	3,025,328	148
ANI15	Lake Anita	3,476,595	5,503,450	868,219	42
COR99	Lake Cornelia	5,177,554	8,196,067	1,293,003	63
DAR92	Lake Darling	3,565,611	5,644,362	890,449	44
HEN45	Lake Hendricks	2,132,633	3,375,959	532,588	26
ICA02	Lake Icaria	3,100,012	4,907,318	774,174	38
KEO62	Lake Keomah	1,700,061	2,691,196	424,560	21
MAC52	Lake Macbride	40,574,869	64,230,018	10,132,864	495
MAN78	Lake Manawa	17,353,606	27,470,759	4,333,760	212
MEY96	Lake Meyer	1,365,514	2,161,609	341,013	17
MIA68	Lake Miami	999,035	1,581,473	249,492	12
LTH82	Lake of the Hills	4,433,704	7,018,553	1,107,240	54
TFI87	Lake of Three Fires	1,018,473	1,612,243	254,346	12
PAH60	Lake Pahoja	1,234,643	1,954,440	308,330	15
SMI55	Lake Smith	1,336,875	2,116,273	333,861	16
SUG89	Lake Sugema	4,795,868	7,591,860	1,197,684	59
WAP26	Lake Wapello	2,905,287	4,599,070	725,545	35
LRI27	Little River	1,760,549	2,786,949	439,666	22
LSP97	Little Sioux Park Lake	1,843,809	2,918,750	460,459	23
LSP30	Little Spirit Lake	4,808,988	7,612,628	1,200,960	59
LWA40	Little Wall Lake	3,406,342	5,392,240	850,674	42
LIT05	Littlefield Lake	2,760,427	4,369,756	689,368	34
LIZ76	Lizard Lake	333,984	528,696	83,407	4

Table 9. Estimated Economic Impact at Iowa Lakes for 2014

DNR Lake ID	Lake	Direct spending	Total expend impacts	Total income effects	Total job effects
LGR82	Lost Grove Lake	4,563,237	7,223,605	1,139,589	56
LIS74	Lost Island Lake	7,789,288	12,330,444	1,945,238	95
LGA30	Lower Gar Lake	9,152,078	14,487,740	2,285,571	112
LPI42	Lower Pine Lake	4,619,259	7,312,288	1,153,579	56
MAP83	Manteno Lake	977,353	1,547,149	244,076	12
MAR50	Mariposa Lake	1,929,531	3,054,448	481,867	24
MEA01	Meadow Lake	527,392	834,861	131,707	6
MEY07	Meyers Lake	2,001,702	3,168,695	499,890	24
MIC71	Mill Creek (Lake)	2,711,856	4,292,868	677,238	33
MIN30	Lake Minnewashta	7,671,640	12,144,207	1,915,858	94
MIT07	Mitchell Lake	1,250,563	1,979,642	312,306	15
MOO47	Moorehead Lake	1,461,080	2,312,888	364,879	18
MTR01	Mormon Trail Lake	816,903	1,293,158	204,007	10
NEL24	Nelson Park Lake	910,378	1,441,129	227,351	11
NEA27	Nine Eagles Lake	1,254,943	1,986,574	313,400	15
NOD01	Nodaway Lake	1,659,551	2,627,070	414,444	20
NTW13	North Twin Lake	5,270,248	8,342,802	1,316,152	64
OLD67	Oldham Lake	531,825	841,879	132,814	7
ORI01	Lake Orient	1,467,957	2,323,777	366,597	18
OTC86	Otter Creek Lake	2,417,424	3,826,783	603,709	30
OTL90	Ottumwa Lagoon	4,265,649	6,752,523	1,065,271	52
PIC73	Pierce Creek Lake	77,108	122,061	19,256	1
PLC57	Pleasant Creek Lake	16,239,457	25,707,059	4,055,520	198
POL56	Pollmiller Park Lake	2,397,514	3,795,266	598,737	29
PRO83	Prairie Rose Lake	2,281,790	3,612,074	569,837	28
RAT04	Rathbun Lake	25,393,645	40,198,140	6,341,618	310
RHA59	Red Haw Lake	3,206,714	5,076,229	800,821	39
RRO63	Red Rock Lake	39,430,043	62,417,759	9,846,963	481
ROC63	Roberts Creek Lake	4,050,617	6,412,126	1,011,571	49
ROC50	Rock Creek Lake	4,310,909	6,824,169	1,076,574	53
ROG06	Rodgers Park Lake	1,330,424	2,106,061	332,250	16
RDL34	Rudd Lake	2,283,940	3,615,477	570,374	28
SAY77	Saylorville Lake	90,766,293	143,683,042	22,667,293	1,108
SIL98	Silver Lake (Worth County)	870,196	1,377,520	217,316	11
SIL74	Silver Lake (Palo Alto County)	2,120,308	3,356,449	529,510	26
SIL30	Silver Lake (Dickinson County)	3,088,391	4,888,923	771,272	38
SIL28	Silver Lake (Delaware County)	1,328,701	2,103,333	331,820	16
SBL27	Slip Bluff Lake	283,826	449,297	70,880	3
SBE97	Snyder Bend Lake	2,178,178	3,448,056	543,962	27
SPR07	South Prairie Lake	5,307,663	8,402,029	1,325,496	65

Table 9. Estimated Economic Impact at Iowa Lakes for 2014

DNR Lake ID	Lake	Direct spending	Total expend impacts	Total income effects	Total job effects
SPR37	Spring Lake	3,215,281	5,089,790	802,960	39
SPR39	Springbrook Lake	2,395,214	3,791,624	598,163	29
STL11	Storm Lake (incl Little Storm Lake)	28,505,912	45,124,859	7,118,852	348
SUM88	Summit Lake	636,471	1,007,534	158,947	8
SWA14	Swan Lake	8,722,460	13,807,654	2,178,282	106
THY88	Thayer Lake	373,392	591,079	93,248	5
THM88	Three Mile Lake	9,346,898	14,796,140	2,334,224	114
TRU21	Trumbull Lake	-	-	-	-
TUT32	Tuttle Lake	-	-	-	-
TMI88	Twelve Mile Creek Lake	4,046,387	6,405,431	1,010,514	49
UGR86	Union Grove Lake	2,796,170	4,426,336	698,294	34
UGR30	Upper Gar Lake	9,243,711	14,632,794	2,308,455	113
UPI42	Upper Pine Lake	4,429,830	7,012,420	1,106,272	54
VIK69	Viking Lake	3,995,105	6,324,253	997,708	49
WOS20	West Osceola	3,024,600	4,787,942	755,341	37
WOK30	West Okoboji Lake	49,191,185	77,869,645	12,284,637	600
WOA62	White Oak Lake	710,137	1,124,146	177,344	9
WIP59	Williamson Pond	2,166,284	3,429,223	540,992	26
WIL43	Willow Lake	1,032,336	1,634,188	257,808	13
WIL87	Wilson Park Lake	96,978	153,517	24,219	1
WIN87	Windmill Lake	524,102	829,653	130,886	6
YSM24	Yellow Smoke Park Lake	1,867,188	2,955,759	466,297	23
TOTAL		983,483,518	1,556,854,415	245,607,794	12,002
AVERAGE		7,075,421	11,200,391	1,766,963	86

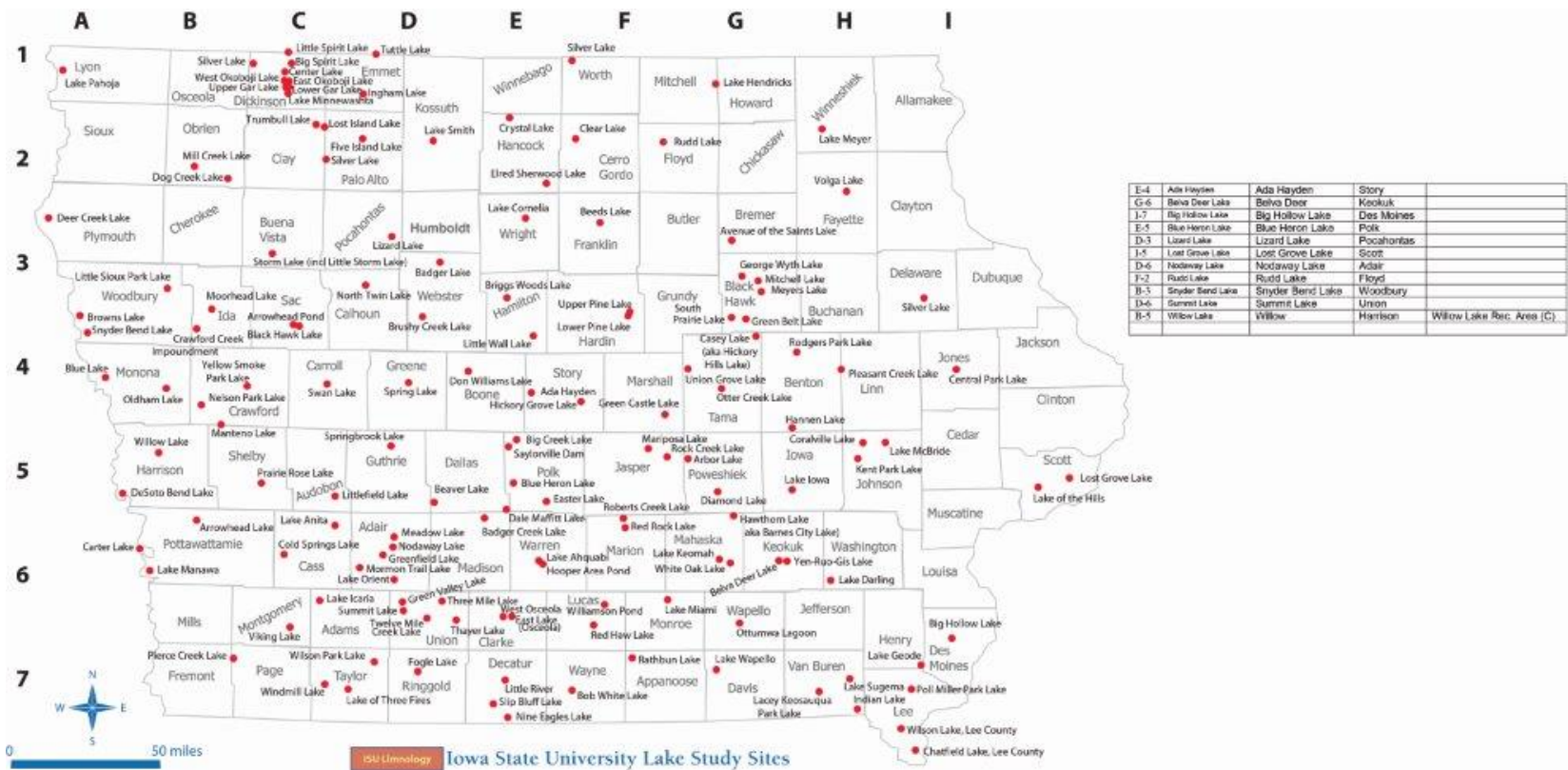


Figure 1. Map of Iowa lakes surveyed.

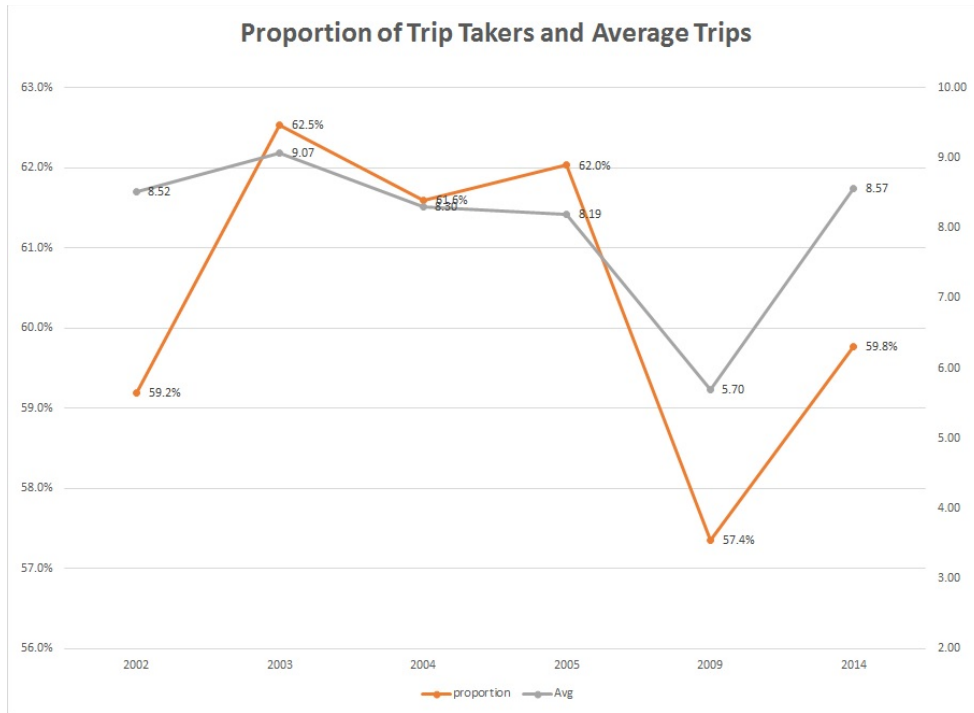


Figure 2. The proportion of trip taker and average trips (2002-2005, 2009, 2014).

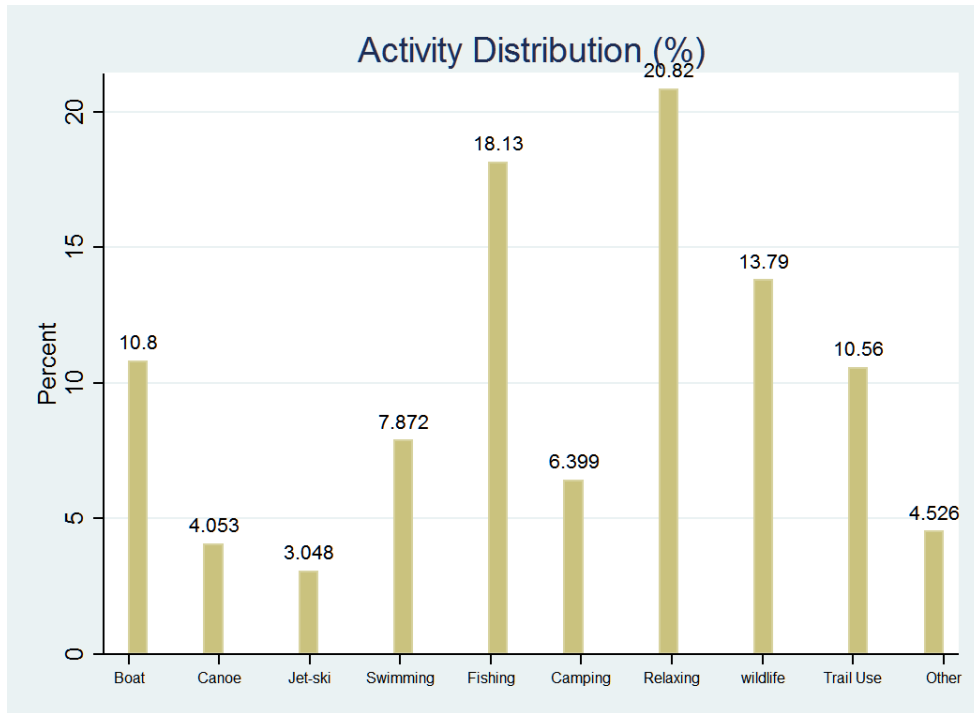


Figure 3. Lake activity distribution.

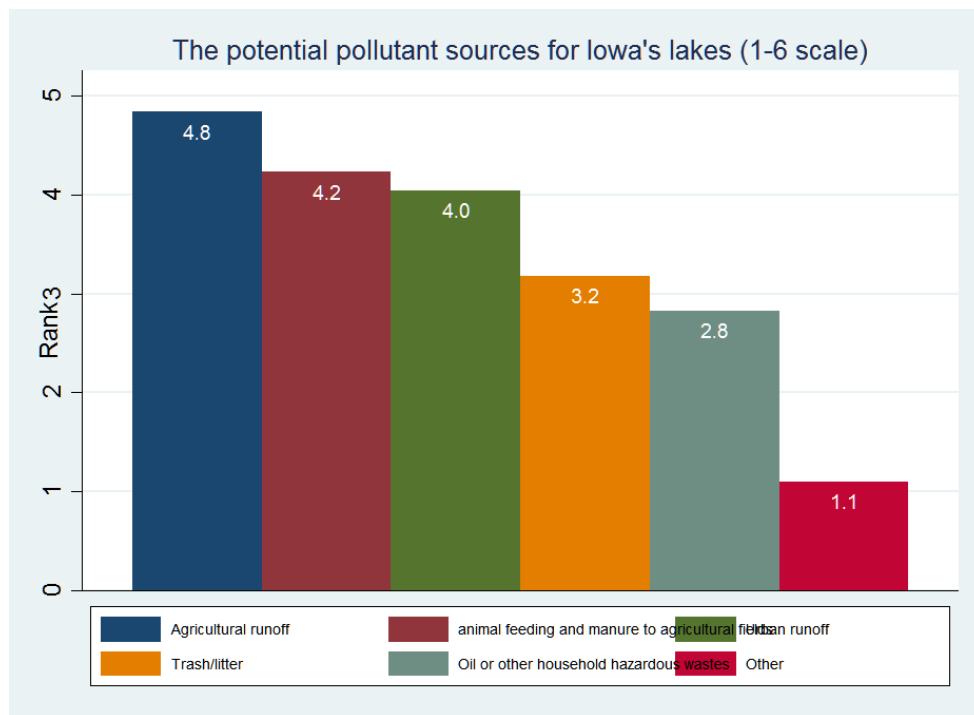
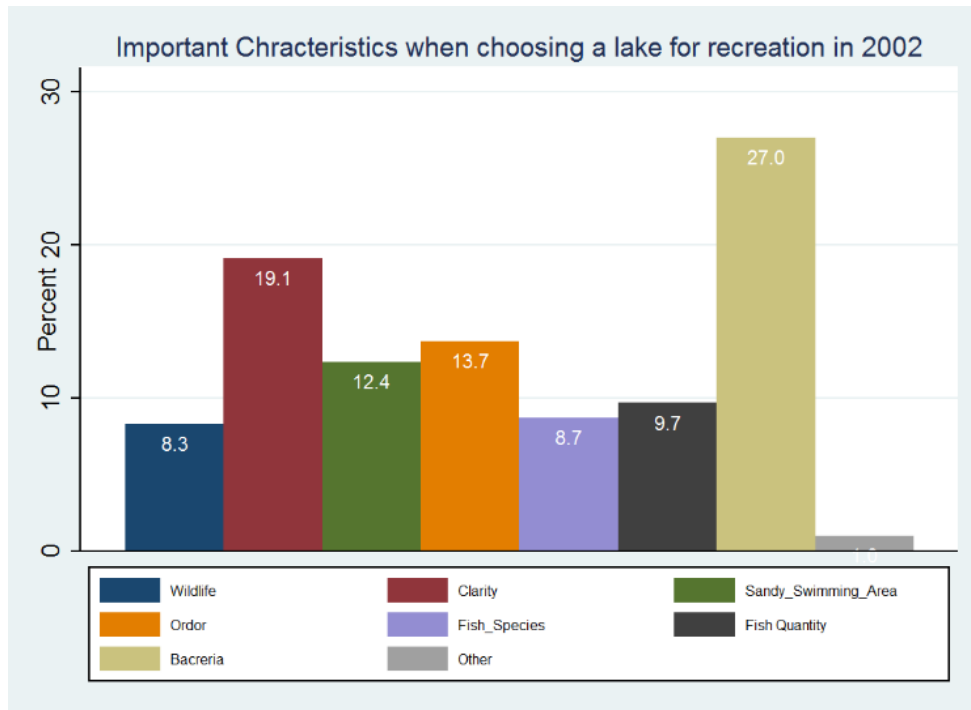


Figure 4. The potential pollutant sources for Iowa lakes.

<2002>



<2014>

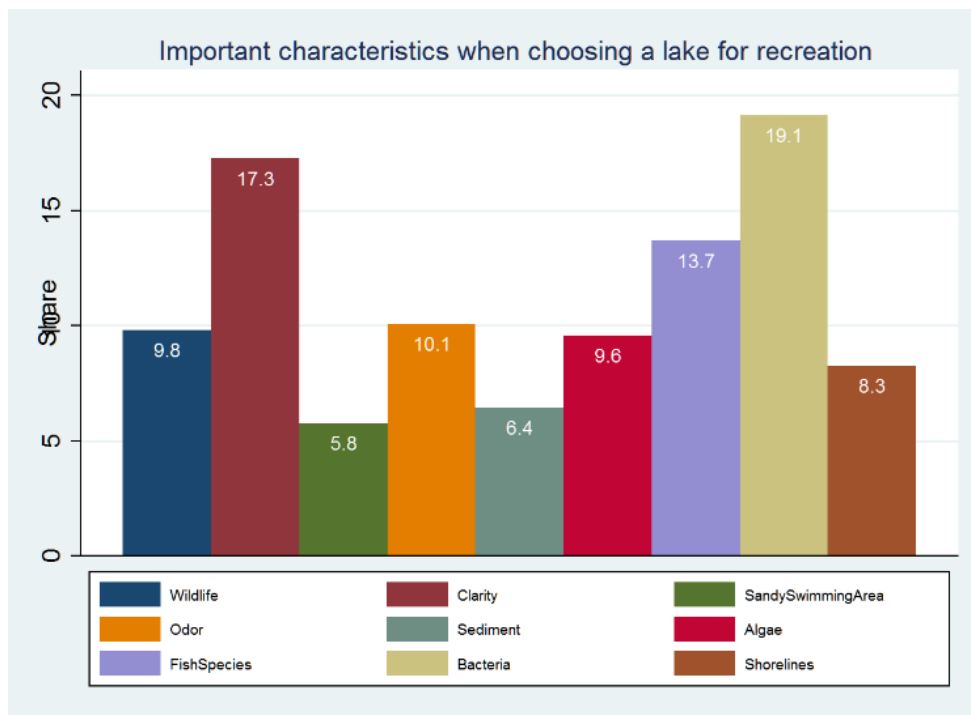
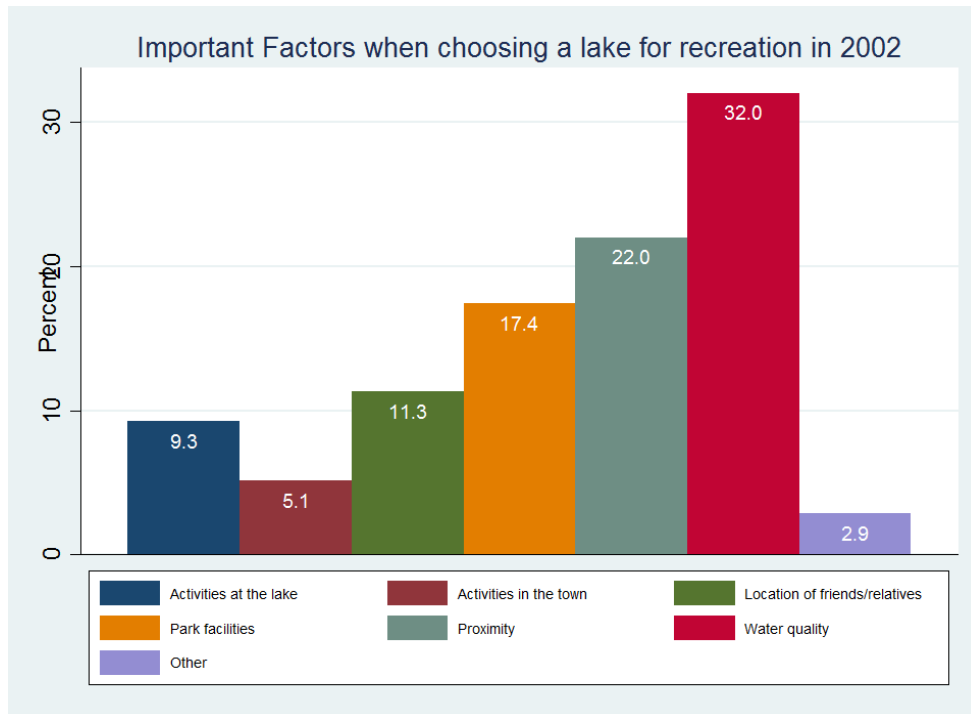


Figure 5. Important characteristics when choosing a lake for recreation (2002 vs 2014)

<2002>



<2014>

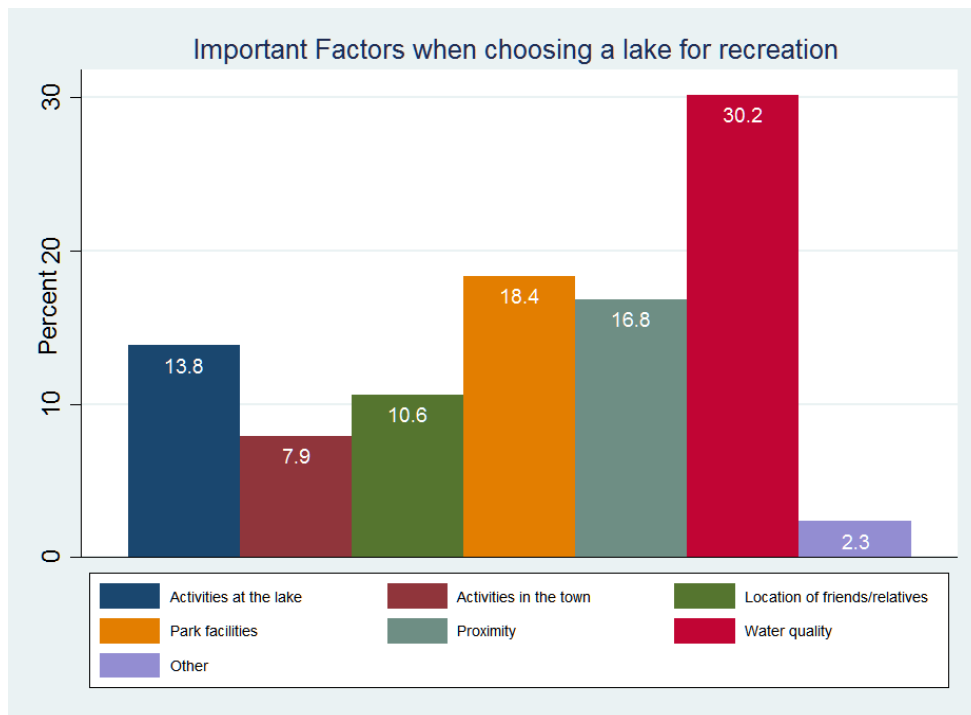


Figure 6. Important factors in choosing a lake for recreation (2002 vs 2014)

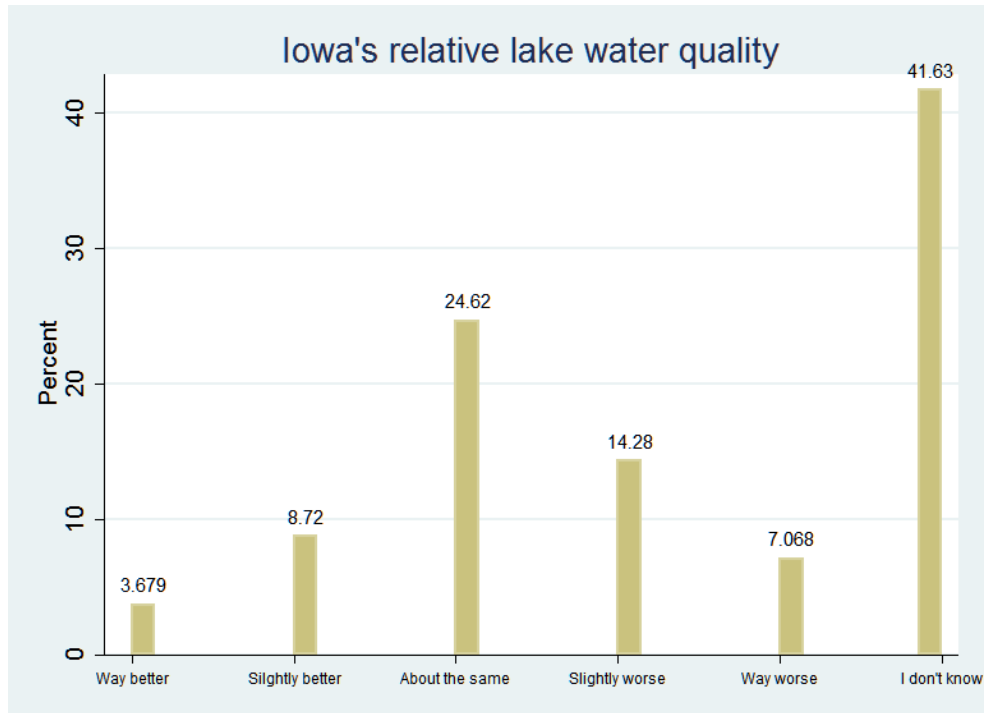


Figure 7. Iowa lake water quality compared to surrounding states.



Figure 8. Single-day trips to Bordering state lakes and rivers by water quality assessment.



Figure 9. Overnight trips to bordering state lakes and rivers by water quality assessment.

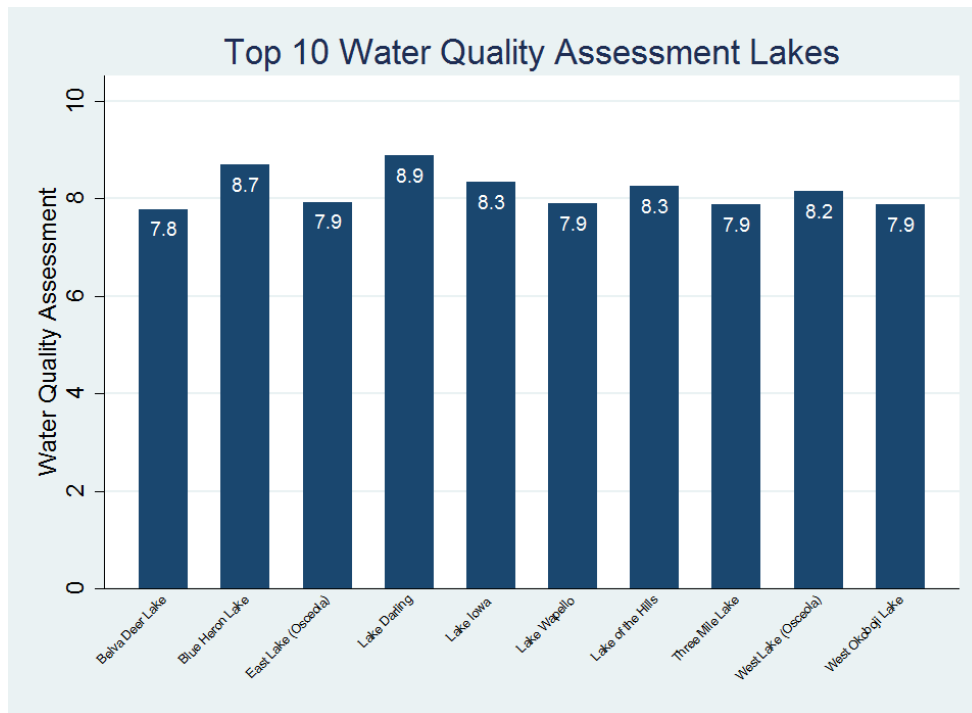


Figure 10. Top 10 lakes based on water quality assessment.

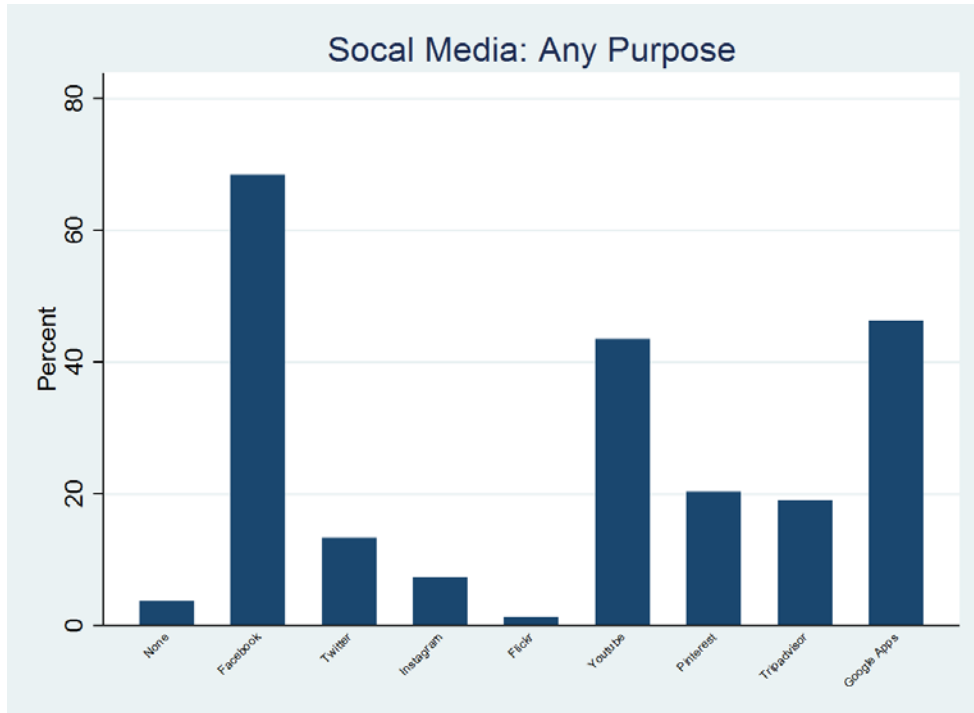


Figure 11. Users of social media for any purpose.

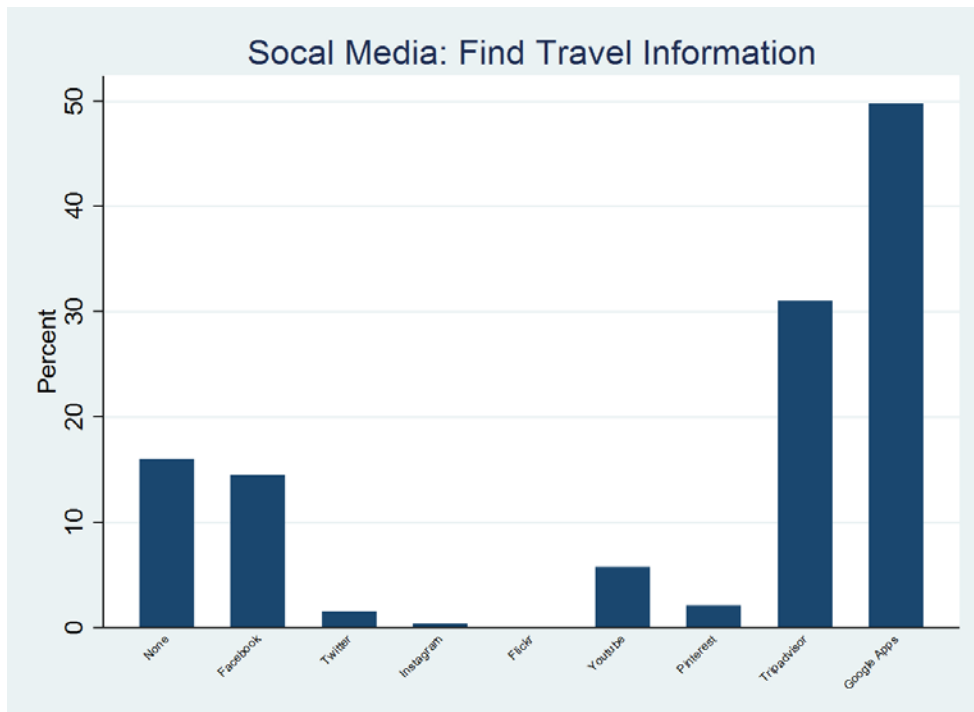


Figure 12. Users of social media for finding general travel information.

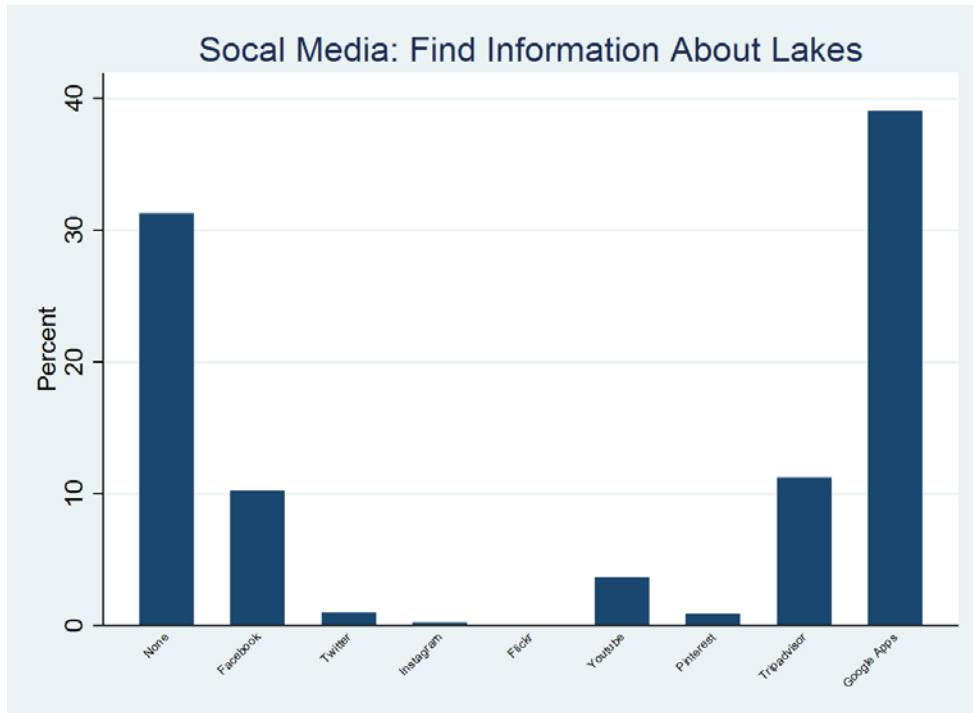


Figure 13. Users of social media specifically for information about lakes.

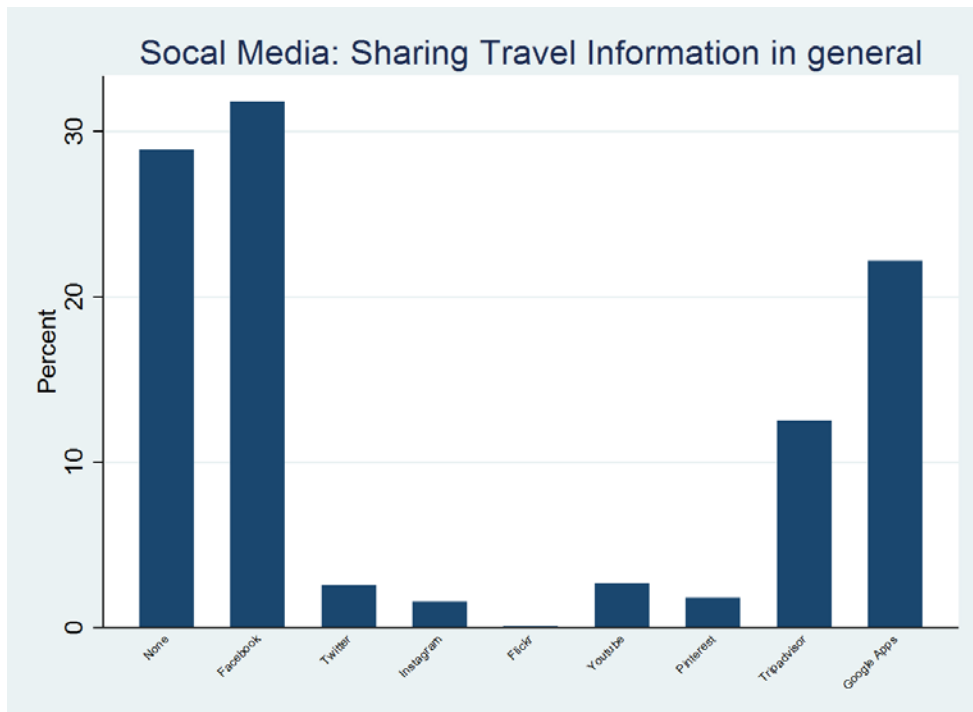


Figure 14. Users of social media for sharing general travel information.

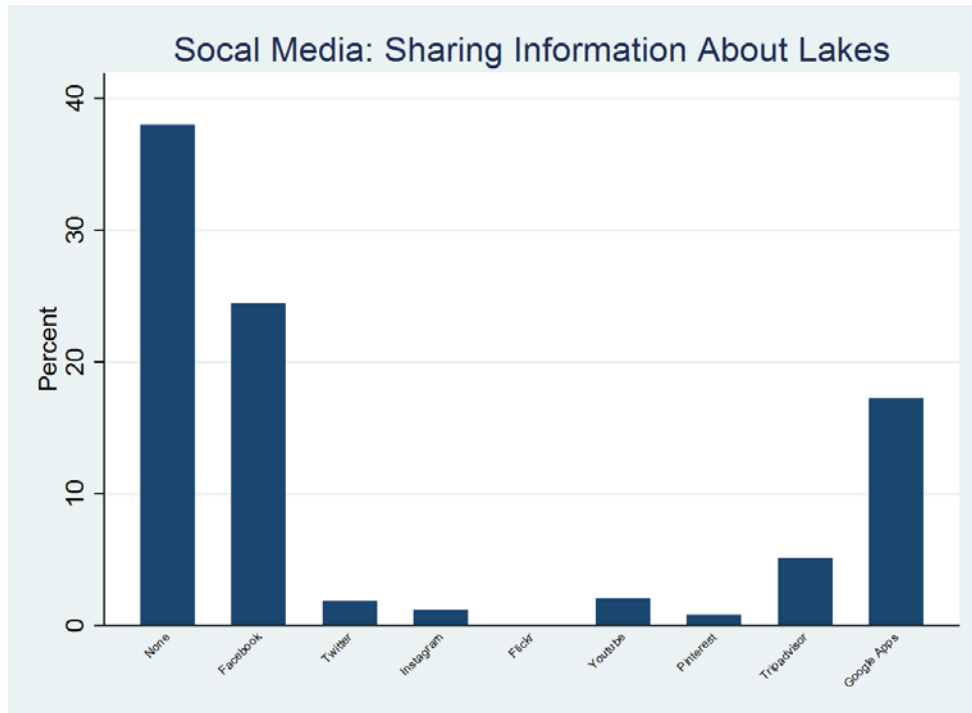


Figure 15. Users of social media for sharing information about lakes.

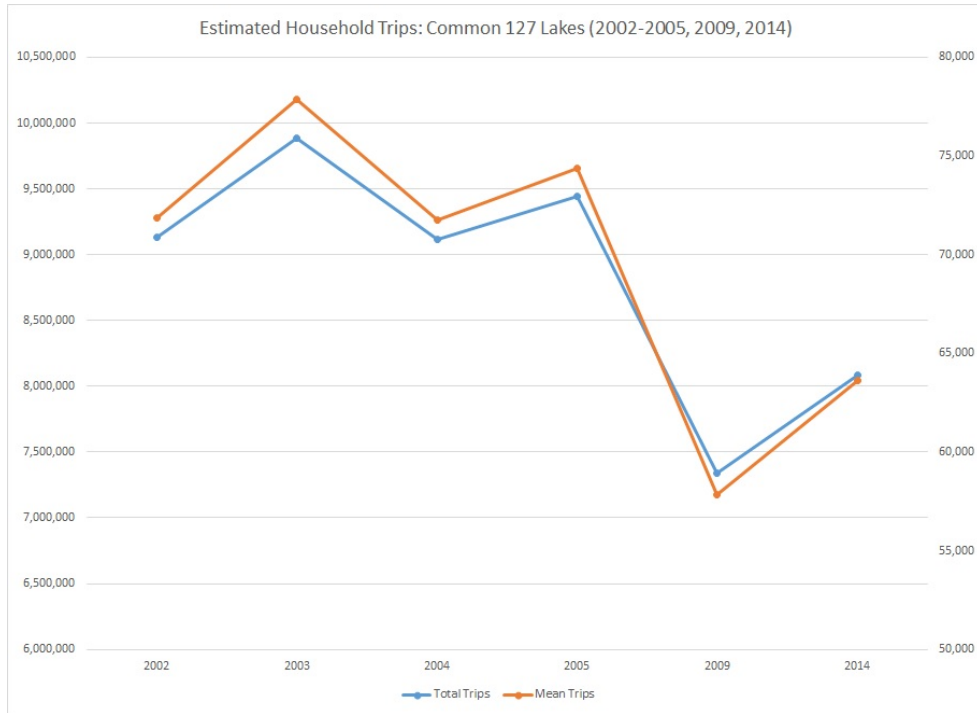


Figure 16. Estimated Household Trips: Common 127 Lakes (2002-2005, 2009, 2014).

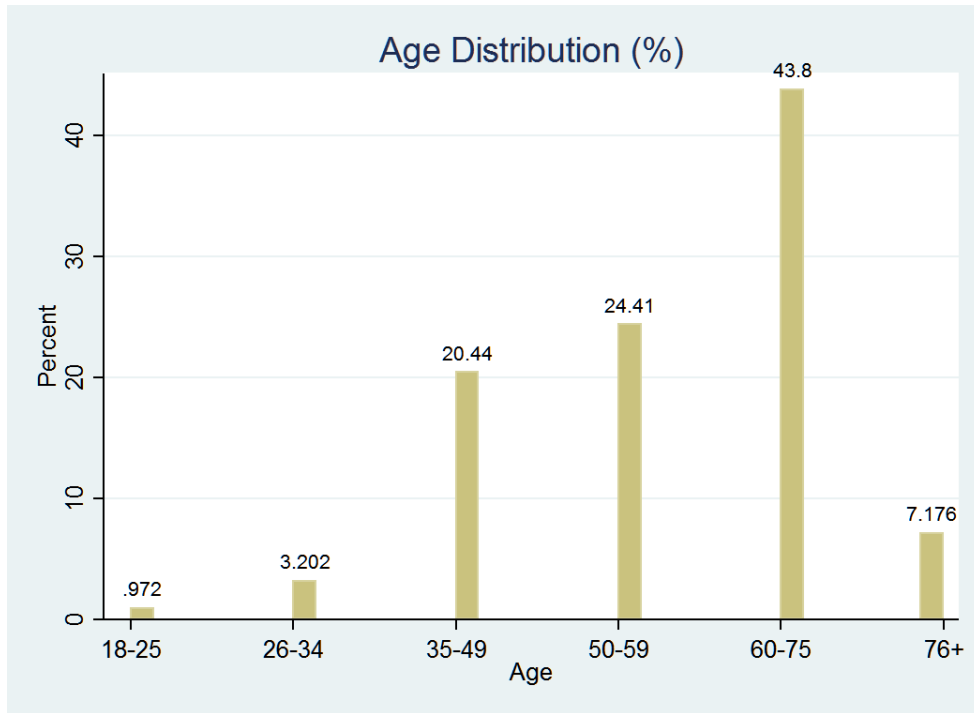


Figure 17. Age distribution.

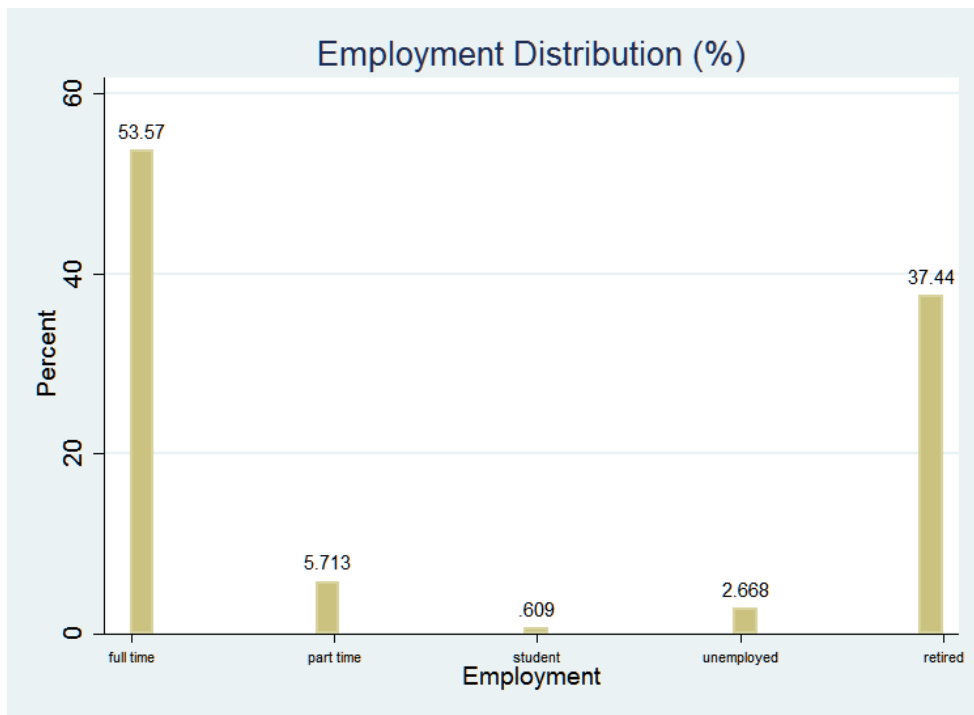


Figure 18. Employment status.

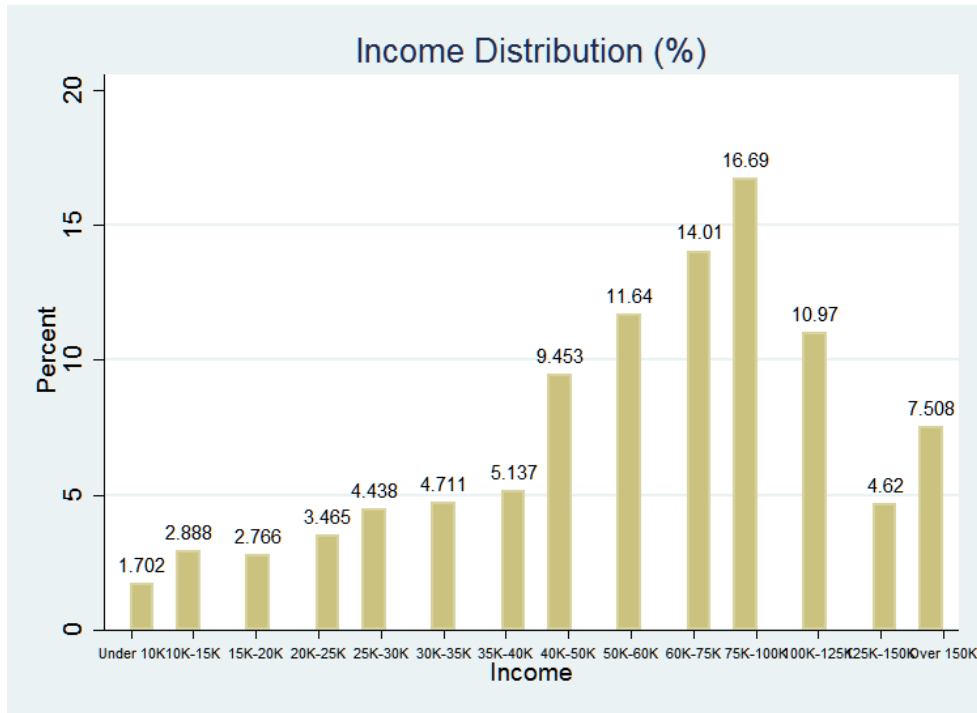


Figure 19. Income distribution.

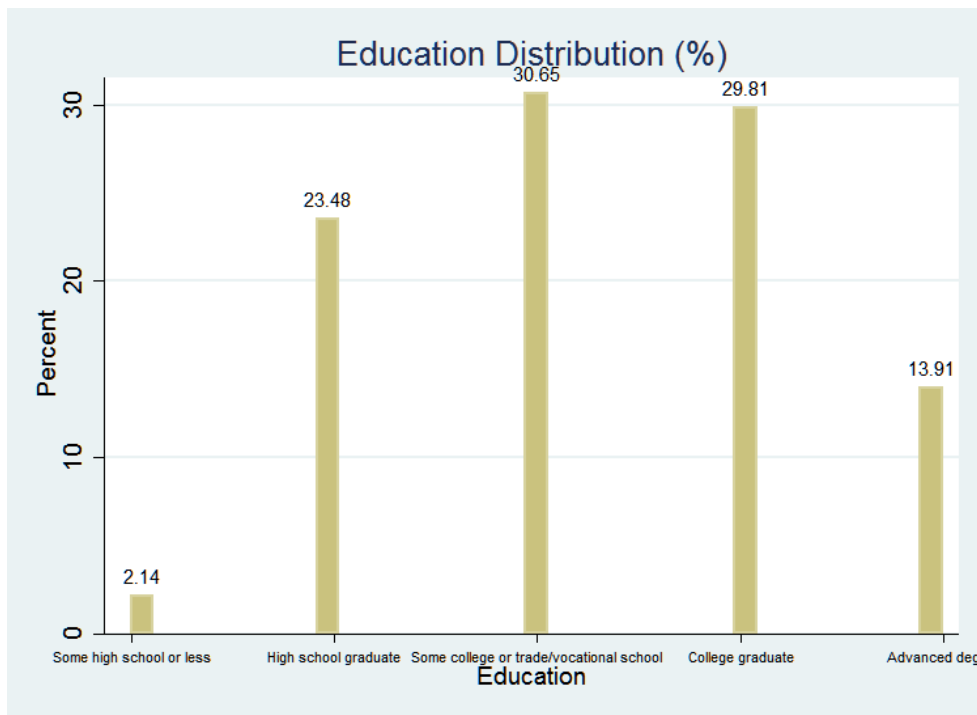


Figure 20. Education distribution.

