



Dane County Water Recreation Study, 2010-2013

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Executive Summary

This report has summarized the results of three connected surveys that collectively were designed to estimate the economic impact of selected water recreation activities on the Dane County economy. In Phase 1, we focused on quantifying the frequency with which Dane County residents engage in recreational activities on or near county lakes and streams. In Phase 2, we measured the proportion of Dane County water recreation participants who live inside and outside the county. In Phase 3, we quantified the amount those who use Dane County water resources for motor boating and fishing from a boat spend in pursuit of their recreational activities. Information drawn from all three phases of the study were used to estimate the overall economic impact of these two recreational activities on the Dane County economy. The three parts of the survey were carried out over three successive years because budgetary limitations made it impractical to conduct them all in one year. The survey period coincided with a long, slow recovery from a sharp economic downturn that saw households become very conscious of their spending. Because recreational spending is highly discretionary, it is likely that the estimates included in this report somewhat conservative.

Phase 1 – General Dane County Population Survey

The intent of the first phase of this project was to determine the mix of activities in which Dane County residents engage that involve the lakes, rivers or streams in the county and how often they participate in those activities. To determine how Dane County residents use their water resources, a random sample of 1,152 households was selected to receive a short survey in the fall of 2010. A total of 384 surveys were received, a 33% response rate. Based on these returns, the results reported for Phase 1 should be accurate to within plus or minus 5% with 95% confidence. Respondents were drawn from zip codes across Dane County (**Map 1**).

Recipients of the general population survey were asked if, in a typical year, they participate in 19 water-related recreational activities (plus an “other, please specify” option). Nearly 60% said they participate in activities near Dane County waters (**Figure 1**). Nearly half of those participating in activities near Dane County waters were runners or walkers, with about one-third reporting that they bike in these areas.

Those using Dane County waters for recreational purposes tend to utilize them for different sets of activities. For instance, if a participant reported that they fish from a boat, they will also likely report fishing from shore (67% of the time) and doing some ice fishing (62%). Similarly, there is a relatively high correlation between those who report canoeing/kayaking and swimming (39%), ice skating (39%), cross-country skiing (48%), and walking on the frozen lakes (39%). As you might expect there is a relatively high correlation between motor boating and water skiing (40%). Similarly, those who sail are fairly likely to also report participating in ice boating (39%).

After weighting the results to account for the under-representation of women in the Phase 1 survey, the SRC estimated total number of adults in Dane County who participate in selected water resource-related activities (**Table 2**). We estimate that over 200,000 adults swim at least once a year in a Dane County lake, while fewer than 40,000 cross-country ski near a body of water in the county.

In Phase 1 we also asked about the frequency with which respondents engage in recreational activities in, on or near lakes in the county (**Table 3**). We found that there is no particular relationship between the number of respondents who reported participating in an activity and the intensity with which they participated. A large majority (72%) of those engaging in activities near Dane County waters (walking/running, biking, bird watching, etc.), do so more than six times a year. For other common activities (swimming, walking on the frozen lakes, canoeing/kayaking, fishing from the shore or boat, motor boating and ice skating), however, a majority engage in the activity fewer than six times a year.

In sum, the data from the general population survey suggest that water-related activities are engaged in relatively frequently by a majority of adults in Dane county (**Figure 3**).

Phase 2 – Intercept Surveys

The goals of the intercept surveys were to understand where users of Dane County water resources were coming from, how large their party was, what their primary activity was that day, and why they chose a particular body of water for this activity. The intent was to complete intercept surveys throughout a 12-month period beginning in May of 2011 and ending in April of 2012. But, because the winter of 2011-12 was very mild, precluding activities such as ice fishing or cross country skiing, almost no data were collected after the summer of 2011.

The age profile of the intercept survey sample is fairly similar to Dane County as a whole but the income data includes substantially fewer representatives from lower income households and more from middle- and upper middle-class households (**Table 4**).

Almost all Phase 2 surveys occurred on Friday, Saturday or Sunday (**Figure 4**) and nearly half of the 588 surveys completed were done at either Lake Mendota or Lake Monona (**Table 5**). Of those interviewed in this phase of the project, 65% were Dane County residents and the remaining 35% reported living outside the county. Dane County waters appear to draw users from across southern Wisconsin and northern Illinois (**Map 2**).

About one-third of those interviewed were going fishing from a boat and another one-quarter were going kayaking or canoeing (**Figure 5**). Similar proportions reported that their primary activity for the day was to go motor-boating (15%) as said they were primarily there to fish from the shore (13%). Because many of these intercepts were conducted at boat launches, people fishing from a boat are over-represented and those fishing from shore under-represented based on the results from Phase 1 of this project.

Most of those interviewed in Phase 2 reported choosing the Dane County water body for their recreational activity either because of its proximity to where they live (48%) or their assessment of water quality in that body of water (31%) (**Figure 6**).

The largest number of people interviewed in Phase 2 of this project were enjoying Dane County water resources with a friend (**Figure 7**). Only about one-quarter of those interviewed were alone.

The vast majority (88%) of those interviewed in Phase 2 of this project did not expect to spend a night away from their primary residence. Those interviewed use rivers, lakes or streams in Dane County fairly intensely, reporting that, on average, they participate in a water-related recreational activity 11 – 25 times per year (**Figure 8**).

Phase 3 – Economic Impact

The final phase of this project was designed to estimate the county-wide economic impact of boaters and anglers using Dane County waters and to gather feedback on the quality of their experiences when using these waters.

The SRC received 572 useable responses (from 2,000 invited to participate) and of the 569 whose zip code we could determine, 71% were from Dane County and the remaining 29% were from outside the county. Thus, compared to the intercept survey in Phase 2 of this project, the non-Dane County respondents were slightly under-represented. Their geographic distribution aligns reasonably well with the intercept interview distribution (comparing **Maps 2 and 3**).

The demographic profile of respondents in the Phase 3 survey aligns well with the demographics in the intercept survey except for the substantially higher proportion of respondents 65 or older in the Phase 3 survey (**Table 6**).

About 40% of the respondents had fished and or motor-boated on Dane County waters over this time period (**Figure 9**). Respondents from Dane County were significantly more likely to indicate they engaged in these activities than were respondents from outside the county. Fishing from a boat was the activity engaged in most frequently; 35% of the 306 respondents said they did not fish from a boat in Dane County in the previous 12 months and another 41% said they did so 10 or fewer times. Thus, the overall average of more than 9 times per year fishing from a boat is heavily influenced by the approximately one-quarter of respondents who said they fished Dane County waters from a boat more than 10-times over the previous 12 months (**Table 7**). The SRC estimates that, on average, respondents engaged in these water recreation activities 18 days per year (**Table 8**). Lake Mendota is the Dane County body of water that is most frequently used for these activities (**Table 9**).

Approximately four out of every five recreational users of Dane County waters rated their experiences as good or very good and only 4% rated their experiences as poor or very poor (**Figure 10**). Those residing outside of Dane County gave their water recreation experiences significantly higher ratings than locals did. A majority (56%) said the actions of others “never” or “seldom” adversely affect their enjoyment of Dane County water resources (**Figure 11**). However, a very substantial minority (44%) said the actions of others often or sometimes reduced their enjoyment of the county’s water resources. About one-third of all respondents said that excessive lake weeds and overall poor water quality had diminished their enjoyment of Dane County water recreation resources (**Figure 12**).

Respondents reported spending an average of \$292.81 per trip for an average party of 2.12 people (**Figure 13**). Based on the estimated 18 trips the average user makes to Dane County waters, and an individual expenditure of \$138.12 per trip (=292.81 per trip/2.12 people per group), the average boater/angler spends nearly \$2,500 per year in Dane County on these activities. Few respondents use guide services (98% spend nothing on this category of

expenses), enter fishing tournaments or other events that have a fee (96% of respondents spent nothing), spend a night away from home (96% spent nothing on lodging), or buy souvenirs (95% reported no expenditures) (**Table 10**). Respondents indicate that, if they had to replace their current boating and angling equipment with comparable quality equipment, they would spend nearly \$12,000 and a majority would be spent in Dane County (**Table 11**).

Of the 154 people who provided a response to a question asking if they had any additional comments about Dane County water recreation, nearly 40% focused on water quality (**Table 13**). Almost all these comments expressed dissatisfaction with water quality and levels in Dane County waters. The second-most common set of comments focused on people-related issues and included concerns about excessive use of Dane County water resources, poor behavior on the water and poor behavior on land near the water.

When estimating county-wide economic impact, we are particularly interested in spending by non-Dane County residents. Dane County residents, we assume, would likely spend their recreational dollars on some other activity in the county if they weren't spending it on boating and fishing. In contrast, non-resident expenditures are infusions of cash into the Dane County economy that likely wouldn't happen if the people making them weren't in Dane County to enjoy the water resources. Unfortunately, there were relatively few non-Dane County respondents in this phase of the project who reported fishing from a boat or motor-boating in the County (57). Further, this study looks at only two sorts of recreational activities (motor boating and fishing from a boat); other activities (paddle sports, hunting, etc.) that draw non-county participants are not included. To gain a more complete estimate of the economic impact of Dane County water resources and to validate these estimates, future research should focus on a larger sample of non-residents and include more activities. In sum, **the results in this section of the report should be viewed as first cut estimations that may be subject to significant errors.**

We estimate that average non-Dane County resident spends about \$1,200 per year motor-boating or fishing from a boat in the county. Based on data from Phases 1 and 2 of this project, we estimate that more than 64,000 non-county residents come into the county to participate in these two recreational activities. Thus, total annual expenditures of non-Dane County residents who motor-boat and/or fish from a boat in the county are in excess of \$77 million per year (**Table 14**). Given the size of our sample and the estimated population of non-county boaters and anglers, total direct expenditures are expected to be between \$67.2 million and \$87.2 million annually.

To measure overall economic impact of boating and angling on the Dane County economy, we need to account for the direct, indirect, and induced effects of non-county participants in these activities. Direct impacts focus on the spending by boaters and anglers. Indirect economic impacts are business-to-business transactions – for instance, increased purchases of bait by visiting angler might cause that business to increase purchases from their minnow supplier. Induced impacts are the additional economic activity generated by the way workers and owners spend the incomes they earned from fishing- and boating-related activities. For instance a worker in a bait shop frequented by non-county residents will spend some of his/her wages on rent and the landlord, in turn will spend some of this rent money at the local grocery store. The total (direct + indirect + induced) impact measures the net increase in economic activity (labor

income plus profits) generated by non-local anglers and boaters who use Dane waters. The estimated annual impact of motor-boating and fishing from a boat are:

- Nearly 800 jobs created/sustained
- \$24.5 million in labor income
- \$40 million per year added to the Dane County economy
- More than \$65 million of total economic activity (mostly labor income and profits) each year

Survey Purpose and Methods

This report summarizes the results of three surveys conducted by the Survey Research Center (SRC) between 2010 and 2013. The purposes of these surveys were to determine how Dane County residents are utilizing the recreational water resources available to them, examine the geographic dispersion of Dane County water resource users, and to quantify the economic impact that a subset of water-recreation activities have on the Dane County economy. The three parts of the survey were carried out over three successive years because budgetary limitations made it impractical to conduct them all in one year.

One unavoidable consequence of the drawn-out nature of this project is that the economic conditions in 2013, when the final phase of the project was completed, were quite different than in 2010, when the first phase was initiated. This is a concern because participation rates in some of the activities about which we asked in 2010 (e.g. sailing) might have been quite different in the stronger economy of 2013. As a result, estimates of the total number of Dane County residents engaging in a water-related activity, based on 2010 data, may not reflect current engagement levels. Because recreational spending is highly discretionary and these data were collected during the long, slow recovery from a sharp recession, it is likely that the estimates included in this report somewhat conservative.

In any survey, one has to be concerned about non-response bias, which occurs when the sample of respondents don't fully represent the views of the full population. For instance, if only the most active of Dane County water recreation users responded to the survey, Phase 1 would over-estimate the use of these resources by residents of the county. **Appendix A** summarizes a standard test for non-response bias and indicates that there is little evidence that this is a serious concern for Phase 1 of this study. A summary of the responses to the numeric questions and a compilation of responses to open-ended questions for Phase 1 is included in **Appendix B**.

Phase 2 consisted of intercept surveys of users of Dane County water recreation resources. These intercept surveys took place over a 12 month period beginning in May 2011. The goal of this short, one-page survey was to gather information about the primary Dane County water recreation activity the person or group was engaging in, where their permanent residence was, if they expected to pay for overnight lodging and how many times in a typical year they use water recreation resources in Dane County. The intent was to gather information throughout the year. Unfortunately, the winter of 2011-12 was exceptionally mild, resulting in little or no ice build-up on Dane County lakes, precluding such common winter-time recreational activities as ice fishing, ice boating, and snowmobiling. As a result, a total of only five intercept surveys were collected after August 2011. Further, very little data were collected from Dane County river users. Hence the data from this phase is representative of summer use of Dane County lakes only. The nature of Phase 2 precludes a test for non-response bias comparable to what was done for Phase 1. A summary of the responses to the numeric questions and a compilation of responses to open-ended questions for Phase 1 is included in **Appendix C**.

Phase 3 of the study looked at the economic dimensions of angling and boating. A random sample of 2,000 was drawn from the DNR lists for boat registrations and fishing licenses. The sample was constructed to draw households from within Dane County and from the zip codes of anglers and boaters who participated in the Phase 2 intercept surveys. The proportions of the overall sample from inside and outside Dane County aligned with the geographic distribution

found in the intercept surveys. The results of Phase 3 of the study are summarized in **Appendix D**.

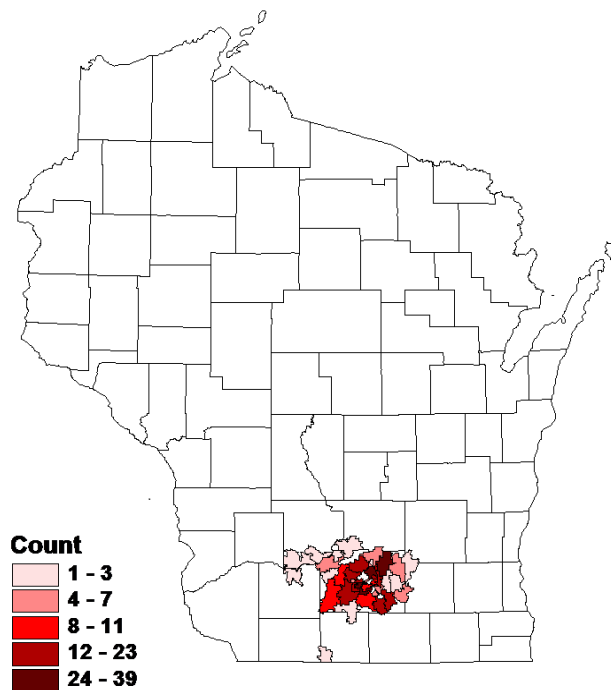
When estimating county-wide economic impact, we are particularly interested in spending by non-Dane County residents. Dane County residents, we assume, would likely spend their recreational dollars on some other activity in the county if they weren't spending it on boating and fishing. In contrast, non-resident expenditures are infusions of cash into the Dane County economy that likely wouldn't happen if the people making them weren't in Dane County to enjoy the water resources. Unfortunately, there were relatively few non-Dane County respondents in this phase of the project who reported fishing from a boat or motor-boating in the County (57). Further, this study looks at only two sorts of recreational activities (motor boating and fishing from a boat); other activities (paddle sports, hunting, etc.) that draw non-county participants are not included. To gain a more complete estimate of the economic impact of Dane County water resources and to validate these estimates, future research should focus on a larger sample of non-residents and include more activities. In sum, **the results in this section of the report should be viewed as first cut estimations that may be subject to significant errors.**

Response patterns that vary at statistically significant levels ($p < .05$) will be noted in the report.

Phase 1 – General Population Survey Results

The intent of the first phase of this project was to determine the mix of activities in which Dane County residents engage that involve the lakes, rivers or streams in the County and how often they participate in those activities. To determine how Dane County residents use their water resources, a random sample of 1,152 households was selected to receive a short survey. A total of 384 surveys were received, a 33% response rate. Based on these returns, the results reported for Phase 1 should be accurate to within plus or minus 5% with 95% confidence. The geographic distribution of responses is shown in Map 1.

**Map 1:
ZIP Code of General Population Respondents**



Demographic Profile of General Population Survey

Table 1 indicates that compared to the overall population of Dane County, the sample included higher proportions of males, older respondents, college degree holders and higher income households. This imbalance raises concerns about how representative the sample is of the overall Dane County population in terms of the ways residents use water resources for recreation and the frequency of these uses. The SRC tested for statistically significant differences across gender, age, education and income in terms of the recreational activities in which respondents reported engaging and the frequency with which they participate in those activities.

There were almost no statistically significant differences across demographic groups with respect to the frequency with which respondents engage in recreational activities in or around Dane County lakes, rivers or streams. Similarly, there were few significant differences in the types of

recreational activities in which respondents with different ages, educational backgrounds or income levels participate. There were a substantial number of significant differences in participation based on gender (5). In the analysis to follow we will point out statistically significant differences across demographic groups.

Table 1: Demography of General Population Survey, 2010							
Gender	Count	Male	Female				
Sample, 2010	365	62%	38%				
Dane County, Census, 2010	488,073	49%	51%				
Age	Count	18 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65+
Sample, 2010	364	1%	14%	17%	26%	21%	22%
Dane County, Census, 2010	381,989	16%	21%	17%	18%	15%	13%
Education	Count	Less High School	High School	Some College	2-Year Degree	4-Year Degree	Grad Degree
Sample, 2010	360	1%	14%	13%	13%	32%	26%
Dane County, Census, 2010	269,998	8%	22%	20%	9%	25%	16%
Income	Count	Under \$25K	\$25-\$49.9K	\$50 - \$74.9K	\$75 - \$99.9K	\$100 - \$199.9K	\$200K+
Sample, 2010	338	8%	23%	20%	20%	25%	4%
Dane County, Census, 2010	173,710	22%	29%	23%	13%	11%	2%

Participation in Water-Related Activities

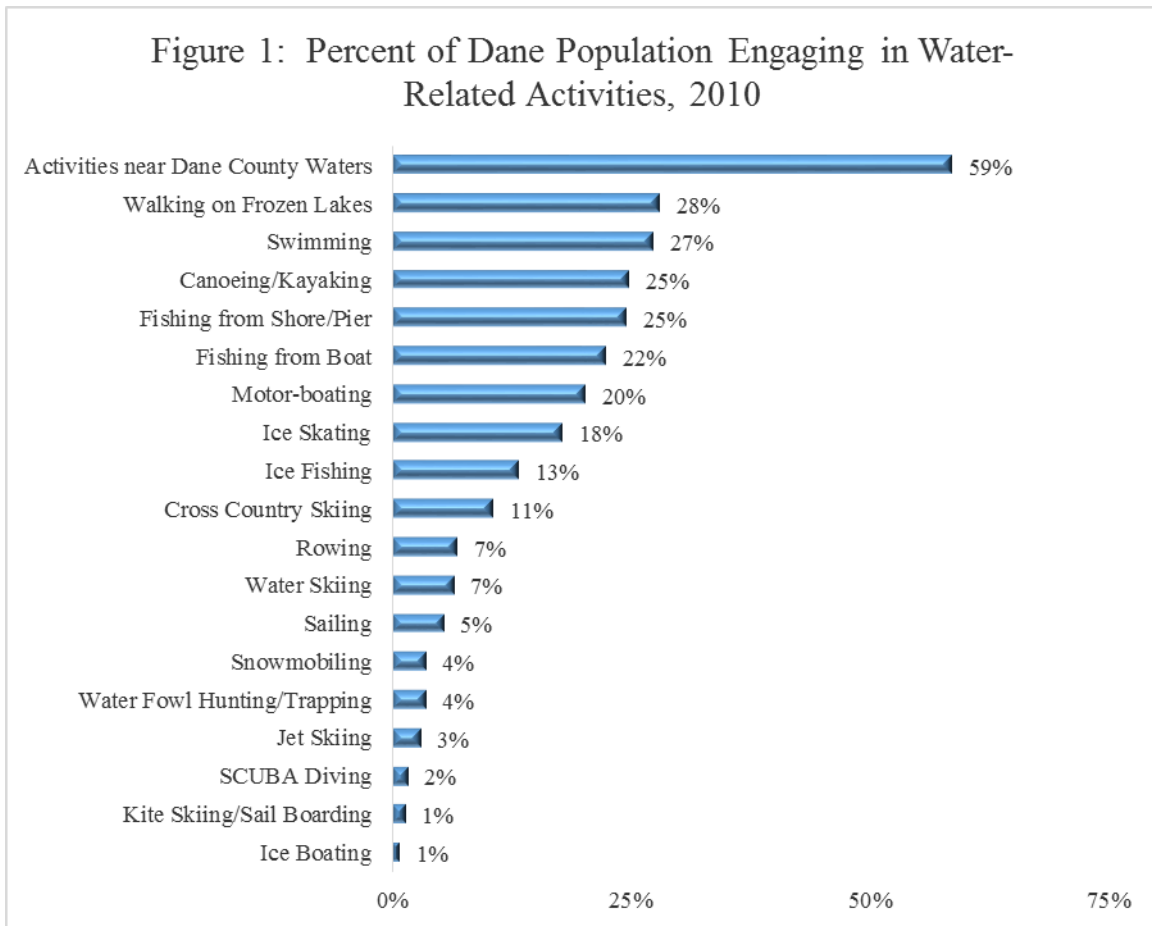
Recipients of the general population survey were asked if, in a typical year, they participate in 19 water-related recreational activities (plus an “other, please specify” option). Figure 1 summarizes their responses. Nearly 60% said they participate in activities near Dane County waters. Approximately one-fifth or more of the respondents said that in a typical year they use Dane County waters to walk on the frozen lakes, swim, canoe/kayak, fish from shore, fish from a boat, or ice skate.

Another way of looking at the data in Figure 1 is to ask in how many of these activities does the average person participate? The average Dane County resident, based on this sample, participates in between two and three water-related activities in a typical year. Nearly one in four residents reported engaging in no water-related activities – nearly half of this set of respondents were 65 years of age or older. Men participated in significantly more activities than did women (an average of 3.2 activities for men compared to 2.1 for women) and those with at least a 4-year college degree more than those with less formal education (3.0 activities on average for college grads versus 2.4 for those without a degree).

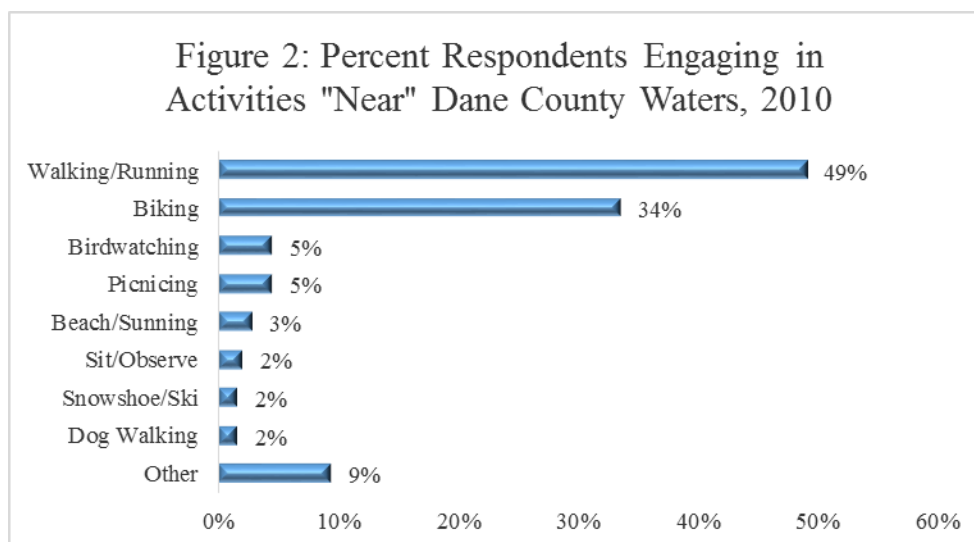
There were many activities in Figure 1 with significantly different participation rates based on the gender of the respondent and a few based on age, education or income:

- Men were significantly more likely than women to participate in fishing from the shore and from boats, water skiing, jet skiing, and ice fishing

- Those under 45 were more likely to report swimming in Dane County waters than were older respondents
- Those with more formal education were more likely to report that they canoe/kayak and engage in activities near Dane County waters than those with fewer years of education
- Participation in canoeing/kayaking tends to increase with household income levels



Those who chose this option were asked to identify the sorts of activities they engaged in “near” Dane County waters. Many respondents identified multiple activities in which they participate in a typical year near lakes, rivers and streams in Dane County. The SRC coded these responses into the categories noted in Figure 2. Nearly half of those participating in activities near Dane County waters were runners or walkers, with about one-third reporting that they bike in these areas. A wide range of “other” activities were also noted: photography, ATV riding, camping, golfing, tennis, and, interestingly (and hopefully with tongue firmly in cheek) drag racing!



Finally, there are some groups of activities in which people seem to engage. For instance, if a participant reported that they fish from a boat, they will also likely report fishing from shore (67% of the time) and doing some ice fishing (62%). Similarly, there is a relatively high correlation between those who report canoeing/kayaking and swimming (39%), ice skating (39%), cross-country skiing (48%), and walking on the frozen lakes (39%). As you might expect there is a relatively high correlation between motor boating and water skiing (40%). Similarly, those who sail are fairly likely to also report participating in ice boating (39%).

As noted above, men are over-represented in the sample and there are a substantial number of gender differences in participation rates in the recreational activities summarized in Figure 1. Because of these differences, a simple extrapolation from the sample to the overall population of Dane County is unlikely to represent accurately the total number of Dane County adults who participate in these activities. Further, for half of the activities about which we asked, there were very few respondents who said they engaged in these activities – ranging from a low of 3 (ice boating) to 23 (water skiing). With so few observations, estimates of the total number of adults engaged in these activities are likely to be unreliable.

Table 2 summarizes the estimated number of adults who participate in those activities for which the SRC feels it has sufficient data to make county-wide estimates. The table shows the number of respondents who said they participate in the given activity, the estimated minimum number of adult participants in an activity and the estimated maximum number of adult participants. To calculate the minimum and maximum participation levels, the SRC first estimated the confidence interval for men (+/- 6.5%) and women (+/- 8.4%) based on the number of observations in this sample and the total adult male and female populations in Dane County. These values were applied to the percentage of men and women reporting they participate in a given activity and, subsequently multiplied by the number of adults of that gender in Dane County. For instance, women accounted for 51% of the adult population in Dane County according to the 2010 census and the general population survey indicates that 55% participate in activities near Dane County waters. Given a confidence interval of 8.4%, we expect the actual proportion of adult women who participate in activities near the water to be between 50.4% and 59.6%. Multiplying these proportions by the total adult female population gives us the minimum and maximum number of women who participate in activities near the water. Similarly, men compose 49% of the adult

population and 59.4% said they engage in activities near Dane County waters. Given our confidence interval for adult men, we expect between 55.5% and 63.3% of all adults males in Dane County to engage in activities near water. Multiplying the minimum percentages of men and women participating (50.4% and 55.5%) by their respective population totals and summing gives us the estimate of 202,237. Applying the maximum proportions gives us the upper limit of 234,578.

Table 2: Estimates of Total Number of Adults Participating in Water-Related Activities, 2010			
	Sample Participants	Gender Wtd Min	Gender Wtd Max
Activities Near Water	198	202,237	234,578
Swimming	98	95,104	110,176
Walking on Frozen Lakes	97	94,926	109,911
Fishing from shore	87	76,521	87,857
Canoeing/Kayaking	86	85,208	98,821
Fishing from Boat	79	69,275	79,536
Motor-boating	69	65,578	75,799
Ice Skating	62	61,340	71,042
Ice Fishing	45	39,054	44,770
Cross Country Skiing	36	36,418	42,288

Because males reported participating in all these activities except cross country skiing in higher proportions, the gender-weighted estimates are generally lower than the un-weighted estimate. The data in Table 2 indicate that water-related activities are enjoyed by a substantial proportion of adults in Dane County. Given the over-representation from higher income groups, some activities (e.g. fishing from shore) are probably underestimated and others (canoeing/kayaking, ice skiing) overestimated.

Frequency of Participation in Water-Related Activities

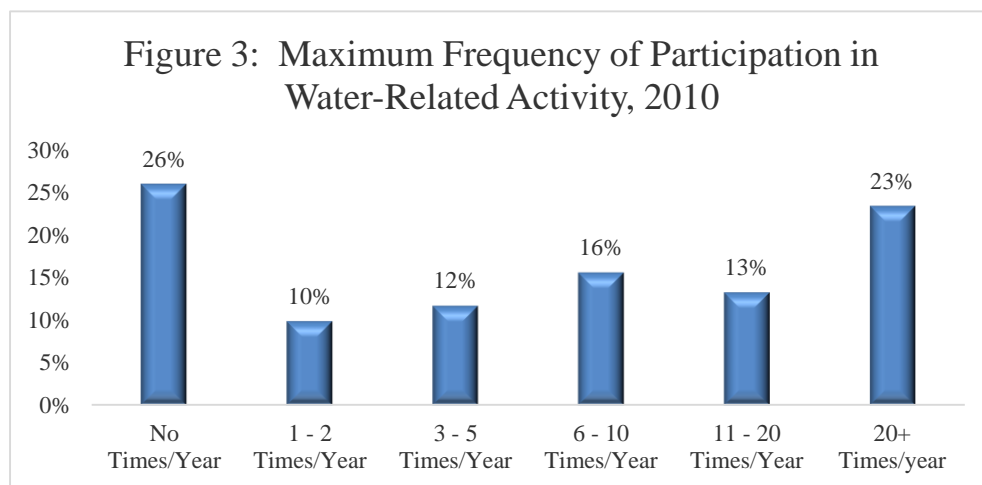
Respondents to the general population survey who said they participated in a given water-related recreational activity were asked to indicate how many times per year they participated in that activity. Answer options included 1 to 2 times per year, 3 – 5 times, 6 – 10 times, 11 – 20 times and over 20 times. In Table 3, the SRC has combined the 6 – 10 times per year through over 20 times per year answer options. This grouping gives the percent of respondents who said they engage in a given activity at least every other month. The difference between the sum of those who engage in an activity 1 – 2 times per year plus those who engage in an activity 6 or more times per year and 100%, gives us the proportion participating 3 – 5 times per year.

Table 3 suggests that there is no particular relationship between the number of respondents who reported participating in an activity and the intensity with which they participated. Table 3 indicates that a large majority of those engaging in activities near Dane County waters (walking/running, biking, bird watching, etc.), do so at least every other month. For other common activities (swimming, walking on the frozen lakes, canoeing/kayaking, fishing from the

shore or boat, motor boating and ice skating), between about one-quarter and one-half do so at least every-other month on average.

Table 3: Frequency of Annual Participation in Water-Related Activities, 2010			
	Count	1 - 2 Times/ Year	6+ Times/ Year
Activities near Dane County waters	199	9%	72%
Swimming	104	39%	26%
Walking on lakes when frozen	99	49%	25%
Canoeing/Kayaking	94	41%	26%
Fishing from shore/pier	89	29%	44%
Fishing from boat	84	18%	49%
Motor-boating	76	43%	21%
Ice Skating	66	42%	14%
Ice Fishing	49	24%	51%
Cross Country	41	27%	32%
Water Skiing	26	42%	31%
Rowing	26	42%	27%
Sailing	21	33%	48%
Water Fowl Hunting/Trapping	15	20%	47%
Snowmobiling	14	21%	29%
Jet skiing	11	45%	27%
Kite Skiing/Sail Boarding	8	38%	38%
SCUBA Diving	7	43%	29%
Ice Boating	5	60%	40%

The SRC looked at the maximum times per year in which a respondent reported participating in the activities listed in Table 3. As the following chart shows, about half the respondents reported engaging in at least one of the water-related recreational activities included in Table 3 at least 6 times a year.



The data from the general population survey suggest that water-related activities are engaged in relatively frequently by a majority of adults in Dane county.

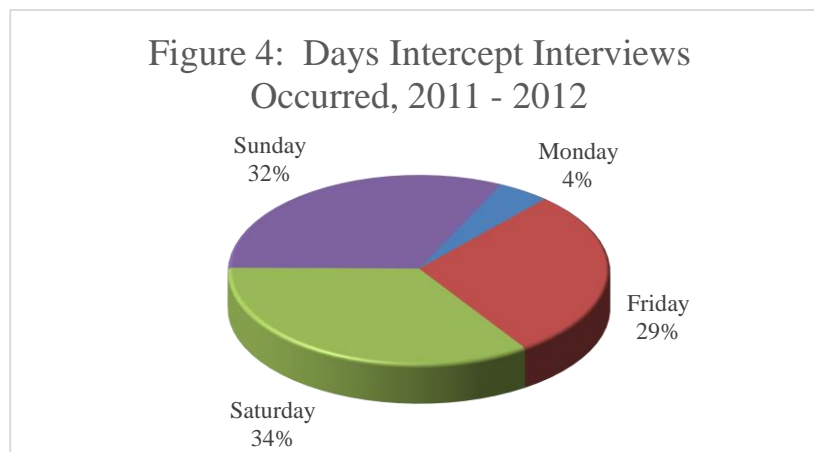
Phase 2 – Intercept Survey Results

In the year following the general population survey, a series of intercept surveys were undertaken by volunteers, and by staff from Dane County Aquatic Invasives Prevention office. The goals of the intercept surveys were to understand where users of Dane County water resources were coming from, how large their party was, what their primary activity was that day, and why they chose a particular body of water for this activity. A summary of the quantitative responses and all qualitative information gathered in this phase of the project are included in Appendix C.

The intent was to complete intercept surveys throughout a 12-month period beginning in May of 2011 and ending in April of 2012. Because the winter of 2011-12 was very mild with little or no snow or ice cover on Dane County lakes, all but five intercepts took place between May and August, 2011. Activities that occur outside of these months (ice- and snow-related activities) are poorly represented in these data.

As Table 4 indicates, men accounted for a disproportionate number of those interviewed in Phase 2 of this project. The age profile of the sample is fairly similar to the county as a whole but the income data includes substantially fewer representatives from lower income households and more from middle- and upper middle-class households. We will note any demographic differences with respect to responses to the questions included in the intercept survey.

Table 4: Demographic Profile of Intercept Interviewees, 2011-12							
	Count	Male	Female				
Gender, Sample	569	82%	18%				
Dane County, Census, 2010	488,073	49%	51%				
	Count	Under 25	25 - 34	35 - 44	45 - 54	55 - 64	65+
Age, Sample	582	6%	15%	25%	29%	19%	6%
Dane County, Census, 2010	381,989	16%	21%	17%	18%	15%	13%
	Count	Under \$25,000	\$25 - \$49,999	\$50 - \$74,999	\$75 - \$99,999	\$100 - \$199,999	\$200,000+
Household Income, Sample	511	3%	19%	26%	24%	25%	3%
Dane County, Census, 2010	173,710	22%	29%	23%	13%	11%	2%



As Figure 4 illustrates, almost all of the intercept interviews occurred on Friday (29%), Saturday (34%) and Sunday (32%). Men were more likely to be interviewed on Fridays and women on

Saturdays. In terms of time of day, virtually all of the intercepts occurred between 7:00 a.m. and 5:00 p.m.

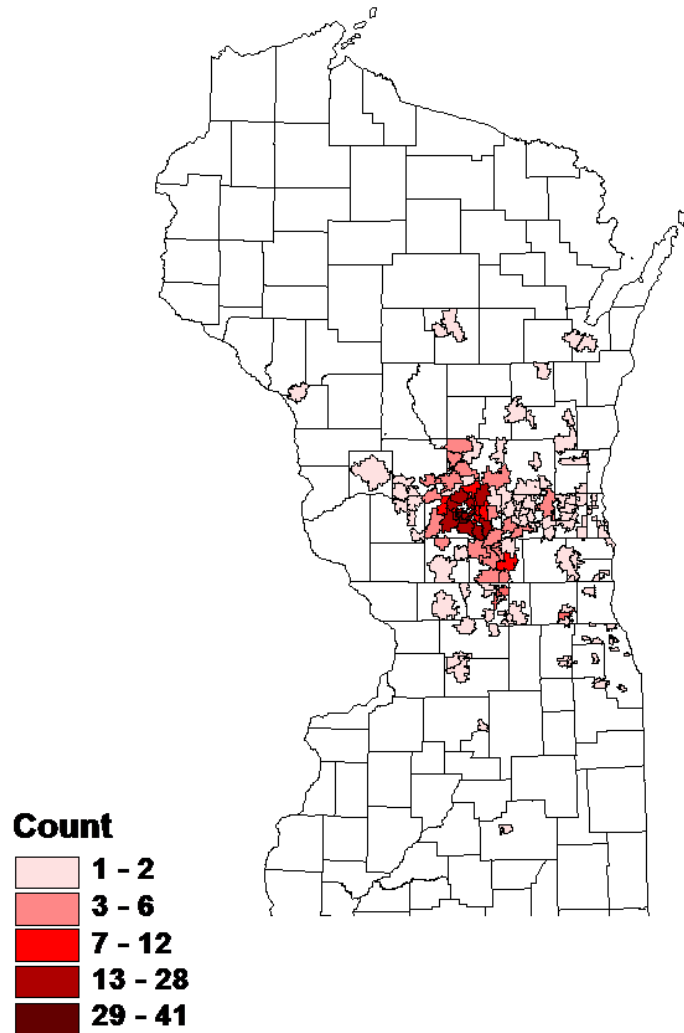
Of the 588 intercepts completed, half were done at either Lake Mendota or Lake Monona. Lakes Waubesa and Kegonsa accounted for another 31% of the total number of intercept interviews. Men were more often interviewed at Lakes Monona and Waubesa, women at Kegonsa and Wingra and on the Wisconsin River. More than half of the 478 interviews that identified a park, happened in Lake Farm County Park, Lake Kegonsa State Park, Olbrich (City of Madison) Park, Olin Turville (City of Madison) Park or Governor Nelson State Park. Similarly, slightly more than half of the interviews occurred at Alder’s Landing (Wisconsin River), the Knickerbocker launch (Lake Wingra), or Lottes launch (Interlake – Yahara River). Women were more likely to have been interviewed at Adlers Landing or Knickerbocker launch, men at Amundson’s (Lake Kegonsa), Lake Farm, or Lottes.

Table 5: Where Intercept Interviews Took Place, 2011-2012

Location	Intercepts	Park	Intercepts	Launch	Intercepts
Lake Mendota	167	Lake Farm	55	Adler's Landing/Hwy Y	25
Lake Monona	129	Kegonsa St Park	54	Knickerbocker	22
Lake Waubesa	111	Olbrich Park	54	Lottes	14
Lake Kegonsa	74	Olin Turville	54	Lake Farm	10
Wingra	55	Governor Nelson	52	Amundsons	8
Wisconsin River	25	Marshall	36	Spring Harbor	8
Interlake (Yahara River)	9	Knickerbocker	33	Marshall	6
Fish Lake	7	Lottes Park	31	Lot 60	5
Upper Mud Lake	4	Babcock	29	Fish Camp	4
Indian Lake	3	Warner Park	29	Pleasant Springs	4
Mud Lake	3	Goodland	18	Lake Street	4
Stewart	1	Tenney	15	Babcock	3
		Fish Lake	7	Olin-Turville	3
		Indian Lake	3	Olbrich	2
		Town of Mazo	3		
		Fish Camp	3		
		Miscellaneous	2		
Total	586	Total	478	Total	118

One of the key pieces of information sought during the intercept interview stage of this study was the respondents’ zip codes. In particular, the SRC wanted to estimate the proportion of lake users from Dane County (65% based on this survey) and the proportion from outside the county (35%). This geographic breakdown will be important in the final phase of this project, estimating the economic impact of Dane County’s recreational water resources. Map 2 provides a visual depiction of the geographic dispersion of those who completed an intercept survey. The map indicates that Dane County water resources attract users from across southern Wisconsin and northern Illinois.

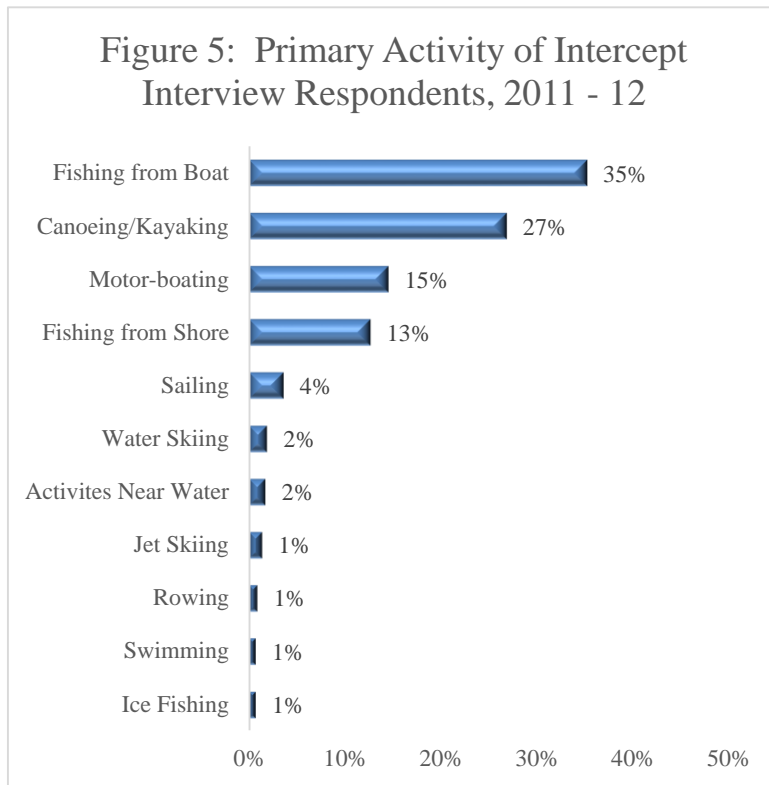
Map 2:
Intercept Respondents Home ZIP Code
Wisconsin and Illinois Respondents



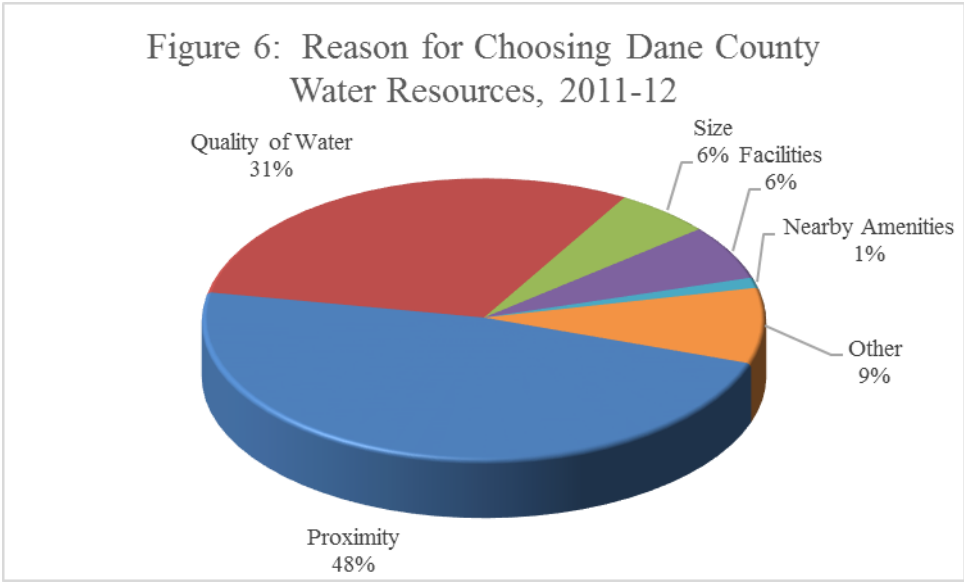
About one-third of those interviewed were going fishing from a boat and another one-quarter were going kayaking or canoeing (Figure 5). Similar proportions reported that their primary activity for the day was to go motor-boating (15%) as said they were primarily there to fish from the shore (13%). A modest number of respondents reported their primary activity to be any of the other options in Figure 5.

Demographically, men were significantly more likely to say that their primary activity was fishing from a boat and women were more likely to report canoeing/kayaking as their main activity for the day. Younger respondents were significantly more likely to report that their primary activity was fishing from shore, waterskiing or kayaking/canoeing. Older respondents were more likely to be going fishing from a boat. In terms of income, the likelihood of fishing from shore falls, but motor boating becomes more likely as household income rises.

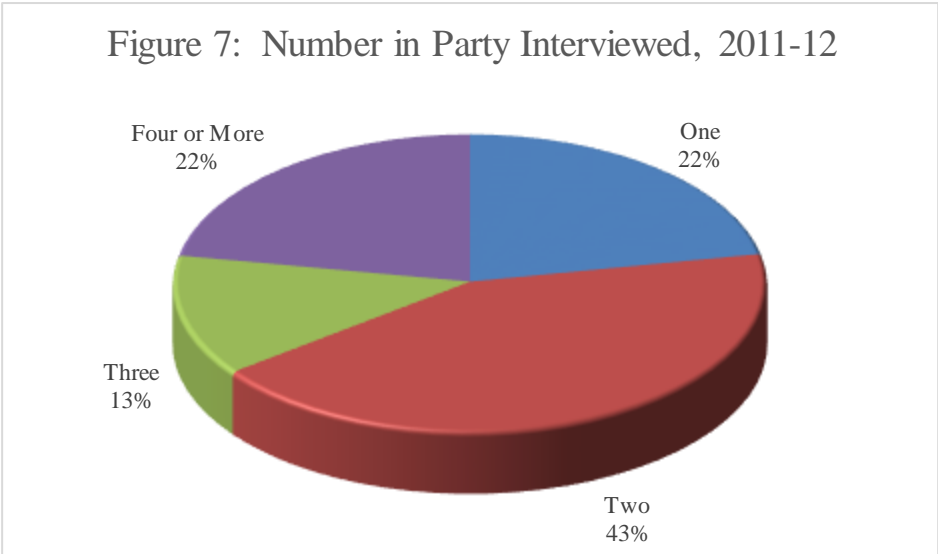
Comparing the results summarized in Figures 1 and 5, there is a fair degree of similarity, with a few exceptions. First, the intercept interviewers didn't focus on people who were primarily engaged in activities near those water resources, so the most common activity from phase 1 didn't figure into phase 2. Second, the unseasonably mild winter precluded the expected number of those engaged in ice fishing in the intercept data set. Finally, fishing from a boat is somewhat over-represented (35% the intercepts but only 22% of the general population said they fish from a boat) and fishing from shore somewhat under-represented in the intercept data (13% of intercepts but 25% of general population said they fish from shore/pier) compared to Phase 1 results (Figure 1). Again, the fact that many of these intercepts were conducted at boat launches, no doubt accounts for these deviations.



For about half the intercept participants, the proximity of Dane County water resources was the main reason they chose to use that body of water (Figure 6). Nearly one-third chose that particular water resource because of its overall water quality – the fish population, water quality and so on. Men were significantly more likely to say they chose that particular body of water because of its water quality; women more frequently mentioned facilities as the main reason for using that water resource.



As suggested by Figure 6, a relatively large number of “other” reasons were given for selecting a particular body of water. The complete list of 56 “other” reasons is compiled in Appendix C but among the most important were participation in fishing tournaments, trying out a new body of water, no-motorized boat restrictions, and a variety of friend-related reasons (recommendation from a friend, meeting friends, being with friends, etc.).

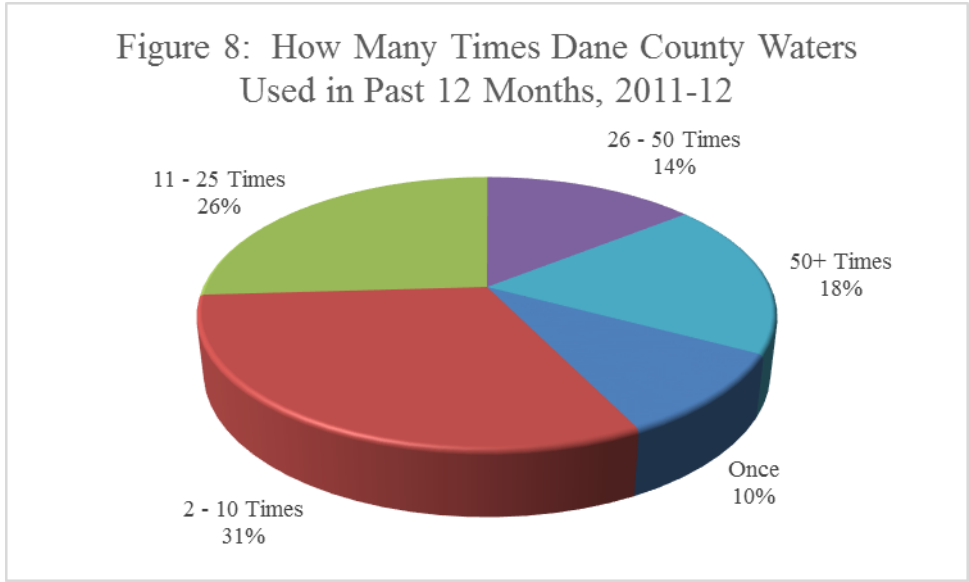


As noted in Figure 7, the largest number of people interviewed in Phase 2 of this project were enjoying Dane County water resources with a friend. Only about one-quarter of those interviewed were alone. Men and older respondents were significantly more likely to be alone when using a Dane County water resource, women were more likely to be one of a party of four or more.

The vast majority (88%) of those interviewed in Phase 2 of this project did not expect to spend a night away from their primary residence because of the activity in which they were engaging on

Dane County waters. About 5% said they would spend one night away from home and nearly 7% said they would be away for two or more nights. The likelihood of spending a night away from home generally fell the older the respondent but rose the higher the income level.

Based on the data summarized in Figure 8, the average person interviewed uses rivers, lakes or streams in Dane County once or twice a month (11 – 25 times per year). Relatively few reported that they have used these resources only once in the past year (10%); women were disproportionately represented in this “one-time user” group. In sum, it appears that recreational use of water resources in Dane County is fairly intense.



Phase 3 – Economic Impact of Boating and Fishing

The final phase of this project was designed to estimate the county-wide economic impact of boaters and anglers using Dane County waters and to gather feedback on the quality of their experiences when using these waters. A summary of the quantitative and all the open-ended comments received in this phase of the project is included in Appendix D.

Demographic Profile

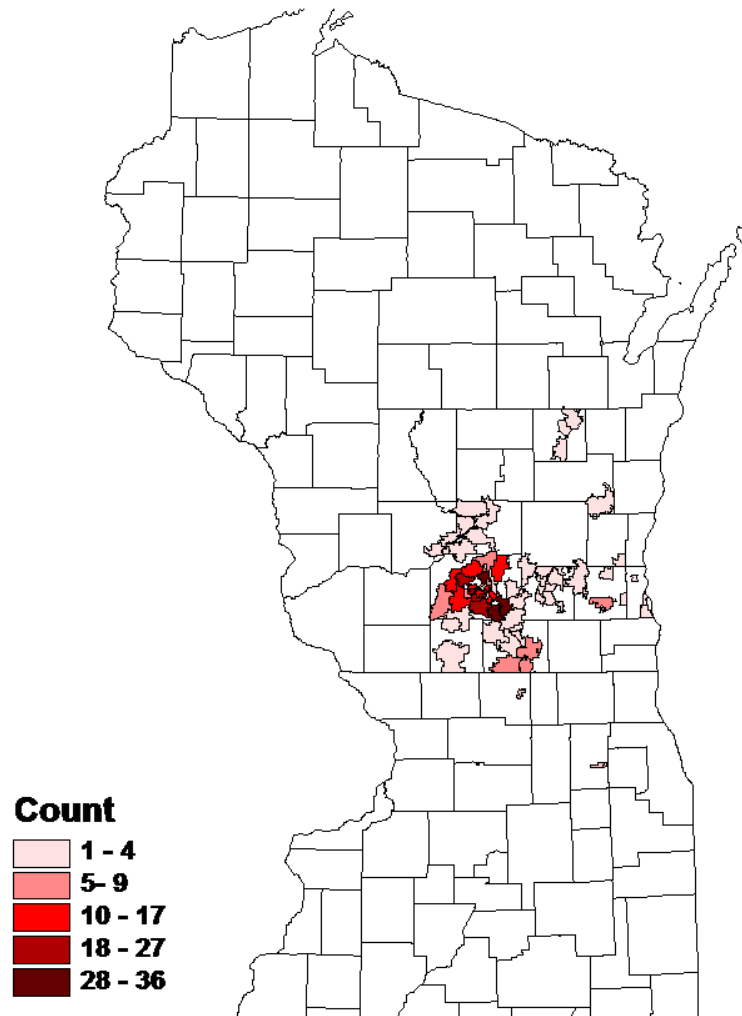
A random sample of 2000 boaters who have registered a boat in Wisconsin and anglers who purchased a Wisconsin fishing license in 2012 were drawn from lists purchased from the Wisconsin Department of Natural Resources. The sample was constructed to draw 65% of the sample from Dane County residents and the remaining 35% from zip codes outside of Dane County that were represented in the intercept survey. The SRC received 572 useable responses and of the 569 whose zip code we could determine, 71% were from Dane County and the remaining 29% were from outside the county. Thus, the non-Dane County respondents were slightly under-represented in the sample, but their geographic distribution aligns reasonably well with the intercept interview distribution (comparing Maps 2 and 3).

It was also the case that a significantly higher proportion of respondents to the first mailing were from Dane County and the SRC found a pattern of statistically significant differences between the mail 1 and mail 2 responses (See Appendix A). Because of this pattern and concerns about non-response bias, the SRC has weighted the responses for questions that included a pattern of statistically significant differences. This re-weighting is described in Appendix A and should compensate for the slight under-representation of non-Dane County residents in the sample.

Table 6: Demographic Profile of Boater/Angler Survey and Intercept Survey Samples							
Gender	Count	Male	Female				
Boater/Angler Sample	391	83%	17%				
Intercept Sample	569	82%	18%				
Age	Count	18 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65+
Boater/Angler Sample	401	2%	11%	13%	23%	29%	23%
Intercept Sample	582	6%	15%	25%	29%	19%	6%
Income	Count	Under \$25,000	\$25-\$49,999	\$50-\$74,999	\$75-\$99,999	\$100-\$199,999	\$200,000+
Boater/Angler Sample	370	8%	15%	20%	20%	28%	10%
Intercept Sample	511	3%	19%	26%	24%	25%	3%

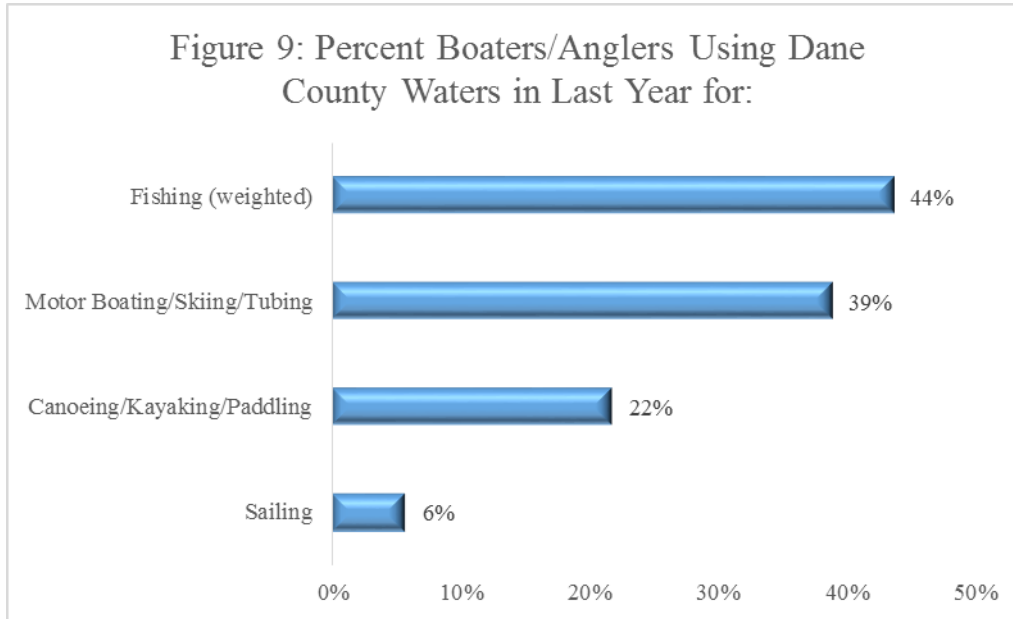
Table 6 indicates that, with one exception, the demographic profile of the boater and angler survey aligns well with the demographic profile of the intercept survey. The one substantial outlier is that there are substantially more respondents 65 and older in the boater/angler survey (23% of the sample) than in the intercept survey (6%).

**Map 3:
Boating/Fishing Respondents' Home ZIP Code
Wisconsin and Illinois Respondents**



Participation in Water Recreation in Dane County

The first question in the boater/angler survey asked if the respondent had used waters in Dane County for fishing, motor boating, sailing, or non-motorized boat use during the previous 12 months. The survey was mailed out in October of 2013, so the period covered would include most of 2013 and the final quarter of 2012. Figure 9 indicates that about 40% of the respondents had fished and or motor-boated on Dane County waters over this time period. About one-quarter reported having canoed, kayaked or paddled on Dane County waters over the previous year and fewer than 10% had sailed on these waters over the previous year.



Of the 572 who responded, 38% indicated they participated in none of the 4 activities shown in Figure 9 on Dane County waters, 28% had done one of those activities, 26% had participated in 2 activities, 8% had done 3 and only 2 respondents had participated in all 4. There was a strong correlation, as you might expect, between those who said they had been fishing in Dane County and those who said they had been motor boating in the county. In addition, respondents from Dane County were significantly more likely to indicate they engaged in these activities than were respondents from outside the county. Compared to those 55 and older, younger respondents were significantly more likely to say they fished in Dane County waters. Those from households earning \$75,000 or more per year were more likely to report motor boating in the county than those with lower incomes.

Table 7: Average Times Engaged in Activity in Dane County, 2012-13

	Count	Average Times	Max Times
Fishing from boat	306	9.3	200
Motor boating/skiing/ tubing (<i>weighted¹</i>)	291	6.2	120
Fishing from shore/pier (<i>weighted¹</i>)	291	4.8	120
Ice Fishing	283	4.6	120
Canoeing/Kayaking/ Paddling	282	3.4	100
Sailing	260	1.2	75
Jet skiing	256	0.8	65

1. Weighted to account for possible non-response bias (see Appendix A)

The respondents who said they had used Dane County waters for one of the 4 activities listed in Figure 9 were asked to indicate the total number of times they had engaged in the activities shown in Table 7. Table 7 shows that between about 250 and 300 people provided responses to this set of questions and from those responses the SRC has calculated the average number of times they engaged in these activities and identified the maximum number of times reported for each.

As Table 7 shows, fishing from a boat was the activity engaged in most frequently; 35% of the 306 respondents said they did not fish from a boat in Dane County in the previous 12 months and another 41% said they did so 10 or fewer times. Thus, the overall average of more than 9 times per year fishing from a boat is heavily influenced by the approximately one-quarter of respondents who said they fished Dane County waters from a boat more than 10-times over the previous 12 months. Respondents reported going motor boating about 6 times per year, fishing and ice fishing about 5 times per year, and went paddling about 3 times per year on average. On average respondents sailed or went jet skiing only once per year on Dane County lakes.

All of the activities shown in Table 7 had some respondents who use Dane County water resources intensively – even boating activities that are limited to warm months (sailing and jet skiing) had respondents who reported engaging in the activity dozens of times over the previous 12 months.

To get a handle on the average and total number of times these respondents said they used Dane County waters to engage in the recreational activities listed in Table 7, the SRC summed their responses across all 8 activities (including “other”). We found that, on average, respondents engaged in these water recreation activities 18 days per year. Table 8 indicates that a large minority (41%) said they don’t use Dane County waters for any of the recreational activities listed in Table 7. In contrast, a relatively small minority of respondents (10%) use Dane County waters for recreational activities 50 times or more per year.

Total Times Engaged	Number	Percent
0	234	41%
1	9	2%
2 - 10	119	21%
11 - 25	91	16%
26 - 50	62	11%
51 - 100	35	6%
101+	22	4%
Total	572	100%

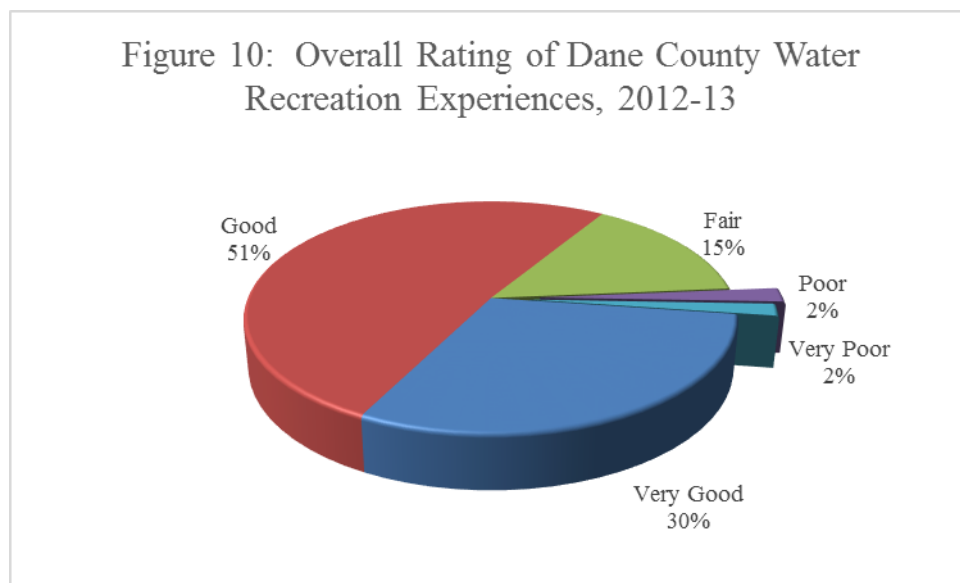
Men, compared to women, went fishing significantly more frequently (10.5 times per year for men vs. 2.7 times per year for women), ice fishing (5.4/year vs. 0.9/year), and sailing (1.4/year vs. 0.3/year). Respondents from households earning \$75,000 or more per year, relative to households earning less than this, fished from shore less frequently (5.3/year vs. 10.0/year), but went motor boating more frequently (9.5/year vs. 4.9/year). Those 55 and older fished from shore less frequently (4.8/year) than younger respondents (9.0/year). Residents of Dane County reported fishing from shore (7.6/year vs. 2.7/year) and sailing (1.3/year vs. 0.1/year) more frequently than residents from outside the county.

Table 9: Dane County Body of Water Most Frequently Used for Recreational Activity, 2012-13						
	Count	Lake Kegonsa	Lake Mendota	Lake Monona	Lake Waubesa	Other
Fish from Boat	226	12%	32%	21%	23%	12%
Fish from Shore	165	8%	24%	19%	15%	33%
Ice Fish	126	9%	33%	29%	18%	12%
Motor Boat	184	13%	38%	26%	17%	7%
Canoe/Kayak/Paddle	114	4%	19%	18%	12%	46%

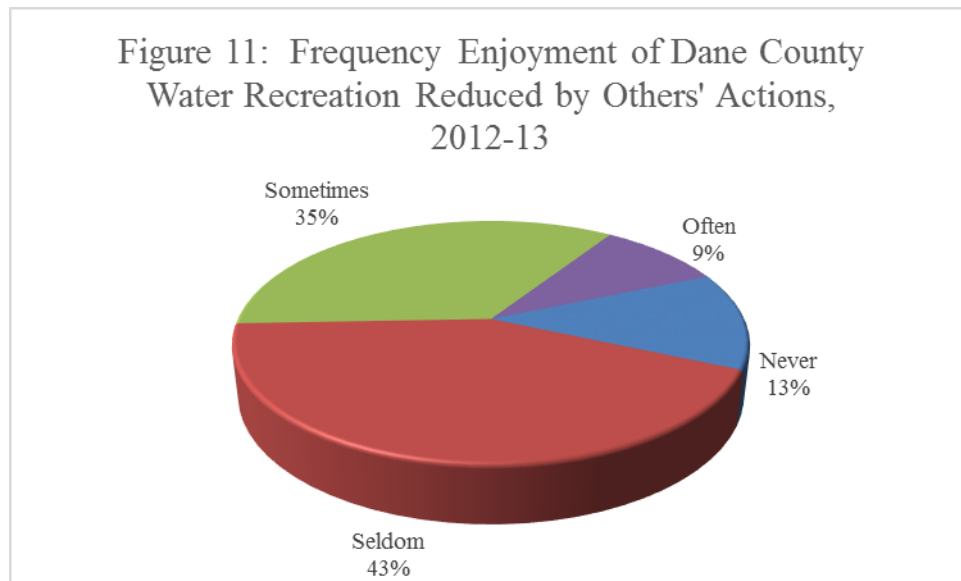
Table 9 indicates that Lake Mendota is the Dane County body of water that is most frequently used for all five of these activities. The four lakes in Table 9 account for about 90% of the “most frequently used Dane County body of water” for fishing from a boat, ice fishing, and motor boating. These lakes account for only about two-thirds of the favored spots for shore fisherman and for only about half the favored spots for paddlers. Other places mentioned frequently by those who fish from the shore included the Yahara River (7%), Black Earth Creek (5%), and Lake Wingra (4%). Paddlers frequently also mentioned the Yahara River (13%) and Lake Wingra (12%) as their primary venue for this activity. The SRC did not have enough responses to warrant specifying the most frequently mentioned venues used for sailing (only 25 respondents identified places they frequently sail) or jet skiing (18 identified a specific location).

Assessment of Water Recreation Experiences in Dane County

Approximately four out of every five recreational users of Dane County waters rated their experiences as good or very good and only 4% rated their experiences as poor or very poor. Relative to households with incomes less than \$75,000, those with incomes greater than that amount were significantly more satisfied with their Dane County water recreation experiences. Similarly, those residing outside of Dane County gave their water recreation experiences significantly higher ratings than the locals did.



A second measure of respondents' overall satisfaction with their Dane County water recreation experiences approached the issue in terms of how often their enjoyment of these resources was reduced by the actions of others. Figure 11 is a good news/bad news story. On the one hand, a majority (56%) said the actions of others "never" or "seldom" adversely affect their enjoyment of Dane County water resources. On the other hand, a very substantial minority (44%) said the actions of others often or sometimes reduced their enjoyment of the county's water resources. There were no statistically significant differences across demographic groups with respect to the extent that others had reduced their water recreation enjoyment.

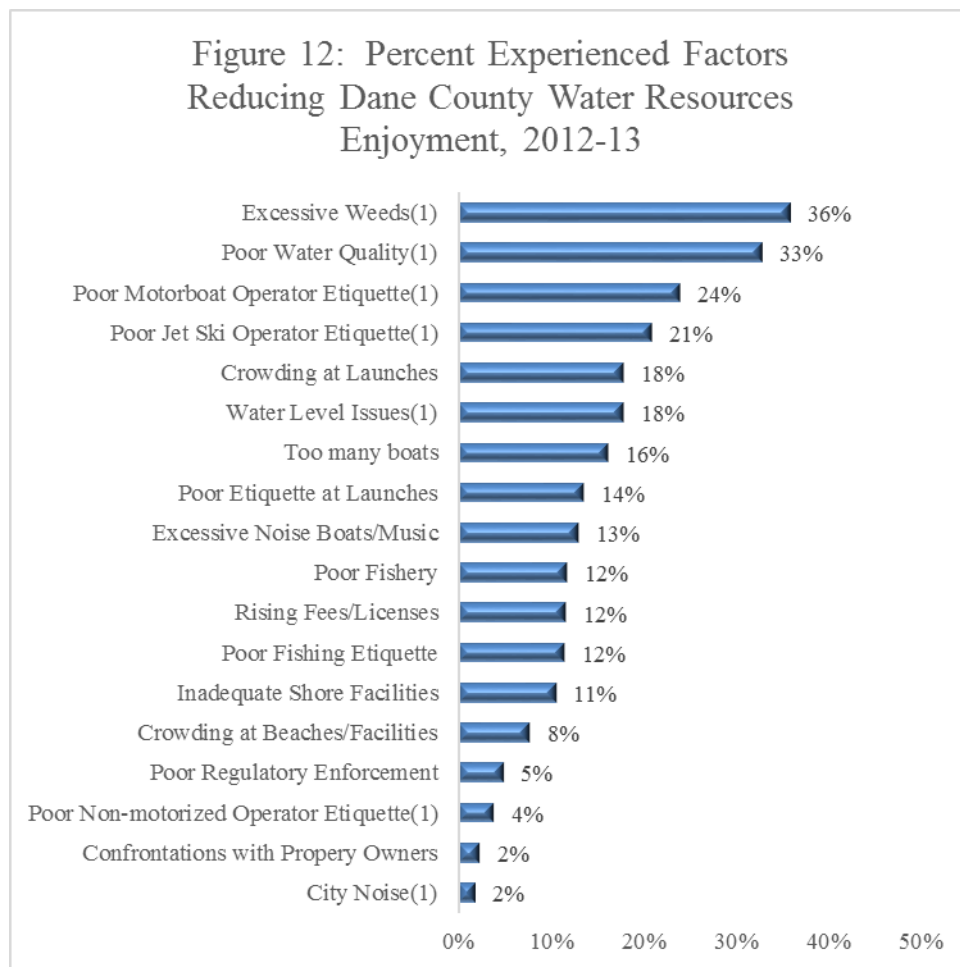


As a follow-up, respondents were asked to identify which, if any, of 22 different issues they had experienced that detracted from their enjoyment of Dane County water resources. The proportion identifying each factor as having adversely affected them is shown in Figure 12. While none of the factors had been experienced by a majority of responses, about one-third or more of all respondents said that excessive lake weeds and overall poor water quality had diminished their enjoyment of Dane County water recreation resources. Between about one-fifth and one-quarter said that poor etiquette by motor boat operators, personal water craft operators crowding at boat ramps, and fluctuating water levels had adversely affected their Dane County water recreation experiences. At the other end of the scale, fewer than one in ten complained about crowding on the beaches, poor etiquette by non-motorized boaters, poor regulatory enforcement, city noise or confrontations with shoreline property owners.

Demographically:

- Men were significantly more likely than women to report concerns about the rising cost of fees and licenses (18% of men vs. 9% of women) and confrontations with property owners (4% vs 1%), but women had greater concerns about water quality (49% vs. 68%)
- Those from households with less than \$75,000 in annual income were less satisfied with the quality of Dane County fisheries (25% of lower income households vs 11% of higher income households), the rising cost of fees and licenses (25% vs 12%), fishing etiquette (22% vs. 12%), and city noise (7% vs 2%)

- Interestingly, Dane County residents were significantly more likely to report a reduced level of enjoyment of local water resources than were non-county residents across 14 of the 22 factors about which they were asked: poor etiquette by motorboat operators (36% Dane residents vs. 13% non-residents), poor etiquette by jet ski operators (30% vs. 12%), poor etiquette by non-motorized boat operators (7% vs. 2%), too many boats on the water (20% vs. 8%), confrontations with property owners (3% vs 1%), fluctuating water levels (28% vs. 8%), poor water quality (49% vs. 8%), rising cost of fees and licenses (15% vs. 7%), poor fishery (15% vs. 4%), excessive boat noise (17% vs. 4%), inadequate shore facilities (13% vs. 6%), poor fishing etiquette (14% vs. 6%), poor etiquette at launch areas (21% vs. 10%), and excessive lake weeds (54% vs. 12%). Dane county residents may be more critical of the quality of local waters because they tend to use them more frequently and, hence, have more opportunities to be exposed to factors that detract from their experience



1. Weighted to account for possible non-response bias (see Appendix A)

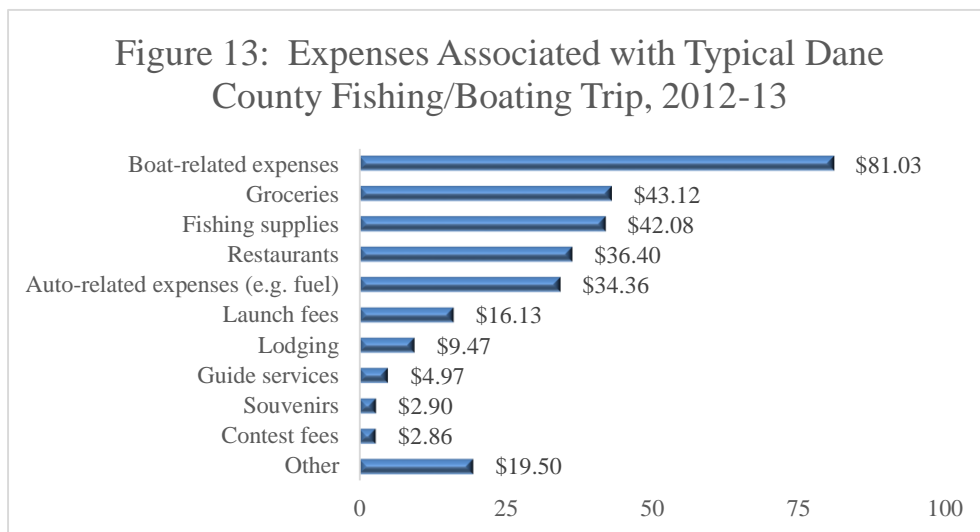
Economic Aspects of Water Recreation in Dane County

Finally, boaters and anglers were asked to estimate how much they spend on a variety of categories during a typical recreational boating or fishing trip in Dane County, how much it would cost them to replace the boating and fishing equipment they currently own, and what

percentage of their fishing and boating purchases they make in Dane County. This section will summarize their responses to these questions and these data will be used to estimate the overall economic impact of boating and angling on Dane County.

Figure 13 provides a summary of respondent’s estimates of their expenditures for a typical boating or fishing trip to Dane County waters. Summed across these categories of expenses, these respondents reported spending an average of \$292.81 per trip for an average party of 2.12 people. Above, when discussing Table 8, we noted that the average respondent makes 18 trips to engage in recreational activities on Dane County waters per year. If each individual spends \$138.12 per trip (=292.81 per trip/2.12 people per group) and makes 18 trips, this means that the average boater/angler spends nearly \$2,500 per year on these activities.

More than one-quarter of the average total expense per trip are boat-related costs such as fuel and rental fees. Auto-related expenses, money spent at restaurants, fishing supplies and groceries each accounted for another \$30-\$40 per trip. Things included in the “other” expense category included dock and storage fees, fees for a lock pass, assorted types of entertainment, and equipment maintenance.



Because there is a wide variation in expenses across the categories in Figure 13, Table 10 provides a more detailed breakdown of expenditures. The table indicates that few respondents use guide services (98% spend nothing on this category of expenses), enter fishing tournaments or other events that have a fee (96% of respondents spent nothing), spend a night away from home (96% spent nothing on lodging), or buy souvenirs (95% reported no expenditures). As expected most respondents do have water-recreation expenses associated with their automobile, their boat, and groceries.

Table 10: Distribution of Fishing/Boating Expenses, 2012-13								
	Count	\$0	\$1 - \$10	\$11 - \$25	\$26 - \$50	\$51 - \$100	\$101 - \$500	\$501+
Auto-related expenses (e.g. fuel)	326	17%	37%	16%	16%	6%	7%	0%
Boat-related expenses	320	24%	21%	15%	17%	8%	11%	3%
Contest fees	276	96%	1%	0%	1%	1%	1%	0%
Fishing supplies	320	26%	33%	20%	6%	10%	4%	1%
Groceries	316	14%	34%	27%	12%	7%	5%	1%
Guide services	281	98%	0%	1%	0%	0%	1%	0%
Launch fees	295	47%	21%	9%	19%	2%	1%	0%
Lodging	280	96%	1%	0%	0%	1%	1%	1%
Restaurants	301	56%	6%	12%	13%	7%	6%	1%
Souvenirs	280	95%	1%	1%	1%	0%	1%	0%
Other	203	94%	1%	0%	2%	1%	1%	0%

Respondents were asked, if they had to replace their currently owned boating and angling equipment with comparable quality equipment, how much would they have to spend? They were also asked the approximate proportion of each type of expenditure that they typically make in Dane County. Table 11 summarizes their responses to these question.

Table 11: Replacement Cost of Currently-Owned Equipment, 2012-13			
	Count	Average	% in Dane¹
Rods and Reels	332	\$520.22	64%
Hip Waders/Boots	307	\$73.20	54%
Other Fishing Clothing	305	\$85.33	58%
Ice Fishing Equipment	307	\$245.04	62%
Boats/Trailers/Motors	330	\$10,450.94	54%
Boating Equipment (e.g. oars)	312	\$437.54	41%
Total		\$11,812.27	

1. Weighted to account for possible non-response bias (see Appendix A)

As would be expected respondents' boats, trailers and motors account for a majority (88%) of their investment in angling/boating equipment. Rods and reels (more than \$500) and boating equipment such as oars and skis (more than \$400) also represent relatively significant expenditures for these respondents. Table 12 provides additional detail in the breakdown of how much it would cost respondents to replace their current fishing/boating gear.

Table 12: Distribution of Replacement Costs of Fishing/Boating Equipment, 2012-13						
	Count	\$0	\$1 - \$250	\$251 - \$500	\$501 - \$1,000	\$1,001+
Rods/reels	332	26%	36%	19%	11%	8%
Hip waders/boots	307	63%	31%	4%	1%	1%
Other fishing clothing	305	61%	29%	7%	3%	0%
Ice fishing equipment	307	65%	15%	9%	6%	5%
Boating equipment (e.g. skis, paddles)	312	47%	19%	18%	8%	8%
	Count	\$0	\$1 - \$1,000	\$1,001 - \$5,000	\$5,001 - \$10,000	\$10,001+
Boat/Trailer/Motor	330	35%	8%	16%	11%	30%

There were a few demographic differences with respect to investments in fishing and boating gear:

- Respondents younger than 55 spent significantly more on boats/trailers/motors than respondents 55 and older (an average of \$12,403 vs. \$8,553)
- Those with incomes of \$75,000 or more, compared to lower-income households, spent more on fishing clothing (\$106 vs. \$55), boats/trailers/motors (\$13,411 vs. \$5,779), and boating equipment (\$725 vs. \$175)
- As we would expect, Dane County residents reported spending a significantly higher proportion of their purchases of the items in Tables 11 and 12 in Dane County

Open-Ended Comments

In addition to the quantitative questions, respondents were given the opportunity to provide any other comments they had about Dane County water recreation. A significant number (154) of people provided written comments, which the SRC placed into the categories summarized in Table 13. The largest number of comments focused on water quality and levels. The vast

Table 13: Open-Ended Comment Summary, 2012-13	
Issue	Number
Water Quality Concerns	59
Issues with People	20
Positive Comments	18
Regulatory/Spending Concerns	9
Congestion Issues	5
Access Issues	4
Food Concerns	3
Dredging	3
Miscellaneous	33

majority of such comments expressed dissatisfaction with water quality and water levels in Dane County waters. Typical of such comments include:

“Dane County lakes and watersheds are overall very well managed considering the largely urban environments. Water quality can be an issue, especially in mid-late summer and the Madison Chain. I’d like to see continued efforts to improve the water quality.”

“I would say that the water conditions and weeds are my biggest concerns with the Dane County lakes. The weeds have been terrible for the 10 to 15 years. Water condition and levels also need to be looked at. Who’s in charge?”

“The water quality of the surrounding Madison waterways are concerning. I will not swim, or allow my dog to swim in them due to appearance and smell. I only catch and release the fish I catch. I will not consume them.”

The second-most common set of comments focused on people-related issues and included concerns about excessive use of Dane County water resources, poor behavior on the water and poor behavior on land near the water.

“Lake recreation in Dane County is far over-crowded.”

“Motor boat operators frequently violate state law regarding distance to be maintained between watercrafts. I see very little efforts at enforcement or education of motor boat operators.”

“Other boaters toss garbage in residential area. Park where there is no parking sign.”

County-wide Economic Impacts

There were relatively few non-Dane County respondents in this phase of the project who reported fishing from a boat or motor-boating in the county (57). Further, this study looks at only two sorts of recreational activities (motor boating and fishing from a boat); other activities (paddle sports, hunting, etc.) that draw non-county participants are not included. To gain a more complete estimate of the economic impact of Dane County water resources and to validate these estimates, future research should focus on a larger sample of non-residents and include more activities. Therefore, **the results in this section of the report should be viewed as first cut estimations that may be subject to significant errors.**

To determine the county-wide impact of motor boating and fishing from a boat, we first estimated the average annual expenditures per person across a range of expense categories for non-Dane residents who use water resources in Dane County (from Phase 3 data). Using data from Phase 1 of the survey, the SRC estimated the number of Dane County residents who participate in these two activities. Combining these data with data from Phase 2, which told us the proportion of those using Dane waters for recreation who were non-county residents, the SRC estimates that 64,157 people residing outside Dane County motorboat or fish from a boat in the county each year.

We focus on people who came to boat or fish in Dane County but who live outside of the county. Expenditures by residents of other counties create local economic activity that, for the most part, would not have occurred in Dane County if those visitors hadn't come into the county to fish or boat. Likewise, we excluded expenditures by people who live in Dane County on the assumption that money they spent on boating and angling would have been spent in some other form of entertainment/recreational activity if they had not gone boating or fishing

Table 14 summarizes the expenditures per person per year and the total amount spent by the 64,157 estimated non-county users of Dane water resources. Total expenditures are, as the name

suggests, the total number of dollars spent each year by non-county residents who engage in motor boating and/or fishing from a boat. The typical non-Dane County motor boater/angler spends in excess of \$1,200 per year. Because most of these visits are day trips, the major expenditure categories are food at restaurants (23% of annual expenses) and auto-related expenses like gas (22%); relatively little is spent on lodging (2%). Using the estimate of 64,157 non-Dane residents who use the county’s waters for motor boating and fishing from a boat, the SRC estimates that their total annual expenditures are in excess of \$77 million. Given the size of our sample and the estimated population of non-county boaters and anglers, total direct expenditures are expected to be between \$67.2 million and \$87.2 million annually.

Table 14. Expenditures per Capita and Total Estimated Annual Expenditure, 2012-13		
Expense Type	Non-local per person expenditure	Annualized Nonlocal Expenditure
Restaurant	\$277	\$17,785,000
Auto	\$263	\$16,872,000
Fishing	\$194	\$12,475,000
Boating	\$171	\$10,991,000
Grocery	\$171	\$10,974,000
Launch	\$89	\$5,681,000
Lodging	\$21	\$1,352,000
Contest	\$16	\$1,030,000
Total	\$1,203	\$77,160,000

The total economic impact of boating and angling activities in Dane County includes “**direct**” “**indirect**” and “**induced**” economic impacts. Direct impacts measure income from direct spending associated with fishing from a boat and motor boating. Indirect and induced economic impacts measure the additional economic activities that occur because the visitors came into Dane County to fish and boat.

Indirect economic impacts are business-to-business transactions. For example, bait shop sales of live bait to fishermen causes those businesses to increase their purchases of minnows from their suppliers. This increased production creates additional economic activity in the form of more hired labor, more transportation services, and so on. Some of these economic activities stimulate the local economy (e.g. the wages paid to the local person who delivers the minnows) and some leaks out into the national or international economy (e.g. the purchase of the diesel fuel used in the delivery). Indirect impacts measure the total additional local economic activity generated by these types of business-to-business transactions.

Induced impacts are the additional economic activity generated by the way workers and owners spend the incomes they earned from fishing- and boating-related activities. To illustrate, consider the employee at the fish farm that sold the minnows to the bait shop. When she/he receives a paycheck, the money is likely to be used to pay for rent/mortgage, groceries, utilities, fuel for a car, and so on. As the paycheck is spent, some of it “leaks” out of the local economy (e.g. to pay for food shipped to the local grocery store from an out-of-state wholesaler) but some of it remains in the local economy (e.g. to pay the wages for the cashier at the grocery store). Likewise, some of the cashier’s wages remain in the local economy and some of it pays for

products coming from outside the local economy. Induced impacts measure the total local economic value of these expenditures.

The total economic impact (direct + indirect + induced effects) was estimated using an input-output model constructed for Dane County. Dr. Dave Marcouiller (UW-Madison) applied the data from Table 14 to this input-output model constructed using IMPLAN software and data. The results of the IMPLAN model are summarized in Table 15. The model estimates that nonlocal motor boating and fishing from a boat generate nearly 800 jobs for the Dane County economy and about \$24.5 million in labor income. The total value added to the Dane County economy, roughly equal to net business income, is just short of \$40 million per year. Output, in the following table, measures total economic activity in Dane County, in terms of income and profits, across all sectors of the economy. Output includes income from intermediate purchased inputs, labor, land and capital plus business taxes, and net exports. In effect, output measures the amount of additional money (mainly wages and profits) that stays in the Dane economy from spending by boaters and anglers. These two recreational activities are estimated to create more than \$65 million of total economic activity each year.

Table 15: Total Economic Impact of Motor Boating and Fishing from a Boat, Dane County, 2012-13				
	Employment	Labor Income	Total Value Added	Output
Direct Effect	591	15,707,474	23,243,718	38,608,938
Indirect Effect	87	3,952,945	7,515,897	12,438,270
Induced Effect	117	4,841,234	9,125,622	14,415,270
Total Effect	796	24,501,653	39,885,237	65,462,477

Conclusions

This report has summarized the results of three connected surveys that collectively were designed to estimate the economic impact of selected water recreation activities on the Dane County economy. In Phase 1, we focused on quantifying the frequency with which Dane County residents engage in recreational activities on or near county lakes and streams. In Phase 2, we measured the proportion of Dane County water recreation participants who live inside and outside the county. In Phase 3, we quantified the amount those who use Dane County water resources for motor boating and fishing from a boat spend in pursuit of their recreational activities. Information drawn from all three phases of the study were used to estimate the overall economic impact of these two recreational activities on the Dane County economy.

Phase 1 Results. Based on a random sample of 384 Dane County households, the SRC found that 60% of respondents reported participating in activities near Dane County waters. Nearly half of those participating in activities near Dane County waters were runners or walkers, with about one-third reporting that they bike in these areas. Other activities with significant levels of participation by Dane County residents include: walking on the frozen lakes (28% of respondents reported participating in this activity), swimming (27%), canoeing or kayaking (25%), fishing from the shore (25%), fishing from a boat (22%), motor boating (20%) and ice skating (18%).

The average Dane County resident, based on this sample, participates in 2 to 3 water-related activities in a typical year. Nearly one in four residents reported engaging in no water-related activities – nearly half of this set of respondents were 65 years of age or older.

The SRC also found that, not surprisingly, respondents often participated in groups of activities. For instance, if a participant reported that they fish from a boat, they will also likely report they fish from shore and go ice fishing. Similarly, there is a high correlation between those who report canoeing/kayaking and swimming, ice skating, cross-country skiing, and walking on the frozen lakes. As you might expect, there is a high correlation between motor boating and water skiing. Similarly, those who sail are fairly likely to also report participating in ice boating.

After re-weighting the results to account for the under-representation of women in the sample, we estimate the total number of Dane County residents who participate in the activities for which we had sufficient data. Of relevance to later segments of this project, the SRC estimated that about 75,000 Dane County adults fish from a boat at least once a year and about 70,000 go motor-boating.

Phase 2 Results. This phase of the project was an intercept survey in which Dane County volunteers and staff approached people using Dane County waters to determine in what recreational activity they were going to engage, where their primary residence was, how many people were in their party and why they chose the particular venue for this activity. The goal was to gather data throughout one calendar year so that seasonal use of Dane County water recreational resources could be explored. Unfortunately, the winter of 2011-12 was very mild with little or no snow or ice cover on Dane County lakes, so all but five intercepts took place between May and August, 2011.

The intercept data revealed that 35% of those interviewed lived outside Dane County. Water resources are a regional attraction that successfully draw people from throughout southern Wisconsin and northern Illinois to Dane County. We found that about one-third of those interviewed listed fishing from a boat as their primary activity and 15% were motor-boating.

About half reported that they chose that particular body of water because of its proximity to their residence and about one-third because of its overall water quality. Respondents typically reported using a Dane County body of water once or twice a month, indicating that recreational use of water resources in Dane County is fairly intense.

Phase 3 Results. In the final phase of this project, a random sample of boaters and anglers was constructed from DNR fishing and boating license data with 35% of the sample drawn from zip codes represented in the Phase 2 data. In general, the demographic profile of Phase 3 survey respondents aligned well with the Phase 2 demographic profile, including the geographic distribution of their primary residence.

We found that 40% of respondents reported having fished or motor-boated on Dane County waters during the previous year and 38% had participated in neither. We found that, on average, respondents engaged in water recreation activities in Dane County 18 days per year; a small minority of respondents (10%) use Dane County waters for recreational activities 50 times or more per year. Lake Mendota is the Dane County body of water that is most frequently used for water recreation activities.

Approximately four out of every five recreational users of Dane County waters rated their experiences as good or very good and only 4% rated their experiences as poor or very poor. A majority (56%) said the actions of others “never” or “seldom” adversely affect their enjoyment of Dane County water resources, but a very substantial minority (44%) said the actions of others often or sometimes reduced their enjoyment of the county’s water resources. About one-third of all respondents said that excessive lake weeds and overall poor water quality had diminished their enjoyment of Dane County water recreation resources; between one-fifth and one-fourth said the poor etiquette of motor-boat or jet-ski operators had impaired their water recreation experience.

Based on data collected in Phase 3 (Table 8), the SRC estimates that the average boater/angler makes 18 trips to Dane County waters and spends nearly \$2,500 per year on these activities. These respondents reported that if they had to replace the equipment they currently own, they would spend nearly \$12,000, more than half of which would be expended in Dane County.

Finally, with the assistance of Dr. Dave Marcouiller (UW-Madison), we estimated the total amount that non-Dane County residents who come to the county to motor-boat or fish from a boat add to the local economy. To estimate these economic impacts, we first estimated the average annual expenditures per person across a range of expense categories for non-Dane residents who use water resources in Dane County (from Phase 3 data). Using data from Phase 1 of the survey, the SRC estimated the number of Dane County residents who participate in these two activities. Combining these data with data from Phase 2, which told us the proportion of those using Dane waters for recreation who were non-county residents, the SRC estimates that slightly more than 64,000 people residing outside Dane County motorboat or fish from a boat in the county each year.

The typical non-Dane County motor boater/angler spends in excess of \$1,200 per year on this recreational activity. Because most of these visits are day trips, the major expenditure categories are food at restaurants (23% of annual expenses) and auto-related expenses like gas (22%); relatively little is spent on lodging (2%). Based on the estimate of non-Dane residents who use the county's waters for motor boating and fishing from a boat, the SRC estimates that their total annual expenditures are in excess of \$77 million.

The total economic impact (direct + indirect + induced effects) was estimated using an input-output model constructed for Dane County using IMPLAN software and data. The model estimates that nonlocal motor-boating and fishing from a boat generate nearly 800 jobs for the Dane County economy and about \$24.5 million in labor income. The total amount added to the Dane County economy is just short of \$40 million per year. Output measures total regional economic activity across all sectors of the economy, including income from inputs, labor, land and capital plus business taxes, and net exports. These two recreational activities are estimated to create more than \$65 million of total economic activity each year for Dane County.

Appendix A – Non-Response Bias Tests

Any survey has to be concerned with “non-response bias.” Non-response bias refers to a situation in which people who don’t respond to a questionnaire have opinions that are systematically different from the opinions of those who do respond. If only people who are active users of water resources responded, for example, and those who don’t use these resources choose not to participate, non-response bias would exist and the raw results would not represent overall public opinion very well.

A standard way to test for non-response bias is to compare the responses of those who respond to the first mailing of a questionnaire to those who respond to subsequent mailings of that same questionnaire. Those who return subsequent mailings are, in effect, a sample of non-respondents (to the first mailing), and we assume that they are representative of that group. In the case of the General Population Survey and the Anglers and Boaters Survey, the SRC compared the responses of those who completed their survey in response to the first mail invitation to those who completed the survey after reminders were sent.

General Population Survey

In this survey, 323 people responded to the first invitation and 61 responded to a reminder mailing.

Out of 45 variables tested, we found nine variables (20% of those tested) with statistically significant differences (at the 5% level) in the mean responses of these two groups of respondents (Table A1). This is a relatively high proportion. The SRC believes that the relatively few respondents who completed the survey in response to a reminder and the very small (or zero) who said they participated in certain activities (sailing, hunting and trapping, cross country skiing and kite/sail boarding), accounts for many of these outcomes. In general, those who responded to the first mailing were more active users of the recreation options presented by the Dane County waters.

Variable	Significance Level	Mean Mail 1	Mean Mail 2
Q1 Canoe/Kayak on Dane Lake Waters	.027	1.73	1.85
Q1 Sail on Dane Lake Waters	.000	1.93	2.00
Q1 Hunt/Trap on Dane Lake Waters	.000	1.96	2.00
Q1 Ice Fish on Dane Lake Waters	.042	1.85	1.93
Q1 Ice Skate on Dane Lake Waters	.011	1.80	1.92
Q1 Cross Country Ski on Dane Lake Waters	.000	1.88	1.98
Q1 Walk on Frozen Dane Lake Waters	.020	1.70	1.83
Q1 Kite/Sail Board on Dane Lake Waters	.025	1.98	2.00
Q5 Age	.017	4.10	4.54

It is also true that the differences between mean responses in mail 1 and mail 2 tend to be relatively small and are not particularly meaningful in any real sense. Hunting/Trapping was a relatively uncommon activity for both mail 1 and mail 2 respondents, for example. The SRC does not believe non-response bias is a significant issue in this dataset.

Economic Impact Survey

In the economic impact survey, 347 (61%) people responded to the initial invitation and 225 (39%) to subsequent mailings. Of the 69 variables examined, there were 19 (25%) with significant differences in the mean of mail 1 respondents and the mean of mail 2 respondents. This is a substantial proportion of the total number of variables tested, causing some concern about the unbiasedness of the data. There were a few key areas of significant differences between the first and second mailings:

- A significantly higher proportion of respondents to the first mailing were from Dane County (75% for mail 1 vs. 66% for mail 2) and were more likely to say they had fished in Dane County rivers, lakes or streams than was true for the second mailing (53% vs. 42%)
- Compared to the second mailing, respondents to the first mailing reported that they fished from shore (8.4 times per year vs. 4.0 times per year) and went motor boating (9.1 times per year vs. 5.5 times per year) significantly more often
- Compared to the second mailing, respondents to the first mailing reported making significantly higher proportions of their purchases of rods and reels (80% vs. 60%), hip waders or boots (76% vs. 49%), other fishing-specific clothing (76% vs. 54%), ice fishing equipment (78% vs. 59%), boats and trailers (72% vs. 50%), and boating equipment like skis or paddles (69% vs. 36%) in Dane County
- Perhaps because more are from Dane County and fish and boat more often, mail 1 respondents were significantly more likely than mail 2 respondents to report problems with poor etiquette by motorboat operators (34% vs. 22%), poor etiquette by personal watercraft operators (28% vs. 20%), poor etiquette by non-motorized boat operators (7% vs. 3%), high/low fluctuating water levels (27% vs. 16%), poor water quality (40% vs. 32%), city noise such as sirens (4% vs 1%), and excessive lake weeds (47% vs. 34%)

Because of the number and pattern of responses, non-response bias is likely to be present in this survey. To address this, when there are statistically significant differences in a variable, the SRC will weight the raw results to better reflect the expected opinions of non-respondents. For example, we noted that mail 1 respondents said they make 80.04% of their expenditures on rods and reels in Dane County compared to only 60.31% by mail 2 respondents. Respondents to the first mailing represent 17.4% of the total sample and we assume that the mail 2 respondents better reflect the practices and beliefs of the remaining 82.7% of the sample. The unweighted average percent of expenditures on rods and reels is 73%. If we weight the responses by the proportion of the total sample ($= (80.04\% * 17.4\%) + 60.31\% * 82.7\%$), however, we expect only 64% of expenditures on rods and reels by users of Dane County waters to be done in Dane County. Table A2 shows the unweighted and weighted means for the variables for which there are statistically significant differences between mail 1 and mail 2 responses to phase three of this study.

Table A2: Comparison of Weighted and Unweighted Means, 2013			
	Unweighted Mean	Weighted Mean	Difference
1a Fish Dane Co	1.51	1.56	0.05
2b Times Fish Shore	6.94	4.80	-2.14
2d Times Motor Boat	7.87	6.15	-1.72
4a% Rods Dane	73%	64%	-9%
4b% Wader Dane	66%	54%	-12%
4c% Clothing Dane	66%	58%	-8%
4d% Ice Fish Gear Dane	70%	62%	-8%
4e% Boats Dane	64%	54%	-10%
4f% Boat Equip Dane	77%	41%	-35%
7 Motorboat Etiquette	29%	24%	-5%
7 Water Craft Etiquette	25%	21%	-4%
7 Non-Motor Boat Etiquette	5%	4%	-2%
7 Water Level	23%	18%	-5%
7 Water Quality	37%	33%	-4%
7 City Noise	3%	2%	-1%
7 Weeds	42%	36%	-5%

Appendix B- General Population Survey Summary Results – October 2010

1. IN A TYPICAL YEAR , do you participate in any of the following activities <u>ON DANE COUNTY LAKES, RIVERS, OR STREAMS?</u>				2. IF YES , please mark which best describes the frequency with which you participate ANNUALLY in the activity <u>ON DANE COUNTY LAKES, RIVERS, OR STREAMS.</u>					
ACTIVITY	COUNT	YES	NO	COUNT	1-2 time s/yr	3-5 times/ yr	6-10 times/ yr	11-20 times/ yr	Over 20 times/ yr
Activities <u>near</u> Dane County waters <i>See Below</i>	360	59%	41%	199	9%	19%	22%	16%	35%
Walking on lakes when frozen	367	28%	72%	99	49%	25%	15%	4%	6%
Swimming	372	27%	73%	104	39%	35%	13%	8%	5%
Fishing from shore/pier	370	25%	75%	89	29%	27%	15%	19%	10%
Canoeing/Kayaking	370	25%	75%	94	41%	33%	13%	11%	2%
Fishing from boat	371	22%	78%	84	18%	33%	20%	17%	12%
Motor-boating (other than fishing or water skiing)	370	20%	80%	76	43%	36%	5%	9%	7%
Ice Skating	364	18%	82%	66	42%	44%	8%	3%	3%
Other activities: <i>See Below</i>	199	18%	82%	28	7%	29%	29%	7%	29%
Ice Fishing	370	13%	87%	49	24%	24%	37%	6%	8%
Cross Country Skiing (on lake or river)	367	11%	89%	41	27%	41%	17%	12%	2%
Rowing	364	7%	93%	26	42%	31%	19%	0%	8%
Water Skiing	366	7%	93%	26	42%	27%	19%	4%	8%
Sailing	365	5%	95%	21	33%	19%	19%	24%	5%
Water Fowl Hunting/Trapping	365	4%	96%	15	20%	33%	13%	13%	20%
Snowmobiling (on lake or river)	365	4%	96%	14	21%	50%	7%	21%	0%
Jet Skiing	367	3%	97%	11	45%	27%	18%	0%	9%
SCUBA Diving	364	2%	98%	7	43%	29%	14%	14%	0%
Ice Boating	364	1%	99%	5	60%	0%	40%	0%	0%
Kite Skiing/Sail Boarding	363	1%	99%	8	38%	25%	13%	13%	13%

3. ZIP CODE

53508 (2x)	53531 (3x)	53560 (4x)	53589 (19x)	53703 (4x)	53715 (5x)
53515 (2x)	53532 (7x)	53562 (23x)	53590 (27x)	53704 (26x)	53716 (10x)
53522	53539	53572 (11x)	53593 (18x)	53705 (17x)	53717 (6x)
53523 (4x)	53555	53575 (11x)	53594	53711 (39x)	53718 (15x)
53527 (3x)	53558 (7x)	53583 (2x)	53597 (19x)	53713 (10x)	53719 (21x)
53528 (8x)	53559 (5x)	53588	53598 (2x)	53714 (19x)	53726 (4x)

4. GENDER	MALE	FEMALE
	62%	38%

5. AGE

18 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65+
1%	14%	17%	26%	21%	22%

6. LEVEL OF EDUCATION

Less than High school	High school diploma	Some college/tech/trade school	2-year college/tech/trade school degree	4-year college degree	Graduate/Professional degree
1%	14%	13%	13%	32%	26%

7. HOUSEHOLD INCOME RANGE

Under \$25,000	\$25,000-49,999	\$50,000 – \$74,999	\$75,000 – \$99,999	\$100,000-\$199,999	\$200,000+
8%	23%	20%	20%	25%	4%

Open Ended Responses

Question 1: Activities near Dane County waters: 'other':

- Walking (38x)
- Bike and walk (31x)
- Biking (14x)
- Bike, hike (5x)
- Biking, running/walking (3x)
- Birding, biking, walking (3x)
- Hiking (3x)
- Hiking, walking (3x)
- Biking, hiking, walking (2x)
- Biking, running (2x)
- Birding (2x)
- Picnics, walking (2x)
- Walking, running (2x)
- Beaches
- Beach-sand castles w/ kids
- Bike
- Bike, hike, picnic
- Bike, walk, bird, photo
- Bike, walk, run, picnic
- Bike, walk, sit at parks by water, music festivals, shoot baskets at parks near water.
- Biking and birding
- Biking, jogging, photography
- Biking, sitting near lakes
- Biking, skiing
- Biking, walking, picnicking
- Biking, walking, tennis
- Biking, x country skiing
- Birding, biking, hiking
- Birding, biking, walking, dog walking
- Birding, walking, hiking, weeding streams
- Broken Hip
- Cross country skiing
- Dog park Indian lake
- Dog parks
- Dog walking, biking
- Fish from shore a lot
- Golf, biking
- Hiking, picnicking
- In backyard (live on lake), watch sunsets, picnics, walks, watch July 4th Fireworks, feed ducks/geese, sit and chat
- Jogging, biking, snow art
- Living
- Mountain bike
- Night walk-but seldom
- none
- Photography
- Picnic
- Playing on beach with kids
- Run around Lake Monona
- Ultimate frisbee
- Volunteer natural area restoration walk
- Walking trails (State parks)
- Walking, birding
- Walking, reading
- Watching boating, sailing, sailboarding, walking near water, sunning on beach

Question 1: 'Other' activities:

- None (5x)
- Biking (4x)
- Picnic (4x)
- Biking and hiking (2x)
- Walking (2x)
- ATV riding
- Camping
- Carp spearing
- Do not use Dane Co. water because of poor water quality. We go elsewhere where water quality is good.
- Dog park, swimming
- Dog parks
- Dog swim
- Drag racing
- Escort for fishing
- Gazing
- Going to Memorial Union Terrace
- Grilling
- Hiking @ Cherokee
- Home
- Ice cream eating
- I'm too old
- Just looking at their beauty
- Relaxing
- Rhythm and Booms, Watch for wildlife. Cranes, deer, and other wild mammals.
- Sitting by the lakes
- Snorkeling
- Snowshoeing
- Stream clean-up
- Sunbathing
- Trout stream
- Viewing
- Watching fireworks

Appendix C – Intercept Survey Summary – May 2011 to April 2012

Day of the Week	M	T	W	TH	F	SA	SU	LOCATION (lake/river/stream) (See Below)	LAUNCH SITE/BOAT RAMP (See Below) OR PARK (See Below)		
	4%	0%	0%	0%	29%	34%	32%				
1. What is the Zip Code of your PRIMARY residence?								(See Below)			
2. PRIMARY Activity Mark (•) one only											
Fishing from Boat	Fishing from Shore/Pier	Rowing	Canoeing/ Kayaking	Sailing	Water Skiing						
35%	13%	1%	27%	4%	2%						
Motor-boating (other than fishing and water skiing)	Jet Skiing	Ice Fishing	Ice Boating	Swimming	Other Activities near Dane County Waters, specify: (See Below)						
15%	1%	1%	0%	1%	2%						
3. What is the MAIN reason you decided to choose this Dane County water resource for your activity today?											
Proximity/ Location		Quality of the Water Resource (fishery, water quality, etc.)		Size of the Lake/ River/Stream	Facilities (parking, launch ramps, restrooms, etc.)	Nearby amenities (restaurants, shopping, etc.)	Other, specify: (See Below)				
48%		31%		6%	6%	1%	9%				
				0	1	2	3	4+			
4. Including yourself, how many people are in your group today?				22%		43%		13%		22%	
5. How many nights away from your PRIMARY residence will you spend in this area because of the activity described above? i.e., nights you will be staying at a hotel, with friends, in vehicle, etc. If you will not spend any nights away from home, please fill-in "0".				88%		5%		3%		2%	1%

6. Including today, how many times have you used rivers, lakes, or streams in Dane County for water-based recreation activities in the past twelve months?	1	2-10	11-25	26-50	50+
	10%	31%	26%	14%	18%

7. Gender	Male	Female	8. Age	18 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65+
	82%	18%		6%	15%	25%	29%	19%	6%

9. Household Income Range	Under \$25,000	\$25,000-\$49,999	\$50,000 – \$74,999	\$75,000 – \$99,999	\$100,000-\$199,999	\$200,000+
	3%	19%	26%	24%	25%	3%

Location (588 responses)

- Lake Mendota (167x)
- Lake Monona (129x)
- Lake Waubesa (111x)
- Lake Kegonsa (74x)
- Lake Wingra (55x)
- Wisconsin River (25x)
- Interlake (Yahara River) (9x)
- Fish Lake (7x)
- Upper Mud Lake (4x)
- Indian Lake (3x)
- Mud Lake (3x)
- Stewart

Launch Site/Boat Ramp (114 Responses)

- Knickerbocker (22x)
- Lottes (14x)
- Hwy Y (12x)
- County Y (10x)
- Amundsons (8x)
- Spring Harbor (8x)
- Lake Farm (6x)
- Marshall (6x)
- Lot 60 (5x)
- Olin-Turville (5x)
- Fish Camp (4x)
- Lake Street (4x)
- Pleasant Springs (4x)
- Adler's Landing/ Hwy Y (3x)
- Babcock (3x)

Park (478 responses)

- Lake Farm (55x)
- Kegonsa State Park (54x)
- Olbrich Park (54x)
- Gov. Nelson State Park (52x)
- Marshall (36x)
- Knickerbocker (33x)
- Olin Turville (33x)
- Lottes Park (31x)
- Babcock (29x)
- Warner Park (29x)
- Olin (21x)
- Goodland (18x)
- Tenney (15x)
- Fish Lake (7x)
- Fish Camp (3x)
- Indian Lake (3x)
- Town of Mazo (3x)
- Mendota County
- Stewart Co. Park

Zip Codes

- 52001 (2x)
- 52524
- 53010
- 53022 (2x)
- 53029
- 53032
- 53038
- 53051
- 53057
- 53059
- 53066 (3x)
- 53072
- 53089
- 53090
- 53094 (2x)
- 53098 (2x)
- 53105 (2x)
- 53109
- 53110
- 53118
- 53119
- 53137
- 53142
- 53150
- 53151
- 53154 (2x)
- 53181
- 53186
- 53188 (2x)
- 53189 (2x)
- 53216
- 53218
- 53219
- 53221 (2x)
- 53222
- 53223
- 53226
- 53235
- 53402
- 53502
- 53503
- 53511 (4x)
- 53527 (12x)
- 53528 (7x)
- 53529
- 53531 (6x)
- 53532 (11x)
- 53534 (6x)
- 53536 (4x)
- 53538 (3x)
- 53544
- 53545 (4x)
- 53546 (8x)
- 53547
- 53548
- 53549
- 53551
- 53555 (3x)
- 53558 (11x)
- 53559 (2x)
- 53560 (3x)
- 53562 (20x)
- 53563 (2x)
- 53566
- 53572 (5x)
- 53574 (4x)
- 53575 (18x)
- 53577
- 53578 (3x)
- 53581
- 53582
- 53588
- 53589 (19x)
- 53590 (18x)
- 53592
- 53593 (19x)
- 53594 (2x)
- 53595
- 53597 (20x)
- 53598 (4x)
- 53701
- 53703 (9x)
- 53704 (28x)
- 53705 (22x)
- 53706
- 53711 (41x)
- 53713 (17x)
- 53714 (22x)
- 53715 (2x)
- 53716 (26x)
- 53717 (8x)
- 53718 (9x)
- 53719 (21x)
- 53726 (3x)
- 53901 (4x)
- 53902
- 53908
- 53911
- 53925 (3x)
- 53927 (3x)
- 53954
- 53955 (5x)
- 53956
- 53962 (2x)
- 53970
- 53989 (2x)
- 53990 (2x)
- 53993
- 53998 (2x)
- 54115
- 54481
- 54636
- 54939
- 54946
- 54956 (2x)
- 54971
- 54974
- 55042
- 55043
- 55107
- 55419
- 56546
- 57937
- 60007
- 60012
- 60014 (3x)
- 60046
- 60062
- 60068 (2x)
- 60074
- 60102
- 60124
- 60134
- 60148
- 60194
- 60439
- 60445
- 60510
- 60622
- 60634
- 60714
- 61008 (2x)
- 61016
- 61019
- 61020
- 61021
- 61032 (2x)
- 61047
- 61072
- 61073 (5x)
- 61093
- 61102 (2x)
- 61103 (3x)
- 61108
- 61115
- 61362
- 61761
- 85374
- 85374
- 93717

2. Primary Activity (Other Activities near Dane County Waters, specify) (10 responses)

- Paddle boarding (4x)
- Tubing (2x)
- Radio boat controlled
- Scuba Diving
- Stan up paddle board
- Tournament

3. What is the MAIN reason you decided to choose this Dane County water resource for you activity today? (Other, specify) (56 responses)

- Tournament/Bass Tournament (7x)
- New to try (7x)
- No motorized boats (5x)
- Tradition (4x)
- Weather (2x)
- No wake (2x)
- Less traffic (boats) (2x)
- Nostalgia (2x)
- Familiarity
- For laughter
- Found on internet
- Friend Referred
- Friends
- Going from Twin Cities to Chicago
- Going thru all four lakes North to South
- Grew up fishing, Mendota, wanted to come back
- Haven't been here before
- Location of lake in proximity to other lakes, can get around easily
- Meeting friends
- Not as crowded as Mendota
- Open to kids
- Practice
- Price
- Random-saw sign on the way home
- Research
- Sailboat race
- Scheduled trip
- Shade
- Shake the lake
- Water route
- Weather-less wind
- Wetlands and birds
- Where family always went
- With Friends

Appendix D – Dane County Water Recreation Users Survey Summary – October 2013

1. In the past twelve months, have you used rivers, lakes, or streams in Dane County for:

	Yes	No
a. Fishing	49%	51%
b. Motor boating/skiing/tubing	39%	61%
c. Sailing	6%	94%
d. Canoeing/kayaking/paddling	22%	78%

→ If you answered no for all activities, please return the survey in the enclosed envelope. Thank you.

2. For each of the following activities, indicate the extent, time, and location of your participation on Dane County waters.

Activity	Total # of times you engage in this activity annually <u>on Dane County waters</u> . If you do not participate in the activity <u>on Dane County waters</u> , please write "0" in this column.					Name of <u>Dane County</u> body of water you <u>use most</u> for this activity
	Count	0	1 - 10	11 - 25	26 - 50	
a. Fishing from boat	108	126	46	18	8	<i>(See Below)</i>
b. Fishing from shore/pier	142	103	27	12	7	
c. Ice Fishing	178	71	24	6	4	
d. Motor boating/skiing/tubing	124	108	38	15	6	
e. Jet skiing	245	5	4	1	1	
f. Sailing	238	15	4	2	1	
g. Canoeing/Kayaking/Paddling	176	86	17	0	3	
h. Other (<i>See Below</i>)	143	19	3	3	3	
Percent	0	1 - 10	11 - 25	26 - 50	51+	
i. Fishing from boat	35%	41%	15%	6%	3%	
j. Fishing from shore/pier	49%	35%	9%	4%	2%	
k. Ice Fishing	63%	25%	8%	2%	1%	
l. Motor boating/skiing/tubing	43%	37%	13%	5%	2%	
m. Jet skiing	96%	2%	2%	0%	0%	
n. Sailing	92%	6%	2%	1%	0%	
o. Canoeing/Kayaking/Paddling	62%	30%	6%	0%	1%	
p. Other (<i>See Below</i>)	84%	11%	2%	2%	2%	

3. Approximately how much money do you spend on a typical Dane County recreational fishing or boating trip in the following categories? If you do not spend money in a particular category, please write "O" in the \$ column.

Count	\$0	\$1 - \$25	\$26 - \$50	\$51 - \$100	\$101+
a. Auto related expenses (fuel, etc.)	71	179	52	20	24
b. Boat related expenses (fuel, rental, etc.)	94	118	55	26	47
c. Contest/tournament fee	284	3	3	3	2
d. Fishing supplies (bait, tackle, etc.)	102	170	19	33	17
e. Groceries (snacks, soda, beer, etc.)	60	195	37	21	21
f. Guiding services	293	2	0	1	4
g. Launch fees	155	91	57	7	4
h. Lodging	289	3	0	2	5
i. Restaurants/bars	188	52	39	20	21
j. Souvenirs, gifts, apparel	286	6	4	1	2
k. Other, specify: _____	204	3	4	2	5
Percent Spending on:	\$0	\$1 - \$25	\$26 - \$50	\$51 - \$100	\$101+
a. Auto related expenses (fuel, etc.)	21%	52%	15%	6%	7%
b. Boat related expenses (fuel, rental, etc.)	28%	35%	16%	8%	14%
c. Contest/tournament fee	96%	1%	1%	1%	1%
d. Fishing supplies (bait, tackle, etc.)	30%	50%	6%	10%	5%
e. Groceries (snacks, soda, beer, etc.)	18%	58%	11%	6%	6%
f. Guiding services	98%	1%	0%	0%	1%
g. Launch fees	49%	29%	18%	2%	1%
h. Lodging	97%	1%	0%	1%	2%
i. Restaurants/bars	59%	16%	12%	6%	7%
j. Souvenirs, gifts, apparel	96%	2%	1%	0%	1%
k. Other, specify: _____	94%	1%	2%	1%	2%

4. If you currently own and had to replace the following angling/boating equipment with comparable quality equipment, approximately how much would you have to spend? Approximately what proportion of these expenditures do you typically make in Dane County?

If you do not own equipment in a particular category, please write "O" in the "Amount Spent" column.

Amount Spent on (Percent):	Count	\$0	\$1 - \$250	\$251 - \$500	\$501 - \$1,000	\$1,001+
a. Rods/reels	332	26%	36%	19%	11%	8%
b. Hip waders/boots	307	63%	31%	4%	1%	1%
c. Other clothing specifically purchased for fishing	305	61%	29%	7%	3%	0%
d. Ice fishing equipment (auger, ice house, etc.)	307	65%	15%	9%	6%	5%
e. Boats/trailers/motors	330	35%	3%	2%	2%	57%
f. Boating equipment (skis, paddles, etc.)	312	47%	19%	18%	8%	8%
g. Other, specify: <i>(See Below)</i>	166	81%	10%	3%	1%	5%
Percent Spent in Dane County	Count	0%	1% - 25%	26% - 50%	51% - 95%	96% - 100%
h. Rods/reels	233	14%	7%	9%	12%	58%
i. Hip waders/boots	128	30%	2%	4%	4%	60%
j. Other clothing specifically purchased for fishing	131	24%	5%	8%	8%	55%
k. Ice fishing equipment (auger, ice house, etc.)	126	24%	2%	5%	8%	61%
l. Boats/trailers/motors	207	29%	2%	6%	5%	57%
m. Boating equipment (skis, paddles, etc.)	172	20%	3%	6%	5%	65%
n. Other, specify: <i>(See Below)</i>	46	43%	7%	2%	4%	43%

5. Overall, please rate your recreational experiences on Dane County lakes, rivers, and streams.

Very Good	Good	Fair	Poor	Very Poor
30%	51%	15%	2%	2%

6. How often is your enjoyment on Dane County waters reduced by the actions of others when you are participating in water recreational activities?

Never	Seldom	Sometimes	Often
13%	43%	35%	9%

7. Which activities or issues have you experienced that detract from your enjoyment of Dane County water resources? (Mark (●) all that apply)

Poor etiquette by motorboat operators 29%	Poor etiquette by personal watercraft operators 25%	Poor etiquette by non-motorized watercraft users 5%	Too many boats on the water at one time 16%
Confrontations with shoreline property owners 2%	High/Low/Fluctuating water levels 23%	Poor water quality 37%	Crowding at beaches and facilities 8%
Poor regulatory enforcement 5%	Rising cost of fees and licenses 12%	Poor fishery (type and size of fish) 12%	Noise from boats/loud music/other lake users 13%
Inadequate shore/launch facilities (incl. restrooms) 11%	City noise (sirens, etc.) 3%	Poor fishing etiquette 12%	Crowding at launch ramps and parking areas 18%
Poor etiquette at launch ramps and parking areas 14%	Excessive lake weeds 42%	Other, specify _____ 8%	

8. Please provide any other comments you may have about Dane County water recreation.

(See Below)

DEMOGRAPHICS All responses are anonymous and will be reported in group form only.

9. Zip Code *(See Below)*

10. Gender

Male	Female
83%	17%

11. Age

18 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65+
2%	11%	13%	23%	29%	23%

12. Household Income Range

Under \$25,000	\$25,000-\$49,999	\$50,000 – \$74,999	\$75,000 – \$99,999	\$100,000-\$199,999	\$200,000+
8%	15%	20%	20%	28%	10%

Question 2: For each of the following activities, indicate the extent, time, and location of your participation on Dane County waters. (877 Responses)

A. Fishing from boat (218 Responses)

- Lake Mendota (73x)
- Lake Waubesa (51x)
- Lake Monona (47x)
- Lake Kegonsa (28x)
- Madison Chain (4x)
- Mud Lake (3x)
- Lake Wingra (3x)
- Wisconsin River (3x)
- Yahara River (2x)
- Belleville
- Crystal Lake
- Fish
- Stewart Lake

B. Fishing from shore/pier (156 Responses)

- Lake Mendota(40X)
- Lake Monona (32X)
- Lake Waubesa (25X)
- Lake Kegonsa (14X)
- Yahara River(11X)
- Black Earth Creek (9x)
- Lake Wingra(7X)
- Gordon Creek(3X)
- Tenney Park(2X)
- Crystal Lake(2X)
- Cherokee-Westport
- Cherokee Marsh
- Deforest Windsor fish pond
- Fish Lake
- Madison Chain
- Marshall
- Private Pond
- Stoughton
- Sugar Creek
- Sugar River
- Wisconsin River

C. Ice Fishing (122 Responses)

- Lake Mendota (41X)
- Lake Monona (36X)
- Lake Waubesa (23X)
- Lake Kegonsa (11X)
- Lake Wingra (2X)
- Yahara (2X)
- Bays
- Cherokee
- Fish Lake
- Lake Wisconsin
- Madison Chain
- Mud Lake
- Varies

D. Motor boating/skiing/tubing (178 Responses)

- Lake Mendota (69X)
- Lake Monona (47X)
- Lake Waubesa (32X)
- Lake Kegonsa (24X)
- Wisconsin River (2x)
- Lake Wingra
- Madison Chain
- Mud Lake
- Stoughton Ditches
- Varies

E. Jet skiing (16 Responses)

- Lake Kegonsa(5x)
- Lake Mendota (5x)
- Lakes Waubesa (3x)
- Lake Monona (2x)
- Varies

F. Sailing (23 Responses)

- Lake Mendota (15x)
- Lake Monona (3x)
- Lake Kegonsa (2x)
- Lakes Waubesa (2x)
- Varies

G. Canoeing/Kayaking/Paddling (107 Responses)

- Lake Mendota (22X)
- Lake Monona (20X)
- Yahara River (15X)
- Lake Waubesa (14X)
- Lake Wingra (14X)
- Wisconsin River(5X)
- Lake Kegonsa (5X)
- Six Mile Creek (3X)
- Cherokee Marsh(2X)
- Lake Cherokee
- Mud Lake
- Pheasant Branch Creek
- Stewart Lake
- Sugar River
- The Chain
- Varies

H. Other (34 Responses)

- Lake Mendota (13x)
- Lake Monona (7x)
- Lake Kegonsa (3x)
- Lake Wingra (4x)
- Lake Waubesa (4x)
- Black Earth Creek
- Tenney Lagoon
- Varies

Question 7. Which activities or issues have you experienced that detract from your enjoyment of Dane County water resources? (Other) (66 Responses)

Activities (4 Responses)

- Fishing Tournaments
- Illinois Boaters Rude
- Mostly Parties
- UW Rowing teams

Issues (58 Responses)

- Blue Green Algae Blooms (8x)
- Littering(3x)
- Harassment by law enforcement agencies stopping me without cause and finding nothing illegal (2x)
- Need more long weeds (2x)
- Weeds(2x)
- Bright lights from nighttime bow fishers
- Clientele at Gilligan's Island has become an issue sometimes with my family not a very friendly place
- DNR changes to fishing spots
- Drunks and profanity confrontations in parking lots.
- Duck crap
- Enforcement of Bag limits of fish
- Fishers leaving their lines and hooks all over the pier.
- Gas Surges cause us to fish closer to home
- Hostility
- I do not enjoy snowmobiles and four wheelers "playing/goofing" around
- I don't like that they drain the Madison Chain so low. It effects the shore fishing
- Lack of access and parking for Ice Fishing
- Lack of flags or wind indicators
- Lack of permanent slow no wake on Squaw Bay music from Alliant Energy Center and capital noise
- Lacks management
- Lake Beeves Dredging
- Launch fees go up. I don't see improvement
- Limited access for canoe or kayak
- Mendota is a sewer
- Mercury levels (other poisons) in fish
- Need at least another lakefront restaurant to pull up to
- No bait on the Lake to buy! Nowhere to eat on Monona or Mendota
- Non-American's casting right over your lines.
- Not enough shore fishing areas, everything is over-fished! We catch little to nothing lately.
- Parking lots have time limits
- Parking ticket at launch due to inadequate parking spaces at Olbrich launch
- People coming up and fishing right next to me because I'm in a good spot, when lots of other areas are around with good fishing spots.
- Poor DNR Warden Attitudes
- Poor quality, ramps, piers. need to dredge
- Poor water quality
- Seeing poaching of anglers keeping fish too small when regulations state correct sizes calling the 1-800-tip line and getting no response from wardens because it isn't necessary to police person's illegal catch. Well that adds up over time. More and more people will do it
- The lake weeds make the beach experience unpleasant
- Theft

- These lakes and rivers are polluted, I live two blocks from Lake Mendota and my grandkids can't swim in it.

- To many people fishing in a general area
- Weed cutters, cutting far from limits set

Miscellaneous (4 Responses)

- Haven't really fished or boated in Dane
- I keep my boat on the lake.
- None apply

- Only caught a few fish probably more so related to the fact I'm not very good at fishing

Question 8. Please provide any other comments you may have about Dane County water recreation. (155 Responses)

Water Quality (59 Responses)

- 28 years on Lake Kegonsa went from great clean to weedy stinky. That's Dane County for you. And my taxes went from 4200 to 9300. Thank you.
- Aquatic plant harvesting has increased noticeably in recent years, including in areas that previously had not. This is unnecessary and has decreased my fishing experience.
- Been here 13 years and every spring I can count on reading another article about what do we do about the algae and weeds. Nothing ever changes
- Clean near the shore lines with weeds and garbage
- Cleaner water would be lovely- Not being able to swim in surrounding lakes due to disgusting smells and weeds is a terrible shame- Fishing is really only for kids otherwise I wouldn't do it. I mostly fish outside of Dane County.
- Cleaning up water should be top priority.
- Dane County has exceptional water resources and I (and my family) use them extremely. The biggest problem is runoff and water quality. I have the luxury of avoiding holiday weekends, so user conflicts are limited for me.
- Dane County lakes and watersheds are overall very well managed considering the largely urban environments. Water quality can be an issue, especially in mid-late summer and the Madison Chain. I'd like to see continued efforts to improve the water quality.
- Dane County water is disgusting. I'm an avid swimmer and have gotten 2 infections in this water. I also expected to see fish with 3 eyes or an extra limb
- Effects of storm water runoff are obvious, and detract from recreation experience. Sediment deltas and trash near storm sewer outlets. Excess algae due to storm water runoff.
- Excessive weed growth is biggest concern
- For a large metro area the recreations is pretty good. Hopefully water quality will keep getting better. More easements on rivers and streams would be great.
- High/low water level on Lake Monona is a persistent issue
- I'd like to see the lake levels lowered in the summer to allow for better fish and wildlife habitat.
- I am going to lakes north of Dane County, Mendota is polluted, other lakes are as well
- I boat exclusively on Lake Mendota and the #1 problem on the lake is vegetation: weeds, algae.
- I grew up in Wisconsin and always enjoyed fishing on the waters but when I returned home in 2011 to 2012 and went fishing in the summer of 2012, the waters were mostly terrible and limited places to fish from, either they were hard to get to from the streets, or the areas were in terrible condition to fish from.
- I live on Lake Mendota; main concern is water quality most lake users are friendly, considerate, and create no problems, but those with skidoos are a nuisance

- I thought the water quality had improved some this year. I wish the lake depth would remain more consistent.
- I would say that the water conditions and weeds are my biggest concerns with the Dane county lakes. The weeds have been terrible for the 10 to 15 years. Water condition and levels also need to be looked at. Who's in charge?
- I'm 63 year old, grew up on Waubesa, love the lake, but can't understand weeds everywhere.
- It's important that the water quality and fishing resources be a priority of Dane county as well as the State of Wisconsin
- Just wish Lake Wingra and Mendota were cleaner
- Lake Waubesa water levels are kept too low most of the summer. Bays can be too shallow, weed growth gets excessive, and navigation is difficult!
- Length of time getting Lake levels down from the 100 yr. max seemed excessive
- Long weeds were down in Lake Kegonsa this year. We need them. Fishing should be the first priority-not water skiing and jet skiing.
- My husband and I enjoy very much the use of our state lakes, as we do own lake front property in northern Wisconsin. This is where we do most of our boating and fishing. As Wisconsin natives, we appreciate having high quality lakes to use year round and hope that at the state level and local that they continue to protect those waters from all forms of abuse and invasive species, etc. My husband loves to fish and hunt and does ice fish the Madison Lakes in winter. Please with this survey, and any other way KEEP our state and county lakes safe and clean!!! Thank You!!
- Need more weed control; need more regulation as far as speeding boats that ignore rules on the water.
- Need to improve Pier Qualities at launch. Minimal cost-bumpers, tie ups. More costly-Need to dredge. Decrease Weeds...Thanks for asking
- Non-point pollution in rivers is very problematic. I moved here from northern Wisconsin and we were dealing with these issues years ago. No one in Dane County seems to get that our lakes and rivers are in danger.
- Please do everything you can to reduce the mercury in the waters, reduce weeds, and improve water clarity! Thanks!
- Please provide more quality on shore fishing areas to avoid over-fishing. Fishing all day to catch little to nothing isn't nearly as fun!
- Proper? disposal area for unwanted fish that can't eat such as carp and shark heads.
- Poor water quality has been let go too long! Mowing is a joke. All the lakes are going to look like Monona Bay. Kill the weeds, algae, before all the fish die. Can't swim, it stinks in the summer. I won't let my friend's kids swim/ski in that water anymore. You could see the bottom, when I was a kid.
- Since the outflow of sewers several years ago-water just not the same.

- Some years water waves from boat wake looks like grass clippings. The past 2 years we have been going to Spooner area for better fishing and cleaner water. Our group like the cottages but we don't like the lake at Chetek and seek cleaner water and better fishing waters
- The control of lake levels by Dane Co. The Co. is too heavily influenced by lake shore property owners, who want to lower water levels, but no weeds...
- The Dane County Waters are grossly mismanaged by bureaucrats and scientists and "environmentalists" who continue to decrease the quality of the lakes.
- The lake levels stay too low on Lake Kegonsa
- The Madison lakes are a good resource but it's a shame how dirty they have become in the last couple decades.
- The most valuable part of water recreation is the water quality. While I know I contribute to the problem of water quality I am ready and willing to learn from and take points from the OLV to reduce my impact and take part in the cleaning and maintaining of the lakes. Don't forget the beaches they need help.
- The quality of water on Madison Lakes is atrocious. Please do something about the weeds.
- The water quality in our area is so bad that I take my boat to other lakes outside of Dane County
- The water quality of Madison Lakes is atrocious. I formerly lived in the Twin Cities and used urban lakes there (Calhoun, Harriet, Isles)- far superior water quality
- The water quality of the surrounding Madison water ways are concerning. I will not swim, or allow my dog to swim in them due to appearance and smell. I only catch and release the fish I catch. I will not consume them.
- The weed control is poor. Jet skis can't have weeds in their motors so I always have to get in the water to remove weeds. Water is dirty so don't feel comfortable tubing/skiing in the lakes
- They need cleaning up around Shore Piers! More Fishing area from shore!
- Too many weeds and algae blooms.
- Too much copper sulfate used to kill weeds. Has an adverse relation to fish which affects their breeding habits and health. Especially perch
- Unfortunately, due to convenience and access and location of this lake system, many of the larger lakes are frequently over run with other boats. I have personally watched the fishery get worse every year for the past 20 years, and I personally don't really enjoy fishing the lakes in Dane County anymore.
- Water levels are too high, affecting marshes and shoreline, runoff into lakes from agriculture is a huge issue on Mendota, I live across street from Lake Mendota
- Water quality and weeds are terrible on all of the Madison lakes!
- Water quality is poor. Bad weeds and blue-green algae. Many medical symptoms specifically allergies to bad water. Bad behavior from fisherman toward skiers.
- Water quality needs to be improved more
- Water quality sucks, please fix and regulate land use

- We actually purchased a cottage in Northern Wisconsin and do almost all of our boating there. Mostly due to poor water quality and weeds in the Madison area.
- We really need to address water quality and weeds. Our lakes and facilities are top notch. Thanks
- Weed cutters far out into Lake, Harvesting cutting 2-300 yards from shore. This must be regulated far better. Cut weeds at launches. Leave the rest. Will help fish populations Would like cleaner water in the lakes

Issues with People (20 Responses)

- Cannot go boating on Mendota on weekends, boats are too big and too many of them. Waves are sometimes 3 and 4 feet high, too much for my 15 foot fishing boat. Too many boats go canoeing on Devils Lake most of the season. Great park, good fishing, clean water, hiking, family picnics, great canoeing etc. Grand kids love the beaches and camping. Wingra is a good lake for Muskie also. Wish they could clean it up before that lake is destroyed like Mendota. Have a great day!
- Dane County lakes are managed only for the rich, lake front property owners. The lakes kept artificially low which impedes spawning of many fish species. Property owners remove all trees etc. That falls in the water that is needed for spawning. Property owners kill all of the weeds in front of their land so they have a nice bath tub to swim in. These lakes could have phenomenal fishing if properly managed
- Dane County needs to provide more opportunities for people who do not want to have to spend \$10,000 on a boat; there are no beaches or good public access in the summer.
- I am retired and never use the lakes on the weekends, so I don't experience crowding.
- I have not had much trouble with other boaters, but I fish during the week. Weekends might be different.
- I live on a lagoon; the weeds from the weed cutters fill the lagoon and block and in some cases fisherman are very rude. They hook our pier, the canopy, on our shore station, and hit our boat. They throw their cans and garbage in the water. One boater stood and peed off the boat facing our house, even with me on the porch.
- I try to fish Mendota-I live close by launch. It has 3 private golf courses yet they (city officials) holler anytime if my leaves are in the curb! How much fertilizer, herbicide, etc. is used per round and how much run off into the lake for those few rich people?
- Jet skis could be managed better, noise nuisance per auto noise, time of day/night
- Lake recreation in Dane County is far over-crowded
- Motor boat operators frequently violate state law regarding distance to be maintained between watercrafts. I see very little efforts at enforcement or education of motor boat operators.
- Other boaters toss garbage in residential area. Park where there is no parking sign.
- Over fishing need more wardens, water skiers think they own the lakes should have times like lakes up north and change with day light hours like water skiers, tubers, jet ski form 11 to 5
- Should have more wardens out making sure people are following fishing bag limits and size limits

- The single best thing I've seen in decades in the new pier at memorial union on lake Mendota is a great spot to dock, grab food anywhere union or on State Street and listen to live music. Dane County does not do a very good job welcoming boaters to the lakes disposable income doesn't seem to be an issue and I've never understood why it's not friendlier.
- Too crowded, too many weeds and algae and a lot of rude people
- Too often power boater fail to yield to or give room to sail/paddle-power boats. Power boats go too fast when near sail/paddle-powered boats.
- We have a wonderful recreational asset base which has become degraded by excessive human activities which can recover if we focus on the point source of pollution and boat racing
- We have started to head to northern Wisconsin to use water too much noise/people/pollution around here bought a place up there on a chain of lakes
- We stopped going on the weekends because of overcrowding, we only go early or very late in season to avoid algae blooms, probably will stop altogether because of increasing costs

Positive Comments (18 Responses)

- Dane County lake and river are an incredible asset and should be preserved
- Dane does a very good job in maintaining its recreational fisheries. Maintaining high water quality should remain a top priority to assure excellent fishing (especially trout) in the future
- Great Coldwater Fisheries
- Great place to fish, week days are great. Will be my main fishing lake for 2014
- I appreciate Dane County boat launch ranges and facilities.
- I boat and fish in Oneida County
- I love to ice skate on Lake Monona when the ice is just right.
- I think you guys do a great job. Too bad the few make it bad for the rest of us. Thank you for all you do!!!
- Most of the time it's a blast!
- The placement of additional lighted channel markers is greatly appreciated on the north end of Lake Mendota.
- Outstanding fisheries and lakes despite the viewpoint source loading of P and TSS and the pseudo-progressive best management practices of stakeholders.
- Overall very enjoyable
- Overall we really enjoy using the Madison chain of lakes for boating and fishing.
- Overall, I am happy that the Madison chain of lakes is available and close to where I live.
- Thanks for doing this. Dane County lakes and water are one of our most precious resources. We need to protect this for today and future generations. I would support more quiet water recreation (Canoe, kayak, sailing, etc.)
- The Dane County chain of lakes is a jewel around the City of Madison
- Very happy with all experiences
- We've always had a good experience in Dane County Waters

- Would like to do more on Dane County Lakes. Not enough time!

Regulatory/Spending Concerns (9 Responses)

- Costs not justified. Skipper Buds is ridiculous.
- DNR was eliminating some prime shore and fishing opportunities at Dams
- I have never ever seen a DNR Warden in Dane County. I would see them regularly in Columbia County.
- If you prefer that Lake Monona become an urban swimming pool and boat race track then don't assess my property for responsibility of maintain and up keeping with these regulations.
- Please don't charge a fee if I take dog with me to fish
- Rules and regulations need to be placed on UW rowing teams on Lake Mendota.
- Sheriff's dept. personnel use too aggressive tactics. Unnecessary- get them off the water. We need more Coast Guard Auxiliary types on the water providing support to boaters and encouraging safe practices. Algae bloom is continuing issue which needs more attention.
- Too many police boats
- Weed harvesting eliminates productive fishing areas and is an aesthetic fix. Leaving weeds would keep boats from speeding along shoreline areas. It's a huge waste of tax payer money

Congestion Issues (5 Responses)

- I have always loved Dane County to fish. I am upset at the quantity of fish available especially for my children. 16, 14, 6, 4, and 4 they just want to fish, not worry about crossing another person's line. Babcock Park is or was our favorite.
- I think Babcock Park could have 1 Boat launch for entry only and 1 launch for exit only leaving the 2 other for entry to water or exit if you want to launch after a fishing tournament if you want to launch after a fishing tournament or something
- My wife and I entertain friends and family almost every nice weekend on Lake Mendota. We stay away from peak launch times and often stay on the Lake until 10pm
- Mendota Ice fishing parking.
- The Olbrich boat launch desperately needs more parking spaces. There's plenty of space for more lot expansion at the shore side park area. Stop ticketing!!!

Access Issues (4 Responses)

- Because of Construction at Rec. Student Union, getting to and from the mooring wash very difficult resulting in far less use of Lake then in past 30 years and summers
- Ice Fisherman need access to Mud Lake off of Stoughton Road
- Need more shore fishing areas and access to water for ice fishing?
- Very many Lakes very little Lake access Shoreline from Parks

Food (3 Responses)

- Better Service on the Lake for Bait and available food places for people fisherman boaters to get good healthy fish
- Could use more places to eat on the Madison Lakes.
- Lake Monona needs facilities; restaurant, restrooms

Dredging (3 Responses)

- Dredging area waters (this was done to spring harbor, Lake Mendota, years ago and it has made a huge difference in all areas of water quality to fishing) would help reduce the blue-green algae buildup. Vilas Park Lagoon (Lake Wingra) is a perfect example. Dig it out, bring the water depth back to 3 to 4 feet instead of a foot of water (like it used to be back into the 1970's). It won't be so over run by weeds and sludge and will become a huge spring pan fish/bass haven once again. Have an annual geese removal public party or secretly rid them from area waters like a couple summers ago.
- I mentioned the Lake Belle View dredging project of several years ago because it filled with silt loam fine bass, northern, and walleye fishing holes downstream. What were rock ledges is now mud.
- Skipper buds Madison on the northeastern shore of Lake Mendota, the marina where my boat is stored is accessible only via channel near Governor's Island. Unfortunately, this channel isn't deep enough for a large source of economic development. The channel need dredged regularly and obviously it hasn't been done. It's only 2-3 feet deep and most boats drag outboards along bottom.

Miscellaneous (33 Responses)

- Do Not Use (13x)
- Black Earth Creek is less than 2 hours away. It's very convenient to trout fish on a Saturday or Sunday. I also like spending time at the Creek fly shop.
- I used to fish on Monona, Mendota, Waubesa, and Kegonsa. Still have a lot of ice fishing equipment, just haven't been going fishing anywhere. Sorry been spending too much time at work
- In Dane County my fishing experience is limited to shore fishing with grandkids.
- It would be nice to have power washers to clean boat trailers at public landings.
- Need to expand the Dane County manure digester to handle small dairy farms
- Normally we fish from out of a boat, focusing on 2 bodies of water- Lake Koshkonong (Rock Co.) and Lake Kegonsa (Lake Co.)
- Our boats are only used in Oneida County where we have a cottage.
- Our pontoon boat is kept in used on park lake
- Please allocate/advocate more funds for trout stream restoration.
- Sold sailboat this spring. Lake Mendota and Chain are great resources
- Some small boat launches are not kept up and need a lot of work

- Sorry this was so late, life gets in the way. WI waters are wonderful all over the state. Slot limits we hope will grow for fish species.
- Too far away for me to use. I live in Milwaukee
- Too many high-end fishing tournaments on Lake Waubesa. Sound like a highway at 6am
- Typical years I fish much more than in this last year. Due to family commitments quantity of time on water was low this year but will increase in future years
- We do all of our boating and fishing in Sauk County.
- We own property in the north so therefore we do all our fishing and boating there.
- We went to the water festival two years ago I was well attended and we were looking forward to it. I found it to be poorly organized and not really family friendly. I like the idea and would like to see it happen again with less emphasis on alcohol
- Would desperately love to see a second full service marina (besides Shipper Buds) on Lake Mendota. Monopoly leads to poor service at Shipper Buds.
- You neglected non-mandatory, scenic values-I most often bike along Mendota, Monona, Waubesa lakeshores just for the changing seasons and migrating bird life.

Question 9. Zip Code (383 Responses)

53589(36x)	53704 (29x)	53562(27x)	53711(24x)
53575(23x)	53716(17x)	53597 (15x)	53593(15x)
53558(15x)	53705(13x)	53528 (12x)	53590 (12x)
53713(11x)	53703(9x)	53719(9x)	53532(8x)
53714(7x)	53572(6x)	53546 (6x)	53511(6x)
53189 (5x)	53066 (4x)	53718(4x)	53531 (4x)
53594(3x)	53955(3x)	53955(3x)	53089 (3x)
53151 (3x)	53545 (3x)	53548(3x)	53955(3x)
53954(2x)	54704(2x)	61115(2x)	535288(2x)
53534 (2x)	53094 (2x)	53154 (2x)	53578 (2x)
53598(2x)	53715(2x)	537074	583589
52001	52711	53010	53022
53038	53207	53218	53375
53508	53523	53536	53549
53555	53561	53574	53708
53751	53901	54956	60134