CONTEXTUAL NARRATIVE

Recreational Boating and Tourism Technical Working Group
International Upper Great Lakes Study

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November 3, 2010

Introduction

This narrative has been prepared to bring context to the work done by the Recreational Boating and Tourism Technical Working Group (TWG) of the International Upper Great Lakes Study. The Recreation Boating and Tourism TWG has identified four Performance Indicators (PI) to help better understand the effect water level changes in the Upper Great Lakes will have on recreational boating and tourism in the region. These PI's are 1) Coastal Tourism; 2) Great Lakes Cruising; 3) Marinas; and 4) Boat launches. These indicators emerged as the most likely factors to be affected by change in Great Lakes' water levels. Although other recreation indicators were considered, for example sport fishing, little evidence was found to suggest a connection between those factors and changes in Great Lakes' water levels. The TWG has prepared reports on each of the Performance Indicators and this contextual narrative (CN) was written to bring context to those reports by describing the historical background, current situation and future trends of recreational boating and tourism in the Upper Great Lakes region.

The Challenge of Data

Gaining an accurate and up-to-date understanding of the current recreational boating and tourism industries in the Upper Great Lakes region is likely impossible because of an inconsistent supply of data. On the American side of the border, there is a good supply of certain kinds of boating data (e.g., boater registrations), but as a result of diminished funding for independent research, there have been fewer independent boating studies conducted in the past 10 years as in years previous. Moreover, the diminished funding for research has meant less collection, analysis and reporting of tourism data in the Great Lakes region of the United States. There are certainly some examples of recent studies that have been conducted, but they are scattered across different years and are usually "snapshots" of a certain time period making trend analysis and comparisons across studies impossible (or at least difficult), and results less valid. In many cases, the best available data is from industry associations which release reports and data that tend to help their lobbying and investor relations efforts.

In Canada, information is available for Ontario tourism spending and visitation at the local and regional level for the last 3-4 years. However, Canada has very little usable information about boating. Boater registration records are not computerized and, therefore, not readily available. Canadian boating industry associations have not yet developed the research strength of their American counterparts and although they have released a few reports related to boating in Ontario, these reports include limited information that is relevant to this study. Moreover, the little data that does exist for Great Lakes boating in Ontario does not break out the information by lake and, therefore, includes Lake Ontario and the St. Lawrence River. This problem exists in some cases on the American side as well.

Despite the challenges presented by inconsistent, old and incomplete information, existing data sources, when combined with trends and external influences, present enough data to piece together likely ranges of impacts. These ranges can be used to provide at least some context in which water level management decisions are, and will be made in the Upper Great Lakes. However, it must be

emphasized that until more regular data is collected and studies are conducted on both sides of the border, the validity of numbers relating to boating and tourism on the Great Lakes must be questioned.

Tourism and Boating Background

The economies of the Upper Great Lakes region are in a state of transition. Over the last 30 years, there has been a steady shift away from manufacturing throughout most of the U.S. and Canada. Much of the Upper Great Lakes area, however, was slow to make this transition and as a consequence, the recession of 2008/09 hit the region particularly hard. Although millions of people lost their jobs throughout the U.S. and Canada during the "great recession", a higher proportion of the jobs lost in the Upper Great Lakes region were in manufacturing and those jobs are unlikely to return. As a result, the economic landscape in the region is changing. Populations are shifting and attention is being directed toward new industries. The results of these changes will likely have a tremendous effect on tourism and recreation throughout the Upper Great Lakes region. To better understand this effect, it is helpful to briefly examine the historical influences on the development of recreation and tourism in the Upper Great Lakes region.

In the early days of the industrial revolution, the Erie Canal brought the Great Lakes region and its economic potential to the Atlantic seaboard. For the first time, crops from the Great Lakes region could find their way eastward and settlers came in large numbers to start farms and build a thriving agricultural economy. As transportation improved, and technological know-how developed, the region's farmers invented agricultural machinery to improve productivity and yields to feed the growing markets of the East. Soon, this technological expertise, the Great Lakes' transportation infrastructure and the region's raw materials combined to turn the region into one of the world's most productive centers of industrial manufacturing. As a result, a new wave of people followed the farmers to the region, attracted by good paying manufacturing jobs. With advancements in labor laws and union contracts throughout the first half of the 20th century, a growing middle class enjoyed increasing levels of discretionary income and time off.

Following World War II, the Great Lakes region, with its strong manufacturing presence, experienced a boom. The region's residents prospered and sought to use their increasing free time and spending money to improve the quality of their lives through recreation. They spent weekends at coastal cottages and used their boats to catch fish and enjoy quality time with their friends and families on the Great Lakes. Marinas were built to serve a recreational boating industry that grew by leaps and bounds, and coastal communities developed as regional tourist destinations that offered the fresh blue waters of the Great Lakes as their main attraction.

The promise of steady jobs and time off spent on the Great Lakes made the region a desirable place to live, and today the Great Lakes basin is home to around 42 million people.[1] Recently, however, population growth in the region has been stagnant. All eight of the U.S. States bordering the Upper Great Lakes are in the bottom half of the 50 states when ranked by population growth, and five of the eight rank in the bottom 10.[2] Michigan, the state with the largest connection to the Great Lakes, ranks at the bottom as the only state that has a lower population now than 10 years ago.[3] Ontario too has seen slower population growth in recent years[4] and of the growth it has seen, 63% has been in the Greater Toronto Area.[5] Looking forward, the Great Lakes Basin's population is expected to grow by 7.6% over the next 10 years.[6] That number trails the expected growth of the U.S. and Canada, which are both expected to grow at a little over 9% during that time.[7]

The economy is the primary reason for the slower population growth in the Upper Great Lakes region. Because the region was so reliant on heavy industry, which had served it well for so many years, it was slow, compared to the rest of the U.S. and Canada, in transitioning to an economy less dependent on manufacturing. When globalization finally caught up to the region, high North American production costs made companies, like those in the auto industry, less competitive. As a result, many businesses eliminated jobs or closed their doors altogether. Certainly the one state in the region that was hit the hardest was Michigan. The state of Michigan has shoreline on Lakes Superior, Michigan, Huron, Erie and St. Clair. For this reason, and because its central economic driver (the auto industry) is not only symbolic of the Great Lakes region's industrial presence, but has also had a direct impact on much of the region including Ontario, a brief overview of Michigan's economy seems relevant to a study on the Great Lakes.

Since 2000, Michigan has lost almost a million jobs, representing about 20% of its total,[8] and median household income in the state has dropped by over $12,000![9] Although job growth normally picks up quickly during an economic recovery (especially in manufacturing sectors), this has so far not been the case this time around and few economists, if any, are predicting that the lost Michigan jobs will come back anytime soon. At the University of Michigan's annual conference on the Economic Outlook in November 2009, the director of the research seminar was asked when Michigan's economy would return to the average of the rest of the U.S.. He responded that "One of the rating agencies said it would be 30 years, and I think that is optimistic." Perhaps he is right. For example, General Motors (GM) had more than 386,000 employees in 2000.[10] In 2010, it has 205,000[11]. And although the company has increased manufacturing lately, GM has shifted production from North American facilities to ones overseas to pick up the slack.[12] Although GM has emerged from bankruptcy and seems prepared to be more competitive moving forward (the company posted a $1.3 billion dollar profit for the 2nd quarter of 2010), its plans, unlike in previous recoveries, do not call for the reinstitution of manufacturing jobs in Michigan.[13]

The changes to Michigan's economy over the last 10 years appear to be a permanent shift rather than a long downturn on the verge of recovery. However, Michigan seems to have recognized this shift, and if recognizing a problem is the first step in solving it, Michigan might be planting the seeds of a new, less auto-centric, economy. Policy makers and investors alike are touting Michigan's excess manufacturing capacity and expertise to make a case for Michigan to become the unofficial capital of green technologies.[14] Unfortunately, other regions around the U.S., and in fact around the world, are vying for the same claim. Michigan certainly has to overcome significant challenges if it is to be known for green technologies, but in addition to manufacturing capacity, and transportation infrastructure, it has other advantages. Wind power is a good example. In addition to transportation, fisheries, drinking water, hydro-electric power and recreation, the Great Lakes offer great winds. Because the transportation of wind turbine parts is unwieldy and expensive, companies investing in Great Lakes wind farms might find it in their best interest to source their parts locally.

Although the manufacturing of green technologies might ultimately provide some level of increase to manufacturing in Michigan, it is unlikely to change the fact that North America is now dominated by the service and knowledge economies. Much has been written about how the centers for the knowledge economy need not be located near minerals and ports as with manufacturing.[15] Instead, knowledge centers will be located in places where knowledge workers want to live. Could the Upper Great Lakes region become such a place, as it tears down its factories and industrial parks, and rebuilds communities better suited to attracting these workers? That remains to be seen, but the region does seem to have desirable locations people choose to visit.

For decades, Michigan has supported a thriving tourism industry; however, tourism activity in the state has been largely regional. For example, 70% of the people traveling throughout the state are from Michigan and more than 20% of the remaining tourists are from adjacent states and Ontario.[16] Although this ratio served the travel industry well when the Michigan population was flourishing, the population is now smaller than it was 10 years ago, and those who have remained are in worse financial shape than in years past. As a result, Michigan tourism spending was down almost 20% in 2009 from 2006,[17] and the tourism industry has accepted that if it is to survive, it must attract out-of-state residents to Michigan. Not only can an increase in out-of-state tourists make up for Michigan's diminished population, but out-of-state tourists are also a more lucrative market, spending an average of 35% more per day than in-state tourists.[18] Attracting out of state tourists presents a challenge because the image non-Michiganders have of the state is not necessarily a positive one. Michigan is not a "pass-through" state; that is, few people drive through it on their way to somewhere else. Moreover, the national media coverage of Michigan in the past several years has focused on negatives and likely left a less than desirable image of the state in people's minds. Stories about closed factories, high unemployment, the auto industry bankruptcies and bailout, and Detroit's myriad problems including its mayor's arrest and conviction, have certainly not helped the state's image. Even the Detroit Lions football team, which has won only two games in the past two seasons, seems to reinforce the image of Michigan as a "loser state".

In 2006, in part to counter that negative image, the Michigan legislature increased the funding for the promotion of Michigan Tourism by six times (from $5 million to $30 million). With the additional funding, Travel Michigan, the state's travel promotion organization, created the "Pure Michigan" campaign which has received numerous awards for its success in promoting Michigan's tourism "product" and changing the image of Michigan in the eyes of out-of-state residents. Interestingly, the campaign has identified residents of southern U.S. states as one potential market for Michigan summer vacations. The reason for this is that in states where high temperatures and humidity make the outdoors almost unbearable between May and September, Michigan, with its comfortable temperatures, 3,200 miles of coastline, sandy beaches, clear lakes and myriad recreational opportunities, offers a respite from the heat and a vacation experience that Michigan residents have long been enjoying.

Between increased tourism promotion, initiatives to create desirable communities and other efforts to reinvent the region's economy (e.g., green technologies), there seem to be indications that the Upper Great Lakes region is undergoing a period of transition. Ultimately, the results of these efforts will have a great impact on the future of Great Lakes recreation and, therefore, the economic and social impacts of water level changes on the lakes.

Tourism in the Upper Great Lakes Region

Ranging from large metropolitan areas to small towns, the Upper Great Lakes coastline is lined with communities that depend upon tourism. Although these communities offer a diverse range of attractions, their one common draw is the Great Lakes. In some cases, tourists actively use the lakes for recreation and in other cases the lakes merely offer a lovely setting for a vacation experience that could otherwise be located anywhere. In 2007, visitor tourism direct spending in the counties bordering the Upper Great Lakes was between $55 - $60 billion, supporting over 650,000 jobs, and generating between $7.5 - $7.75 billion in local and state/provincial taxes.[19] With the exception of boating, which is discussed separately, it is unclear how changing water levels in the Great Lakes might affect tourism activity in these communities. At the one extreme, it seems unlikely that a 1-3 foot drop in the water levels of Lake Huron/Michigan would have a significant effect on the overall tourism activity in a city like Chicago, whereas such a decrease might indeed influence a small beach town on the Georgian Bay.

To get a clearer picture of the effect of water level changes on Great Lakes coastal tourism, the Recreational Boating and Tourism TWG commissioned a study to assess how changing water levels might affect tourism destinations. Because attempting to survey every destination throughout the region would have required more resources and time than were available, the TWG decided to identify a sample of four representative tourism locations throughout the Upper Great Lakes Region. The four locations are Toledo/Sandusky, OH; Port Huron, MI/Sarnia, ON; Thunder Bay, ON; Midland/Wasaga Beach, ON. The study surveyed 168 tourism businesses about the effect of water levels on their businesses and 1,613 tourists about the extent to which water levels affected their travel decisions. The study faced many challenges that make it difficult to place full confidence in the results and minimize application of the results over time. For example, the study was conducted during a year when water levels did not present any particular challenges. Secondly, the nature of the study required respondents to speculate about the effects of something many had never experienced. For instance, a three foot drop in water levels might cause any number of problems that business owners might never have considered. Finally, the response rate for the surveyed business owners was very low and, methodologically speaking, means the validity of the results must be questioned.

Even with all of the above challenges, however, the overall results suggest there is very little connection between water levels and tourism. The study showed that tourists, by and large, did not take water levels into consideration when making their travel plans and most surveyed businesses did not see water levels as an issue that affected the performance of their business. Those that indicated that they were affected by a change in water level, believed that lower water levels were more detrimental to visitation than higher water levels. This was most pronounced in the Midland-Wasaga Beach study area and largely linked to boating activity, docking and channels. However, even when a business perceived that water levels did affect their business, they were unable to quantify that effect beyond a general loss of visitation and sales revenue. Nevertheless, it seems easy to imagine how the results might be different if water levels were more extreme. For instance if the Lakes were experiencing record low levels, unanticipated problems might arise for the tourism businesses, dramatically changing their perspective of the issue. This would be even more likely if the beach experience was adversely affected and media coverage of the lake levels worked the issue into the mind of tourists (and potential tourists) and started affecting their travel decisions.

Overall, and despite the issues with the study, the TWG was not surprised by the results and that is likely because of a longstanding trend of many tourism destinations on the Great Lakes. Most of these destinations became popular because of their connection to the lake itself, that is, the lake acted as the primary attraction. Over the years, however, in order to decrease the effect of uncontrollable factors (e.g., water levels, pollution or weather) and to provide a more diverse tourism experience to a wider variety of people, other attractions have been developed. In many cases, this development changed the role of the lake from being itself the primary draw, to merely acting as the setting for other attractions the destination offered. A good example of this would be Sandusky, OH, which originally drew tourists to its Lake Erie beaches. Today it is one of Ohio's top tourist destinations, and although Lake Erie certainly adds something to the ambiance of the location, most people who travel to Sandusky do so to visit Cedar Point Amusement Park which could just as easily be located away from the lake.

A number of factors and emerging trends suggest that in the long term the Great Lakes region will grow into a larger tourism destination on national and international scales. First, the Great Lakes will likely have a stronger "tourism product" in the future as a result of a number of things. As mentioned earlier, the region will likely continue to have less of an industrial presence which will not only help with the

environmental quality of the natural resources, but will also mean fewer industrial complexes diminishing the coastal aesthetic. Moreover, a number of programs ranging from *the Great Lakes Restoration Initiative* to Michigan's *Cool Small Towns Initiative* will help to facilitate the region's post-industrial transition.

On the promotional side, there has been a growing trend among destinations to see the value of collaboration over competition when it comes to attracting visitors. This is happening on the local scale (e.g., individual wineries working together to develop a wine trail in a small geographic area), the regional scale (e.g., the recent creation of the Georgian Bay Destination Partnership), and the national scale (e.g., the recent creation of the Corporation for Travel Promotion - the Unites States' first national tourism organization dedicated to promoting tourism interests throughout the U.S.). The Great Lakes has never had a successful region-wide tourism organization, although the Bi-National Economic and Tourism Alliance, currently operating in the Niagara Region, has had some success and aims to expand to the whole Great Lakes region in the future. However, as these types of organizations develop improved best practices, and individual communities (and regions) continue to see the benefits of collaboration, it is foreseeable that this alliance or some other Great Lakes-wide collaborative effort will be successful in promoting the entire Great Lakes region. Even if there is not such an effort, the region may benefit from the accomplishments of regional and statewide collaborations.

Finally, and perhaps most importantly, the region is likely to find success in attracting out-of-region visitors because it is now more motivated to do so. In the past, industrial manufacturing ruled the economy and tourism was something that supported that sector by rejuvenating and boosting the morale of the region's employees. Now, not only is tourism beginning to be seen as a worthy economic driver in its own right, but because of stagnant population growth and weaker household financial situations, the Upper Great Lakes tourism industry can no longer rely on its own residents to sustain it. For the first time, the region's tourism industry is being forced to look to outside markets for reasons of survival. This new motivation, combined with a stronger tourism product and collaborative promotional efforts, will almost certainly grow the area to be the worldwide tourism destination it has always had the potential to be.

Great Lakes Cruise Ship Industry

The cruise industry is the fastest growing category within the global leisure travel market. According to the Cruise Lines International Association, since 1980 the industry has enjoyed an average passenger growth rate of approximately 7.4% per annum.[20] Even in a down year like 2009, when global tourism arrivals dropped by 4% and spending decreased by 6%,[21] the cruise industry continued its growth, hosting a record 13.5 million passengers (a 3% increase from 2008).[22] Moreover, the industry doesn't expect that growth to slow down anytime soon, forecasting a 6.3% increase in passengers for 2010.[23] In order to accommodate a growing number of passengers, 14 new ships debuted in 2009, 12 more are scheduled to be completed in 2010, and 26 more will be released worldwide by the end of 2012.[24] Overall, in 2009 this huge and popular segment of tourism accounted for $22.5 billion in direct expenditures in North America alone.[25]

Although the growing cruise market is interested in cruises to novel locations, the Great Lakes region has never been able to establish itself as a strong cruise destination. Little data exists on Great Lakes cruising, but a study conducted by the Great Lakes Cruise Coalition estimated cruise expenditures on the Great Lakes at a relatively small $36.8 million.[26] At that time, 9 ships were operating on the Great Lakes, though that number has since decreased to 3 ships in 2010.[27] Still, the potential for a strong cruise

presence on the Great Lakes is clear. Cruisers are demanding new cruise experiences and as a result new destinations (especially in Asia) are being developed every year. In addition to the novelty of an ocean-like experience on fresh water, cruises on the Great Lakes offer a terrific mix of large city experiences (e.g., Chicago, Toronto & Detroit) and rural coastal towns with recreational and cultural excursions such as Little Current, ON and Mackinac Island, MI. Additionally, North Americans make up about three quarters of the world's cruise passengers and in a recent survey, 72% of U.S. cruisers said that being able to drive (vs. fly) to an embarkation port makes them more likely to take a cruise in the next three years.[28] Finally, there are enough ships around the world to fill any immediate demand that might arise if Great Lakes cruises were developed and promoted. In 2006 there were 130 cruise ships small enough to navigate the St. Lawrence Seaway and Welland Canal Locks. Perhaps the largest of these is the MS Columbus which can accommodate 420 passengers. This ship was built with the Great Lakes in mind and although it did not offer cruises in the Great Lakes in 2010, it is scheduled to return in 2011. With regard to water level, the MS Columbus has a draft of 19 feet which is the largest of the boats that currently operate, or are scheduled to operate, on the Great Lakes. The other ships that have recently operated on the Great Lakes have drafts that range from six ft. to 14 ft.[29]

Because many cruise passengers view their cruises as an opportunity to explore multiple new locations, cruise lines have worked with communities to develop quality ports of call that offer exciting and unique experiences for cruise passengers. Of particular note is the fact that over 20 communities and agencies from around the Great Lakes have come together to form the Great Lakes Cruise Coalition. This organization is dedicated to attracting cruise ships to the Great Lakes and offering those ship owners logistical support to ensure that the best products available are being offered. The organization also puts on workshops that help communities develop products that ship itinerary planners and passengers want. For communities, the incentives are clear. The average cruise passenger is 50 years old, earns $109,000/year and spends $97.26 per port of call. Moreover, 62% of cruise passengers use ports of call to scout out new locations for "non-cruise" vacations.[30]

Clearly there is potential for cruise companies and Great Lakes communities to work together to develop exciting new cruise experiences on the Great lakes. Moreover, it would appear that if they did, there is a good chance that passengers looking for new cruise experiences would sign up in droves. So why hasn't it happened yet? The answer lies largely with government regulations, in both the U.S. and Canada, that act as barriers by making border controls unreasonably burdensome for both the cruise company and the passengers themselves. Canada's Coasting Regulations and the USA's Jones Act require foreign flag vessels to visit only one of the country's ports on a particular voyage before returning to another country. In other words, a U.S. flag ship has to clear customs when it stops at a Canadian port. Although this seems reasonable, the problem lies with future ports of call because before that same ship can stop at another Canadian port, it has to return to a U.S. port, clear customs there and then proceed to another Canadian port where it once again has to clear customs. At each of these stops, the ship has significant administrative requirements and passengers have to wait in line before exploring the port of call. Exceptions to these government regulations have been negotiated and implemented in order to encourage the cruise industry in other parts of the countries, but such exceptions do not yet extend to the Great lakes.

Until this regulatory barrier can be remedied, it seems unlikely that much of a cruise presence will be seen in the Great Lakes. One reason to expect that there could be some progress in this area is the passage in March 2010 of the U.S. Travel Promotion Act which created the U.S. Corporation for Travel Promotion (CTP) board. The CTP is the first organization dedicated to the promotion of tourism in the U.S. at the national level. Until its formation, tourism promotion in the U.S. happened only at the state

and regional levels, and therefore the industry's national lobby was relatively weak. One goal of the CTP is to lobby for border friendly policies that better facilitate tourism into the U.S. without sacrificing security. Although the CTP has not publicly identified the Jones Act (and its role as a barrier to Great Lakes cruising) as a specific area of focus, this issue is in line with the type of legislative barriers it will work to resolve. If the board is successful, it seems likely that cruise industry would make more of an effort to partner with communities to create new cruise experiences they could promote to potential passengers.

As it relates to water levels, the Great Lakes cruise industry obviously relies on ports capable of accommodating larger ships. However, as opposed to the recreational boating industry which already has large economic and social impacts of communities, the cruise industry, despite some existing activity is mostly based on potential. This means that although marinas and boat launches, which are already found in great number throughout the Upper Great Lakes, might need to make significant (and costly) structural changes to cope with and adapt to changing water levels, the cruise industry's adaptive process should be more proactive. If a cruise line is considering partnering with a certain community, and if a community is interested in dedicating resources toward becoming a cruise port of call, both should consider future water level scenarios as part of their planning process. In some cases, however, certain communities that do not have ideal harbors to accommodate cruise ships may offer unique scenic, cultural or recreational attractions that trump the inadequate harbors, making them worthy of more expensive adaptations. This could also be the case in some of the communities that have already been serving as ports of call. In these cases, more expensive adaptations might need to be made at certain water levels.

Recreational Boating

Recreational boating is an important part of the Upper Great Lakes culture. As mentioned in the above section *The Challenge of Data*, a lack of consistent and available statistics makes it difficult to precisely quantify boating activity in the Great Lakes. However, by analyzing and extrapolating what data are available, accurate ranges can be estimated. In 2009, 19-21 million people participated in some kind of recreational boating activity in the states and province adjoining the Upper Great Lakes[31]. Not all of this boating activity took place on the Great Lakes themselves and those numbers include one-time boaters as well as frequent boaters, but the high number of participants demonstrates the considerable impact of recreational boating in the region. The reason for the relatively large 2 million person range on the above reported numbers is that available information on recreational boating is either not tracked, inconsistent, reported for all the Great Lakes without distinguishing between them, or is reported by industry associations that often have an agenda behind their statistics. For these reasons, it is impossible to gain an accurate picture of recreational boating from existing information. Still, by analyzing the data that is available from the various sources, rough estimates can be made to provide at least some context to recreational boating activity on the Upper Great Lakes.

In the Upper Great Lakes Region, there appear to be over 5 million registered boats ranging from kayaks to large motor yachts. Since many of these boats are too small to operate on the Great Lakes, and because the region's geography offers a wide selection of interior boating waters, the number of these boats that actually operate on the Great Lakes is naturally lower and estimated to be between 1.1 and 1.2 million.[32]

An analysis of studies that have examined the spending behaviors of Great Lakes boaters suggests that recreational boat owners who operate on the Great Lakes, spend a total of between $3,600 and $4,000

on craft and boat trip-related expenses each year[33]. Therefore, recreational boating on the Great Lakes likely generates $4 - $5 billion in direct spending, which supports 52,000 to 65,000 full time jobs. Naturally, the true economic impact and job support for this spending would be significantly higher once secondary effects of this spending were taken into consideration. Because of the way in which available data are presented, however, these estimates include Lake Ontario, so the numbers for the Upper Great Lakes are somewhat lower. Although data that break out boating activity by Great Lake does not seem to exist, the Overview Contextual Narrative for the Great Lakes basin reports that 24% of the total population of the Great Lakes basin lives within the Lake Ontario basin.[34] If we therefore apply the remaining 76% to the above numbers, recreational boating on the *upper* Great Lakes generates $3.04 - $3.8 billion in direct spending which supports 39,500 – 49,500 jobs. Again, once secondary economic effects were applied, those figures would be much higher.

Profile of Boaters

Recreational boaters can be broken into two categories; boating participants and boat owners. Reliable data does not exist for Canadian boaters, but in the U.S.,[35] boating participants are predominantly white non-Hispanic (85%), fairly evenly split between male and female and appear to be getting younger. In 2006, 38% of boaters were over the age of 50, but in 2009 that number had shrunk to 24%. A growing number of them (32% in 2009) are single and fewer of them are married than they were just a few years ago (44% in 2009 vs. 56% in 2005). About 31% of boaters have a bachelor degree or higher and 75% have a household income of $100,000/year or less.

Boat owners are also fairly evenly split between male and female and an even higher percentage of them are white non-Hispanic (90%). Although boat owners are older than boating participants (48% are 50 years old or older), they too appear to be getting younger. Not surprisingly, boat owners tend to have higher education levels (39% have at least a bachelor degree), and earn more than boating participants (36% of owners have household incomes of $75,000/year or higher compared to 26% of boating participants and 20% of the overall population).

Current Recreational Boating Trends

There are several indications that recreational boating is experiencing a period of stagnation or even slight decline. Since 2005, new boat sales, boat ownership and boating participation have been at lower levels than highs from the late 1990s[36]. This downturn began when gas prices spiked and continued during the economic crisis that began in 2008. Although boating has rebounded from other economic downturns in the past, it remains to be seen what effect this latest economic crisis will have on boating. As an example, because lending and borrowing played such a large role in causing the recession, the culture of credit seems to have been affected on both the lender side, which is giving more scrutiny to borrowers, and with regard to borrowers, who may have learned a lesson about overextending themselves with regard to their debt load. Whether this current credit trepidation is temporary remains to be seen, but a permanent shift toward caution in the credit culture of the past 15-20 years would have some effect on boat ownership and is an example of a possible long-term consequence of the recession that could stall boating's recovery.

In addition to the challenges caused by the recession, it is possible that recreational boating was already in a state of stagnant growth even before the sharp rise in oil prices in 2005 and the economic crisis of 2008. In 2009, about 2% fewer Americans participated in boating than in 1990, despite the fact that the overall population increased by about 23% during that time. This lack of growth does not seem to be caused by the latest economic downturn, as it has been nine years (2000) since Americans last participated in boating at 1990 levels.[37]

Recreational Boating Marinas

Recreational boating marinas are often impacted by changes in water levels. When water levels are low, some slips become unusable or unable to accommodate the size of boat for which they were designed. This forces marinas to either increase their costs by implementing coping mechanisms (e.g., dredging), invest in permanent adaptations (e.g., floating docks), accept smaller boats with a loss of revenues, or forego revenues altogether from slip fees and other purchases boat owners would have made at the marina if the slips were usable (e.g., fuel and groceries). Moreover, low water levels can also damage boating infrastructure such as docks, piers and seawalls, as these things depend on water pressure to keep them upright. In some cases, low water levels can affect access to the marinas via channels that are either impassable or narrowed to the point where they create bottlenecks that increase wait times, diminish the boating experience and decrease boater activity. Finally, low water levels can adversely affect marina businesses by increasing the risk to boats away from the marina. In low water, boats face an increased risk of running aground or experiencing propeller, keel or hull strikes against lake bottoms, shoals and boulders. These risks tend to diminish the boating experience (and potential costs) leading to a decrease in boating activity and expenditures. The combination of increased costs and lost revenues can force marinas to close and could lead to a permanent loss of lake access and recreational opportunity if the marina is converted to some other use such as residential or commercial development.

In order to apply coping zones to marinas, the Recreational Boating and Tourism TWG commissioned a study to assess the vulnerability of the Upper Great Lakes marina industry. As with the tourism surveys, a sampling approach was taken with this study since an examination of every marina in the Upper Great Lakes would have been cost (and time) prohibitive, as well as unnecessary. A sample of 17 regions throughout the Upper Great Lakes were identified, physical depth measurements were taken of slips at 125 marinas, and 111 marina owners/operators were interviewed about the effects of different water levels on the performance of their businesses and on the adaptive measures they've taken in the past or would take under various conditions. This information was used to calculate the economic losses of 1 foot, 2 foot, and 3 foot increases and decreases in water levels.

The study confirmed the notion that marinas are adversely affected by decreases in water levels and reported that high water levels are more of a nuisance than a serious problem. Given a three foot drop in water levels, the cost estimates of the surveyed marinas ranged from $53,000 to $83,000 per marina depending on the lake. As a result of these additional costs, the study results suggest that a three foot drop in water levels would force about half of the marinas on Lakes Erie and Michigan/Huron out of business, and all of the surveyed marinas on Lake Superior.

It must be pointed out, however, that these results are based on the assessments of individual marinas in isolation and therefore do not take into account the macro-effects of such a severe water level drop. For instance, a three foot drop in water levels would undoubtedly be devastating to some marinas, but would probably not force so many marinas to go out of business. In such a scenario, many of the marinas would incur the costs associated with coping and adaptation, but would attempt to pass on all, or a portion, of those costs to their customers. As a consequence of this increased marina expense, and of the diminished boating experience that would result from the lower water levels themselves, some number would likely drop out of boating. However, some number of boat owners would presumably adjust to the expense and would continue their participation. Certainly some marinas would go out of business, but others would make up their losses by taking in new boats that would be forced out of the closed marinas.

Recreational Boating Launch Sites

Similar to marinas, boat launches will also be affected by changes in water levels, but in different ways. The most important difference for boat launches stems from the fact that most of them were built to the same, or similar specifications to accommodate consistent high and low water levels. This means that if water levels were to drop below or rise above the boat launch specifications, there would be a systematic loss of access to the lake in question. With very high water levels, boat launches would be completely underwater and in some cases water would even flood parking lots, making the launch at best difficult to find, and at worst unusable. Water levels below the minimum launch depth would cause widespread loss of lake access. Because each launch site is different, some launches might still be usable depending on the slope and condition of the lake bottom past the lowest end of the launch.

Based on boat launch specifications, the TWG has determined preferred water levels of boat access for each lake (see Table 1). Additionally, the TWG determined water levels at the high and low ends that would make access difficult and exceed infrastructure altogether (see Table 1) .

If water levels changed in a lake to the point where infrastructure was exceeded, there would undoubtedly be some launch sites that could still accommodate boat launches. These would likely be overrun by eager boaters hoping to launch their boats, and the resulting bottle necks would put a strain on those facilities and further diminish the overall boating experience. Some boaters would drop out and others would switch to a new boating location such as an interior lake. This would shift the geographic area of economic impact from boating and would put added strain on the facilities and environmental health of the new lake. Moreover, the increased boating activity could cause conflicts with residents and longtime users of the new lake.

Table 1

Preferred Water Levels for Boat Access

Lake	Preferred Level	Difficult to Access		Exceeds Infrastructure	
		Minimum	Maximum	Minimum	Maximum
Superior	183.18 - 183.64	183.03 - 183.18	183.64 - 183.79	< 183.03	>183.79
Michigan/Huron	176.11 - 177.24	175.96 - 176.11	177.24 - 177.39	<175.96	>177.39
Erie	173.61 - 174.8	173.46 - 173.61	174.8 - 174.95	<173.46	>174.95

Note: All measurements are in meters using 1985 IGLD

Future of Recreational Boating

Although it is obviously impossible to predict the future, there are several factors that will have an effect on recreational boating in the Upper Great Lakes Region going forward. These factors can be grouped into five categories: economic, temporal, demographic, social and environmental.

From an economic perspective, the Upper Great Lakes Region is in the midst of a transition from its traditional industrial manufacturing focus. Although it is certainly possible that the region will quickly reinvent itself to once again be a center for economic prosperity, it will likely take at least 10-15 years (and perhaps much longer) before the region matches the rest of the country with regard to job and population growth. In the meantime, unemployment is high, there are many fewer high-paying jobs for people without a college education, and household income is down. Moreover, oil prices are likely to

continue to grow over time, making the transport and operation of boats significantly more expensive. None of these indicators bode well for recreational boating in the region.

Temporal issues will also affect recreational boating in the future. Free time throughout the U.S. and Canada is evolving and occurring more often in short durations during the week and less frequently on weekends.[38] Paid vacation time is trending downward, and in the U.S., one in four workers has no paid vacation.[39] One group of people who were expecting to have a large amount of free time, retiring baby boomers, will likely find themselves postponing retirement or taking part-time jobs out of financial need. Another impact on our time comes as a result of advancements in technology which have provided the ability to constantly check (and respond to) email and voicemail. But rather than creating more free time through technological efficiencies, these "advancements" seem to have tied people more tightly to their work during periods that used to be dedicated to leisure time. Smart phones, for instance, have brought the internet, email, calendars, contacts, social networks, telephones, video conferencing, and literally thousands of other applications to the palms of hands regardless of where those hands are. The effect of these devices on leisure is not yet known, but it seems likely that having "mobile offices" that fit in pockets will further blur the distinction between work and leisure time. Perhaps the constant connection to their jobs will limit people to leisure experiences that are shorter and do not require undivided attention. Or, perhaps, people will feel freed to participate in more activities outside the office, such as on a boat, because their work can be done from anywhere.

With regard to demographics, the Upper Great Lakes region will continue to age and become more diverse. In Ontario, the population is expected to see healthy growth, though much of that will be immigrant growth in the Greater Toronto Area and nearby growing municipalities. In the U.S., the percentage of white non-Hispanics is expected to shrink from 64.7% in 2010 to 46.3% by 2050. Conversely the percentage of Hispanics is expected to grow in the U.S. from 16% to 30.3% over that same time. The percentage of Asians in the population is also expected to nearly double from 5.3 % to 9.2%.[40] Given the current lack of diversity in recreational boating as described in the "Profile of Boaters" section above, these trends should represent an opportunity for growth into new markets. But there is very little evidence that this opportunity is being pursued. To address trends in boat ownership, the National Marine Manufacturing Association, for both the U.S. and Canada developed the "Discover Boating" campaign to facilitate newcomers' entry into boating. The campaign's websites have numerous user-friendly resources on topics such as "Why Boating," "Buying a Boat," "Operating a Boat," "Activities for Kids," and even a "Spousal Conversion Kit". Appearing to understand that women are likely to be the big bread winners in the future (since women make up 57% of undergraduate students and 59% of graduate students)[41], there is even a section titled "Women at the Helm" that is meant to attract women boat buyers. Throughout the well-designed website there are a number of photos and videos of people enjoying boating, however, a review of 25 or so photos and at least six videos from throughout the sites failed to show a single person of color. This current lack of foresight adds to the evidence that recreational boating is unlikely to see substantial growth anytime soon.

Socially, power boating has somewhat of an image problem caused, in part, by TV shows that portray boaters as spoiled, ignorant drunks. Although this image may be unfairly reinforced in the media, it is not entirely unwarranted. Despite numerous resources dedicated to boating safety, boating under the influence remains a problem for the industry. The one sector of recreational boating that has a positive image is paddle sports (e.g., canoeing, kayaking and rafting). As a result, participation in these activities has increased considerably over the last ten years. However, relative to other types of boating, paddle sports, especially in the Great Lakes, still represent only a small portion of all boating activity, and because these boats are cheaper and generate less ancillary spending, they have a significantly smaller,

(though still important) economic impact. Moreover, because they are more easily transported and launched, they are much less affected by water level changes than power boats and larger sailboats.

An important recreational trend that is affecting boating numbers is the decline in fishing. Between 1996 and 2006, U.S. Great Lakes fishing saw a 30% decrease in participation.[42] Similarly, Ontario saw a 27% decline over a comparable period (1995-2005).[43] Because fishing is far and away the number one activity in which boaters engage,[44] a continued decrease in angling participation will likely have a negative effect on boating participation and ownership. On the bright side, during the difficult economic times of the past few years, Americans and Canadians both seemed to prioritize experiences with friends and families over discretionary spending on material goods. There has also been much written in the past 10 years about the evolution from a service economy to an experience economy in which people are willing to pay a premium for quality experiences above and beyond the basic provision of services. This notion is a promising one for recreational boating, if enough people continue to perceive boating as an experience worthy of their investment.

Finally, any number of environmental factors could present challenges or opportunities to recreational boating. Non-native and invasive species have long had an effect on the Great Lakes fisheries, and as a consequence, boating. The introduction of several salmonid species helped to grow sport fishing and recreational boating on the Great Lakes. Conversely, as a result of the invasion of zebra mussels, Lake Huron experienced a collapse of the Chinook salmon fishery in 2004. The collapse has impacted many coastal communities which relied on the spending of fisherman who used to come to fish the Chinook. Recently, much attention has been given to the prospect of Asian Carp infesting the Great Lakes. Many are concerned that if these species of carp find their way to the Great Lakes and find them a suitable habitat, the results could be catastrophic for the existing fisheries and therefore the Great Lakes sport fishing industry. An invasion of Asian Carp could also affect non-fishing boating on the Great Lakes as some species of Asian Carp, notably the Silver Carp which can grow to 100 lbs., are known to jump from the water and have injured boaters who have collided with them. Beyond the threat of invasive species, the Great Lakes, which are actually benefitting from the reduced industrial activity, are facing increased pollution as a result of aging sewerage treatment systems. These are just a few examples of environmental factors that have (or could have) a negative impact on recreational boating in the Great Lakes. Ironically, some environmental factors, however, may actually boost recreational boating: a warming globe could create an increase in Great Lakes boating. First, global warming would create a longer boating season, potentially increasing the number of boat days on the lakes. Also, as mentioned above, the Great Lakes could become a premier summer tourism destination for boaters in southern states who are looking to escape the oppressive heat of the southern summer. Moreover, melting of the polar ice caps into the oceans could create a loss of boating infrastructure on the ocean coasts as sea levels rise. Although such a disruption is not likely to occur in the next 50-100 years, further support for the more dire sea level models could create a migration of people from ocean coasts to the Great Lakes, if those coastlines are perceived as more stable.

Summary

Recreational boating and tourism have long been part of the Upper Great Lakes' culture and economies. However, the ongoing transition to the region's economy and its consequential impact on population and income is having, and will continue to have, an effect on boating and tourism. With regard to boating, current demographic forces, and perhaps changes in leisure preferences, are causing an environment of stagnant growth or even slow decline. As for tourism, unlike in the past, it appears that this industry can no longer wait for the region to rebound and it is therefore reaching out to new

markets for survival. Any number of potential events could dramatically shape the future of the region, but based on current trends, it would appear that the Upper Great Lakes region is primed to become a worldwide tourism destination

To better understand the effect of water level changes, the Recreational Boating and Tourism TWG identified four performance indicators (PIs) to help assess how water level changes will influence boating and tourism. Based on a commissioned study, one PI, tourism, does not seem to be affected by water level changes. However, if the study were conducted during a year in which water levels were very low, the results of the study might be quite different. Additionally, if water level changes negatively affected a predominant tourism activity, such as recreational boating, the overall attractiveness of individual destinations and the Great Lakes region as a whole might be diminished.

Another PI, Great Lakes cruise ships, currently has very little impact on the region, but has tremendous potential if current legislative barriers can be overcome. It seems as though it is only a matter of time before progress will be made on those barriers, and it is expected that in the future the cruise ship industry will have a much more significant impact on the communities of the Great Lakes. However, because the cruise industry is not yet very well developed, there will likely be little need for wide-scale adaptations to address water level changes. Instead, future cruise line leaders and communities interested in partnering with them to become ports of call should consider potential water level scenarios before committing significant resources toward those partnerships.

Recreational boating currently plays a very large role in the culture and economies of the Upper Great Lakes, and studies investigating the final two PIs (marinas and boat launches) show that the recreational boating industry would be impacted by water level changes especially at the extreme levels. Even though the current trends do not suggest that boating will experience significant growth in the future, population increases and likely adaptations by the industry suggest that recreational boating participation will probably not diminish much either. Boating has always been an important part of life on the Great Lakes and despite the challenges, it always will be. Millions of people use boating experiences with family and friends on the Great Lakes to enhance the quality of their lives. The social interaction and lifelong memories created by these types of experiences lead to long-term happiness. If water levels, or any other factor for that matter, were to force people out of the activity, something more meaningful than economic contributions will be lost. The desire to boat on the Great Lakes will always be present for millions of people, and as long as there is demand and available water, the recreational boating industry will do whatever it takes to facilitate those experiences, no matter what the level of that water may be.

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