REGULATIONS AND POLICIES THAT LIMIT THE GROWTH OF THE U.S. GREAT LAKES CRUISING MARKET

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Abstract

The worldwide cruise industry has seen remarkable growth since the 1990s. The cruise market on the Great Lakes has lagged the worldwide growth and compared to historical records, has fallen far short of its full potential. This paper reviews the history of the cruise industry on the Great Lakes with particular focus on the U.S. flag segment. Market studies and business ventures to restore the cruise industry in the region are examined. The policy issues are investigated and their impediments to the growth of the cruise industry on the Great Lakes are discussed. The specific impact of current and future cabotage, gambling, security, pilotage and environmental laws on Great Lakes cruise ship operations are explored. Specific recommendations are made regarding policy changes to improve the economic climate of U.S. flag cruise ships operating on the Great Lakes.

Keywords

Great Lakes, Cruise Market, Customs, Gambling, Passenger Vessel Services Act, Cabotage, Pilotage Marine Environmental Regulations, Ballast Water Regulations, Maritime Security, Air Emissions, Emissions Control Areas, Maritime Transportation Security Act, Johnson Act. Clean Water Act, Clean Air Act, Marine Sanitary Devices, Graywater, Marine Invasive Species

REGULATIONS AND POLICIES THAT LIMIT THE GROWTH OF THE U.S. GREAT LAKES CRUISING MARKET

1. Great Lakes Cruising:

1.1 The Great Lakes: A Significant Marine Transportation System.

The Great Lakes marine transportation system has a geographic area of 244,000 km² with a fresh water volume of 22,810 km³. A northern latitude body of water with similar geographic conditions, the Baltic Sea, is 377,000 km² in area and contains 20,000 km³ of brackish water. The Great Lakes hold 20% of the world's fresh water with large wilderness regions as well as metropolises such as Toronto and Chicago. The Great Lakes basin is home to one fifth of the U.S. population and one fourth of Canada's population. Currently there are millions of recreational boaters using the Great Lakes. There is also a robust commercial trade where hundreds of millions of tons of products are hauled. The larger vessels able to transport over 70,000 deadweight tons of cargo for industry and agriculture. Ocean going Vessels can travel from any port in the world over 3,700 KM inland on the Great Lakes St. Lawrence system to the port of Duluth-Superior, Minnesota, (MN), (See Figure #1).

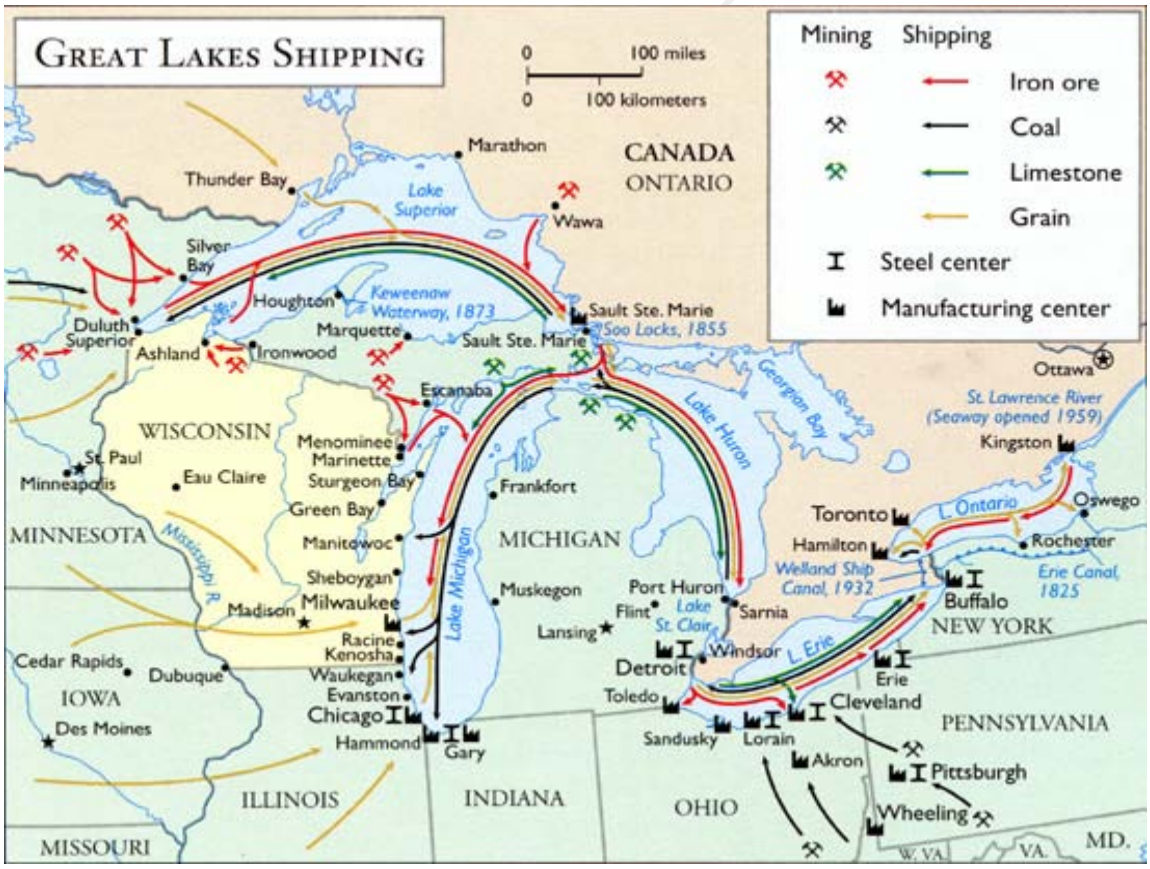

Figure 1: Great Lakes Maritime Commerce - University of Michigan Department of Geography

1.2 Great Lakes Cruising - A Historical Perspective

The Great Lakes passenger ship trade was a vibrant one from the 1840s through the 1940s. In the early 20th century about thirty overnight passenger lines operated on the upper Great Lakes, (LesStrang, 1982). Examples of major lines on the Great Lakes included the Detroit and Cleveland Navigation Company Lines in the U.S. and in Canada and the Northern Navigation Company (later absorbed by Canada Steamship Lines). For almost 40 years the D&C line operated the 477 stateroom SS City of Detroit III. Some of the steamship operations were affiliated with railway companies such as the Ann Arbor Railroad, the Grand Trunk Railway, and the Chesapeake and Ohio Railway. From 1850 through 1940 a number of very successful passenger ships were built to accommodate the growing trade on the Lakes. The SS Seeandbee, built in 1912, had 510 staterooms, a grand saloon, and accommodations for a thousand day passengers. In the spring of 1907, over 16 million people travelled as passengers on Great Lakes vessels. Some 500,000 of those came from U.S. East Coast cities for pleasure trips, with a large percentage of the total being people from the Great Lakes region taking vacations or overnight excursions, (Curwood, 1909). An extensive passenger rail system allowed passengers to make land connections between origin and destination ports.

Day cruises were also very popular in the major Great Lakes port cities and these large vessels could carry in excess of 1,500 day passengers. In 1892, the whaleback steamer Christopher Columbus, with a length between perpendiculars of 110.3 meters (362 feet), was built for the 1893 Columbia Exposition in Chicago, Illinois (IL),. During that first year, the ship carried over two million passengers between Milwaukee, Wisconsin (WI) and Chicago, IL, (Curwood, 1909). The greatest loss of life on a U.S. flag Great Lakes vessel occurred in July 1915 when the excursion steamer Eastland rolled over alongside a berth in Chicago, IL and an estimated 844 people perished, (Hilton, 1995).

In the 1930s overnight passenger service on the Great Lakes started a steep decline caused in large part by the developing highway system and later by regional air transportation. Passenger rail service also became a ghost of its former glory. By the late 1960s the overnight cruise trade had disappeared. The voyage that closed out over 100 years of scheduled passenger service was by the Canadian steamer SS Assiniboia in November of 1965, though the U.S. flag SS South America, (See Figure 2) did operate on unscheduled service until 1967, (Barry, 1973). At the start of the1970s all the passenger fleets had disappeared from the Great Lakes. Overnight berths were non-existent with the exception of car ferries, vessels designed to carry rail cars which are still operating on Lake Michigan, and ferries operating in Canadian waters.

Figure 2: Steamer South America Leaving Duluth, MN, Lake Superior Marine Museum Archives

The relatively high operating costs of a U.S. flag vessel kept owners from registering their ship in the U.S. Foreign flag ship owners face physical challenges in operating on the Great Lakes. The largest vessel that can be brought from the oceans into the Lakes must be able to fit through the locks on the St. Lawrence Seaway. The dimensions of the locks are length-222.5m x beam-23.2m x draft-7.9m, (730'x76'x26') with an air clearance height of 35.6m (117'), (Coast Pilot #6, 2010). One of the issues in going through the locks is the lifeboats. In the case of some cruise vessels the lifeboats protrude by 22-25 centimetres too much to fit through the locks. The M/V Columbus has recessed lifeboats and swinging bridge wings for use in the locks. Unless it is intended for the vessel to operate only on the Great Lakes, greatly limiting its routes and annual revenue potential, the vessel must be able to fit through the canal system. The size restrictions eliminate many existing cruise ships and the economies of scale in large vessel operations.

Overnight cruise vessels were constructed for Great Lakes service only. However, during the past 60 years there have been no overnight cruise vessels built in U.S. Great Lakes' shipyards. There are drydocks on the Great Lakes that can build a vessel 1,000 feet long, 100 foot beam and 27 foot draft. However a vessel with dimensions greater than Seaway size cannot leave the Great Lakes. A large overnight U.S. flag cruise ship captive to the Great Lakes will have an operating season of at best eight months due to the winter. Laying up the vessel for the other months will not be cost effective unless it can be used as hotel facility.

Advances in other transportation modes were the dominant driver of the decline of Great Lakes cruising in the first half of the 20th century. However, governmental policy was also an element and may currently be the single greatest factor in preventing the resurgence of overnight cruising on the Great Lakes. Attempts have been made to bring back the cruise industry but these sporadic endeavours have often been stymied by regulations that have a significantly sharper impact on vessel operations on the Great Lakes than on coastal operations. The following sections are a review of the studies on Great Lakes cruising and attempts at establishing overnight cruising from 1970 through 2010.

1.3 The Great Lakes Overnight Cruise Market from 1970-1990

In 1974 Midwest Cruises of Minneapolis, MN chartered two vessels for Great Lakes cruising, the 223-berth M/V Stella Maris II and the 168-berth M/V Discoverer. Both vessels had an acceptable but not exceptional season. After the 1975 season, Midwest Cruises bought a vessel for its own account with the intention of bringing it into steady Great Lakes service. However the vessel burned at the Port of Montreal in 1977 and the company did not enter the Great Lakes trade, (Griffin, 2001).

In 1982, a market study was done by Cruise America Lines to determine if there was a demand for an overnight cruise line on the Great Lakes. The study indicated a possible volume of 53,000 passengers per season, (Seaway Review, 1984).

A study was released by Harbridge House in 1984 entitled 'U.S. Deep Sea Coastal Cruises and U.S. Built Deep Sea Cruise Ships'. Commissioned by the American Maritime Officers Service and the Transportation Institute, the study briefly commented on the Great Lakes. The U.S. coastal market, including the Great Lakes, was forecast to range from a low of 226,000 to a high of 658,000 passengers per year by the end of the 1980s, (Harbridge House, 1984).

In 1985 the American Canadian Line, owned by Blount Marine and based in Warren, RI, ran 12-day cruises on Lakes Ontario, Erie, Huron and some of the connecting waterways. The company operated a type of vessel under 100 gross registered measurement tons, often referred to as a Subchapter T or K vessel because of the applicable U.S. regulations, (CFR 46, 2010). The 80-passenger M/V Caribbean Prince ship used by this company was unable to cruise offshore due to its small size and the passengers were forced to travel for part of the itinerary on a bus, (Miller, 1985). The Caribbean Prince had been quite successful in the U.S. coastal and Caribbean markets, and the line still remains in operation generally on the lower lakes and Georgian Bay and usually for only two cruises a season. To move from the Atlantic markets to the Great Lakes the small vessel can travel either up the Erie Canal to enter Lake Ontario at Oswego, New York (NY) or via the Mississippi river system and enter at Chicago, IL.

The city of Grand Haven, Michigan (MI) was contracted in 1985 for a study to determine if the Lake Michigan area could support a cruise line. From their market analysis, the firm concluded that the population base in the lower Lake Michigan area could supply passengers for a cruise line. This study did not seek to examine the potential for market penetration by a Michigan-based cruise line into the rest of the U.S. and Canadian Great Lakes region. In part, this was because Lake Michigan is the only lake whose borders are entirely within the U.S. and an operator would require the use of a U.S. flag vessel. The study also established the need for a vessel larger than a Subchapter T type and

the study highly recommended that the line operate in Florida or the Caribbean during the winter months, (Economic Consulting Services, 1985).

In May of 1986, VCL, Inc., utilizing a Wisconsin-based travel agency, conducted a market survey on the potential market for a Great Lakes cruise ship. The survey was sent out to a stratified judgment sample of the members of the American Society of Travel Agents. The results of the VCL survey indicated that the annual total market impact would be 176,400 annual bookings. The length of voyage most desired was a combination of three and four day cruises. Seven-day cruises were seen as desirable by 39.5% of the agents and only 1% wanted a cruise over seven days. The travel agents saw a potential to use the cruise to sell a high volume of incentive and convention business. Almost all of the agents felt that a cruise line operating on the Lakes should meet certain requirements in order to be successful. The line should use a relatively large vessel, ensuring passenger comfort in moderate seas, with numerous public spaces. The most requested shipboard amenities were a pool, excellent food, and a casino, (Stewart, 1990).

John Leeper and John Boylston published an article in 1987 entitled "The Emerging Domestic Cruise Industry" which investigated the potential of cruising along U.S. coastal waters. Their definitions included the Great Lakes and inland waterways as a market segment. The authors felt that there was the potential for a greatly expanded domestic cruise industry, (Leeper & Boyle, 1987).

The information provided by the market surveys and route studies in the 1970s and 1980s indicated that there clearly was a potential market for cruising on the Great Lakes. However, it was not until the late 1990s that an operator was able to have a successful cruising season with a large vessel.

1.4 The Great Lakes Overnight Cruise Market from 1990-2003

The Great Lakes cruise industry remained fitful until 1997 when the M/V Columbus engaged in a two-month cruise season. The Panama flagged vessel had been specially built for Hapag-Lloyd with the Great Lakes as one of the potential destinations, and was outfitted with a heated pool, sauna, fitness room, library, boutique, hair salon, two lounges and two dining areas, (Linde, 2009). The vessel returned every year until 2008 and was either chartered to the Great Lakes Cruise Company, a division of Conlin Travel located in Ann Arbor, MI, or passengers were booked directly by Hapag-Lloyd.

Conlin Travel has undertaken surveys of their passengers aboard the firm's chartered Great Lakes cruises. The survey results indicated that 86% of their passengers have taken cruises before and of that population 99% would recommend Great Lakes cruises to their friends, (Knight, 2001). Conlin's surveys allowed the firm to tailor its Great Lakes cruises and expand the operating season.

Mariport, a marine consulting firm involved in promoting Great Lakes Cruises, completed a market study in 1999. Chris Wright, the director of Mariport, estimated an annual potential market of 9,000 passengers in the Great Lakes cruise trade, (Brinkley, 1999).

The French flagged Le Levant, built in 1998, started cruising on the Great Lakes in 1999. This deluxe cruise ship carries 90 passengers and caters to the luxury end of the cruise market. The vessel returned to operate in the Great Lakes in 2000 but only occasionally returns.

In 2001 two additional vessels were added to the Great Lakes Cruise trade. In 2000 American Classic Cruise lines had built two U.S. flag ships with the intention of operating them in PVSA waters on the Great Lakes and US Gulf Coast, (Cudahy, 2001). American Classic Cruise Line's U.S. flagged M/V Cape May Light started the season with cruises on the eastern Great Lakes. The M/V Arcadia was chartered from Attika Shipping of Greece by Great Lakes Cruises of Waukesha, WI but In July 2001 failed a U.S. health inspection and did not operate on the Lakes. The September 11, 2011 terrorist attack on the World Trade towers and the Pentagon halted air traffic; as a result the Christopher Columbus and other vessels were forced to cancel cruises when passengers were unable to fly to or from the vessel.

The parent company of the Cape May Light, American Classic Cruise lines, went bankrupt before their Great Lakes cruises could expand and the vessels were returned to the U.S. Maritime Administration which guaranteed the loans. The bankruptcy was caused by company operations in Hawaii and not by operations of the Great Lakes vessel. The vessels were ultimately purchased in 2008 by Denmark's Clipper Group with International Shipping Partners of Miami as the current operators. The vessels were renamed the Sea Discoverer and Sea Voyager, (Tradewinds, 2008). They are currently laid up in Green Cove Springs, FL and are available for sale or charter, (ISP, 2011).

Christopher Wright, President of the Mariport Group has written and presented extensively on expanding Great Lakes cruising and ferry service. His 2002 and 2003 presentations provide a late 90s and early 2000 snapshot of the overnight cruising on the Great Lakes, (See Table 1), (Wright 2002, 2003). What the table does not convey is the fact that a number of the vessels only operated one or two seasons, and the vessels that consistently operated on the Lakes were relatively small vessels.

Year	Ships	Passengers	Cruises
1996	2	360	4
1997	3	1720	8
1998	3	2310	9
1996	4	3180	16
2000	4	3430	23
2001	6	5150	39
2002	7	6400	43
2003	5	4296	44

Table 1: Great Lakes Overnight Cruises: Vessels and Passengers 1996-2003

1.5 Great Lakes Cruising - 2004-2010 Security Impacts

Prior to September 11, 2001, the U.S. and Canada enjoyed one of the longest and most open borders in the world, (Lake Superior News, 2008). However, the 9-11 terrorist attacks had far-reaching effects and were the primary reason for passing the U.S. Homeland Security Act of 2002 that created the Department of Homeland Security. Among other duties, this administrative agency is responsible for securing U.S. nation's borders. As a result of this, and subsequent acts and regulations, border crossing and passenger customs procedures for people entering the U.S. are much more stringent due to these Homeland Security provisions.

New Maritime Transportation Security Act (MTSA) rules that took effect in July of 2004 forced U.S. ports to handle foreign-flagged cruise ships that carry a large number of foreign citizens more carefully to guard against terrorism, (Leslie, 2004). While the MTSA aims to enhance port security, and requires ports and vessels to control access to their sites, monitor activity, and screen baggage, cargo, personnel, and vehicles; port cities are forced to find ways to cover the expenses of security enhancements and meet the implementation deadlines necessary to remain in compliance with changing regulations, (D'Amico, 2004).

Ports that service passenger ships need to meet new and stringent U.S. Customs and U.S. Coast Guard requirements for passenger terminals. For ports such as Ft. Lauderdale that handle significant passenger traffic the added cost of new or retrofitted passenger terminals can be absorbed through the high traffic volume. Because the cruise trade has been slight for so many years on the smaller Great Lakes ports most have no terminal facilities much less Customs approved ones. Great Lakes ports that want to induce cruise ships to visit face a significant cost barrier to becoming cruise stops even if the port is currently an approved U.S. Customs Port of Entry. In the spring of 2011 the Detroit/Wayne County Port Authority plans to open a $21.5 million riverfront facility to attract cruise ships. The project has taken nearly 20 years to get off the ground, (The Windsor Star, 2011).

The Duluth Port Authority has taken a very proactive and cooperative approach in working with Customs and U.S. Coast Guard adapting at a significant cost to the port authority a waterfront sited facility such as the Great Lakes Aquarium as a modified cruise terminal. (Passi, July, 2008). This adaptation was only temporary and the federal agencies have made it quite clear that this is only a short term fix to grow the business. For the most part, the U.S. Customs has been very helpful to Great Lakes ports by granting temporary exemptions, but the agency is bound by laws that were designed with large passenger volume costal ports in mind. Coupled with the cost of new terminals is the reality that U.S. Customs districts may elect to have different standards for clearing passenger ships calling at different ports of entry on the Great Lakes.

Chris Conlin, president of Great Lakes Cruise Company, acknowledged that security concerns have complicated nondomestic cruise operations and that constantly changing rules have added to the confusion. In September 2007, the German cruise ship M/V Columbus had planned to disembark passengers in Chicago, IL, but according to a Duluth News Tribune article by Peter Passi in February of 2008, "Homeland Security officials rejected the itinerary, saying the city lacked a marine terminal with appropriate security and screening facilities to receive foreign travellers. Efforts to reroute the

vessel to Milwaukee or Duluth met with the same objection.", (Passi, February, 2008). Passengers eventually had to be transferred into lifeboats while the Columbus was anchored in the St. Mary's River. The lifeboats docked in Canada where the cruise line operator, Hapag-Lloyd, chartered a bus to bring the passengers to an established border crossing to clear customs before they could return to the Columbus and continue their trip to Chicago.

The Columbus did not return to the Great Lakes in 2008. The Nantucket Clipper's new owner, Cruise West, out of Seattle, WA, wanted to use the boat in the Alaskan cruise trade. While several cruises include Lake Ontario and the St. Lawrence Seaway in their itineraries, the departure of the Columbus and the Nantucket Clipper left the Grande Mariner as the only overnight cruise vessel operating on the northern Great Lakes during the 2008 season.

During the summer and early fall of 2009, the M/V Clelia II, a 100 passenger overnight vessel, made voyages between Duluth and Toronto. Pearl Seas Cruise line's M/V Pearl Mist, an all-suite 214-passenger luxury vessel, made its inaugural cruise in March of 2009. While most of the Great Lakes itinerary for the M/V Pearl Mist was near the St. Lawrence Seaway, two extended trips (10 and 11 nights) included Georgian Bay in Lake Huron.

According to the Great Lakes Cruise Company's website, www.greatlakescruising.com, in 2011 there will be five vessels operating on the Great Lakes. A breakdown of the vessels' cruises is very informative about the current status of the Great Lakes cruise industry. One of the vessels, the Canadian Empress, only visits Canadian ports. Table 2 provides an overview of the remaining four vessels that are calling at U.S. ports.

Vessel	Flag	Cruises	Total Berths	Border Crossings
Columbus	Bahamas	2	846	4
Grand Caribe	U.S.	3	300	3
Grand Mariner	U.S.	9	900	4
Niagara Prince	U.S.	4	336	0
Total		18	2382	11

Table 2: Great Lakes Overnight Cruises - Estimates for the 2011 Season

The table shows that the number of vessels, available passenger berths, and number of cruises, for overnight cruise vessels calling at U.S. ports has declined to 1998 levels. All of the listed vessels have a history of operating on the Great Lakes. The U.S. flag vessels were built prior to 2000, carry 100 or fewer overnight passengers and do not have amenities such as pool, arcades, gambling or the ability to buy alcohol on board. All of these vessels are under 100 gross tons in size. They fall under the Title 46 Code of Federal Regulations Subchapter T or K rules. These regulations allow for different crew, construction and equipment requirements than a larger vessel under the Subchapter H regulations. The difference in regulations may reduce cost but may also limit the vessel's operation

to a maximum distance of 20 nautical miles offshore. The geographical range creates difficulties in setting up routes where crossing the open Lakes is necessary.

Since the 1960s the Great Lakes overnight cruise industry has not seen a resurgence despite having over 50 million people living within a half hour's drive. Just outside of the entrance to the Great Lake, the Canadian province of Québec's international cruise industry generates direct economic spinoffs of nearly $80 million, with each passenger spending an average of $118 per port of call. The province recorded its best cruise season ever in 2008, with some 150,000 passengers visiting nine ports of call along the St. Lawrence River. There was a decline in 2009 due to the recession. A total of 102,254 passengers enjoyed the city's charms in 2010, up 18% over 2009. On Oct. 16, 2010 the port welcomed four cruise vessels on the same day, (Canadian Sailings, 2011). These facts indicate that there is regional demand but cruise operators are stymied in their ability to expand the Great Lakes market. Four additional types of laws and regulations beyond security have significant impacts that have impeded the growth of the region's overnight cruise market. These policies include: cabotage, navigation, gaming and environmental laws and regulations.

2. Policy Impediments to Market Growth of Great Lakes Cruising

2.1 Cabotage Laws and Regulations

The first United States Congress passed laws protecting U.S. shipping in 1789. The intent of the original and all subsequent laws has been to protect the United States coastwise trade from foreign competition. The 11th Act of Congress in 1789 established the documentation system for U.S. vessels in order to regulate coastwise trade. The underlying concept has been that this protection would encourage the development of an American merchant marine for both national defence and commercial purposes. U.S. Customs (Customs and Border Protection) has always enforced coastwise laws except for a 58-year period (1884-1942) when the responsibility resided with the former Bureau of Navigation under Treasury and Commerce.

Policy issues have historically had significant impact on the Great Lakes overnight passenger trade. Many of the most successful Great Lakes passenger vessels were owned by the railroads. In 1915, the anti-monopoly provisions of section 11 in the Panama Canal Act of 1912, chapter 390, 37 Stat. 560, 566 (August 24,1912), which prohibited railroads under most circumstances from owning steamships, went into effect. As a result, railroad-owned company fleets were sold to buyers with no ownership interest in railways because under the new law railroads had to divest themselves of their marine assets.

The Great Lakes is unique among the United States coastal trade because there is no adjacent international water for a vessel to sail into. A vessel sailing upon the Lakes is either in U.S. or Canadian territorial waters. Unless the vessel is travelling between the U.S. and Canada it will be engaged in coastwise trade, (Blacks, 1979). As such, a vessel's operations will fall under the cabotage laws unless the vessel is only operated between a U.S. and Canadian port. Under the treaties between the two nations a pilot must be aboard a foreign flag vessel trading between Canadian and U.S. ports.

A cruise vessel that carries passengers from one Great Lakes U.S. port to another U.S. port without stopping in Canada must fulfil the requirements of the U.S. 1896 Passenger Vessel Services Act, (PVSA). (46 United State Code , 1896). The PVSA act requires that the vessel be registered in the U.S., that a majority of its stock be owned by U.S. citizens and that it be crewed by U.S. citizens. While the wording of the 1896 act does not require that the vessel be built in the U.S. it does mandate that it be a documented vessel and documented vessels must be U.S. built. The United States Coast Guard (USCG) issues certificates of documentation, and this agency determines the eligibility of vessels for a coastwise endorsement to appear on such certificates. U.S. Customs has ruled that generally, a passenger is any person carried on a vessel who is not directly and substantially connected with the operation of such vessel, her navigation, ownership, or business, (Customs Bulletin and Decisions, 2002).

The geography of the Great Lakes does not preclude the use of a foreign-flag vessel. Indeed during the past two decades foreign vessels have been the largest cruise ships on the Great Lakes. However, the route structure will be artificially constrained because the vessel must call at Canadian ports every voyage. The 1896 act states that no foreign vessel shall transport passengers between ports or places in the United States either directly or by way of a near-by-foreign port, (46 U.S.C. App. 289.1990). A “nearby foreign port” as defined includes any port in North America. A vessel without coastwise documentation cannot pick up a passenger in Duluth, MN then call at Canadian ports en route to disembarking the passenger in Chicago,IL (Title 19, § 4.80a(a)(2). A vessel that is not properly documented and engages in coastwise trade may be fined $500 per day and the vessel and its cargo may be subject to seizure and forfeiture, (Title 19, 2003). The penalty imposed for the unlawful transportation of passengers between coastwise points is $300 for each passenger so transported and landed (46 U.S.C. App. 289, as adjusted by the Federal Civil Penalties Inflation Adjustment Act of 1990). There is one Great Lakes exception to the 1896 act that allows the use of Canadian flag passenger vessels between the port of Rochester, NY and the port of Alexandria Bay, NY. This right to operate on this coastwise route with Canadian flag vessels must be renewed annually, (Title 46, US Code Section 55121).

“Cruises to nowhere” off the coast of the U.S. state of Florida have been popular for decades with passengers and industry. The cruise ships do not have any destination except going outside the territorial waters of the U.S. (a distance of 12 nautical miles). U.S. Customs has ruled that the transportation of passengers to the high seas or foreign waters and back to the point of embarkation, assuming the passengers do not go ashore, even temporarily, at another United States point, often called a "voyage to nowhere," is not considered coastwise trade. Once the vessel has entered international waters it can return to the same port of departure in the U.S. having made an “international voyage.” This allows the ship owner to operate a foreign flag vessel under the labor laws pertaining to that flag state and for passengers to gamble and buy duty free goods.

Vessels can easily travel over 12 nautical miles on the Great Lakes and enter Canadian waters, however U.S. Customs has ruled that cruises to nowhere are not possible on the Great Lakes. U.S. Customs has ruled that the territorial sea limit bears no relevance to circumstances in which the waters of the U. S. and those of a foreign nation are contiguous. This is true regardless of whether the point of contiguity is greater or lesser than the territorial sea limits, (Schifflin, 1993). Customs

ruled in another case concerning passenger transportation on the Great Lakes that a voyage to nowhere would require a 300-mile round-trip since the international boundary was some 150 miles from the point of embarkation, (Fritz, 1988). The constraints imposed by the PVSA result in constraints on Great Lakes route structures and create additional operating costs for foreign flag operators.

2.2 Pilotage Laws and Regulations

The pilotage laws of Canada and the United States require that registered pilots must be navigating aboard ocean going vessels operating on the Great Lakes. The Great Lakes Pilotage Regulations (C.R.C., c. 1266) provide regulatory authority for Canadian waters, (Canadian Pilotage Act, 2011). The Great Lakes Pilotage Act of 1960 and its associated regulations address pilotage requirements in the waters of the Great Lakes under U.S. jurisdiction, (Title 46, 2008).

In its current state, the system is similar to a regulated monopoly with all ocean going ships required to take a pilot. Pilot services are available in U.S. and Canadian waters. There are five pilotage service providers in the Great Lakes-St. Lawrence Seaway region. Two are Canadian, and three are U.S. These organizations provide services according to geographic area. In general, Canadian pilot organizations provide pilots to ships while they are in Canadian territory. U.S. pilot organizations provide pilots to ships while they are in U.S. territory. In bi-national areas of the Great Lakes (Lake Superior, Lake Huron, the St. Clair River, Lake St. Clair, the Detroit River, Lake Erie and Lake Ontario) U.S. and Canadian pilot organizations divide the business and take turns providing pilots.

U.S. and Canadian vessels navigating in the Great Lakes can use officers who are citizens of their respective countries with appropriate Great Lakes pilotage endorsements on their licenses. However the vessels of other nations must carry a pilot in addition to their regular crew. A strict reading of the regulations indicates that a U.S. or Canadian flag cruise ship that operates during the off season in waters other than the Great Lakes may be required to take a pilot even though the master and other offices have appropriate pilotage endorsements (certificates).

The cost of a registered pilot aboard a Great Lakes cruise vessel is determined by formulas based on vessel size and the route structure. The additional charges that can accrue due to locks, layovers, pilot exchanges and other vessel movements are complex enough so that the pilot authority pricing is based on ship size and route rather than ship type. The vessels are assigned a pilotage class for pricing. The formula used by the Canadian authority is determined in meters. The fees that are charged are roughly the same for U.S. or Canadian pilots.

A 2009 case study for a potential cruise vessel with 65 berths and dimensions of length-over-all 65.52 meters x beam 10.97 meters x draft 3.80 meters, was undertaken by the Great Lakes Cruising Coalition, (Burnett, 2009). As part of the study a pilotage fee of CA $26,403 was estimated for a Toronto, Canada to Thunder Bay, Canada one-way seven day voyage that started in the port of Toronto, through the Welland Canal, with stops in Windsor, Midland, Parry Sound, Little Current, and Sault Saint Marie, Ontario, Canada. The pilotage fee for this proposed vessel with 65 berths at a 100% occupancy rate breaks down to $406 per passenger during a one week cruise. The fee would not change if occupancy falls below 100%. The case study pilotage fee is an estimate and would be

revised during actual operations. Larger vessels would have a higher pilotage fee but the cost per person may be less if the is a higher passenger to pilot ratio.

This case study shows that the price of pilotage drives operators to capture costs through higher prices and if possible to sail as large a vessel as possible to spread the pilotage fee over a greater number of passengers. There may be options to reduce the cost of pilotage for a Great Lakes Cruise vessel.

One option would be to have a U.S. or Canadian flag vessel that operates only in the Great Lakes and as such could operate with respective officers with appropriate pilotage endorsements. This was the model used historically by Great Lakes based cruise vessels. However, the six to eight month effective cruising season of the Great Lakes means that the vessel would go into layup for four to six months. Unless there was the opportunity for an off season revenue stream as a hotel, the asset utilization for the high cost of U.S. shipbuilding and operations would make that option economically unsustainable.

A second option that has not been explored would be to have a U.S. flag vessel that is documented for coastwise trade operate on the southern U.S. coastal cabotage routes during the winter months with ocean licensed deck officers. During the summer months, Great Lakes licensed deck officers with appropriate pilotage endorsements would navigate the vessel. This assumes USC 46, Section 9203 Great Lakes Pilots Required, Part 2(f) would be applied even though the vessel calls at foreign ports outside of the Great Lakes. However, following this regulation would remove the option for the vessel to go to any foreign ports except Canadian Great Lakes ports. Prior to setting up this operation a market study to determine if there is sufficient demand on the southern routes would need to be undertaken.

2.3 Gaming Laws and Regulations

In 2001 the President of NCL cruise line stated; ''On-board gambling revenue amounts to between five toseven percent of our total net revenue,'' he said, ''about what we make from the bar, the on-board shops or from land packages.", (New York Times, 2001). In 2004 the revenue from gambling on cruise ships was growing at a faster rate than ticket sales, (Dupont, 2004). Dowling in 2006 listed gambling and bars as the two largest sources of revenue for cruise ships and posited that this was occurring because of the size of vessels, (Dowling, 2006). In 2005 a cruise ship's revenue from gambling was estimated to be from 20-40% of total net revenue, (Alderton, 2005). The growth of gambling as a revenue source for cruise ships is significant. A cruise ship that cannot engage in gambling as part of its operations on a particular route is at a financial disadvantage when compared to a similar route where gambling is allowed.

The Gambling Ship Act forbids gambling on U.S. flag vessels if such gambling ship is on the high seas, otherwise under or within the jurisdiction of the U. S., is not within the jurisdiction of any State, or when they are engaged in interstate commerce, (USC 18, 2005). The term “gambling ship” means a vessel used principally for the operation of one or more gambling establishments. This term does not include a vessel with respect to gambling aboard such vessel beyond the territorial waters of the U. S. during a covered voyage (as defined in section 4472 of the Internal Revenue Code of 1986 as in effect on January 1, 1994). The term "covered voyage" shall not include the voyage of a passenger

vessel less than 12 hours between two ports in the U. S. While in theory, a U.S. flag vessel on an interstate Great Lakes cruise may be able to meet the covered voyage definition, the only time the passengers would be allowed to engage in gambling would be in Canadian waters. If the Canadian federal or provincial authorities prohibit gambling on the vessel then there can be no gambling on the vessel.

In 1951, the U.S. Congress enacted the Transportation of Gambling Devices Act, (15 U.S.C. §§ 1171-1178). The Act, more commonly known as the Johnson Act, has been amended several times during the intervening years. In 1992, Public Law 102-251 amended the Johnson Act regarding the possession and transport of gaming equipment. The original Johnson Act restricted gambling even on vessels operating within a state's boundaries; however the act was amended in 1994 to allow gambling on U.S flag vessels that are on intrastate voyages. Also exceptions were made for foreign flag vessels travelling to and from the states of Alaska and Hawaii provided those states allow gambling aboard the foreign flag vessels.

While the gaming rules remain inconsistent between the U.S. and Canada and vary between states, some companies have found ways to offer limited shore based gambling as part of their cruise package offering. Companies will advertise their Great Lakes cruise with gambling opportunities at one of the land-based casinos as part of the package either before or after the cruise, (A2Z Casino, 2008). This substitute fix does not provide as large of a revenue stream for the cruise ship.

The gaming laws that apply to cruise ships operating in U.S. domestic (state) waters are administered by each individual state. Each state has the authority to control or prohibit cruises-to-nowhere on the intrastate itineraries. The seven states and two provinces that border the Great Lakes have different laws and tax regulations governing the operation of shipboard gambling within their jurisdictions. One of the unique geographical features that impacts legal rulings in the Great Lakes is the fact that a vessel can engage in international trade between Canada and the U.S. but never be out of the boundaries of a state or province. The prohibition of gambling by some Great Lakes states and aboard U.S. flag vessels engaged in interstate commerce on the Lakes, has prevented cruise vessels in this trade from having gaming as an additional revenue source.

2.4 Environmental Laws and Regulations

Cruise vessels operating in the Great Lakes must comply with numerous environmental laws but three laws create special operating restrictions. According to the U.S. Environmental Protection Agency (EPA) the Great Lakes contains 21% of the world's and 84% of North America's surface fresh water, (EPA, 2008). Many communities that line the shore as well as the vessels obtain their drinking water from the Lakes. The Great Lakes states collaborate together to revise their water quality standards in accordance with the Great Lakes Initiative (GLI). The GLI was developed by the U.S. EPA, Great Lakes states, tribes, environmental groups, industries, and municipalities in response to the Great Lakes Water Quality Agreement, Great Lakes Toxics Substances Control Agreement, and Great Lakes Critical Programs Act of 1990, (EPA, 2006). Waste disposal, ballast water and air emissions, are the three environmental concerns that have now, and will in the future have the greatest impact on cruise ship operations in this region.

The International Maritime Organization (IMO), a body of the United Nations, sets international maritime vessel safety and marine pollution standards. The IMO implemented the 1973 International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978, known as MARPOL 73/78. Cruise ships flagged under countries that are signatories to MARPOL are subject to its requirements, regardless of where they sail, and member nations are responsible for vessels registered under their respective nationalities. Six Annexes of the Convention cover the various sources of pollution from ships and provide an overarching framework for international objectives to protect the marine environment from waste discharges. Ratification and implementation by sovereign states is necessary.

All six have been ratified by the requisite number of nations; the most recent is Annex VI, which took effect in May 2005. The United States has ratified all except Annex IV that contains requirements to control pollution of the sea by sewage, (Copeland, 2008). In the United States, the Act to Prevent Pollution from Ships (APPS, 33 U.S.C. §§1905-1915) implements the provisions of MARPOL and the annexes to which the United States is a party. APPS applies to all U.S. flagged ships anywhere in the world and to all foreign flagged vessels operating in navigable waters of the United States or while at port under U.S. jurisdiction. The U.S. Coast Guard has primary responsibility to prescribe and enforce regulations necessary to implement APPS in these waters. The regulatory mechanism established in APPS to implement MARPOL is separate and distinct from the Clean Water Act and other U.S. federal environmental laws.

In the United States, several federal agencies have some jurisdiction over pollution from cruise ships in U.S. waters, but no single agency is responsible for, or coordinates all of the relevant government functions. The U.S. Coast Guard and EPA have principal regulatory and standard-setting responsibilities, and the Department of Justice prosecutes violations of federal pollution laws. In addition, the Department of State is responsible for pursuing foreign-flag violations. Other federal agencies have limited roles and responsibilities. For example, the National Oceanic and Atmospheric Administration (NOAA, Department of Commerce) works with the Coast Guard and EPA to report on the effects of marine debris. The Animal and Plant Health Inspection Service (APHIS) is responsible for ensuring quarantine inspection and disposal of food-contaminated garbage and approving shore side disposal facilities. In some cases, states and localities have responsibilities as well, for example under the Clean Water Act.

2.4.1 Waste Disposal

The Federal Water Pollution Control Act, or Clean Water Act (CWA), is the principal U.S. law concerned with limiting polluting activity in the nation's streams, lakes, estuaries, and coastal waters. The CWA controls vessels (point source pollution) through the National Pollutant Discharge Elimination System program, (NPDES), authorized in Section 402 of the act. Sewage from cruise ships was not listed as a pollutant in the act but under Section 312 the Clean Water Act prohibits the dumping of untreated or inadequately treated sewage from vessels into the navigable waters of the United States. This means that the entire Great Lakes region requires vessels to have approved and adequate sewage treatment systems because during their stay they can never pump untreated sewage overboard.

There are no separate federal effluent standards for graywater discharges. The Clean Water Act includes graywater in its definition of sewage for the express purpose of regulating commercial vessels in the Great Lakes, under the Section 312 MSD requirements. Thus, currently graywater can be discharged by cruise ships anywhere outside of territorial waters except in the Great Lakes, where the Section 312 marine Sanitary Devices (MSD) rules apply. Those rules prescribe limits only for bacterial contaminant content and total suspended solids in graywater. Vessels operating in the Great Lakes must use a U.S. Coast Guard approved MSD.

The Act to Prevent Pollution from Ships (APPS, 33 U.S.C. 1901-1915) also prohibits the discharge of all garbage within 3 nautical miles of shore, certain types of garbage within 12 nautical miles offshore and plastic anywhere. The disposal of garbage overboard is prohibited anywhere on the Great Lakes. Cruise vessels on the Great Lakes are never outside of territorial water thus requiring vessels to transport garbage to an approved port disposal facility or incinerate it aboard ship.

All food wastes aboard a vessel that have been to a port outside the U.S. or Canada within the previous two year period is considered regulated garbage. The Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA) controls the disposal of regulated garbage. A cruise vessel on the Great Lakes must comply with the following two regulations. (1) All regulated garbage must be contained in tight, leak-proof covered receptacles during storage on board a vessel while in the territorial waters of the United States. All such receptacles must be inside the guard rail of the vessel; and (2) Regulated garbage shall not be unloaded from the vessel in the U.S. unless it is removed in tight, leak-proof receptacles under the direction of an APHIS inspector to an approved facility for incineration, sterilization, or grinding into an approved sewage system, (Code of Federal Regulations 7, 2010). A Great Lakes cruise vessel must have adequate approved storage for all regulated garbage to carry it to approved disposal facilities, and the number of ports with these facilities is limited.

2.4.2 Ballast Water

The discovery of the zebra mussel in the Great Lakes prompted the U.S. Congress to pass the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA) of 1990. The NANPCA's ballast water guidelines became mandatory in 1993 for vessels arriving from overseas ports and entering the Great Lakes, (Federal Register, 1993). Congress expanded NANPCA in 1996 and passed the National Invasive Species Act (NISA), which set voluntary ballast water management guidelines and mandatory ballast water reporting requirements for vessels entering the United States after operating outside the Exclusive Economic Zone (EEZ), (Federal Register, 1998). The U.S. Coast Guard was delegated authority to establish a phased-in regulatory program for ballast water.

Ballast water exchange is mandatory for any vessel carrying ballast water entering the Great Lakes from a foreign port outside of the Great Lakes. This exchange must take place at least 200 miles from shore and in depths of water of at least 2,000 meters. Ballast water is checked to ensure acceptable salinity levels, (St. Lawrence Seaway Corporation et al, 2004). During the ballast water inspection the vessel will also be inspected by one Canadian and one U.S. inspector who will ensure that the vessel has proper Seaway fittings, port state control items such as lifesaving equipment and marine sanitation devices.

Environmental groups first petitioned the EPA in 1999 to begin regulating ship discharges under the Clean Water Act. The EPA had allowed ships to dump ballast water and other pollution without Clean Water Act permits until a decision in a California federal court in 2005 resulted in the EPA issuing Vessel General Permits in 2008, (Northwest Environmental Advocates v. EPA, No. C 03-05760 SI (N.D.Cal, September 18, 2006)). The EPA is currently regulating ballast water as the "discharge of a pollutant" under the Clean Water Act's Section 402 permit program. The National Pollutant Discharge Elimination System ("NPDES") permit is the basic regulatory instrument of the Clean Water Act, SECTION 402, 33 U.S.C. Section 1342; 40 C.F.R. PART 122.

This regulatory process is complicated for vessel operators on the Great Lakes because while the EPA issues guidelines under the CWA Section 402 permit program, individual states have the right to issue regulations stricter than the EPA guidelines. The seven states bordering the Great Lakes could have seven different requirements for vessels entering their respective waters.

On December 17th, 2008 the New York State Department of Environmental Conservation (NYDEC) issued the state's criteria for the certification of a Vessel General Permit (VGP) for ballast water discharge. The NYDEC rejected the IMO ballast water criterion as insufficient to stop the spread of invasive species. To meet the third criteria set in the certification a vessel would have to treat its ballast water 1,000 fold better than ballast water exchange, (Zagorski, 2008). New York was not alone in setting up separate VGP requirements and if all were enforced cruise vessels would have to meet a variety of different standards on a typical voyage. The lawmakers, however, had moved beyond the ability of existing technology to meet the cited standards, and at present the VGP requirements are in various states of suspension, under litigation or review.

The shipping industry supports the concept of a single federal ballast discharge standard rather than conflicting state regulations. On March 8, 2011 the EPA agreed in an out-of-court settlement to draft new pollution standards for ballast discharges under the landmark 1972 Clean Water Act. The settlement requires the EPA to encourage "regionally consistent approaches to settling ballast water standards" among Great Lakes states, (Egan, 2011). Cruise ship operators who might consider the construction or retrofit of a vessel to serve the Great Lakes do not yet know the requirements and equipment that will be needed to meet ballast water standards in the region.

2.4.3 Air Emissions

The Clean Air Act (42 USC 7401 et seq.) (CAA) was first enacted in 1970 to regulate airborne emissions of a variety of pollutants from area, stationary, and mobile sources. The 1990 CAA Amendments were intended primarily to fill the gaps in the earlier regulations, such as acid rain, ground level ozone, stratospheric ozone depletion, and air toxins. The 1990 Clean Air Act Amendments Section 112(b) identifies a list of 189 hazardous air pollutants (HAP) selected by Congress based upon their potential for causing human health or environmental hazards. Cruise ships emissions were not regulated until February of 2003.

The CAA directs EPA to monitor, assess, and report on the deposition of toxic air pollutants to the "Great Waters," which include the Great Lakes and Lake Champlain. Activities include assessing deposition to these waters by establishing a deposition monitoring network, investigating sources of pollution, improving monitoring methods, evaluating adverse effects, and sampling for the

pollutants in aquatic plants and wildlife. Pollutants of concern to the Great Waters include mercury, lead, cadmium, nitrogen compounds, POM/PAHs, dioxins and furans, PCBs, and seven banned or restricted pesticides.

On March 30, 2009 the U.S. Environmental Protection Agency (EPA) requested that the IMO extend the emissions control areas (ECA), to the Great Lakes, (IMO, 2009). The proposed regulations call for reducing sulphur content in fuel to 1% in 2012 and 0.1% in 2015. The ECA regulations will force the industry to move from residual fuel oil to refined diesel fuel by 2012, with an associated significant increase in fuel costs. Switching to distillate fuels rather than residual will not only increase the per ton cost by about $145 U.S. per ton but there are doubts about the availability of a sufficient quantity of the fuel where needed, (Munoz, 2010). A 2009 study estimated that fuel cost increases under the average 2008 price scenario would range from a low of 40% to a high of 58% when using 100% Marine Diesel Oil (MDO), (English et al, 2009). In March of 2010 the IMO approved the request for an extension. Cruise ship operators on the Great Lakes will have to have engines capable of burning the lighter fuels, and also factor in the increased costs. A foreign vessel entering from the Seaway may also have to consider its bunker capacity if it burns residual fuels in other areas. It will have to have bunker capacity for light fuel because from the time it enters the 200 nautical mile ECA off the coast until it leaves that zone it will always be under ECA emission guidelines.

3. Summary and Recommendations

Cruise ship operators who elect to enter the Great Lakes trade are not taking the path of least resistance. The existing regulations and policies create a high degree of complexity and restrictions for daily operations. The likelihood of additional and possibly conflicting regulations adds a significant element of uncertainty on how vessels should be constructed and operated in Great Lakes service.

Instrumental in fostering the cruise industry in the Great Lakes region, the Great Lakes Cruising Coalition has been in existence since 1997. The primary focus of the Coalition is to attract more ships to the area. The Coalition consists of a handful of ships and over 20 U.S. and Canadian members representing cities, states, provinces, cruise companies, and ports from the St. Lawrence Seaway to Duluth, MN and all five Great Lakes in between.

The cruise industry could have great economic development in the cities and towns bordering the Great Lakes; and many believe it is in the best interest of both Canada and the U.S. for province, federal, and state officials to work together to build the cruise industry in this region. Legislators in several U.S. states are exploring the issue and working with port authorities and Homeland Security officials to help create marine passenger terminals and improve infrastructures to complement a Great Lakes cruising industry.

In an ideal situation policies would be enacted to encourage Great Lakes cruising while preserving and improving the environment. The two hundred year plus goal of the U.S. Congress in enacting various cabotage laws has been to promote the U.S. flag maritime industry. Continuing with that goal Congress should consider enacting laws that: 1. Establish uniform border crossing procedures for the entire Great Lakes; 2. Stream line border crossing procedures for U.S. and Canadian vessels

on the Great Lakes so that these vessels can call at smaller ports of entry; 3. Allow U.S. flag cruise vessels that operate on foreign voyages to forgo pilots if their U.S. officers have appropriate U.S. Coast Guard licences; 4. Amend the PVSA to enable a U.S. flag vessel to engage in cruises to nowhere on the Great Lakes so that passengers can gamble and buy duty free goods where permitted under state law; 5. Amend the Gambling Ship Act and Johnson Act to allow gambling aboard U.S. flag cruise ships operating in nearby foreign or interstate service on the Great Lakes when permission is granted by states and/or provinces; 6. Provide financial incentives to build Great Lakes suitable cruise ships in U.S. shipyards that incorporate the technology to meet the evolving environmental laws and regulations; 7. Establish a single ballast water standard for the entire Great Lakes including Canadian provinces which would apply to all vessels with ballast on board. The political reality of U.S. cabotage is that except for recommendation #1 the others would not be extended to foreign flag cruise vessels with the possible exception of Canadian flag cruise ships.

With cooperation between federal and state governments to address issues such as legalized gambling, port security, customs processing, and pilotage there is the potential to restore Great Lakes cruising to a level approaching that of a hundred years ago. Without this cooperation the likelihood is that the industry will continue to languish.

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