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# Cruising Without a Bruising

Cruise Tourism and the Maritimes

By Ross A. Klein



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### **About the authors**

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*The opinions and any errors in this paper are those of the author, and do not necessarily reflect the views of the Canadian Centre for Policy Alternatives.*

# Executive Summary

Cruise tourism in the Maritimes has grown exponentially over the past decade. The Maritimes experienced an 1800 percent increase in cruise passenger numbers between 1990 and 2008. In 2008, the ports collectively welcomed more than 550,000 cruise passengers. In 1990, four ports combined (Halifax, Sydney, Saint John, and Charlottetown) received less than 30,000 passengers with Saint John receiving only 1,800 passengers and negligible traffic to Charlottetown and Sydney. Halifax and Saint John have experienced huge growth in the number of cruise passengers in recent years. The pace of growth is similar in Sydney and Charlottetown. Between 2007 and 2008 alone, Charlottetown saw an increase of 197 percent, Sydney 107 percent, Saint John 38 percent, and Halifax 29 percent. The cruise industry is obviously a significant part of the Maritime economy. However, while cruise ships can have positive economic impacts, they also have their problems.

The Canadian Centre for Policy Alternatives has published three previous reports on this subject: *Playing Off the Ports: How BC Can Maximize its Share of Cruise Tourism*, *Charting a Course: The Cruise Industry*; *The Government*

*of Canada, and Purposeful Development*; and *Cruising — Out of Control: The Cruise Industry, The Environment, Workers, and the Maritimes*. This report builds on earlier ones, though each of the reports provides background, as well as a fuller discussion and analysis of some of the issues raised here.

## Key Findings

**There is an inequitable accounting and division of economic costs and benefits between the cruise industry and local ports and communities.**

One set of concerns highlighted in this report regarding the division of economic costs and benefits is the disparity between the profit of the cruise industry, which earns billions of dollars in net profit every year, and the revenue seen by ports from cruise tourism — ports struggle to recoup their costs, much less realize a reasonable return. Another component is the inequitable split of revenue generated from shore excursions and onshore shopping. Local excursion providers receive half (or less) of what passengers pay the cruise ship for their tours, and many stores

are expected to pay a significant share of revenue from purchases by passengers as commissions or fees back to the ship.

There is a need for a fuller account of the direct and indirect costs and benefits related to this industry. As is discussed in this report, investing in infrastructure for cruise ships must be weighed against other such infrastructure projects that might have greater social and economic benefit for local communities. Currently, decisions about the benefits are based on limited data that is presented as an amalgam estimate of per passenger spending. The industry has collected this (now outdated) data by asking passengers how much they spend. Other data suggests that the industry overstates claims about the benefits to local communities. For example, the commissions and fees cruise ships charge passengers, are currently counted as passenger spending. This is not spending that would ever benefit local shops or ports, however. Cruise passenger spending at local shops also varies substantially depending on whether passengers are stay-overs and whether they stay on board.

The ports and taxpayers in the Maritimes are subsidizing the profitability of an industry that is registered offshore, relies on poorly paid workers from developing countries, and that contributes a relatively modest amount to the local economy.

**Cruise ships' environmental impact is a significant problem that is inconsistently regulated and enforced.**

The cruise industry markets itself as a responsible steward of the marine environment, often asking why it would pollute when its livelihood depends on keeping the oceans pristine. The question is effective in deflecting attention from an environmental record — the North American industry has been fined more than US\$50 million over the past decade. Canada's regulations and enforcement lag quite far behind states in the U.S. Canadian regulations do not address the full range of discharges into Canada's wa-

ters, which is something that cruise ships take advantage of by polluting legally in Maritime waters. While the International Convention for the Prevention of Pollution from Ships (MARPOL) is at times more stringent than Canadian law, MARPOL does not have an enforcement regime.

**Cruise ships have instituted insufficient security and safety measures, have high crime rates and do not adequately report or act on the crime that does occur.**

The cruise industry claims that a cruise ship is the safest form of commercial travel. It has perpetuated the myth by pointing to data focused only on three issues of safety: fatalities, injuries requiring treatment beyond first aid, and accidents such as trips and falls. As is shown in this report, data on sexual assaults, disappearances under mysterious circumstances and robbery, debunk this myth. Currently, the industry often ensures that incidents are not made public or characterizes incidents as isolated exceptions or as statistically insignificant. Understanding the complexity of the problem of crime on-board cruise ships is relevant for the 15,000 Maritimers (and half-million Canadians) who take a cruise each year, and for the many Canadians who work on cruise ships. It should be of particular concern to Canadians that the cruise industry has committed to report crimes against American citizens, but has made no such commitment regarding Canadians.

## Key Recommendations

**There is a need to increase the economic benefits to ports and local businesses or rethink the indirect and direct subsidies provided to this industry via infrastructure spending.**

- The provincial governments and associated related agencies, the federal government and Atlantic Canada Opportunities Agency must assist port authorities to **prevent economically exploitative**

### **industry practices of local communities.**

In order to do so, they must:

- Support ports to attain a fair share of cruise passenger dollars for local communities;
- Support local shops and shore excursions providers and ensure that cruise ship passengers do not receive unfair advantages compared to land-based visitors; and,
- Protect ports' long-term economic interests by facilitating multi-year contracts in which cruise lines guarantee a number of passengers per year.

### **It is well past time for our governments to address threats to the marine and local environment posed by the cruise industry.**

- As marine environmental protection is a federal responsibility, provincial governments in the Maritimes, and our own federal Members of Parliament, need to press the federal government to **pass legislation directed at the cruise industry to protect the marine environment and air quality of Canada.**
  - The legislation must codify specific limits for the discharge of grey water or black water, waste water and sewage sludge, food waste or recyclable waste, oily bilge water, sulphur content in fuels, speed and the use of onboard incinerators. Specific recommendations for each area are outlined in detail in the conclusion to the report.
  - The legislation must include monitoring and stiff penalties for violations. In order to ensure compliance to these regulations, onboard observers are also recommended.

### **Crime prevention and prosecution must be improved in order to increase the security and safety of Canadian passengers onboard cruise ships.**

- The federal government must:
  - Require the cruise industry to report all crimes against Canadians, and all crimes committed in Canadian territorial waters, to Canadian authorities. In addition, cruise ships must ensure that personnel cooperate with these authorities in their investigation and prosecution of shipboard crime.
  - Ensure the RCMP has sufficient resources to investigate shipboard crime and to protect Canadian citizens adequately.
  - Introduce legislation to extend its authority to crimes against Canadians on foreign-flagged cruise ships operating beyond Canadian territorial waters.
  - Prepare a pamphlet dealing with onboard crime for distribution through travel agents to Canadians taking a cruise.

### **Conclusion**

Cruise ships are undoubtedly a major feature of seasonal tourism for ports in the Maritimes. It is imperative, therefore, that Maritimers understand this industry better. It is also imperative that our governments are held to account for its support of this industry and for ensuring that the benefits from this industry outweigh the costs to local ports and communities.

# Introduction

Cruise tourism in the Maritimes has grown exponentially over the past decade. In 1990, four ports combined (Halifax, Sydney, Saint John, and Charlottetown) received less than 30,000 passengers; Saint John only 1,800 passengers and negligible traffic to Charlottetown and Sydney. In 2008, the ports collectively welcomed almost 550,000 cruise passengers: Halifax welcomed 228,000,<sup>1</sup> Sydney 76,000,<sup>2</sup> Saint John 183,500<sup>3</sup> and Charlottetown 57,236.<sup>4</sup> Each port experienced significant growth in the past year alone; between 2007 and 2008, cruise passenger arrivals increased 29 percent for Halifax, 107 percent for Sydney, 38 percent for Saint John, and 196 percent for Charlottetown. Growth in the Maritimes since 1990 significantly outpaces the cruise industry's growth in North America.<sup>5</sup> As traditional North American cruise destinations became saturated — the Caribbean and Alaska — the Maritimes and eastern Canada emerged as an alternative cruise destination.

Cruise ships are a major feature of seasonal tourism for ports in the Maritimes. While cruise ships may have positive economic impacts for local ports, much of the data on these impacts originates with the cruise industry, with very lit-

tle current evidence to support the claims. When weighing the benefits of cruise ships, one has to also consider the environmental costs and cruise industry claims to be a responsible steward of the marine environment. The cruise industry's criminal record also sheds doubt on another industry claim: that cruises are the safest mode of commercial transportation and that they are safer than or at least as safe as a hotel or other tourist accommodation.

This report analyses each of these industry claims, (economic, environmental and crime) and discusses them in relation to the Maritimes and Maritimers.

## Report Outline

The first section of the report critically considers the economic benefits of cruise ships. One set of concerns discussed in this section is the equitable division of economic benefits, of which there are two components that are examined. The first component is the division of revenue and expenditures between the cruise industry and local ports. Another component is the amount of revenue generated from shore excursions and

onshore shopping between the cruise ship and local excursion providers.

The next section of the report examines the potential environmental impacts of cruise ships traversing Maritime waters and using its ports. It presents the readers with an understanding of applicable environmental standards and regulations, comparing those that would apply to cruise ships in Canada and those applied elsewhere.

Crime on cruise ships is the focus of the third section of the report. This section presents data

on the prevalence of crime, and considers crime prevention as well as criminal prosecution and victim protection and rights. The focus of this section is largely on sexual assaults.

The report concludes with policy recommendations related to each of these topics, including concrete and constructive steps for increasing the economic benefit to ports and local business, for addressing threats to the marine and local environment, and for increasing security and safety of Canadian passengers onboard cruise ships.

# The Economics of Cruise Tourism

Ports expend great effort to attract cruise ships, often based on inflated expectations for revenue. The port of Saint John spent \$12 million in the early part of this decade to accommodate Royal Caribbean's then-largest ship, and since has spent much more. The port of Charlottetown spent \$19 million to upgrade its cruise port to accommodate larger ships. And Halifax and Sydney have each spent multi-millions of dollars on port facilities, in part at the request of cruise lines and in part to upgrade capacity so they could receive the ever-larger ships being built by cruise line operating in North America.<sup>6</sup> Much of this money comes from the federal government, in part through the Atlantic Canada Opportunities Agency.<sup>7</sup> The problem in making the investments is whether there will be adequate return on capital — will the money made cover direct and indirect costs, and will direct economic impact meet estimates and expectations. Investment made on infrastructure for cruise ships is money that could be invested elsewhere with perhaps a greater social or economic benefit — thus the importance of ensuring the money is well spent.

Building and maintaining infrastructure for cruise tourism is a large expense to local ports

and communities. The Charlottetown Harbour Authority, with assistance from provincial and federal government funding, in 2007 spent \$14.5 million to upgrade its wharf and port facilities to accommodate larger ships. However, when the project was completed the cruise industry informed them that the new dock was not long enough and the depth was not deep enough because there were now larger ships being devoted to the Maritimes.<sup>8</sup> Even though they had exhausted their budget, the port and provincial government had to secure another four to five million dollars. Saint John, where cruise ships generate 12 percent of the port's annual income,<sup>9</sup> has likewise invested tens of millions of dollars over the years, as has the port of Halifax. The Saint John Port Authority invested \$12 million in terminal and dock improvements, in part to accommodate Royal Caribbean's *Voyager of the Seas* but learned in August 2004 that one-third of its cruise ship passengers would be lost in 2005 because the ship was going to Bermuda instead.<sup>10</sup> Money spent by ports is on top of infrastructure costs (roads, sewers, parks, etc) borne by local communities, provinces, the federal government, and the Atlantic Canada Opportunities

Agency. As an example, the province of Nova Scotia incurs significant cost in road construction and maintenance for tour busses running from cruise ships to sites such as Peggy's Cove and Lunenburg.<sup>11</sup>

While ports and provincial governments invest millions to accommodate cruise ships, the cruise industry earns billions of dollars every year and yet pays no income tax in Canada. Carnival Corporation alone earned US\$9 billion in net profits over the past four years.<sup>12</sup> The ports and taxpayers in the Maritimes are subsidizing the profitability of an industry that is registered offshore, relies on poorly paid workers from developing countries, and that contributes a relatively modest amount to the Canadian economy.

### Uncertainty about Future Business

A central issue when considering benefits versus costs is the uncertainty about future business. This is handled by some ports, such as Jamaica and Saint Maarten, by entering multi-year contracts in which a cruise corporation or cruise line guarantees a number of passengers per year over a set period of time. Other ports, such as Bahamas and San Juan, offer incentives of reduced port charges to cruise lines meeting thresholds of number of passengers landed per year. Although a cruise line may have its per-passenger port charges reduced, the port has an assurance that investments made to accommodate cruise ships will have an acceptable return such that direct costs are covered and a small reserve fund created.

Without a multi-year contract, a port is left vulnerable. This was driven home in the fall of 2008 when Royal Caribbean International announced its ships would spend more time off the coast of New England in 2009 and less time near Canadian shores. It wasn't because of better vistas or consumer demand; it was because of increased fuel costs. Rather than sail from New Jersey to Quebec City and back, *Explorer of the*

*Seas* will add stops in New England and go no farther than Halifax.<sup>13</sup> Sydney and Charlottetown will be dropped. Ships may shift from Halifax to Saint John because of the latter's closer proximity to ports in Maine.

The uncertainty of future business has been seen elsewhere. Campbell River invested \$14 million in its cruise terminal and has yet to attract much cruise business. It had four port calls in 2007 and four in 2008 from Regent Seven Seas, but that company has no plans to return in 2009. Part of the problem is the port has a difficult approach for navigation given ocean currents — a point known by government funders when the port was built.<sup>14</sup> In addition, the port has received negative reviews from passengers and it directly competes with neighbouring ports (e.g., Prince Rupert, Victoria, Nanaimo).<sup>15</sup> Despite Campbell River's experience, and neighbours who appear to be competing for the same cruise ships, Nanaimo recently announced plans for an \$18.5 million investment in a cruise terminal.<sup>16</sup>

It isn't only ports in Canada. Dunedin, New Zealand estimates it will lose NZ\$6.5 million in revenue as a result of Celebrity Cruises' announcement that its *Millennium* will not, as previously planned, return to New Zealand and Australia in 2009–10.<sup>17</sup> The cancellation was because of increased fuel costs and the additional cost for air transportation.

Brisbane, Australia invested A\$300 million in a state-of-the-art cruise terminal opened in 2006. But it, like Charlottetown, found out after construction was complete that newer, larger ships couldn't navigate to the terminal nor could they dock. In November 2007, Carnival Australia called on the Queensland Government to earmark a new site for a terminal capable of welcoming the world's most luxurious ships. The company also said visitors on smaller ships needed better facilities than those at the current Brisbane terminal.<sup>18</sup> Carnival similarly complained about the size of the cruise terminal at Townsville (up the coast from Brisbane), securing a commit-

ment for a new terminal costing A\$1 billion,<sup>19</sup> and it continues to complain about the cost of using the terminal in Brisbane.<sup>20</sup> Local governments (and their taxpayers) have made investments, often based on cruise industry requests (and demands) and are left holding the bag with regard to costs and debts incurred.

Hawaii also had a major loss in revenue after committing to huge investment in infrastructure for cruise ships and cruise tourism. Norwegian Cruise Line America (NCL America) announced in 2007 that it would reposition one of its three U.S.-flagged ships from Hawaii because of excess capacity. Cruise ship calls to the islands fell from 469 in 2007 to 310 in 2008. The state lost almost US\$34 million in visitor expenditure and approximately 300 jobs.<sup>21</sup> Then in early 2008 the cruise line announced it was withdrawing a second ship in May, doubling the economic loss to the state and its ports. This fall-off is in the context of consistent calls on the state and local communities to improve port facilities and local infrastructure for the benefit of cruise passengers. Investments were made, but the payoff is not going to be what was expected.

Many more examples can be cited from around the world. In each case, ports make huge investments on cruise terminals and related infrastructure and subsequently learn that their plans for revenue from cruise tourism are overblown. Ports in the Maritimes risk similar calls for additional capacity as well as retrenchment of cruise ship business.

### Passenger Spending

The cruise industry argues it makes a critical contribution to the Maritime economy, claiming each passenger spends \$100 in port. Ports and governments invest the money they do, assuming the claim is correct. However several analyses have demonstrated that income figures fall far below the cruise industry's projections.<sup>22</sup>

The \$100 per passenger per port call figure is extrapolated from studies done in the 1990s. A 1994 study commissioned by the Florida-Caribbean Cruise Association (FCCA) found passengers, on average, spent US\$372 on the island of St. Thomas<sup>23</sup> — adjusting for inflation, the equivalent in 2007 is US\$475. The average for the Caribbean region was US\$154 per passenger per port (adjusting for inflation, US\$195 in 2007). A study done for the FCCA in 2000 found spending on St. Thomas had fallen to US\$173 per passenger (US\$202 in 2007 equivalent dollars); the overall average in the region decreased to US\$89.72 per passenger per port<sup>24</sup> — US\$105 in 2007 equivalent dollars. Excluding Cozumel and St. Thomas, spending per port ranged from US\$53.84 to US\$86.81 with an average per port of US\$72.81 (well below US\$100 in 2007 equivalence).

Despite significant decreases in spending over the 1990s, and levels of spending well below the \$100 expectation, ports continue to assume passengers spend on average \$100<sup>25</sup> in each port of call; they use this figure to project the economic impact of cruise tourism. Halifax, for example, says cruise ships had direct economic impact of \$21 million,<sup>26</sup> but the figure extrapolates from assumptions about passenger spending and is not based on scientific surveys of cruise passengers.

Perceptions are hard to change, especially when the cruise industry continues to tell ports to expect the higher figure. This is not unique to the Maritimes. Ports worldwide have adopted the \$100 per passenger figure and appear surprised when their research proves otherwise. A study in Croatia in 2007 found passenger spending averaged €41.44 (less than US\$60). The study further found that spending varied widely (from a low of €34.11 to a high of €82.16) between different ports, between different ships, and with the time of day and length of stay of a port call.<sup>27</sup> The Croatia study is unique because it is the only research that deducts from in-port passenger spending the commissions and fees charged by the cruise ship; money passengers report spend-

ing but that does not reach the pockets of vendors and tour operators in port.

The Croatia study is one of the few in recent years based on data gathered directly from passengers. Its findings are similar to those revealed by surveys done by the St. John's Port Authority.<sup>28</sup> They are also similar to findings in studies done in Central America by the Centre on Ecotourism and Sustainable Development. Cruise passenger spending in Costa Rica (including that spent for tours) averaged US\$74.84 for each passenger who went ashore but when adjusted for the number staying onboard onshore spending averaged US\$44.90 for all passengers aboard cruise vessels.<sup>29</sup> Passenger spending in Belize was much the same: US\$44 per passenger. By comparison, stay-over sector visitors spend on average US\$96 per person per day. However, stay-overs are only 25 percent of tourist arrivals yet they account for 90 percent of the employment in the tourism sector.<sup>30</sup> It is difficult to assume cruise passengers behave differently in the Maritimes than most other areas of the world.

There are some factors known to affect the level of passenger spending, including the number of hours a ship spends in port and the time of day of the port call. Not all ports make this adjustment in expectations. Victoria, British Columbia, for example, is like other ports (including those in the Maritimes) and estimates the economic impact of cruise tourism based on the \$100 per passenger figure. This contradicts a non-scientific study of passengers undertaken by Victoria AM — they stopped cruise passengers as they returned to the ship — that found spending averaged C\$88 for those questioned (five percent spent nothing; 41 percent spent less than C\$50 — the overall average was C\$88 and includes money spent onboard for shore excursions).<sup>31</sup> However, the study was done when ships spent the full day in Victoria and did not consider differences based on day of the week, time of day, length of time in port, or time of year. These are particularly important considerations given that

73 percent of Victoria's port calls occur between 6:00 PM and midnight on the night before the Alaska cruise disembarks in Seattle.<sup>32</sup> The stop in Victoria is not so much for passengers to enjoy the city but is intended to comply with the U.S. Passenger Vessel Service Act, which requires a foreign port to be included in a cruise beginning and ending in a U.S. port. If a foreign port is not included, the cruise ship is liable for a US\$300 per passenger fine. Passenger spending on brief port calls likely fall significantly short of spending found for daytime port calls.

### The Economics of Shore Excursions

Shore excursions sold onboard a cruise are a major source of income for cruise lines. Land-based tours sold onboard accounted for 30 percent (US\$100 million) of Royal Caribbean International's 2002/2003 net profit of US\$351 million. A typical Royal Caribbean ship generated close to half a million dollars in tour income with a single call at St. Petersburg, Russia.<sup>33</sup> As ticket prices have remained the same or fallen — in 2009, cruises are being advertised for US\$40 a day per person<sup>34</sup> — income from shore excursions has increased.

Shore excursions are convenient for passengers (between 50 percent and 80 percent buy an excursion in each port) and provide sales commissions to the cruise line. In some locales as little as 10 percent of the amount for a shore excursion is paid to the person providing the tour;<sup>35</sup> in others it is more commonly a 50/50 split between the cruise ship and its local wholesaler or agent. The person providing the tour receives even less after the wholesaler takes its cut. This leaves the shore excursion provider in the uncomfortable position of being paid less than \$50 for a product that passengers expect to be worth \$99. Some tour providers find the split disconcerting, while others accept this as the price of doing business. Beth Kelly, who owns and runs Aquilla Tours in Saint John, NB, says "...the cruise industry brings

in millions of dollars to the Canadian economy, so she doesn't mind when the cruise lines take up to half the money from each tour ticket sold on the ship.<sup>36</sup> However, disappointed passengers are likely to blame the port, not the cruise ship.

Port-based excursion providers are further marginalized by the terms of their contract with cruise lines. Carnival Cruise Lines' standard contract, for example, gives the cruise line the authority to refund the cost of an excursion to a passenger who complains and the ship charges the refund back to the excursion provider, even if the complaint is unfounded. Further, the provider is only paid for tickets collected from passengers.<sup>37</sup> This means that the cruise line keeps all monies, even when a passenger loses his/her ticket and is allowed on the shore excursion anyway or when a passenger is a no-show. North American-based cruise lines generally use one of three companies to run their shore excursion programs: International Voyager Media, On-Board Media and the PPI Group. These companies arrange the excursions, hire port lecturers and handle shore excursion sales. They also contract with a wholesaler who makes local arrangements with tour providers. The model is slightly different in Alaska, where the major cruise lines operate their own tour companies. Carnival Corporation through Westours and Princess Tours operates more than 500 motor coaches and twenty domed railway cars in Alaska. They also own hotels and sight-seeing boats.<sup>38</sup> The result is less direct income to Alaska-based businesses and greater reliance on labour from the "lower 48" at incomes that are low or minimum wage.

### The Economics of Shopping Programs

The companies providing shore excursion programs offer port lecture and port shopping programs. Along with lectures on shore excursion options passengers learn about shopping, are provided a map with preferred stores and are advised that they will get the best prices at the

recommended stores. These stores often pay an annual fee or kick back as much as 40 percent of their gross sales to the cruise ship. Passengers on shore excursions are taken to these preferred stores, which may also kick back money to tour guides.

Onboard promotion of shore-side shops evolved into a mini industry by the mid-1990s and continues to thrive today. "What used to happen is that the tour directors on a major line would earn a quarter of a million dollars year in royalties from port merchants."<sup>39</sup> Now, the money is collected as an annual promotion fee and/or a commission fee for all sales and it is shared between the concessionaire and the cruise line. A retailer in Nassau reported in 1995 that he "pays more than US\$100,000 a year in such fees to one cruise line alone ... but if you don't pay it, the cruise line will recommend someone else."<sup>40</sup> The vice president of Royal Caribbean defended these charges saying: "this is just a regular part of doing business."<sup>41</sup>

The largest concessionaire for shopping programs, Onboard Media, is owned by Louis Vuitton Moët Hennessey, which also operates shops onboard many ships. This is significant given the increasing competition between onboard shops and shops found onshore — the manufacturer from which many shops buy their products is the owner of onboard shops. In addition, onboard stores increasingly stock local products, meaning passengers often find onboard the same products sold in port, and they are assured that the onboard shop will not be undersold. Consequently, passengers do lots of window-shopping in port but often reserve their out-of-pocket spending for the ship. Merchants in most ports find passenger spending to be modest at best, and well below the \$100 per passenger projections given by cruise lines and ports. This is not surprising given that the \$100 figure is based on gross spending by passengers (including the money paid for shore excursions onboard) rather than net spending once passengers are off the ship.

One Halifax merchant estimates average revenue at a store in the cruise terminal at less than fifty cents per passenger.<sup>42</sup>

### Implications of Changes in the Cruise Industry

There have been significant changes in the cruise industry in recent years, most of which have direct impact on ports and the income they earn from cruise passengers. Perhaps most significant is the changing demographics of cruise passengers. Cruise lines have kept their ticket prices low so cruise vacations are affordable to the largest segment of the population. In fact, a cruise today, in constant dollars, costs between one-half and one-third of its cost in the 1980s — as already mentioned, cruises are being advertised for US\$40 a day in early 2009. This means the typical cruise passenger today is of a different socio-economic class and is less likely to have disposable income for spending in port. This shift in demographics is in part responsible for the drop by one-half of average spending ashore between 1994 and 2000. Spending has continued to decline since.

**Onboard Revenue.** The decline in onshore spending has been hastened in recent years by the cruise industry's greater emphasis on onboard spending as a core element of their profit. Between 1996 and 2001, one cruise line, Holland America Line, increased its onboard revenue by 41 percent.<sup>43</sup> The amount generated has continued to increase. In 2006 the Big Three cruise operators had combined net revenue of US\$3.5 billion from onboard revenue. This translates into a profit of US\$43 per passenger per day (more profit than generated from ticket sales) and constitutes 24 percent of the total net revenue for all cruise companies combined; the percentage is significantly higher for the large U.S.-based mass market cruise lines.<sup>44</sup> One speaker at the industry's annual trade show in Miami, Seatrade

Cruise Shipping Convention captured the industry's attitude: "Never give away something you can charge for, as long as you can provide a really good experience. Consumers are willing to pay for a quality experience."<sup>45</sup> Cruise columnist Mary Lu Abbot wisely warned in November 2004 that extras can cost more than the cruise.<sup>46</sup>

Not only have prices increased for onboard purchases but the number of onboard revenue centres has ballooned. Traditionally, a cruise ship made money from bars, casinos, a couple of small shops, and beginning in the late-1990s art auctions. Today, the number of shops has increased — the *Voyager of the Seas* has a four-story tall shopping mall (the 'Royal Promenade') deep in the bowels running a considerable length of the ship.<sup>47</sup> In addition, like others, it generates income from a range of sources including rock climbing walls, bungee jumping platforms, golf simulators and ice skating rinks. As well, there are virtual reality games, pay-per-view movies, in-room video games, yoga classes, fitness classes, wine tasting events, culinary workshops, self-improvement classes, and art and craft classes. And it goes further. Most ships have ATMs, in-room mini bars and in-room gambling, and extra-tariff restaurants. Norwegian Cruise Line offers same-day delivery of select newspapers on some of its ships—for US\$3.95 a day—and in 2003 it introduced the concept of premium entertainment, for which passengers pay extra.<sup>48</sup> The newest innovation in onboard revenue is ship tours, something that typically was provided free of charge. Princess Cruises, for example, offers visits to the galley, laundry, backstage in the theatre, the engine control room, print shop, photo lab, funnel and bridge for US\$150.<sup>49</sup> Amazingly, the tours are filled. One writer says of the *Voyager of the Seas*, "The idea is to grab a larger slice of the vacation market by offering so many things to do and places to explore on board — so that even people who don't particularly care for sea cruises may want

to go because the experience may not seem like they're on a ship."<sup>50</sup>

**Larger Ships.** Another shift in recent years is that cruise ships are becoming increasingly larger. A large ship in the 1980s carried 1,500 passengers. The early 1990s saw mega ships that accommodated as many as 2,500 passengers; in the late-1990s ships were accommodating 4,000 passengers. By the mid-2000s ships were introduced with accommodations for more than 5,000 passengers, and at the end of 2009, Royal Caribbean's *Oasis of the Seas* will be introduced — full to capacity it can carry more than 7,000 passengers.

While many ports may think that larger ships mean more revenue, the new ships are designed and marketed as the destination. Ports become superfluous. Passengers find so much to do and so many ways to spend their money onboard that a port is a place to stretch one's legs and to feel solid ground. There is little reason to go ashore, and there isn't much to buy ashore that cannot be found onboard.

Some ports further undermine their ability to generate income by allowing ships to operate their bars and casinos while docked, usually in return for the cruise ship agreeing to spend more hours in port. They believe more time in port will mean more passengers coming ashore and spending money. But the converse is true. With open bars and casinos it is even easier for a passenger to stay onboard. Ports such as Halifax, where the casino could be a draw to passengers, need to be cautious about giving in to pressure from cruise lines wanting to open bars and casinos in port and avoid onboard revenue centres being placed in direct competition with onshore attractions and vendors.

**Less Time in Port.** With increased fuel costs, some cruise ships are spending less time in ports. Rather than run auxiliary engines to generate electricity while standing still at dock, a ship at sea generates electricity from its main engines.

Not only can it generate more onboard spending while at sea, but it captures considerable savings in usage of fuel. The economic impact on the cruise line is positive; the economic impact on the port is negative.

### The Predicament of Being a Port

Most ports have not kept abreast of the changing business model of the cruise industry. They overlook that cruise lines are in business to make money and are not always up-to-date on the shifts whereby cruise ships capture a large share of passengers' discretionary spending. While cruise corporations increase their profit year after year, this is potentially at the expense of ports. Yet many ports, with the support and encouragement of the federal government and ACOA, continue to do everything they can to make themselves attractive to cruise ships, including benefits and freebies that cost the port money, that improve the cruise passenger's overall experience, and that help the cruise line market itself as a reasonably priced vacation providing good value for the money.

Just as the cruise industry has changed its business model, the federal government and ports need to shift their culture. Cruise tourism is big business and ports are a necessary ingredient in most cruise itineraries. Ports need to drive a harder bargain for income and reduce their effective subsidizing of multinational corporations that earn billions of dollars from onshore sales while those ashore walk away with relatively few crumbs. Ports must recognize that cruise ships need them more than they need the ships and negotiate deals that cover all direct and indirect costs and that yield reasonable income for tour providers and shoreside vendors.

The federal government needs to ensure Canadian ports recognize their value to cruises beginning and ending in the U.S. The U.S. Passenger Vessel Services Act requires a foreign-

flagged vessel sailing to and from a U.S. port to include a foreign port or face a US\$300 fine. This should demonstrate the value of a port call at Halifax or Saint John, especially as itineraries

shift to more calls at U.S. ports and, like B.C., use Canada as a convenient stopping ground to satisfy U.S. regulations.

## Cruise Tourism and the Environment

A second problem generated by the cruise industry is its environmental practices and impact on Canada's oceans and air quality. The industry markets itself as a responsible steward of the marine environment, often asking why it would pollute when its livelihood depends on keeping the oceans pristine. The question is effective in deflecting attention from an environmental record—the North American industry has been fined more than US\$50 million over the past decade in the U.S. alone (no fine has ever been levied by Canada given limited regulations and absence of enforcement). Take for example the discharge of 3,000 litres of what crew described as paper pulp by Cunard Line's Queen Elizabeth II in Canadian waters off Cape Breton on September 9, 2005. Transport Canada confirmed the discharge in May 2006 but said it is unclear what was dumped—there was speculation it was primarily toilet paper—and that it would investigate when the ship returned to Canadian waters in September 2006.<sup>51</sup>

The industry continues to be cited for violations.<sup>52</sup> In 2008, Alaska cited 35 violations of state water quality standards by Holland America Line, Norwegian Cruise Line, Regent Seven

Seas Cruises, and Princess Cruises.<sup>53</sup> In addition, Alaska cited cruise ships for 10 violations of air quality standards in 2008.<sup>54</sup> And there were other violations. On July 4, 2008 the Associated Press reported Royal Caribbean broke Alaska state law in discharging about 20,000 gallons of wastewater into Chatham Strait in Southeast Alaska more than three weeks before.<sup>55</sup> And on September 14, 2008, the *Juneau Empire* reported the company violated the state's air quality standards twice in 2007.<sup>56</sup>

Sadly, that which is illegal in the U.S. is not prohibited in Canada.<sup>57</sup> This was vividly demonstrated in early-2007 after Celebrity Cruises was notified by Washington State in November 2006 that it would be fined for *Mercury's* dumping of one-half million gallons of sewage and untreated grey water into Puget Sound ten times over nine days in September and October 2005. The company initially denied the claim but it acquiesced when shipboard documents indicated otherwise. It then appealed to state officials for relief from penalty—each incident carried a US\$10,000 fine—because three of the violations occurred on the Canadian side of the international boundary (where they were not illegal) and Washington did

not have jurisdiction.<sup>58</sup> Washington State reduced the fine from US\$100,000 to US\$70,000, but the company paid the full US\$100,000 after all. It said the money was never the issue; its concern was to ensure there was accurate information. It went on to say that paying the full amount was to demonstrate its commitment to protecting and preserving Washington State's marine environment.<sup>59</sup> It never apologized to Canada for the discharges and expressed no complementary commitment to the marine environment of British Columbia or Canada. It is as though the wastewater discharged in Canada was immaterial because it was legal. This is inconsistent with industry claims to have a genuine and strong commitment to the environment.

This brings two issues into focus. First is the nature of discharges into Canada's waters and whether they have a deleterious affect, and second, why Canada's regulations and enforcement lag so far behind states in the U.S. The contrast is perhaps most visible when considering that discharges of grey water and treated sewage are banned in the waters of Maine, but are unregulated in Canada. In addition, Casco Bay (Portland, Maine) is classified a no-discharge zone where not even ships with advanced wastewater treatment systems are permitted to discharge their effluent, while the same ships can discharge anywhere in the Maritimes, including in the waters adjacent to Halifax, Saint John, Sydney, and Charlottetown.

The marine environment is by some accounts under siege. Increasingly common are news stories of dying coral reefs, of dead zones in coastal oceans — more than 95,000 square miles<sup>60</sup>, and of forms of sea life becoming extinct or seriously threatened. At the same time, the cruise industry continues to grow with little sign of slowing. Despite its size, the cruise industry regularly claims to be a responsible steward of the marine environment. But its behaviour has brought more than US\$50 million in fines since 1998<sup>61</sup> and undermines such claims. While boast-

ing profits of multi-billions of dollars and paying virtually no corporate income taxes in the United States or Canada,<sup>62</sup> cruise lines appear to place increased profit above environmental protection. And they have been adept at avoiding legislation and regulations.

## Historical Context

Environmental concern about cruise ships first emerged in the 1980s; by the early 1990s this led to surveillance by the U.S. Coast Guard. Initially the U.S. Government reported violations to the state where offending ships were registered, but it saw no change. In October 1992, the U.S. Government "...told the International Maritime Organization's Marine Environmental Committee meeting that it had reported MARPOL violations to the appropriate flag states 111 times, but received responses in only about 10 percent of the cases."<sup>63</sup> Consequently, the U.S. began stricter enforcement for pollution offences in 1993. Between 1993 and 1998 it charged 104 ships with offences involving illegal discharges of oil, garbage, and/or hazardous wastes.<sup>64</sup> It also levied significant fines — the largest was US\$9 million.

The issue of pollution from cruise ships became widely known when Royal Caribbean International pleaded guilty in July 1999 to twenty-one counts of dumping oil and hazardous chemicals and lying to the U.S. Coast Guard. With plea agreements in Miami, New York City, Los Angeles, Anchorage, Puerto Rico, and the U.S. Virgin Islands, the company agreed to pay US\$18 million in fines; it was also fined US\$3.5 million by the State of Alaska. Just one year earlier it had paid US\$9 million in fines to settle cases initiated four years before in San Juan and Miami.<sup>65</sup>

It wasn't just Royal Caribbean. Holland America Line was fined US\$2 million in 1998 for a 1995 incident in which it pumped oily bilge water into Alaska's Inside Passage. Carnival Cruise Lines and Norwegian Cruise Line (NCL) were fined in 2002 for offences stemming as far back as

the 1990s — US\$18 million and US\$1.5 million respectively. As well, there were new violations resulting in significant penalties.<sup>66</sup>

### Cruise Industry Responds

Several weeks after the plea agreement between the Department of Justice and Royal Caribbean, the International Council of Cruise Lines (ICCL)<sup>67</sup> made a commitment to standards for waste management. The ICCL assured that “...member lines have strengthened their own environmental policies and procedures, and closely monitor onboard activities to ensure these standards are maintained. The internal procedures are designed to meet existing and comprehensive federal, state, and international standards designed to prevent discharges from all commercial vessels.”<sup>68</sup> The standards essentially restate key elements of MARPOL. While the environmental standards are designed to increase compliance with regulatory regimes,

“...they do not describe the manner in which the voluntary standards are to be implemented into a company’s Safety Management System (SMS), or impose consequences for failing to incorporate the standards into a member line vessel’s SMS, or comply with standards once incorporated. Further the standards do not provide for a CLIA-sponsored inspection or verification mechanism. All cruise ships that were criminally convicted had incorporated environmental standards into their SMS.”<sup>69</sup>

The ICCL reaffirmed its commitment two years later in June 2001 with “New Mandatory Environmental Standards for Cruise Ships.” The Standards were announced while the Alaska State Senate was in special session considering legislation that would authorize monitoring of cruise ship emissions and enforce environmental standards, and following two new violations

in Alaska waters in May 2001 — NCL’s *Norwegian Sky* discharged treated sewage in the Alexander Archipelago; Holland America Line’s *Westerdam* accidentally discharged grey wastewater while docked in Juneau. The new standards responded to the public outcry against the types of pollution deposited in Alaska’s waters. They concretized common sense practice and restated requirements under the International Convention for the Prevention of Pollution from Ships (MARPOL).

### Limitations of MARPOL

The cruise industry often demonstrates its commitment to the environment by stating it meets or exceeds all regulations and laws in the jurisdiction where it operates. This is an easy statement to make given regulations articulated in MARPOL. For example, MARPOL limits ships to fuels with maximum sulphur content of 4.5 percent (the same as in Canadian regulations). But bunker fuel averages much less at 3 percent and some jurisdictions reduce the acceptable limit to as low as 0.5 percent. While the industry may use lower sulphur fuel in some jurisdictions (e.g., fuel burned in the Inside Passage is typically 1.8 percent sulphur content) these same ships use fuel of 3.0 percent in the Caribbean and the Maritimes.<sup>70</sup>

MARPOL also raises concern because it does not regulate grey water. Discharge of grey water has the potential to cause adverse environmental effects because measured concentrations and estimated loadings of nutrients and oxygen-demanding substances are significant.<sup>71</sup> It can contain detergents, cleaners, oil and grease, metals, pesticides, and medical and dental waste. The State of Alaska in 2000 found that 79 of 80 ships’ effluent had levels of fecal coliform or total suspended solids that would be illegal on land — up to 100,000 times the federal standard. This was true of both black water and grey water.<sup>72</sup>

MARPOL is at times more stringent than Canadian law, but in these cases the cruise industry follows regulations in local jurisdictions that are less stringent. Treatment and discharge of sewage is a good example. While Annex IV of MARPOL requires treated sewage to be discharged when a ship is more than four nautical miles from the nearest shore, Canada's *Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals*, proclaimed May 2007, permit discharge of sewage treated by a Marine Sanitation Device (MSD) beyond three miles of the coast. Similarly, Canadian regulations (see Appendix A) permit macerated food waste, which under MARPOL must be discharged beyond three miles from shore, to be mixed with grey water and discharged virtually anywhere.<sup>73</sup> Cruise ships opt for the lower threshold requirement when in Canadian coastal waters rather than operating under international regulations such as MARPOL. While they meet or exceed Canadian requirements, they fall short of those specified by MARPOL.

MARPOL does not itself have an enforcement regime. The success of MARPOL's regulations depends on active enforcement by coastal and flag states. This is a weakness given the inconsistent enforcement across different jurisdictions.

### Believe What We Say, Not What We Do

The cruise industry's claim to be environmentally responsible is undermined by their behaviour. It isn't only the magnitude of fines for violations in the 1990s. There are other examples as well.

In October 2002, Crystal Cruises gave a written promise that it would not discharge anything while in the Monterey Bay Marine Sanctuary. Several months later it was learned *Crystal Harmony* had violated the company's written commitment. When asked why they did not report the incident, the company's vice president of marine operations stated the company had not violated the law; it had only broken

its word.<sup>74</sup> ICCL's president, Michael Crye, similarly dismissed the violation of Crystal Cruises' written promise several months later when he told a news reporter that the ship's discharge of 36,000 gallons of wastewater, treated sewage, and oily bilge occurred 14 miles from the coast so it wasn't illegal.<sup>75</sup>

In 2005 the cruise industry successfully lobbied for legislation that was much less stringent than the existing Memorandum of Understanding (MOU) between Hawaii and the Northwest Cruiseship Association (NWCAs). The legislation was enacted without the Governor's signature, on July 12, 2005.<sup>76</sup> Two months later the NWCAs gave notice that it was transitioning out of the MOU because of ambiguity and operational confusion caused by having two sets of standards.<sup>77</sup> Rather than continue to voluntarily abide by the more stringent terms contained in the MOU, the industry chose the less comprehensive legislation (which it had supported). The industry gave notification without fanfare; it was made public two months later after it was discovered by KAHEA—the Native Hawaiian Environmental Alliance.<sup>78</sup>

Part of Carnival Corporation's 2002 plea agreement, including an US\$18 million fine, was that the company was required to have environmental officers on all its ships; it was also required to file compliance reports. But Carnival Corporation was back in federal court within a year. It had been summoned in July 2003 after a probation officer reported that the company failed to develop, implement and enforce the terms of an environmental compliance program. Holland America employees reportedly submitted twelve audits that contained false, misleading and inaccurate information.<sup>79</sup> Carnival Corporation replied to the court that three environmental compliance employees had been fired for the reports but it did not admit violating its probation. In a settlement signed August 25, 2003, Carnival agreed to hire four additional auditors and to provide additional training for staff.<sup>80</sup>

The corporation was again under investigation in March 2004 for illegal discharges. Holland America Line, a wholly owned subsidiary of Carnival Corporation, notified the United States and Netherlands governmental authorities that one of its chief engineers had admitted to improperly processing oily bilge water on *Noordam*. According to the company's filing with the U.S. Securities and Exchange Commission, a subsequent internal investigation determined the improper operation may have begun in January 2004 and continued sporadically through March 4, 2004. Several months later, in July 2004, Holland America Line's former vice president for environmental compliance pleaded guilty to certifying environmental compliance audits that had never been done.<sup>81</sup>

Royal Caribbean has also contradicted word and deed. The CEO of the corporation issued a form letter on September 24, 2003 responding to letters he received as part of a social action campaign pursued by Oceana. The letter clearly states that the company discharges its black water and grey water "only when we are 12 or more miles from the shore and moving at least six knots."<sup>82</sup> The letter proudly promotes Royal Caribbean's policies and procedures for exceeding Coast Guard requirements and as stricter than US law. It's an impressive claim, but is contradicted with a report in December 2003 that the company had 12 times violated a MOU signed with the state of Hawaii that prohibits discharges within four miles of the coast.<sup>83</sup> More recently, since coming off probation, Royal Caribbean has reportedly returned to discharging effluent consistent with U.S. law and at variance with its public commitment. The company reportedly has also changed the required qualifications of environmental officers and has reduced their onboard status.<sup>84</sup>

## Cruise Ship Waste Streams

**Black water.** Black water is the waste from toilets and medical facilities. A cruise ship produces more than thirty litres per day per person.<sup>85</sup> The cumulative amount per day for a ship such as Royal Caribbean's *Freedom of the Seas*<sup>86</sup> is as much as 180,000 litres; over 1.25 million litres in one week. These wastes contain harmful bacteria, pathogens, disease, viruses, intestinal parasites and harmful nutrients. If not adequately treated they can cause bacterial and viral contamination of fisheries and shellfish beds. In addition, nutrients in sewage, such as nitrogen and phosphorous, promote algal growth. Algae consume oxygen in the water — these can be detrimental or lethal to fish and other aquatic life.<sup>87</sup>

Black water from cruise ships has traditionally been treated by a type II marine sanitation device (MSD). These devices treat waste chemically or biologically and are supposed to produce effluent containing no more than 200 fecal coliform for 100 millilitres and no more 150 milligrams per litre of suspended solids. Whether MSDs were reaching that standard was called into question in 2000 when the state of Alaska found that 79 of 80 samples were out of compliance. According to the U.S. Environmental Protection Agency, the problems identified then with MSDs continue today.<sup>88</sup> Under Canadian regulations, treated waste from type II MSDs can be discharged beyond three miles of shore.

**Advanced wastewater treatment systems.** About the time Alaska was calling attention to the inadequacy of MSDs, the cruise industry began installing advanced wastewater treatment systems (AWTS) on ships.<sup>89</sup> State legislation in 2001 banning discharge in Alaska state waters of wastewater not meeting Alaska water quality standards was a strong incentive. A ship with an AWTS avoided the need to travel outside Alaska state waters to discharge treated sewage. Installation of AWTS for ships visiting other areas has been at a much slower pace. For example, Carni-

val Corporation had AWTs installed on slightly more than one third of its fleet at the end of 2007. Only one of Carnival Cruise Lines' twenty-two ships had an AWTs; the company only sends one ship to Alaska per season. The corporation's spokesperson says they try to make sure AWTs are included on ships that go to Alaska and to other sensitive areas. By contrast, all of Norwegian Cruise Line's thirteen ships, seven of Royal Caribbean International's nineteen vessels and six of Celebrity Cruises' eight ships had AWTs at the end of 2007.<sup>90</sup>

The advanced systems are a vast improvement — yielding what the industry refers to as drinking-water quality effluent. However the term must be treated with caution. The water cannot be recycled for onboard human consumption nor can it be used in the laundry because sheets and towels apparently turn grey. A key problem is the AWTs doesn't adequately address nutrient loading which means it poses similar problems as MSDs with regard to nitrogen and phosphorous. In addition, tests in Alaska show levels of copper, nickel, zinc, and ammonia that are higher than the state's water quality standards.<sup>91</sup> In 2008, 12 of 20 (60%) ships permitted to discharge in Alaska waters violated interim discharge limits, logging 45 violations involving 7 pollutants.<sup>92</sup> These include ammonia (21 violations), copper (8 violations), Zinc (7 violations), biological oxygen demand (4 violations), fecal coliform (2 violations), pH (2 violations), and chlorine (1 violation).<sup>93</sup> Each violation is liable for a fine of up to US\$100,000. Ships with an AWTs can discharge anywhere in Canadian waters.

**Sewage sludge.** Most AWTs filter solids from sewage as part of treatment. This yields on average 4,000 gallons of sewage sludge per day;<sup>94</sup> cumulatively, it adds up quickly. It is estimated that 16 million litres of sewage sludge are produced every year by ships as they pass through Washington State waters on their way to Alaska<sup>95</sup> — this is small compared to what cruise ships

generate while traversing British Columbia. In about one in sixteen ships with an AWTs, sewage sludge is dewatered and then incinerated. In other cases sludge is dumped at sea. Some jurisdictions (such as Canada) permit this beyond three miles of shore; in others (such as Washington State) the ship must go beyond twelve miles. In either case, these bio-solids have a high oxygen demand and are detrimental to sea life. Sewage sludge poses the same problem as sewage, but in a more concentrated form.

**Gray water.** Gray water is wastewater from sinks, showers, galleys, laundry, and cleaning activities aboard a ship. It is the largest source of liquid waste from a cruise ship: as much as 350 litres per day per person; over two million litres per day for a ship such as *Freedom of the Seas*.<sup>96</sup> Like sewage, grey water can contain a variety of pollutants. These include fecal coliform bacteria, detergents, oil and grease, metals, organics petroleum hydrocarbons, nutrients, food waste and medical and dental waste.<sup>97</sup> The greatest threat posed by grey water is from nutrients and other oxygen-demanding materials. The cruise industry characterizes grey water as innocuous, at worst. A 2008 report from the U.S. Environmental Protection Agency (EPA) disagrees. It states:

“Untreated ship grey water concentrations exceeded EPA standards for discharges from Type II MSDs (for fecal coliform and total suspended solids). In addition, untreated grey water concentrations exceeded all wastewater discharge standards under Title XIV for continuous discharge from cruise ships in Alaska, and secondary treatment discharge standards from land-based sewage treatment plants.”<sup>98</sup>

Except for the Great Lakes, Maine, and Alaska, grey water was until recently largely unregulated. However, effective February 6, 2009, cruise ships were required by the U.S. to have a National Pollution Discharge Elimination System (NPDES)

Vessel General Permit (VGP) for discharges incidental to the vessel's normal operation. The VGP sets treatment standards for gray water, as well as 25 other types of incidental vessel discharges, from ballast water to deck runoff. Operational limits in the permit prohibit the discharge of grey water within 1 nautical mile (nm) of shore unless the grey water has been treated to specific standards.<sup>99</sup> Grey water remains unregulated in Canada (see Appendix A).

**Oily bilge water.** A typical large cruise ship will generate an average eight metric tons of oily bilge water for each twenty-four hours of operation;<sup>100</sup> according to Royal Caribbean's 1998 Environmental Report its ships produce an average 95,000 litres of oily bilge water on a one week voyage. This water collects in the bottom of a vessel's hull from condensation, water lubricated shaft seals, propulsion system cooling and other engine room sources. It contains fuel, oil, wastewater from engines and other machinery, and may also include solid wastes such as rags, metal shavings, paint, glass and cleaning agents.

The risks posed to fish and marine organisms by oil and other elements in bilge water are great. Even minute concentrations of oil can kill fish or have sub-lethal effects such as changes in heart and respiratory rates, enlarged livers, reduced growth, fin erosion and various biochemical and cellular changes.<sup>101</sup> Research also finds that by-products from the biological breakdown of petroleum products can harm fish and wildlife and pose threats to human health if these fish and wildlife are ingested.<sup>102</sup>

Oily bilge water in Canadian waters is regulated by *Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals*. The regulations prohibit the discharge of oil or hazardous substances, in such quantities as may be harmful, within 200 miles of the coast. It permits discharge of oil when it is passed through a fifteen parts per million (ppm) oily water separator<sup>103</sup> and does not cause a visible sheen. The

oil extracted by the separator can be reused, incinerated, and/or offloaded in port. Vessels are required to maintain an Oil Record Book that documents disposal of oily residues and discharges overboard or disposal of bilge water.

**Solid waste.** A cruise ship produces a large volume of non-hazardous solid waste. This includes huge volumes of plastic, paper, wood, cardboard, food waste, cans, and glass. It was estimated in the 1990s that each passenger accounted for 3.5 kilograms of solid waste per day.<sup>104</sup> With better attention to waste reduction this volume in recent years has been reduced, maybe as much as half. But the amount is still significant, more than eight tons in a week from a moderate sized ship. Twenty-four percent of the solid waste produced by vessels worldwide comes from cruise ships.<sup>105</sup>

Much of a cruise ship's garbage is discharged at sea. Food and other waste not easily incinerated is ground or macerated and discharged into the sea — in Canada food waste may be mixed with grey water which means its release is unregulated. These "...food wastes can contribute to increases in biological oxygen demand, chemical oxygen demand, and total organic carbon, diminish water and sediment quality, adversely effect marine biota, increase turbidity, and elevate nutrient levels."<sup>106</sup> They may be detrimental to fish digestion and health and cause nutrient pollution.<sup>107</sup> An additional problem with discharging food waste at sea is the inadvertent discharge of plastics. Throwing plastic into the ocean is strictly prohibited everywhere. It poses an immediate risk to sea life that might ingest it. It also has a long term risk. As plastic degrades over time it breaks down into smaller and smaller pieces but retains its original molecular composition. The result is a great amount of fine plastic sand that resembles food to many creatures. Unfortunately, the plastic cannot be digested, so sea birds or fish can eventually starve to death with a stomach full of plastic.<sup>108</sup>

Solid waste and some plastics are incinerated on board and the ash goes into the ocean. The incinerator air emissions can contain furans and dioxins, both found to be carcinogenic,<sup>109</sup> as well as heavy metal and other toxic residues. For this reason Annex V of MARPOL dictates that ash should not be discharged into the sea.<sup>110</sup> At the very least, incinerator ash should be tested before each overboard discharge. This would include analysis and accounting of the contaminants typically found in cruise ship incinerator ash to determine whether it should be categorized as solid waste or hazardous waste.<sup>111</sup>

Under MARPOL<sup>112</sup> (and Canadian regulations<sup>113</sup>, except for macerated food wastes) no garbage can be discharged within three miles of shore. Between three and twelve miles garbage can be discharged if ground and capable of passing through a one-inch screen. Most food waste and other garbage can be discharged at sea when a ship is more than twelve miles from shore. Throwing plastic into the ocean is strictly prohibited everywhere.

**Air emissions.** There are two types of air emissions from cruise ships: incinerators and engines. Each presents its own set of issues.

Cruise ships have reported that they incinerate and burn a variety of wastes, including hazardous wastes, oil, oily sludge, sewage sludge, medical and bio-hazardous waste, outdated pharmaceuticals, and other solid wastes such as plastics, paper, metal, glass, and food.<sup>114</sup> A cruise ship may burn 1 to 2.5 tons per day of oily sludge in these incinerators and boilers.<sup>115</sup> The emissions from onboard incineration include dioxins, nitrogen oxide, sulphur oxide, carbon monoxide, carbon dioxide, particulate matter, hydrogen chloride, toxic metals such as lead, cadmium and mercury, and hydrocarbons.<sup>116</sup> The State of California has established that air emissions generated between 27 and 100 miles off the coast could negatively impact the air quality of the state.<sup>117</sup> It prohibits incinerator use when a ship is within three miles

of the coast. In contrast to incinerator use on land, which is likely to be strictly monitored and regulated, incinerators at sea operate with few limits. MARPOL Annex VI does ban incineration of certain particularly harmful substances.

Incinerators also produce ash. When it is discharged at sea it has a potentially negative impact on the environment. Annex V of MARPOL dictates that ash should not be discharged into the sea.<sup>118</sup> At the very least, it should be tested before each overboard discharge and determined whether it should be categorized as solid waste or hazardous waste.<sup>119</sup>

Air emissions from engines are an obvious source of pollution. According to the U.S. Environmental Protection Agency, ocean-going ships each year emit 273,000 tons of nitrogen oxide, a key contributor to smog — 35 tons per day.<sup>120</sup> Conventionally a cruise ship's environmental impact is likened to the impact of 12,240 automobiles. A study published in 2007 raises an even greater alarm. It found that bunker fuel on average has almost 2,000 times the sulphur content of highway diesel fuel used by buses, trucks, and cars and that one ship can make as much smog-producing pollution as 350,000 cars.<sup>121</sup> This figure varies widely depending on the fuel burned. A number of ships began using gas turbine engines in the late 1990s and early 2000s, well before the spike in fuel costs in 2007. These gas turbines are considerably better than conventional engines on cruise ships in terms of sulphur and nitrous oxide, but on the downside they produce considerably higher levels of greenhouse gases (carbon dioxide).

Gas turbines are the exception. Most cruise ships burn bunker fuel or fuel oil with reduced sulphur content. With International Maritime Organization standards that set maximum sulphur content at 4.5 percent (the same as Canada), it is easy for cruise lines to say they meet or exceed international regulations when the average for bunker fuel is 3 percent. In contrast, low sulphur fuels such as on road diesel have sulphur

content as low as 0.5 percent. It reduces particulate matter 58 percent, sulphur 11 percent, and oxides of nitrogen 99.6 percent. Cruise lines have been resistant to adopting use of these fuels because of their higher cost.

Another way in which air emissions can be curtailed is by imposing reduced speed limits as cruise ships approach ports. In February 2009, the Port of San Diego moved forward with a vessel speed reduction program. Cruise and cargo ships will be asked to voluntarily reduce their speed when entering and leaving San Diego Bay in an effort to reduce air pollution. The voluntary speed limit will be 15 knots for cruise ships when traveling in an area that extends 20 nautical miles out to sea from Point Loma.<sup>122</sup> According to port officials, studies have shown a significant reduction in air emissions from ship engines when speeds are reduced — particularly significant reductions in emissions of oxides of nitrogen, oxides of sulphur, diesel particulate matter and carbon dioxide.<sup>123</sup> Similar programs have been enacted by the ports of Los Angeles and Long Beach. The two ports report the program saved more than 100 tons of nitrogen oxide from going into the air in the first three months it was implemented.<sup>124</sup>

To address emissions from auxiliary engines run for electricity while a ship is docked, some ports and cruise lines have arrangements for ships to hook into the shore side power grid (referred to as cold ironing).<sup>125</sup> This was introduced in 2001 in a partnership between the port of Juneau and Princess Cruises and is slowly propagating to other locations (including Vancouver, but not to any port in the Maritimes). Without this option, air emissions can be a problem. Alaska, which is the only jurisdiction where air quality is regularly monitored and violations cited, identified two ships in 2007 (Royal Caribbean International's *Vision of the Sea* and *Serenade of the Seas*) that exceeded air opacity standards. Each violation is liable for a fine of US\$27,500. Ten ships were cited in 2008 for violation of air quality stand-

ards.<sup>126</sup> The state's air quality standards come from the U.S. Environmental Protection Agency. They are designed to keep people from breathing harmful sulphur and nitrogen compounds and particulate matter.<sup>127</sup>

California, in contrast, approved regulations in 2007 that required ships within 24 miles of its coast to use of marine gas oil, or marine diesel oil with a sulphur content of no more than 0.5 percent by weight, in auxiliary diesel engines. In 2008, regulations were approved that extend these regulations to main engines and auxiliary boilers. The allowed sulphur content in auxiliary engines is reduced to 0.1 percent in 2010. Effective 2012, the 0.1 percent requirement extends to all shipboard engines. Part of the state's strategy is to encourage ships to shut down auxiliary engines while in port and to instead use shore side power.

Another initiative, which appeared at first blush to have potential, was introduced in June 2007 by Holland America Line. It announced a pilot project that used a saltwater air emission scrubber on its *Zaandam*. The scrubber was supposed to reduce emissions, chiefly sulphur. But at the end of the summer cruise season in the Pacific Northwest it was learned that the scrubber system, which uses seawater pumped through the stacks to chemically scrub sulphur and other contaminants from ship emissions and then dumps the water back overboard, was actually contributing to increased greenhouse gases. Research out of Sweden and the U.K. indicated

“...that when sulphuric acid is added to seawater by scrubbers, carbon dioxide is freed from the ocean surface. Each molecule of sulphuric acid results in release of two molecules of carbon dioxide (CO<sub>2</sub>) as the ocean attempts to retain its alkaline balance.”<sup>128</sup>

This adds to the CO<sub>2</sub> already produced by a cruise ship. Just from fuel usage, cruise ships dis-

charge on average three times more carbon emissions than aircraft, trains, and passenger ferries:

“Carnival, which comprises 11 cruise lines, said in its annual environmental report that its ships, on average, release 712 kg of CO<sub>2</sub> per kilometre... This means that 401g of CO<sub>2</sub> is emitted per passenger per kilometre, even when the boat is entirely full. This is 36 times greater than the carbon footprint of a Eurostar passenger and more than three times that of someone traveling on a standard Boeing 747 or a passenger ferry.”<sup>129</sup>

Air emissions continue to be a concern. There don't appear to be any quick fixes, but reducing the sulphur content of the fuel appears to be the most promising short term solution.

**Hazardous waste.** A ship produces a wide range of hazardous waste. These include photo processing chemicals, dry cleaning waste, used paint, solvents, heavy metals, expired chemicals and pharmaceuticals, waste from the print shop, hydrocarbons and chlorinated hydrocarbons, used fluorescent and mercury vapour light bulbs and batteries.<sup>130</sup> Although the volume produced by a ship may be relatively small (less than 1,000 litres in a typical week), the toxicity of these wastes makes them a serious concern. They need to be carefully managed to avoid contaminating other waste streams (e.g., grey water, solid waste, bilge water, etc).

Canadian regulations require all hazardous waste to be landed ashore for treatment, but there appears to be inadequate monitoring to ensure this is done. Compliance in the U.S. is administered through the Resource Conservation and Recovery Act (RCRA) — it has strict requirements for handling of hazardous waste and for record keeping. Still, the U.S. Environmental Protection Agency recently recommended establishment of a requirement for a full accounting of hazardous waste disposal.<sup>131</sup>

## The Mosaic of Regulation

There is a wide range in regulation of cruise ship discharges. While tempting to present a comparison from one jurisdiction to the next, it is more helpful to consider leading-edge practices.

**Setting Standards.** The state of Alaska is the only jurisdiction where discharge of wastewater and air emissions have explicit standards and are regularly monitored.<sup>132</sup> The Alaska Cruise Ship Initiative, which took effect July 1, 2001, set standards for fecal coliform and total suspended solids, and instituted sampling requirements for the underway discharge of wastewater in Alaska state waters.<sup>133</sup> In effect, only wastewater treated by an AWT S can discharge in Alaska state waters, and these systems are regularly tested. The program of monitoring and testing is underwritten by US\$1 fee per passenger.

In August 2006, the citizen-initiated Alaska Cruise Ship Ballot Initiative was approved. The initiative requires a state permit for all discharges of treated wastewater in Alaska state waters and that effluent meet Alaska Water Quality Standards (AWQS). The initiative also created an ocean ranger program (onboard observers) that is funded by a US\$4 per passenger fee collected from cruise ships traversing state waters. The concept of onboard monitors, paid for by cruise lines, is recommended in the U.S. Environmental Protection Agency report issued December 2008.<sup>134</sup>

Following from the ballot initiative, Alaska's Department of Environmental Conservation (ADEC) issued a general permit in March 2008 that specifies limits on pollutants cruise ships are allowed to discharge in Alaska waters. Cruise lines responded that they couldn't meet the regulations for nickel, zinc, ammonia and copper. ADEC has allowed them less strict limits for now — on the condition that they submit plans detailing how they'll eventually comply. Cruise lines have until 2010 to fully comply.

**Enforcement through Monitoring.** By setting standards, Alaska seeks to ensure wastewater and air emissions released in state waters meet criteria similar to those for effluent produced on land. If a ship fails to meet state limits, it is liable to lose its permit for discharge in Alaska waters and be required to sail beyond state jurisdiction to release wastewater. The State's initiatives have had a positive impact on the quality of effluent discharged within three miles of the shoreline.

The monitoring of wastewater is achieved by regular testing of effluent from AWTs. In addition, per the Alaska Cruise Ship Ballot Initiative, the state began using Ocean Rangers in 2007, making Alaska the first state to require U.S. Coast Guard-licensed marine engineers on board vessels as independent observers monitoring state and federal environmental and marine discharge requirements. Rangers observe wastewater treatment practices, inspect pollution control equipment and sample all ship discharges.

Air emissions are also monitored by observers. In this case, EPA-trained observers certified to reliably assess the opacity of a smokestack are used to determine when a ship's air emissions exceed the permitted limit — when in port, a cruise ship's plumes are not allowed to be more than 20 percent opaque for more than three minutes in any hour, except when they're casting off or coming into port.

**No Discharge Zones.** Several areas of the U.S. are defined "no discharge zones." Most commonly this applies to marine sanctuaries. However, the state waters of Rhode Island and Maine (Casco Bay) have both been ruled no discharge zones by the U.S. Environmental Protection Agency.

**Inadequacy of Voluntary Compliance.** In some jurisdictions, monitoring is achieved by review of ship logs — logs required by law to show all discharges and where they occur. Violations in California and Washington State have been identified as a result of this review of logs. But logs are not always accurate. Violations occurring in

the mid-to-late 1990s were often not recorded. Consequently there is an element of trust in accepting logs as accurate.

More frequently, compliance is not actively monitored. This means cruise ships are assumed to voluntarily comply with regulations in force. This is a risky tact given its reliance on trust. As California State Senator Joe Simitian stated when he introduced legislation in the California Assembly, "Trust us is no longer an effective environmental policy."<sup>135</sup> A similar view is expressed in a 2003 report issued by the Paris-based Organization for Economic Co-operation and Development (OECD). The report questions the environmental effectiveness and economic efficiency of voluntary approaches. Focusing specifically on environmental policy, it notes that there are few cases where voluntary approaches have improved the environment beyond a business-as-usual baseline.<sup>136</sup>

In fact, many reports of violations have come from citizen observations. There have been reports from swimmers and persons shore side regarding illegal or questionable discharges in Hawaii. As well, many discharges in Alaska ports were first reported by a person on shore. The obvious problem is that if no one sees a violation occur then whether a report is made is left to the staff on a cruise ship and the company for which they work.

A further problem, whether there is a Memorandum of Understanding between the cruise industry and a state government (as is the case in Washington State and Florida) or legislation (as is the case in Maine and California), is in most jurisdictions there is no system of regular monitoring. The importance of monitoring is seen in the early prosecutions of cruise ship pollution in the 1990s. In some cases, violations became known as a result of aerial surveillance of cruise ships; in other cases a passenger or crewmember reported violation. While cruise ships increasingly self-report incidents where they violate a law or an MOU, there is no way to know whether

all violations are reported. There is an element of trust that cruise ship staff will “do the right thing,” but no guarantee.

**The Effects of a Patchwork Approach.** With a patchwork of regulations, cruise ships are permitted to discharge waste in one place but not another. On the west coast for example, this has a positive effect in Alaska, Washington, and California, but leaves open for greater environmental harm in neighbouring jurisdictions such as Oregon and British Columbia. British Columbia is a good illustration of the problem with a patchwork approach. In some circles it is referred to as “the toilet between Alaska and Washington State.”<sup>137</sup> This is because a ship may not discharge certain wastes in Washington State in Alaska, but it can discharge those wastes in Canada. The reason is weaker Canadian regulations and Canada’s failure to enforce the regulations it has. The same scenario operates on the east coast where grey water cannot be discharged in the waters of Maine, but can be discharged in the waters of New Brunswick and Nova Scotia. Because marine environmental protection is a federal responsibility, provincial governments need to press the federal government to better regulate cruise ship discharges.

### Is There a Solution?

It is startling that cruise ships have been regularly caught violating environmental regulations in the U.S. and heavily fined but none has been cited or fined for similar violations in Canada. Part of the problem is that Canadian regulations are in some respects less stringent than the U.S. But a larger problem is that the Canadian government fails to monitor cruise ship discharges, fails to cite violations when they are known, and erroneously holds to a belief that ships don’t do in Canada’s waters what they do illegally in the U.S. This is clearly contradicted by the industry’s data which show discharges in Marine Protected

Areas of British Columbia’s Inside Passage and which show many other discharges in violation of Canadian regulations.<sup>138</sup>

The most immediate need is for the Canadian Government to enforce regulations (ideally with onboard monitoring) already in place. The government begrudgingly replaced its 2004 *Pollution Prevention Guidelines for the Operation of Cruise Ships under Canadian Jurisdiction* with *Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals* in 2007 — the latter in many ways less stringent than the former (see Appendix A). But neither the voluntary guidelines nor regulations resulted in any citations for violations in Canadian waters even though these ships traversing Canada’s waters have multiple citations in the U.S. The case of Celebrity Cruises’ *Mercury*, caught for illegal discharges in Washington State and arguing that the same discharges are legal in Canada, illustrates that Canada is willing to be the cruise industry’s dumping ground for waste that cannot be discharged in U.S. waters. The view is supported by *Queen Elizabeth II’s* discharge of 3,000 litres of what crew described as paper pulp into Canadian waters off Cape Breton on September 9, 2005.<sup>139</sup>

Equally important is the need for Canada to promulgate regulations that are at a minimum as stringent as its neighbours. There is no reason a cruise ship should be permitted to discharge in Canadian waters effluent that is prohibited in the waters of the U.S. As regards the Maritimes, the state of Maine provides a useful template for grey water, black water, sewage sludge, and effluent from an AWTs.

There are other initiatives to be considered. As is done in Vancouver with federal government support, ports in the Maritimes should use cold ironing to reduce air pollution produced by a ship while sitting dockside. Another option is to do as California and require use of low sulphur fuel in auxiliary engines while in port. According to the California Air Resources Board, this

could save 3,600 lives in coastal communities over the first six years through reduced respiratory illnesses and heart disease, including a potential 80% drop in cancer risk associated with ship pollutants.<sup>140</sup> The results are even more impressive if auxiliary engines are shut down and shore side power used instead. In addition, ports in the Maritimes could impose reduced speed limits for ships within 20 miles of the port as a means of significantly reducing air emissions.

It is imperative that the federal government takes immediate and meaningful steps to deal

with cruise ship pollution. This may require lobbying by provincial governments and the support of those in Parliament who already advocate such action. This is in the interest of our marine environment and the aquatic life on which the livelihood of many citizens depends, and it is in the interest of all on land who breathes the air and is exposed to the pollutants from shipboard engines and incinerators.

## The Problem of Shipboard Crime

A third problem is crime onboard cruise ships; particularly sexual assaults but also disappearances under mysterious circumstances and robbery. This is relevant for the 15,000 Maritimers (and half-million Canadians) who take a cruise each year, and for the many Canadians who work on cruise ships. One concern is the complexion of the problem. The cruise industry claims to be the safest mode of commercial transportation, based on a 1996 study done by the U.S. Coast Guard.<sup>141</sup> But this study only considered three issues of safety: fatalities, injuries requiring treatment beyond first aid, and accidents such as trips and falls. Based on these criteria, a cruise ship is safer than U.S. air carriers and motor vehicles; however, the study did not look at sexual assaults or at disappearances under mysterious circumstances. The claim to be the safest mode of transportation has more limited parameters than it appears on surface.

Of particular concern to Canadians should be that they are not accorded the same protection as American citizens on cruise ships. In March 2006, the industry made a public commitment before the U.S. Congress to report all crimes against Americans to the Federal Bu-

reau of Investigation. It had previously, in 1999, announced a zero tolerance policy for crime in which it also committed to report all crimes against Americans to relevant law enforcement officials,<sup>142</sup> but that policy was never followed in practice. In any case, the cruise industry has made no commitment to report crimes against Canadians, and as far as can be determined reports are not made. The Canadian Government effectively lent a deaf ear to the concerns raised in June 2008 by two parliamentarians — Brian Masse and Denise Savoie — and this author.<sup>143</sup>

The problem of crime on cruise ships continues. In fact, the rate of sexual assault plus sexual harassment (the two categories roughly comply with the definition of sexual assault under the Canadian Criminal Code) was more than 50 percent higher than in Canada as a whole (i.e., 74 per 100,000 on land; as high as 112 per 100,000 at sea) in the three-year period 2003 through 2005.<sup>144</sup>

There is a stark contrast between industry claims that a cruise is the safest mode of transportation and the fact that a sexual assault is more likely to occur onboard a cruise ship than in Canada. One problem is that sexual assaults occur. Another problem is the limited security

onboard ships and often the absence of prosecution of perpetrators. The fact that cruise ships are foreign registered, mainly staffed by foreign nationals, and operate in international waters makes it difficult for crime victims to have the same legal remedies that normally are available on land.

Incidents are often not made public or are characterized as isolated exceptions or as statistically insignificant. But the fact is that sexual assaults on cruise ships have for decades been recognized as a problem. According to one set of data, one cruise line alone had 451 sexual assaults between 1998 and 2005.<sup>145</sup>

### Scope of the Problem

“Cruise ships are as safe an environment as you can find,” was what a Carnival Cruise Lines spokesperson claimed during a court case involving a fourteen-year-old child who was raped in 1989 on Carnival’s *Carnivale*. Rape, he said, “happens in houses, offices, hotels, and parking lots.”<sup>146</sup>

In this child’s case, the rape occurred onboard in a cleaning closet. The crewmember was prosecuted and in February 1990 was found guilty of the charges and sentenced to thirty years in prison. The case received considerable attention because it was the first time a crewmember on a foreign-flagged cruise ship had been successfully prosecuted. This was because the assault occurred while the ship was within U.S. territorial waters; the prosecution was in South Florida.<sup>147</sup> According to data provided in the discovery phase of lawsuits by one cruise line, at least 17.5% of sexual assaults are committed against a minor.<sup>148</sup> Most shipboard sexual assaults are not prosecuted, often judged a case of “he said-she said,” however there are many civil cases — these are often settled out of court.

Sexual assaults on cruise ships first gained the national media’s interest in 1999. In July 1999 Carnival Cruise Lines disclosed in the discovery phase of a lawsuit involving an alleged rape that

it had received 108 complaints of sexual assaults involving crewmembers in the five-year period ending August 1998. Royal Caribbean said it had had fifty-eight reported sexual assaults on its ships during the same five-year period.

Months earlier an investigative journalist with the *New York Times*, Douglas Frantz, published an article entitled “On Cruise Ships, Silence Shrouds Crimes” where he describes an alarming range of passenger claims of sexual assault and discusses how they were handled. Frantz describes

...a pattern of cover-ups that often began as soon as the crime was reported at sea, in international waters where the only police are the ship’s security officers. Accused crewmembers are sometimes put ashore at the next port, with airfare to their home country. Industry lawyers are flown to the ship to question the accusers; and aboard ships flowing with liquor, counterclaims of consensual sex are common. The cruise lines aggressively contest lawsuits and insist on secrecy as a condition of settling.<sup>149</sup>

He cites a former chief of security for Carnival Cruise Lines as saying:

You don’t notify the FBI. You don’t notify anybody. You start giving the victims bribes, upgrading their cabins, giving them champagne and trying to ease them off the ship until the legal department can take over. Even when I knew there was a crime, I was supposed to go in there and do everything in the world to get Carnival to look innocent.<sup>150</sup>

Once a crime is reported, there are problems with preserving evidence. Passenger cabins, which according to one set of data is where 36.4 percent of assaults occur,<sup>151</sup> are routinely cleaned twice a day, so much evidence is destroyed very quickly and there is often a delay between an attack and landing at a U.S. port — intermediate ports do

not have jurisdiction unless the assault occurs inside its territorial waters. Rape experts suggest cases reported within seventy-two hours provide the best forensic evidence but this time frame is difficult for attacks on a cruise ship. Many victims are likely to delay making a report as long as they are aboard a ship because of fear of reprisal and because there is no independent investigator or rape treatment centre. Sadly, rapes on cruise ships may often not be reported until it is too late for criminal investigation or not reported at all, as is known to be the case in many cases of sexual assault. According to Statistics Canada, only six percent of sexual assaults are reported to police.<sup>152</sup>

In those cases where a sexual assault is reported in a timely manner, victims and prosecutors were traditionally faced with a common practice among cruise lines to immediately send the accused back home, purportedly because they have violated company policies that prohibit fraternizing between passengers and crew. Reporters for the *Miami New Times* found that in each of five lawsuits against Carnival Cruise Line they reviewed, the employee was swept out of the country immediately after the ship arrived in port.<sup>153</sup>

### Early Attempts to Address the Problem

Many cruise lines undertook initiatives to address the problem of sexual assaults and other crimes, though this was mostly done out of the public's sight. Royal Caribbean, for one, received confidential reports in May/June 1999 from two consultants making recommendations for preventing sexual harassment and assault.<sup>154</sup> The problem was obvious. As one report states, sexual assault "... occurs frequently aboard cruise ships, but goes unreported and/or unpunished."<sup>155</sup> The other report acknowledged that "crew members generally understand that if they commit an offence and are caught they are most likely going to lose their job and be returned home, but not

spend time in jail."<sup>156</sup> Thus, most crewmembers have limited deterrence for sexual assaulting a passenger.

The reports make a range of recommendations, including: increased video surveillance of high risk areas (including the disco bar and dance area, main service corridors on crew decks and key intersections on passenger decks, and youth activity areas); cameras already in place be monitored periodically, at least on a random basis, and be recorded at all times; an increase in the number of security staff by two per ship; and increased training and education of staff and crew members. In addition they recommended that responses to sexual harassment and assault be standardized across brands and ships, that training for medical personnel include an interview protocol for sexual assault incidents, that a staff member be identified and assigned responsibility to serve as an advocate for the target of sexual harassment or assault, that a shore side hotline be established to receive telephone reports of wrongdoing and that investigations be consistent and evenly handled. Given their assumption that cruise passengers were unaware of the prohibition between crew and guest social interactions, they also recommended better educating passengers and better signage onboard demarcating areas that are "off limits" to passengers. The recommendations, which sadly put some of the onus for crime prevention on the passenger, are a start but they were neither fully embraced nor implemented. Many are still being debated; they are not found in general practice.

The consultants also identified cultural challenges to reducing sexual harassment and assault. For example, senior officers and management need to break from the traditionally hierarchical and militaristic structure of a ship and instead treat their crew and staff members fairly and respectfully. They need to reinforce the need for staff and crew members to treat each other and passengers respectfully. If they wish to prevent sexual harassment and abuse then they must

have zero tolerance for both, no matter the rank or position of the offender.

Cultural perceptions of sexual harassment and conduct among a ship's crew present another challenge. There is a diverse population drawn from around the world, and many of these cultures view women, women's rights and sexuality quite differently than they are seen by most North Americans. These differences need to be addressed through better training, more effective oversight and supervision, better security, and more effective enforcement.

### Managing perceptions

Rather than address the problem, the cruise industry appears to be focused on managing public perceptions. In the midst of the heightened media coverage and interest, four cruise corporations (Carnival Corporation, Royal Caribbean Cruises Limited, Crystal Cruises, and Princess Cruises) representing more than 75 percent of the industry signed a letter of commitment in July 1999. Issued under the auspices of the International Council of Cruise Lines, they pledged a "zero tolerance policy" for crimes committed onboard ships and established an industry standard requiring allegations of onboard crime be reported to the appropriate law enforcement authorities. For vessels calling on Canadian ports, or crime involving Canadian citizens, this meant the Royal Canadian Mounted Police (RCMP), but the industry has failed to follow through with its commitment.<sup>157</sup>

The cruise industry reassured passengers of background checks on prospective employees, that crew members violating rules against fraternization with guests would be dismissed, that there were highly trained security personnel on every vessel, and that there were established procedures to investigate, report and refer incidents of onboard crime to appropriate law enforcement authorities. The press release told American passengers that they were protected

by U.S. laws, that cruise lines were subject to civil liabilities in U.S. courts, and that they were safer on a cruise ship than in urban or rural America. Unfortunately, most of the promises remained unfulfilled, and there was no promise to report crimes against Canadians.

In March 2007, at the opening of hearings on crimes against Americans on cruise ships before a U.S. House of Representatives subcommittee, the cruise industry announced an agreement with the U.S. Coast Guard and Federal Bureau of Investigation. Under the agreement, cruise ships promised to report all crimes against Americans to American authorities. This was largely a re-hash of the industry's "zero-tolerance policy," and it doesn't apply to Canadians.<sup>158</sup>

### Minimizing the Problem

The cruise industry is adept at minimizing the problem. In 1999 it claimed the number of reported shore side aggravated sexual assaults was at least twenty to fifty times greater than the total number of all reported shipboard assaults of any type. Just seven years later, based on statistics for 2003 through 2005, it testified to a subcommittee of the House of Representatives that the rate of sexual assault on cruise ships was at worst half that found in the US generally.<sup>159</sup> This suggests there was either as much as a twenty-five-fold increase in sexual assaults between 1999 and 2003 or the claims made in 1999 were false and unfounded.

The industry's 2006 testimony was questioned a year later through analysis of data presented in a *Los Angeles Times* article<sup>160</sup> which showed the rate of sexual assault was actually almost twice that found in the US.<sup>161</sup> The industry responded privately — they said what they meant in their Congressional testimony was forcible rape, not sexual assaults.

This shifting of definitions minimizes the perceived incidence of shipboard sexual assault. The difference between "forcible rape" when

they used the label “sexual assault” is not trivial — forcible rape excludes many crimes that fall under the accepted definition for sexual assault, including child sexual abuse and exploitation for sexual purposes, unwanted sexual contact, and unwanted sexual acts. The definition of sexual assault, as it well should be, is broad and includes acts against children, men, and women, and includes unwanted sexual touch, unwanted sexual activity (including but not limited to forcible rape) and sexual exploitation.

### Getting a Grip on the Size of the Problem

An analysis of the data used by the *Los Angeles Times* gives a picture of the problem. The data, disclosed in a lawsuit in Florida, cover all sex related incidents from 2003 through 2005 on ships operated by Royal Caribbean International. However, based on the wording of the discovery request, the data likely under-represent incidents involving two crewmembers. Table 1 shows those data broken down by ship. It is noteworthy that subsequent analysis of passenger complaints on which this data is based indicates that many cases labelled “sexual harassment” and “inappropriate touch” qualify as sexual assault as defined by the Criminal Code of Canada.

As seen in Table 1 the rate of sexual assault on cruise ships, compared to the rate of forcible rape in the US, is not half but almost twice the US rate; if combined with sexual harassment the rate is almost four times the U.S. rate — about 50 percent higher than the Nova Scotia rate of 75 per 100,000.<sup>162</sup> The vast majority of sexual assaults are perpetrated by a crewmember against a passenger. Assaults involving two passengers or two crew members are much less frequent. Table 2 shows incidents reported to the FBI following the industry’s voluntary commitment to report all crimes against Americans (it presumably does not include crimes against Canadians or others who are not U.S. citizens). It, too, re-

veals a sexual assault rate higher than the Canadian rate of 65 per 100,000.

The analysis by ship (Table 1) gives additional insight into the problem. There is wide variation between ships. Some, such as *Jewel of the Seas*, have relatively few incidents. Others, such as *Monarch of the Seas*, *Empress of the Seas* and *Voyager of the Seas*, have many. The obvious question is how we can explain these differences. That question was posed to several Royal Caribbean staff members. Their responses touched on several issues.

One factor is that incidents vary by cruise length and itinerary. Shorter cruises (three or four days in length) are more likely to be party cruises, with higher levels of alcohol consumption and more nightlife activity. According to the Cruise Lines Industry Association, “...there is a correlation of a higher rate of crimes on short cruises, with a younger demographic, than on the longer itineraries where there are more families and older guests.”<sup>164</sup> Because there are no reliable data, it is difficult to adequately assess the degree to which cruise length and itinerary impact the likelihood of sexual assaults occurring onboard.

A large factor in risk to passengers and to crew is the onboard culture set by management. Some ship captains maintain higher expectations and lower tolerance for misbehaviour by crewmembers than others. Others, however, may be less respectful to their crew (acting authoritarian and being unfair in decision-making, such as an officer denying promotions to subordinates involved with female crew members he liked) and create an environment that is less healthy for staff and potentially higher risk for passengers. Some workers cited different management styles as a key factor in the rate of incidence and reporting of sexual assault and harassment. Some officers provide better role models than others through their own behaviour, both in terms of alcohol consumption and treatment of women crew and passengers. A womanizing Captain, or a Captain who allows senior staff to sexually ex-

TABLE 1 RCI “Reported Sex Related Incidents” 2003–2005<sup>163</sup>

Number of Reported Incidents and Annualized Rate per 100,000 by Ship

Ship	Inappropriate Touch	Sexual Harassment (SH)	Sexual Assault (SA)	SH+SA (annual per/100,000)	Crew / Crew	Guest / Guest	Crew / Guest
<b>Adventure</b> (Double occ: 3114) Onboard pop=4600   Incidence/100,000	0	3 21.74	5 36.23	<b>57.97</b>	0	3	3
<b>Brilliance</b> (Double occ: 2110) Onboard pop=3100   Incidence/100,000	2	6 64.52	7 75.27	<b>139.79</b>	2	2	10
<b>Empress</b> (Double occ: 1600) Onboard pop=2400   Incidence/100,000	2	7 97.22	8 111.11	<b>208.33</b>	2	2	10
<b>Enchantment</b> (Double occ: 1950) Onboard pop=2900   Incidence/100,000	1	4 45.97	4 45.97	<b>91.94</b>	1	2	5
<b>Explorer</b> (Double occ: 3114) Onboard pop=4600   Incidence/100,000	2	13 94.20	11 79.71	<b>173.91</b>	3	3	16
<b>Grandeur</b> (Double occ: 1950) Onboard pop=2900   Incidence/100,000	1	2 22.99	3 34.48	<b>57.47</b>	0	2	3
<b>Jewel</b> (Double occ: 2112) Onboard pop=3100   Incidence/100,000	1	1 10.75	0 0.0	<b>10.75</b>	0	0	2
<b>Legend</b> (Double occ: 1804) Onboard pop=2700   Incidence/100,000	2	2 24.69	4 49.38	<b>74.07</b>	3	2	3
<b>Majesty</b> (Double occ: 2354) Onboard pop=3500   Incidence/100,000	1	10 95.24	7 66.67	<b>161.91</b>	0	2	13
<b>Mariner</b> (Double occ: 3114) Onboard pop=4600   Incidence/100,000	0	6 43.48	4 28.99	<b>72.47</b>	0	2	6
<b>Monarch</b> (Double occ: 2354) Onboard pop=3500   Incidence/100,000	6	5 47.62	15 142.86	<b>190.48</b>	2	8	13
<b>Navigator</b> (Double occ: 3114) Onboard pop=4600   Incidence/100,000	3	6 43.48	8 57.97	<b>101.45</b>	0	1	13
<b>Radiance</b> (Double occ: 2110) Onboard pop=3100   Incidence/100,000	4	7 75.27	3 32.26	<b>107.53</b>	1	2	10
<b>Rhapsody</b> (Double occ: 2000) Onboard pop=3000   Incidence/100,000	0	3 33.33	7 77.77	<b>111.10</b>	0	2	5
<b>Serenade</b> (Double occ: 2112) Onboard pop=3100   Incidence/100,000	0	5 53.76	2 21.51	<b>75.27</b>	1	3	3
<b>Sovereign</b> (Double occ: 2276) Onboard pop=3400   Incidence/100,000	1	5 49.02	7 65.63	<b>114.65</b>	2	1	9
<b>Splendour</b> (Double occ: 1804) Onboard pop=2700   Incidence/100,000	1	2 24.69	0 0.0	<b>24.69</b>	0	0	3
<b>Vision</b> (Double occ: 2000) Onboard pop=3000   Incidence/100,000	7	4 44.44	4 44.44	<b>88.88</b>	3	2	10
<b>Voyager</b> (Double occ: 3114) Onboard pop=4600   Incidence/100,000	2	11 79.71	14 101.45	<b>181.16</b>	3	7	17
<b>Totals</b>	<b>36</b>	<b>102</b>	<b>113</b>		<b>24</b>	<b>50</b>	<b>151</b>
Onboard pop=64000   Incidence/100,000		<b>53.12</b>	<b>58.85</b>	<b>111.97</b>	<b>10.7%</b>	<b>22.2%</b>	<b>67.1%</b>
U.S. Rate for sexual assaults (rapes)			<b>32.20</b>				
Canadian Rate for sexual assaults				<b>74</b>			

Place of Incident: Unknown (26.6%), Pax Cabin (20.1%), Bar/Disco (10.8%), Other (6.0%), Dining Area (5.4%), Spa/Salon (5.4%), Public area (4.8%), Cabin - Officer/Crew (3.6%), Corridor (3.0%), Deck area (2.7%), Ashore (2.7%), Child/teen area (2.4%), Elevator (1.8%), Swimming Pool (1.5%), Crew area (1.5%), Public restroom (1.5%)

TABLE 2 Comparison of Crime Rate Aboard Cruise Ships: 2003–2005 vs. 2007–2008

	2003–2005 <sup>1</sup>		2007–2008 <sup>2</sup>	
	Sexual Assault	Robbery	Sexual Assault <sup>3</sup>	Robbery <sup>4</sup>
Offences reported	149	4	Offences reported (13 months)	260 128
Annual average	49.67	1.33	Annualized rate	240 118
Passenger count, 2003–05	31,068,000	31,068,000	Pax count 2007 + 2008	25,760,000 25,760,000
Annual average	10,365,000	10,356,000	Annual Average	12,880,000 12,880,000
Average pax cruise length (days)	6.9	6.9	Average pax cruise length <sup>5</sup>	7.0 7.0
Annualized pax exposure Annual average pax count × (6.9/365)	195,771	195,771	Daily pax exposure Passenger count × (7.0/146)	246,338 246,338
Daily crew size	86,035	86,035	Daily crew size <sup>6</sup>	107,149 107,149
Total annualized person exposure	281,806	281,806	Total daily (annualized) person exposure	353,487 353,487
Rate of crime per 100,000	17.6	0.5	Rate of crime per 100,000	69.7 33.4

<sup>1</sup> Source: Statement on Crime aboard Cruise Ships, James Allan Fox, March 7, 2006, in Congressional hearings. Data was for a period of three full years. <sup>2</sup> Source: Enclosure with letter dated June 19, 2008 from Mr. Richard C. Powers (Assistant Director, Office of Congressional Affairs, Federal Bureau of Investigation) to Honourable Frank Lautenberg (Chairman, Subcommittee on Surface Transportation and Merchant Marine Infrastructure, Safety, and Security, United States Senate). <sup>3</sup> Sexual Assault includes the categories of “sexual assault” (N = 169) and “sexual contact” (N=91). <sup>4</sup> Robbery includes “theft of items valued over US\$10,000” (N=24) and “theft of items valued at less than US\$10,000 (N=104). <sup>5</sup> Source: CLIA Cruise Industry Overview, Marketing Edition 2006 (latest data available). <sup>6</sup> The same ratio of passenger-to-crew used in 2003–2005 (0.4349675411) is used here.

exploit staff/crew and passengers, sets a tone and gives permission to others to behave the same. They manifest an environment that is less secure.

Shipboard culture overlaps with the culture from which crewmembers come. Specific cultural views of what constitutes sexual harassment and unwanted attention are a possible risk factor. As Greenwood states, “...it was the subjective opinion stated by many officers and crew members that the cultural inclination toward aggressive sexual behaviour, general low regard for the status of women, and the attractiveness and charming personalities of these nationals [(referring to one cultural/ethnic group)] is a risk factor to be considered.”<sup>165</sup> The problem is that a crewmember may behave in ways that are acceptable in his or her home culture, but are inappropriate or abusive in North American culture. Cruise lines need to more effectively screen and train staff, and governments need to take a more active role to ensure sufficient security is maintained and that perpetrators are arrested and prosecuted.

Michael Eriksen, a lawyer who represents victims of crime on cruise ships, has a similar view. He suggests:

“To deter such misbehaviour, a cruise line must do more than write up a ‘zero tolerance’ policy and pay lip-service to it. Criminals aboard cruise ships, like those elsewhere, commit crimes because they perceive a minimal risk of detection and prosecution. Some cruise lines fail to install sufficient surveillance cameras in public areas to identify and deter potential perpetrators. Other carriers fail to hire enough supervisors and security guards to adequately keep tabs on the rest of the crew. Some carriers fail to make it clear to crewmembers that zero tolerance also applies to crew-passenger contact ashore.”<sup>166</sup>

## It Isn't Just Sexual Assaults

The first hearings on cruise ship crime in the House of Representatives in December 2005 were not focused on sexual assaults. It initially focused on a cluster of cases where a passenger disappeared from a cruise ship. The issue was raised in June 2005 in a *Business Journal of Jacksonville* article written by Mary Moewe. She found that since 2000 at least twelve cruise ship passengers had gone overboard or disappeared in eleven incidents involving cruise ships that frequent U.S. ports.<sup>167</sup> Unbeknownst to Moewe, the numbers were actually much higher.

The most comprehensive list of persons going overboard from cruise ships at the time was online at Cruise Junkie dot Com.<sup>168</sup> The site reports forty-seven incidents during the time period covered by Moewe's article; in nine cases the person was rescued alive. Some cases were clearly suicide, some were accidents and many remained mysterious.

Some of the unexplained disappearances include: Cris Allen Swartzbaugh, a thirty-nine-year-old man who disappeared between Tahiti and Raiatea in the South Pacific the first night of a cruise aboard the *Paul Gauguin* in April 2000; Manuelita Pierce, a thirty-nine-year-old woman who disappeared without a trace at the end of her weeklong Caribbean cruise aboard Royal Caribbean's *Enchantment of the Seas* in October 2000; Randall Gary, a fifty-year-old psychotherapist from Toronto who in May 2003 disappeared from Holland America Line's *Veendam* somewhere between Vancouver and Alaska; Merrian Carver, a forty-year-old woman whose disappearance in May 2004 from an Alaska cruise aboard Celebrity Cruises' *Mercury* was not reported to the RCMP in Vancouver when the cruise ended; Annette Mizener, a thirty-seven-year-old woman who disappeared from a nine day Mexican Riviera cruise aboard *Carnival Pride* in December 2004 — in her case the surveillance camera viewing the deck area

from where she disappeared, apparently following a struggle, was covered by a map of the ship; in May 2005 Hue Pham (age seventy-one) and his wife of forty-nine years, Hue Tran (age sixty-seven), disappeared in the Caribbean between the islands of Barbados and Aruba from *Carnival Destiny*, and in December 2005, Jill Begora, a fifty-nine year old woman from Victoria, BC disappeared from Royal Caribbean's *Jewel of the Seas* the last night of an eight-night Caribbean cruise with her husband. There were common patterns in these cases: search for the missing passenger was either not undertaken or was inordinately delayed, there appeared to be an absence of investigation, and in some cases law enforcement authorities were not initially notified.

While these cases suggest a problem, the disappearance of George Allen Smith IV, a twenty-six-year-old on his honeymoon aboard *Brilliance of the Seas* in the Mediterranean in July 2005, captured the world's attention and interest and catapulted passenger disappearances into the public eye.<sup>169</sup> The case caught the attention of Smith's member of Congress, Christopher Shays, who was aware of some other cases involving disappearances from cruise ships. He pushed for and chaired the first two Congressional hearings (December 2005 and March 2006) into crime on cruise ships. The 2006 hearings shifted the spotlight to sexual assaults and to robbery and theft. The industry claimed there were only four known robberies industry-wide in the three-year period, 2003–2005, meaning an annual rate of 1.33 per 100,000. As seen in Table 2, the FBI reported in 2008 an annualized rate of 118. That yields a rate of 39 per 100,000, which is 80 times greater than the industry reported in its March 2006 testimony.

## Getting a Handle on Crime

It is not surprising that crimes occur on cruise ships, much the same as they do on land. However there are features of a cruise vacation — excessive

drinking, uninhibited sociality, shipboard culture, and limited security and enforcement — that raise the risk higher than what would be expected on land and certainly higher than most passengers expect. Like dealing with an alcoholic, the first thing the cruise industry needs to do is to admit there is a problem. Only then can they begin to address the problem and seek advice from critics and independent and external analysts. Their method of obfuscation and excluding from discussion those who disagree with them has undermined past discussion, but the problem has reached proportions that demand meaningful and significant measures.

As regards Americans, the industry argues that the reporting agreement between the Cruise Lines International Association and the U.S. Coast Guard/FBI is enough to deal with the problem, however it is not. The industry has been required to report all crimes against Americans for more than a decade (first under USC 18 CFR and later by their zero tolerance pledge in 1999), but they weren't.<sup>170</sup> More serious to Canadians is the industry has no commitment to report crimes against Canadians to anyone. A Canadian passenger is effectively in a second-class category and left on their own if they wish to pursue prosecution of the perpetrator of a crime against them.

## What Should the Canadian Government Do?

Canadians taking a cruise deserve the protection of their government and also deserve to be treated the same as citizens from the U.S. This means the federal government must immediately require cruise lines to report all crimes against Canadians to the RCMP. The government must also provide the resources necessary for the RCMP to properly investigate these crimes and to prosecute those who victimize Canadians. This might be achieved through cooperative arrangements with law enforcement agencies in the U.S. or elsewhere, but it must be done.

The federal government might argue that current Canadian law doesn't give it the authority to take actions that will protect Canadians. If that is the case, then laws must either change or the government should issue a travel advisory to Canadian citizens about the risks associated with a cruise vacation. Canadians take cruises believing they are safe, and if they are the victim of a crime that the same criminal investigations and prosecutions will occur.

The federal government, through Transport Canada, should also prepare a pamphlet for distribution to Canadians taking a cruise. The pamphlet would explain the risk of onboard crime and provide advice for what can be done to reduce the chances of becoming a victim and give explicit directions for what to do should a crime occur.

# Summary and Recommendations

This report identifies several sets of issues of concern to Canadians generally, and particularly to those living in the Maritimes. For each set of concerns recommendations are articulated below.

## Increase Economic Benefits and Decrease Economic Costs

Ports in the Maritimes identify cruise tourism as an important part of their overall strategy for generating income from visitors. With their efforts, it is important to view the cruise industry realistically. Cruise tourism yields considerably less income per visitor than a tourist visiting by land and is less than the \$100 per passenger frequently used to estimate economic impact. Further, the impact of spending is severely compromised by commissions collected by the cruise line for sale of shore excursions and by charges and commissions collected from stores where cruise passengers shop. While cruise tourism can be a source of income, port cities need to be realistic and it should not supplant or take attention away from traditional land-based tourism. Cruise tourism might appropriately be consid-

ered the gravy while land-based tourism is the main course in a meal.

Given financial support and encouragement from the federal government, in part through the Atlantic Canada Opportunities Agency (ACOA), many ports have invested large sums of money to develop and expand cruise tourism, in some cases at the expense of traditional land-based visitors. Looking forward, the provincial government, federal government and ACOA should assist ports when they enter negotiations with cruise lines to ensure that local communities are compensated fairly and equitably. In practice, this would mean developing regulations, programs and policies to:

- Prevent economically exploitative industry practices against local communities. For example, Saint John and Halifax often provide the means for a cruise ship to comply with the U.S. Passenger Vessel Services Act and thereby avoid a US\$300 per passenger fine should they not include a Canadian port in their otherwise U.S.-based itineraries. The port call at a Canadian port saves the cruise ship

significant funds; ports should base their port charges on this fact.

- Support ports to attain a fair share of cruise passenger dollars for local communities; a full accounting of costs and benefits for ports that ensures that the industry is held to account fairly to the communities impacted by cruise ship industry would facilitate this. Currently, local communities (including ports) do not receive a fair share of cruise passenger dollars when we take into account the incentives given to the industry. Ports could charge port fees or head taxes that cover all expenses plus provide funds for infrastructure, indirect costs, and for activities that improve the experience of visitors from cruise ships. Alaska is a good model — in 2007 the state instituted a US\$46 excise tax for every passenger entering state waters and now receives a portion of profits generated by casinos while operating in state waters. The money is distributed among communities impacted by cruise ship activities to cover the cost of harbour and infrastructure improvements and other related expenditures that communities now pay from local taxes to host the fleet.
- Support local shops and shore excursions providers and ensure that cruise ship passengers do not receive unfair advantages compared to land-based visitors. Stores should not have to kick back a sizable portion of their proceeds from sales to cruise ship passengers, and shore excursion providers should receive from cruise ships the same level of income they receive from land-based visitors. Cruise lines should not profit on sale of excursions at the expense of local tour guides and the companies for which they work.

- Protect the long-term economic interests of local ports to enter into multi-year contracts in which cruise lines guarantee a number of passengers per year. This allows ports to plan improvements without having to worry that their investment will not be recouped.

## Increase Environmental Protection

The increasing size of cruise ships poses a large problem for the environment. Cruise corporations point to advances in waste treatment, but the fact remains that cruise ships today are as large in population as many communities in the Maritimes. They generate considerable waste and much ends up in the ocean. It is time the government ensures the cruise industry lives up to what it claims: it would not pollute the marine environment because its' profit depends on the oceans remaining pristine.

- The Canadian Government must pass legislation directed at the cruise industry to protect the marine environment of Canada. The legislation must include monitoring and stiff penalties for violations. The legislation must codify each of the following recommendations and ensure that the industry:
  - Discharges no grey water or black water, treated by a marine sanitation device, within twelve miles of Canada's coast, and discharging no untreated effluent within 200 miles of shore.
  - Discharges no waste water treated by an advanced wastewater treatment system within three miles of shore and no sewage sludge within twelve miles of shore. Currently, the industry's practices vary widely and are not consistent. It has cleaner practices in the state of Washington as regards sewage sludge, or California and Casco Bay, Maine as

regards effluent from AWTs and grey water.

- Discharge no solid waste or food waste within twelve miles of shore (including discharge of macerated food waste), and discharge no recyclable waste within 200 miles of Canada's coastline. Most Canadian ports have recycling facilities and cruise ships should have to use them.
- Discharge oily bilge filtered to 5 parts per million within twelve miles of Canada's coast, and no more than 15 parts per million beyond. Though 5 parts per million is less than MARPOL requires, it is achievable<sup>171</sup> and would be a further demonstration of the industry's commitment to protecting Canada's oceans and the marine life on which so many coastal communities depend.
- Use low sulphur fuel when traversing Canada's waters — 1.5 percent immediately with reductions to .05 by 2010. In addition, the industry should use fuel with .05 percent sulphur content in auxiliary engines run while at dock. This is achievable elsewhere, so should also be achievable in Canada. There is no reason Maritimers should expect less than residents of California or Washington.
- Be prohibited from using incinerators within twenty miles of Canada's coast. The State of California has established that air emissions generated between 27 and 100 miles off the coast can negatively impact air quality on land.<sup>172</sup>
- Reduce speed limits to 15 knots when ships entering Canadian ports are within 20 miles from land; to 12 knots when within 3 miles of land. This has

been used with positive results by three ports in California.

- Permit onboard independent observers, certified by the Canadian Coast Guard, to be placed on ships traversing Canada's waters, and as in Alaska charge cruise ships a fee that underwrites the cost associated with these observers. The role of onboard observers is to monitor wastewater treatment practices, inspect pollution control equipment and sample all ship discharges.

### Crime Prevention and Prosecution

Crime occurs on cruise ships, as it does on land. There needs to be visible steps by the cruise industry to upgrade security onboard its ships — implementing recommendations made by the International Cruise Victims Association is a good beginning — but our government needs to also ensure that Canadians are treated no differently than Americans. In this regard, the Canadian Government:

- Must require cruise ships carrying Canadians (crew or passengers) to report all crimes against Canadians, and all crimes committed in Canadian territorial waters, to Canadian authorities. In addition, cruise ship personnel must cooperate with these authorities in their investigation and prosecution of shipboard crime.
- Must ensure the RCMP has adequate resources to investigate shipboard crime and to adequately protect Canadian citizens. If the government is not prepared to do this, or while it prepares the groundwork, it must issue a travel advisory alerting Canadians to the risks of taking a cruise and that their rights onboard are

less than those of their fellow passengers from the U.S.

- Must introduce legislation to extend its authority to crimes against Canadians on foreign-flagged cruise ships operating beyond Canadian territorial waters, much the same as exists in the U.S. Canadian citizens deserve to be protected by their government when they travel beyond the nation's borders, particularly when on cruise ships belonging to corporations deriving significant revenue from Canadian ports.

- Through Transport Canada, it should prepare a pamphlet for distribution through travel agents to Canadians taking a cruise. The pamphlet would explain the risk of onboard crime, provide advice for reducing the risk for being victimized, and give explicit directions for what to do should a crime occur.

The Canadian Government needs to fulfill its role in enforcing laws against victimization when a Canadian is harmed on a cruise ship and force the cruise industry to sufficiently implement strategies for crime prevention and policies that ensure perpetrators of crime will be fully prosecuted.

## Comparison of Canadian Voluntary Guidelines (2004)<sup>173</sup> and Canadian Regulations (2007)<sup>174</sup> by Effluent

Effluent	Canadian Voluntary Guidelines (2004)	Canadian Regulations (2007)
Grey Water	Discharge of untreated grey water allowed when ship underway and proceeding at a speed of not less than 6 knots, and not within 4 miles from shore; treated grey water unregulated.	Not regulated
Black Water	Discharge is prohibited, except when: (a) discharging comminuted and disinfected at a distance of more than 3 nautical miles from the nearest land, b) discharging sewage which is not comminuted or disinfected at a distance of more than 12 nautical miles from land, provided that sewage stored in holding tanks shall not be discharged instantaneously but at a moderate rate when ship proceeding at not less than 4 knots, or (c) the ship has in operation an approved sewage treatment plant and the effluent does not produce visible floating solids nor cause discoloration.	Discharge is prohibited, except when: (i) Untreated discharges is made at a distance of at least 12 nautical miles from shore; (ii) The discharge is made from a holding tank or from facilities for the temporary storage of sewage and (a) the discharge is made at a distance of at least 12 nautical miles from shore, (b) the ship is en route at a speed of at least 4 knots, and (c) the sewage is discharged at a moderate rate; or (iii) the sewage is comminuted and disinfected using a marine sanitation device and the discharge is made at a distance of at least 3 nautical miles from shore.
Advanced Wastewater Treatment System	Exempted from requirements for black water and grey water—can discharge anywhere.	Not regulated
Sewage Sludge	Biosolids or sludges that are produced by sewage treatment systems should be landed ashore, where possible, for disposal by a licensed facility or service.	Treated the same as sewage—untreated beyond 12 miles; treated beyond 3 miles.
Air Emissions (Fuel)	Use fuels with the lowest sulphur content available. The average sulphur content of all fuels should not exceed 1.5%. The maximum sulphur content of bunker fuel should not exceed 3.0% and the maximum sulphur content of marine gas oil should not exceed 0.5%. Where possible, cruise ships should use marine diesel as the fuel for primary propulsion instead of bunker oil once they are within 10 nautical miles of port.	Sulphur content of any fuel oil used on board a ship shall not exceed 4.5 per cent by mass.

Effluent	Canadian Voluntary Guidelines (2004)	Canadian Regulations (2007)
<b>Air Emissions (Incinerator)</b>	Cruise ships in port shall not use incinerators and should consider using shore power where it is available, safe, reliable and where it would produce less air pollution. At a minimum, cruise ships shall meet the requirements of Annex VI of MARPOL for incinerators installed on cruise ships after Jan 1, 2000.	Gives specifications for incinerator, but no limits on where/when they may be used.
<b>Incinerator Ash</b>	Cruise ships shall manage incinerator ash as hazardous waste and shall: (a) not discharge it into waters under Canadian jurisdiction; and (b) land it ashore to a licensed facility or service, unless documented evidence is available indicating the ash is non-hazardous, where then it may be landed ashore as non-hazardous waste. The incinerator should be used primarily for solid galley waste, food waste, paper, cardboard, wood and plastics not recommended for recycling.	Treated as garbage (solid waste)—discharge permitted 3 nautical miles from the nearest land.
<b>Air Opacity</b>	Not mentioned	(1) No person shall operate or permit the operation of any fuel-burning installation on a ship so that smoke is emitted in greater density than the maximum density authorized by this section. (2) Subject to subsection (3), no fuel-burning installation, except an installation utilizing hand-fired boilers, shall at any time emit smoke of a density greater than 20%. (3) A fuel-burning installation may emit smoke of density 40% for an aggregate of not more than four minutes in any 30-minute period.
<b>Solid Waste</b>	No discharge of garbage into waters under Canadian jurisdiction. Liquefied galley wastes are not considered to be garbage under Canadian regulations, but should be discharged using the same criteria as those stipulated for grey water.	No discharge within 3 miles; discharge between 3–12 miles if ground to less than 1 inch, beyond 12 miles if not ground, except for dunnage, lining material or packing material that does not contain plastics and is capable of floating which is discharged beyond 25 miles. Discharge of plastics is prohibited everywhere. NOTE: Contrary to regulations, liquefied galley wastes may be discharged using the same criteria as those stipulated for grey water.
<b>Oily Bilge</b>	Ships discharging oily wastes in Canadian internal waters shall do so only when underway and when the filtering system is fitted with a stopping device which will ensure that the discharge is automatically stopped when the oil content of the effluent exceeds 15 parts per million. All oil or oil residues which cannot be discharged in compliance with regulations, shall be retained onboard, incinerated, or discharged to a licensed facility or service.	Authorized if the ship is en route, if the discharge is processed through oil filtering equipment that produces an undiluted effluent that has an oil content of no more than 15 ppm, and if discharge does not contain chemicals or any other substance introduced for the purpose of circumventing the detection of concentrations of oil that exceed the oil content limit.
<b>Ballast Water</b>	Cruise ships shall comply with the provisions of Transport Canada's 'Guidelines for the Control of Ballast Water Discharge from Ships in Waters Under Canadian Jurisdiction', TP 13617.	No mention

# Notes

<sup>1</sup> See “Tourism, Culture and Heritage, Nova Scotia Department of Tourism, Culture and Heritage, <[www.historiccharlottetownseaport.com/cruiseships/](http://www.historiccharlottetownseaport.com/cruiseships/)> (accessed February 5, 2009).

<sup>2</sup> See “Tourism, Culture and Heritage, Nova Scotia Department of Tourism, Culture and Heritage, <[www.historiccharlottetownseaport.com/cruiseships/](http://www.historiccharlottetownseaport.com/cruiseships/)> (accessed February 5, 2009).

<sup>3</sup> “Cruise Numbers and Container Traffic Increased in 2008, Saint John Port Authority, <[www.sjport.com/english/news\\_events/article.asp?PressID=181](http://www.sjport.com/english/news_events/article.asp?PressID=181)> (accessed February 5, 2009).

<sup>4</sup> Charlottetown Harbour Authority, <[www.historic-charlottetownseaport.com/cruiseships/](http://www.historic-charlottetownseaport.com/cruiseships/)> (accessed February 5, 2009).

<sup>5</sup> According to Cruise Lines International Association (<[www.cruising.org](http://www.cruising.org)>), cruise passenger numbers in North America increased from 3.5 million in 1990 to 13.2 million in 2008. This represents a 400 percent increase as compared to an 1800 percent increase in the Maritimes in the same time period.

<sup>6</sup> Halifax plans spent \$1.5 million in 2003 in order to accommodate the Queen Mary 2. This was on top of \$4.2 million it had already spent, to accommodate

newer and larger vessels. Spending figures since 2003 have not been made public. See Ross A. Klein. 2003. *Charting a Course: The Cruise Industry, the Government of Canada, and Purposeful Development*, Halifax: CCPA.

<sup>7</sup> The Atlantic Canada Opportunities Agency provides support to the Atlantic Canada Cruise Association and to projects undertaken by member ports. See ACOA Press Release, Cruise Industry Set to Welcome More Passengers to Atlantic Canada, February 18 <[mediaroom.acoa-apeca.gc.ca/e/media/press/press.shtml?4059](http://mediaroom.acoa-apeca.gc.ca/e/media/press/press.shtml?4059)> (accessed December 19, 2008).

<sup>8</sup> According to the website of Shawn Murphy, MP, the port received \$19 million in federal funding for the port. See <[www.shawnmurphymp.ca/federalinvestments.php](http://www.shawnmurphymp.ca/federalinvestments.php)> (accessed February 2, 2009). When I visited Charlottetown in July 2008, a billboard at the port’s entrance indicated the port project cost \$14.5 million and was funded by funds from the federal government, provincial government, and the port itself.

<sup>9</sup> Derwin Gowan. 2008. “Saint John Beleaguered by Dredging Costs,” *New Brunswick Business Journal*, October 18, <[nbbusinessjournal.canadaeast.com/journal/article/452326](http://nbbusinessjournal.canadaeast.com/journal/article/452326)> (accessed October 19, 2008).

- 10 "Saint John Loses Huge Cruise Ship Visit," *CBC News*, August 24, 2004, <nb.cbc.ca/regional/servlet/View?filename=nb\_lastcruise20040824> (accessed August 24, 2004).
- 11 See Ross A. Klein. 2003. *Charting A Course: The Cruise Industry, The Government of Canada, and Purposeful Development*, Halifax: Canadian Centre for Policy Alternatives-NS, p. 19.
- 12 See Carnival Corporation Annual Reports (available at [www.carnival.com](http://www.carnival.com)) or annual filings with the U.S. Securities and Exchange Commission.
- 13 Clark Canfield. 2008. "Cruise Lines Change Course to Cut Fuel," *Baltimore Sun*, September 8, <[www.baltimoresun.com/business/bal-cruise0908,0,2544238.story](http://www.baltimoresun.com/business/bal-cruise0908,0,2544238.story)>, (accessed September 8, 2008).
- 14 In a February 2007 meeting with representatives of the Port of Victoria, Holland America Line, and Northwest Cruise Ship Association, this author was told that Cruise BC had told Campbell River that the difficulty of navigating the approach to the harbour would mitigate against any large cruise ships visiting the town.
- 15 See Carla Wilson. 2008. "Tax Funded Cruise Ship Facilities in Shaky State." *Times Colonist*, February 19, Available at <[www.canada.com/victoriatimescolonist/news/business/story.html?id=66c609dc-7f9d-4b69-9c02-4280c4c5584d&k=94826](http://www.canada.com/victoriatimescolonist/news/business/story.html?id=66c609dc-7f9d-4b69-9c02-4280c4c5584d&k=94826)> (accessed February 19, 2008). Also see "Rough Seas for Cruise Stop," *Courier Islander*, September 5, 2008, p. A10.
- 16 Walter Cordery. 2008. "Cruise Ship Plan Needs Federal Aid," *Nanaimo Daily News*, October 24, <[www.canada.com/nanaimodailynews/news/story.html?id=348c6254-ed91-4fe3-b44a-6f092aa4e764](http://www.canada.com/nanaimodailynews/news/story.html?id=348c6254-ed91-4fe3-b44a-6f092aa4e764)> (accessed October 24, 2008).
- 17 Hamish McNeilly. 2008. "Cancelled Cruise Brings \$6.5m Loss," *Otago Daily Times*, October 24, <[www.odt.co.nz/news/dunedin/28757/cancelled-cruises-bring-65m-loss](http://www.odt.co.nz/news/dunedin/28757/cancelled-cruises-bring-65m-loss)> (accessed October 24, 2008)m
- 18 Melissa Ketchell. 2007. "Brisbane Needs New Cruise terminal," *Courier Mail*, November 2, <[www.news.com.au/couriermail/story/0,23739,22686907-3102,00.html](http://www.news.com.au/couriermail/story/0,23739,22686907-3102,00.html)> (accessed November 3, 2007). Also see Mike O'Connor. 2007. "Cruise Ships Locked Out of Brisbane," *Courier Mail*, October 31, <[www.news.com.au/couriermail/story/0,23739,22675671-5012446,00.html](http://www.news.com.au/couriermail/story/0,23739,22675671-5012446,00.html)> (accessed November 1, 2007).
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- 20 Kate Dennehy. 2008. "Inadequate Cruise Terminal Leaves Brisbane High and Dry," *Brisbane Times*, May 11, <[www.brisbanetimes.com.au/news/queensland/inadequate-terminal-leaves-brisbane-high-and-dry/2008/05/11/1210444212856.html](http://www.brisbanetimes.com.au/news/queensland/inadequate-terminal-leaves-brisbane-high-and-dry/2008/05/11/1210444212856.html)> (accessed May 12, 2008).
- 21 Associated Press. 2007. "Big Island Cruise Ship Visits to Drop, Eliminating Jobs." *Honolulu Advertiser* November 19, <[the.honoluluadvertiser.com/article/2007/Nov/19/br/br6219034785.html](http://the.honoluluadvertiser.com/article/2007/Nov/19/br/br6219034785.html)> (accessed November 19, 2007).
- 22 See Ross A. Klein. 2003. *Charting a Course: The Cruise Industry, the Government of Canada, and Purposeful Development*, Halifax: CCPA and Ross A. Klein. 2005. *Cruise Ship Squeeze: The New Pirates of the Seven Seas*, Gabriola Island: BC: New Society, pp. 89 — 97.
- 23 Huie, Nancy. 1995. "The Business of Shopping," *Cruise Industry News Quarterly*, Summer, p. 50.
- 24 See Price Waterhouse Coopers. 2001. *Economic Contribution of the FCCA Member Lines to the Caribbean and Florida*, Miami: Florida-Caribbean Cruise Association.
- 25 Compare the figures for Seattle generated by a study done for the International Council of Cruise Lines, based on each passenger spending \$100 and a study done for the Port of Seattle. The former study (Business Research and Economic Advisors. 2004. *The Contribution of the North American Cruise Industry to the US Economy in 2003*, p. 53).claims the cruise industry generated in the state of Washington in 2003 \$530 million in direct purchases, employment for 14,869 people, and wages in excess of \$588 million. The latter study (John C. Martin Associ-

- ates. 2004. *The Economic Impacts of the 2003 Cruise Season at the Port of Seattle*, April 13.), covering the same year and the same area, reports significantly lower figures — the industry spent \$124 million in direct purchases (accounting for \$39 million in local wages and salaries), created directly and indirectly 1,072 jobs, and through purchases from local businesses generated \$3.8 million in state and local taxes.
- 26** See Port of Halifax. 2008. *Halifax Port Authority Stakeholder Report — December 2007*, <www.portofhalifax.ca/downloads/6470HPABiAnnReport12.07SING.pdf> (accessed February 9, 2009).
- 27** Zrinka Marusic, Sinisa Horak and Renata Tomljenovic. 2007. “The Socio-Economic Impacts of Cruise Tourism: A Case Study of Croatian Destinations,” *Proceedings of the 5th International Coastal and Marine Tourism Congress: Balancing Marine Tourism Development and Sustainability* (ed. Michael Lueck et al), Auckland: AUT University.
- 28** See, for example, *Cruise Ship Passenger Survey: ms Norwegian Sun, September 22, 2001 Visit*, St. John’s: Economic Development and Tourism Department, March 2002. The City of St. John’s did similar studies in 1998, 1999, and 2001.
- 29** CESD. 2007. *Cruise Tourism in Costa Rica & Honduras: Policy Recommendations for Decision Makers*, Washington, DC: Centre on Ecotourism and Sustainable Development.
- 30** CESD. 2006. *Cruise Tourism in Belize: Perceptions of Economic, Social & Environmental Impact*, Washington, DC: Centre on Ecotourism and Sustainable Development.
- 31** See Elliot Houlston and Carly Daoust. 2005. *Victoria’s Cruise Ship Industry: Economic Benefits and Their Environmental Impacts*, Victoria: Vancouver Island Public Interest Research Group, p. 22.
- 32** See Ross A. Klein. 2008. *Paradise Lost at Sea: Re-thinking Cruise Vacations*, Halifax: Fernwood, Appendix.
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- 151** The data was secured by this author in the discovery phase of several lawsuits in which he has testified as an expert witness. In the majority of cases occurring in a passenger cabin, a crewmember has gained unauthorized access.

152 See “Sexual Assault: Dispelling the Myths,” <[www.womanabuseprevention.com/html/sexual\\_assault.html#Reporting](http://www.womanabuseprevention.com/html/sexual_assault.html#Reporting)> (accessed February 11, 2009).

153 Tristram Korten. 2000. “Carnival? Try Criminal: What happens when a female passenger is assaulted on a cruise ship? Not much.” *Miami New Times*, February 3–9, <[www.miaminewtimes.com/2000-02-03/news/carnival-try-criminal](http://www.miaminewtimes.com/2000-02-03/news/carnival-try-criminal)> (Accessed February 5, 2000).

154 These reports were secured by this author through his participation as an expert witness in lawsuits against cruise lines brought by victims of sexual assault.

155 Kay Krohne. 1999. Unpublished consultant’s report examining current efforts of Royal Caribbean Cruises Ltd. in the area of preventing sexual harassment and assault, page 2.

156 Don Greenwood. 1999. “Reducing Sexual Assaults on Cruise Ships: Risk Assessment and Recommendations,” Unpublished consultant’s report, page 4.

157 This became obvious in March 2007 when the cruise industry announced, at the start of hearings before a U.S. House of Representatives subcommittee that it had entered into an agreement with the FBI and U.S. Coast Guard to report all crimes against U.S. citizens to the FBI. The announcement appeared to be a political statement given that it mirrored in many ways the “zero tolerance policy” announced eight years before.

158 See Subcommittee on Coast Guard and Maritime Transportation - Crimes Against Americans on Cruise Ships <[transportation.house.gov/hearings/hearing-Detail.aspx?NewsID=112](http://transportation.house.gov/hearings/hearing-Detail.aspx?NewsID=112)> (accessed March 28, 2007).

159 See James Alan Fox. 2006. “Statement on Crime Aboard Cruise Ships,” Testimony Before the Committee on Government Reform, United States House of Representatives, Subcommittee on National Security, Emerging Threats and International Relations, March 7.

160 Kimi Yoshino. 2007. “Cruise Industry’s Dark Waters: What Happens at Sea Stays There as Crimes on Liner Go Unresolved,” *Los Angeles Times*, January 20, <[www.latimes.com/business/la-fi-cruise-20jan20,1,6485727.story?track=crosspromo&coll=la-](http://www.latimes.com/business/la-fi-cruise-20jan20,1,6485727.story?track=crosspromo&coll=la-headlines-business&ctrack=1&cset=true)

[headlines-business&ctrack=1&cset=true](http://www.latimes.com/business/la-fi-cruise-20jan20,1,6485727.story?track=crosspromo&ctrack=1&cset=true)> (accessed January 20, 2007).

161 See Ross A. Klein. 2007. “Crime Against Americans on Cruise Ships,” Testimony Before the Committee on Transportation and Infrastructure, United States House of Representatives, Subcommittee on Coast Guard and Maritime Transportation, March 27, <[transportation.house.gov/Media/File/Coast percent20Guard/20070327/Klein.pdf](http://transportation.house.gov/Media/File/Coast%20Guard/20070327/Klein.pdf)> (accessed March 27, 2007).

162 According to the Nova Scotia Advisory Council on the Status of women, the 2007 rate of sexual assault in Nova Scotia is 75 per 100,000; the rate in Canada is 65 per 100,000. See “Fact Sheet on Sexual Assault,” <[women.gov.ns.ca/pubs2008\\_09/SexualAssaultDeco8Template.pdf](http://women.gov.ns.ca/pubs2008_09/SexualAssaultDeco8Template.pdf)> (accessed February 11, 2009).

163 Data in this table was provided as part of discovery in a lawsuit involving the sexual assault of a passenger by a crew member. As such, the data only includes incidents reported to the cruise line and in turn reported in discovery. Given the limited purpose of the discovery request, it is suspected that incidents involving two crew members are under-reported.

The table shows reported incidents that have been labelled by the victim and/or cruise line as inappropriate touch, sexual harassment, sexual assault, or sexual battery. Cases of sexual battery have been included under the label “sexual assault.” These labels are somewhat arbitrary. It worth noting that incidents of sexual harassment and sexual assault generally fall within Canada’s definition of sexual assault.

The raw data included 41 incidents labelled inappropriate touching, 92 incidents labelled sexual harassment, 114 incidents labelled sexual assault, and 12 incidents labelled sexual battery. After cleaning for accurate labelling, eight incidents were dropped because they were wholly mislabelled; they are not included in the table.

The table shows both the ship’s passenger numbers (assuming double occupancy) and an estimate of total ship population that includes crew members and

additional passengers given that many ships sail with more passengers than the double occupancy figure.

The comparison of reported incidents of sexual assault with the US rate of sexual assault (as defined by the cruise industry as only forcible rapes) must be interpreted with caution. Technically, such a comparison can be misleading; however, the cruise industry chose to make this comparison in testimony provided to Congress by James Fox in March 2006 and on that basis to claim that one is safer on a cruise ship than on land. Perhaps more informative is a comparison of Dr. Fox's assertion that there are 17.6 reported incidents of sexual assault per 100,000 with the data in this chart. This chart shows a rate of sexual assault that is 3.33 times greater than that presented by Dr. Fox to Congress; if we look at sexual assault plus sexual harassment the rate of incidence is 6.36 times greater than reported.

**164** Written response from Terry Dale, President and CEO of CLIA, to "Questions for the Record" asked by the Senate Commerce, Science, and Transportation Subcommittee on Surface Transportation and Merchant Marine Infrastructure, Safety, and Security, Hearing on Cruise Ship Safety: Examining Potential Steps for Keeping Americans Safe at Sea, June 19, 2008.

**165** Don Greenwood. 1999. "Reducing Sexual Assaults on Cruise Ships: Risk Assessment and Recommendations," Unpublished consultant's report, pages 3–4.

**166** Michael Eriksen. 2006. "Love Boats on Troubled Waters," *Trial* 43, 3 (March), page 49.

**167** M.C. Moewe. 2005. "Disappearances Leave Mystery," *Business Journal of Jacksonville*, June 3, <[www.bizjournals.com/jacksonville/stories/2005/06/06/story1.html](http://www.bizjournals.com/jacksonville/stories/2005/06/06/story1.html)> (Accessed July 4, 2005).

**168** See [www.cruisejunkie.com/Overboard.html](http://www.cruisejunkie.com/Overboard.html)

**169** For a synopsis of the incident, see the accounts posted at International Cruise Victims' website by Mr. Smith's family and his wife: [internationalcruisevictims.org/LatestMemberStories/George\\_Allen\\_Smith\\_IV.html](http://internationalcruisevictims.org/LatestMemberStories/George_Allen_Smith_IV.html) and [internationalcruisevictims.org/LatestMemberStories/George\\_Allen\\_Smith\\_IV\\_Spouse\\_Story.html](http://internationalcruisevictims.org/LatestMemberStories/George_Allen_Smith_IV_Spouse_Story.html) (accessed December 19, 2008)

**170** This has been admitted openly by the industry in their testimony before Congress and in a July 2007 meeting between the industry and International Cruise Victims association — a meeting attended by this author.

**171** An example of current technology that demonstrates the achievability of 5 ppm is a system manufactured by North Carolina-based ensolve Biosystems. The company's PetroLimiter oily water separator, already installed on ships operated by Azamara Cruises and Seabourn Cruises, "is a green technology that consistently achieves effluent levels of less than 5 parts per million." See "Seabourn Opts for PetroLimiter Costs Control," *Seatrade Insider News*, October 9, 2008, <[www.cruise-community.com/ShowStory.asp?ID=15259](http://www.cruise-community.com/ShowStory.asp?ID=15259)> (accessed October 9, 2008).

**172** California Cruise Ship Environmental Task Force. 2003. *Report to the Legislature: Regulation of Large Passenger Vessels in California*, August.

**173** *Pollution Prevention Guidelines for the Operation of Cruise Ships Under Canadian Jurisdiction* (January 4, 2004), Ottawa: Transport Canada (TP 14202 E).

**174** *Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals* (May 2007), Ottawa: Transport Canada.



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