The Need for Congress to Get Onboard with Cruise Ship Pollution Regulation: How the Lack of Federal Regulation of the Cruise Ship Industry is Destroying the Nation's Waters

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THE NEED FOR CONGRESS TO GET ONBOARD WITH CRUISE SHIP POLLUTION REGULATION: HOW THE LACK OF FEDERAL REGULATION OF THE CRUISE SHIP INDUSTRY IS DESTROYING THE NATION'S WATERS

by
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INTRODUCTION

Travel magazines boast marvelous trips and destinations at each turn of a page. One of the many options advertised to those seeking to get away from the normal grind of life is to go on a cruise. With ports offering departures on coasts around the United States as well as around the world, going on a cruise is an accessible vacation for all travelers. A recent article in the travel section of a newspaper proclaims: "If you can't decide between experiencing a different country, going on an outdoor adventure, relaxing at a first-class resort or doing something the kids will enjoy, then take a cruise and do it all." What this article, and similar ones describing the luxuries of cruising, forget to tell anxious travelers is that part of “doing it all” includes creating tons of waste, air pollution, and water pollution.

The cruise ship industry is the fastest growing segment of the leisure travel market, boasting a growth rate of eight to ten percent each year. In North America alone, the number of people taking a cruise increased between 1970 and 2005 from 600,000 to over ten million people. The industry in the United States has flourished to represent more than 70 of the world cruise industry. An average to large-size cruise ship carries at least two thousand passengers and one thousand crew members; equivalent to a small city. Just as cities create waste, so do cruise ships, and by doing so they pose “a significant

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3. Eric V. Hull, Comment, Soiling the Sea: The Solution to Pollution is Still Dilution, 3 BARRY L. REV. See also Issues and Challenges in Caribbean Cruise Ship Tourism, http:// www.eclac.org/publicaciones/xml/5/2/3825/L.75.pdf (last visited Apr. 15, 2011) (“At the same time, the cruise ship industry continues to grow with little sign of slowing.” Klein, supra note 2 at 1).
5. Hull, supra note 3, at 65.
6. Id. The size of ships continue to increase dramatically. Royal Caribbean’s Oasis of the Seas was introduced in 2009 and has accommodations for close to 7,000 passengers and carries over 2,000 crew members. (Klein, supra note 2, at 12).
threat to an already stressed marine environment.” Therefore, the waters of the world have become instant trash receptacles for what can be likened to transient cities.

Despite the waste produced by cruise ships, the industry tries to portray itself as environmentally conscious. Royal Caribbean International has programs such as “Save the Waves,” founded in 1969, which claims to reduce the generation and creation of wastes, and encourages its ships to utilize recycling methods. Its “Ocean Fund”, created in 1996, contributes funds to environmental research and marine conservation organizations. Other cruise companies have made similar efforts such as Holland America Line’s “Seagoing Environmental Awareness”, Princess Cruise’s “Planet Princess”, and Crystal Cruises’ “Crystal Clean”. These programs, however, are merely masks for the countless environmental violations repeatedly committed by the cruise ship industry.

Since 1993, over $48.5 million in fines have been assessed by the Justice Department to ten cruise lines for illegal dumping. From 2001 to 2003, Carnival Corporation, Norwegian Cruise Line, Princess Cruise Lines, Crystal Cruises, Holland America Cruise Line, Celebrity Cruises, and Royal Caribbean International, all have admitted to dumping wastes while sailing along the various coasts of the United States. From 1993 through 2007, almost all of these cruise lines and others have been criminally fined from hundreds of thousands to millions of dollars for discharging pollutants and waste into waters. Some cruise lines while boasting of their environmental efforts and

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7. Id. at 61.
8. Klein, supra note 4, at 2.2.
11. Klein, supra note 4, at 2.2.
12. Id. Cruise lines have also become masters at avoiding legislation and regulations that would oblige them to clean up their pollution habits by massive spending on lobbyists in Washington, D.C. Klein, supra note 2, at 1. Since 2000, $23.5 million was spent, and in 2008, $5.9 million was used on strategic contributions to federal and state election campaigns. Id.
programs are actually among the most egregious and frequent offenders caught and fined for illegal dumping activities.16 

Due to the lack of legislation or strict enforcement provisions, cruise ships regularly pollute. “Given the waste that is produced on a cruise ship – 100 gallons of waste water per day, per person, including 10 gallons of sewage, and nearly eight pounds of solid waste per person, per day – ships have an interest in remaining in areas where waste can be legally discharged.”17 The existence of unregulated areas that allow destruction of the environment is an issue that will continue to grow and have a negative impact on the waters of the world until more stringent regulations are enacted.

Part I of this paper addresses the effects of cruise ship pollution. Water pollution and air pollution from cruise ships have grave impacts on the ecosystem.18 This paper focuses on the impact of water pollution, specifically suggesting the need for improved regulation in this area. Whales, seals, and coral reefs are some of the organisms that are directly harmed and even killed from the activities of cruise ship pollution.19 A brief section on air pollution identifies the cruise ship industry’s overreaching impact on the environment.

Part II examines current domestic laws and regulations that impact the cruise ship industry’s pollution. The Clean Water Act (“CWA”) is the controlling federal legislation governing water pollution.20 The current version of the CWA was enacted in 1972 and seeks to “establish water quality standards that would provide for the ‘protection and propagation of fish, shellfish, and wildlife as well as recreational enjoyment in and on the water.’”21 While its goal is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters,” the CWA was written with loopholes that allow


17. Klein, supra note 16. Royal Caribbean’s ship, Explorer of the Seas, produces over 40,000 gallons of sewage, 450,000 gallons of graywater, 4,000 gallons of oily bilge water, and up to 19 tons of solid waste a day. Klein, supra note 2, at 1.


19. Id.


the cruise ship industry to undermine the CWA’s objectives.\(^\text{22}\) This section also addresses The Act to Prevent Pollution from Ships ("APPS"),\(^\text{23}\) Marine Protection, Research, and Sanctuaries Act of 1972 ("MPRSA"), and actions that individual states have undertaken to regulate the waste invading their individual waters created by cruise ships.\(^\text{24}\)

Part III provides other measures that have been taken and which should be taken to improve the regulation of the cruise ship industry. It also discusses the ramifications for failure to enact the proposed Federal Clean Cruise Ship Act ("FCCSA").\(^\text{25}\) In addition, this section discusses critiques of the Government Accountability Office’s role in investigating the enforcement of federal regulations concerning cruise ship pollution, the Coast Guard’s oversight of cruise ship violations, and the Environmental Protection Agency’s ("EPA") approach to cruise ship pollution.

The time has come for Congress to get onboard with cruise ship pollution regulation and take action to close the gaps in present legislation. Congress should do so by amending the CWA and other federal legislation in ways that subject the cruise ship industry to specific regulations. By taking note of individual state actions that combat the problems caused by cruise ship dumping, Congress can observe models of successful programs that apply directly to the industry. Congress additionally may implement the FCCSA to uphold the integrity of the nation’s waters now and for the future.

I. Effects of Cruise Ship Pollution

A. Water Pollution

1. Blackwater

Blackwater, commonly known as raw sewage, consists of medical and human wastes.\(^\text{26}\) Around 350,000 gallons of blackwater is

generated each week on a typical cruise ship.\textsuperscript{27} Usually when this waste is created on land, it is treated through dilution using high volumes of water.\textsuperscript{28} This treatment is not available on cruise ships.\textsuperscript{29} Instead, cruise ships use marine sanitation devices ("MSDs") which are intended to reduce the amount of contamination in the waste.\textsuperscript{30} MSDs however, do not perform at the standards they should. Executive Director Russell Long of Bluewater Network, a national environmental organization that seeks to stop environmental harm from vehicles and vessels, stated that the number of pathogens found in tested blackwater exceeded projected limits.\textsuperscript{31} Long also stated that "MSDs don't work," and the Bluewater Network considers them one of the "critical loopholes of cruise ship regulation."\textsuperscript{32}

Blackwater can pose a great threat to humans and marine life because it is likely to be contaminated with viruses.\textsuperscript{33} Blackwater contains elevated levels of fecal coliform, which are colonies of fecal bacteria.\textsuperscript{34} By swimming in waters with high levels of fecal coliform, one increases his chances of developing illnesses such as fever, nausea, ear infections, or stomach cramps.\textsuperscript{35} In addition, swimmers can be infected with diseases such as typhoid fever, hepatitis, gastroenteritis, and dysentery.\textsuperscript{36}

Sea life, like filter feeders, can also become infected from blackwater exposure.\textsuperscript{37} Filter feeders are organisms that "filter food particles from [their] surrounding aqueous environment;" they "strain water using sieve-like structures."\textsuperscript{38} Filter feeders include such organisms as baleen whales and clams.\textsuperscript{39} While untreated waste may be beneficial to some aquatic flora when there are concentrated amounts,
unnatural blooms of plant material can occur which diminish the amount of oxygen in the water.\textsuperscript{40} In addition, when blackwater is disposed of in an untreated or ill-treated manner, coral reefs can become scarred from pathogens, and the tissues of shellfish can absorb the pathogens and later pass them to humans if ingested.\textsuperscript{41} MSDs also pose a threat to marine life since they contain harmful substances such as chlorine, quaternary ammonia or formaldehyde.\textsuperscript{42} The CWA regulates the treatment of blackwater, but the cruise ship industry has been exempt from its regulations.\textsuperscript{43}

2. Graywater

Graywater consists of sink, shower, laundry, air conditioner concentrate, and galley wastes which can be contaminated with fecal bacteria.\textsuperscript{44} It also usually contains wastes from infirmaries, spas, and beauty parlors.\textsuperscript{45} Contaminants in graywater include “detergents, cleaners, oil and grease, metal, pesticides, medical and dental waste,” and considerable amounts of primary pollutants.\textsuperscript{46} On a normal-sized cruise ship of around three thousand passengers; over 255,000 gallons of graywater are produced per day, which makes it the most abundant cruise ship waste.\textsuperscript{47} A major problem that the environment faces regarding graywater is that the United States allows for graywater to be dumped anywhere, including when a ship is in port.\textsuperscript{48} The Department of Defense and the EPA have performed studies on the discharge of graywater and have found that “graywater has the potential to cause adverse environmental effects because measured concentrations and estimated loadings of nutrients and oxygen-demanding substances are significant.”\textsuperscript{49}

While graywater is less odious than blackwater, it still poses a major problem to the environment and its storage and disposal on cruise ships furthers this problem. If graywater is collected in a tank,
it uses up oxygen quickly and becomes anaerobic. After a while it reaches a septic state and graywater forms a sludge that can be like blackwater and contain anaerobic bacteria, which can be human pathogens. The most appropriate and simplest method to treat graywater is to introduce it when it is first created into an active, topsoil environment; a method not available on cruise ships.

3. Oily Bilge Water

Oily bilge water is comprised of oils, fuels, and engine and other machinery waste that is collected in the hull of cruise ships. When the engines and inside of the hull of the ship are rinsed, oils and fuel are washed to the bilge and contained there until they are expelled. Other things that bilge water may contain are solid wastes like rags, metal shavings, paint, glass and cleaning agents, and pollutants in bilge, which “contain high amounts of [biological oxygen demand ("BOD")], [chemical oxygen demand ("COD")], dissolved solids, oil, and other chemicals.” On average, a cruise ship produces seven thousand gallons of oily bilge water a day.

Levels of BOD and COD, dissolved solids, oil, and other chemicals, exist in high levels in bilge water. BOD “refers to the amount of oxygen that would be consumed if all the organics in one liter of water were oxidized by bacteria protozoa.” This means that when BOD has a high level reading, the bacteria “are oxidizing the material and robbing other organisms of dissolved oxygen.” This high reading is a sign of microbes in wastewater that is not safe and could be hazardous. Oil contained in the bilge water, even in small amounts, kills larvae and can harm marine life by causing disease.

Threats to human, marine, and wild life are caused by the by-products from biological breakdown of petroleum products that come

51. Id.
52. Id.
54. Id.
55. Schmidt, supra note 42, at 8.
56. CRUISE SHIP FACT SHEET, supra note 18.
58. Id.
59. Id.
60. Id.
61. Id.
from the discharge of bilge water.62 Birds are harmed if they ingest oil because it can lead to starvation, disease, predation, or death.63 When marine animals come in contact with oil, it harms them by causing skin and eye lesions and may interfere with their swimming abilities.64 “Gastrointestinal tract hemorrhaging, renal failure, liver toxicity and blood disorders are caused by the ingestion of oil,” and “inflammation of mucous membranes, lung congestion, pneumonia and nervous system disturbances” are caused by the inhalation of volatile petroleum hydrocarbons.65 The Bluewater Network has also identified that “oil in even minute concentrations can kill fish or have numerous sub-lethal effects such as changes in heart and respiratory rates, enlarged livers, reduced growth, fin erosion, and various biochemical and cellular changes.”

4. Other Wastes: Ballast Water and Solid Waste

Ballast water is carried on ships before ships are loaded with cargo to provide stability.67 Usually contained within ballast water are tiny marine organisms, which during voyage, are subjected to temperature changes and lack of water and light.68 Some of the organisms die, but those that survive are pumped out of cruise ships into the surrounding water once the ship reaches its destination and cargo is loaded into the ship.69 Once the organisms settle in the water, some maintain populations that are not harmful to the marine ecosystem, but others threaten biodiversity, fisheries, and aquaculture.70 Those that are harmful tend to deprive and kill native populations and can smother existing fauna.71 Humans, shellfish, fish, and sea birds can be affected or killed by toxic dinoflagellates that cause red tides and algal blooms.72 The discharge of ballast water is not regulated except in the Great Lakes, which is not a main venue for cruise ships.73

62. Schmidt, supra note 42, at 8.
63. Id.
64. Id.
65. Id.
66. Id.
68. Id.
69. Id.
70. Id.
71. Id.
72. Id.
73. Wells, supra note 21, at 105. The CWA defines “sewage” as “human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes
Solid waste on cruise ships includes enormous “volumes of plastic, paper, wood, cardboard, food waste, cans and glass.”74 Around eleven and a half tons of solid waste is produced by an average sized cruise ship per day.75 Most of the solid waste is incinerated while the cruise ships are at sea and the resulting ash is discharged.76 The remaining waste is landed on shore, some of which is recycled.77 The Bluewater Network notes that “[f]loating plastic debris is known to have serious detrimental effects on a wide range of marine animals[,]” and “[p]lastic can kill mammals, turtles, birds and fish as a consequence of entanglement or ingestion.”78 Estimates from the Coast Guard reveal that more than one million birds and one hundred thousand mammals die every year from eating or getting entangled in plastic debris.79 Ingestion of plastics by seabirds can reduce steroid hormone levels and negatively affect their reproduction.80 The dumping of solids is regulated by the CWA; however, many cruise ships continue to dump waste illegally overboard.81

B. Air Emissions

Based on a ship carrying around three thousand passengers and crew, a single ship can release around the same amount of air pollution as over twelve thousand automobiles in one day.82 This pollution is caused in part from the fuels used onboard cruise ships that create harmful emissions. Bunker fuel or other cheap, high sulfur fuels are used at eight to nine tons per hour at twenty to twenty-two knots on cruise ships.83 Bunker fuel, the waste product of oil refining, is the dirtiest type of diesel fuel.84 When the fuel is heated up for use in the ship’s engine, the result is an emission that is high in sulfur,
nitrogen oxides, and particulate matter.\textsuperscript{85} A California study examined the levels of pollution created by cruise ships off of its coast and determined that a single ship at berth creates “one ton of smog-forming nitrogen oxides each day [and] one hundred pounds of cancer-causing particulate matter.”\textsuperscript{86} The study also noted that collectively, pollution from all of the ships docked at port produces emissions equal to that of one million cars.\textsuperscript{87} The effect of exposure to these emissions causes premature death, higher levels of asthma, cancer, and other illnesses.\textsuperscript{88} Studies in Washington have found similar effects and stress the need for alternatives to uses of diesel fuel.\textsuperscript{89} Michael Hirshfield, a scientist for the ocean-protection organization, Oceana, stated “[o]nly six countries generate more emissions of greenhouses gases than the world’s oceangoing vessels.”\textsuperscript{90} While the world’s oceangoing vessels do not consist solely of cruise ships, they make up a recognizable part and are thus noteworthy contributors to the emissions of greenhouse gases.

When California attempted to control emissions by requiring ships to use low-sulfur fuel when they are within twenty-four miles of the state’s coast, a federal district court judge prevented such actions.\textsuperscript{91} The court reasoned that California’s proposal could not be upheld against the Clean Air Act because the federal Clean Air Act “preempts any non-EPA approved state standards controlling emissions.”\textsuperscript{92} While the Clean Air Act is the major legislative action that is supposed to make “‘the States and the Federal Government partners in the struggle against air pollution,’” this situation demonstrates how this goal has not been completely fulfilled, and thus, more must be done to regulate cruise ships, particularly in both air pollution and water pollution.\textsuperscript{93}

\textsuperscript{85} Id. at 3.
\textsuperscript{86} Id (alteration in original).
\textsuperscript{87} Id.
\textsuperscript{88} Id.
\textsuperscript{92} Id. at 38.
\textsuperscript{93} Id. at 5 (citation omitted).
II. DOMESTIC LAWS AND REGULATIONS AND THEIR SHORTCOMINGS

A. Federal Water Pollution Control

In a report to Congress addressing concerns about cruise ship pollution, Claudia Copeland best described the current problem with cruise ship regulation stating: “The waste streams generated by cruise ships are governed by a number of international protocols . . . and U.S. domestic laws (including the Clean Water Act and the Act to Prevent Pollution from Ships), regulations, and standards, but there is no single law or rule. Some cruise ship waste streams appear to be well regulated . . . [but] there are gaps in others.”94 The current legal system that concerns the cruise ship industry exemplifies a blatant “disconnect between the actions of the cruise industry, demonstrated by bad faith attempts to circumvent basic pollution-controlled measures . . . [and the federal government’s] reliance on the cruise industry to monitor itself in good faith.”95 This part of the paper considers the impacts that the CWA, APPS, and MPRSA have on the cruise ship industry and their shortcomings.

1. Clean Water Act

The CWA is another name for the Federal Water Pollution Control Act.96 Section 101 of the CWA states the Congressional goals and policies of this act. It states, “restoration and maintenance of chemical, physical, and biological integrity of the Nation’s waters” should be achieved by eliminating the discharge of pollutants into navigable waters, a “goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water,” and among other things, to prohibit the “discharge of toxic pollutants in toxic amounts.”97 Although these goals seem admirable, the harms from water pollution discussed in Part I contravene the CWA’s goals. The question thus arises as to what the CWA actually does to reach its goals concerning regulation of the cruise
ship industry. Three sections of the CWA that are under scrutiny for their shortcomings concerning their application to the cruise ship industry are section 402, which discusses the national pollutant discharge elimination system ("NPDES"); section 312, which concerns MSDs and no discharge zones ("NDZs"); and section 311, which regulates oily bilge water.

a. Section 402: National Pollutant Discharge Elimination System

Section 402 of the CWA describes the system of implementing NPDES.98 This program requires the "Administrator . . . issue a permit for the discharge of any pollutant, or combination of pollutants."99 Section 301 makes it illegal to discharge a pollutant from a point source into United States' waters, except in compliance with permits established under the CWA.100 A point source is defined as "any discernible, confined and discrete conveyance, including [. . .] any [. . .] vessel or other floating craft, from which pollutants are or may be discharged."101 Cruise ships, thus, fall under the definition of a vessel pursuant to this statute.

The EPA's regulations implementing section 402, however, contain exemptions from permit requirements for certain discharges.102 40 CFR § 122.3(a) of the EPA regulations state: "The following discharges do not require NPDES permits: (a) Any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley wastes, or any other discharge incidental to the normal operation of a vessel. "The exclusion does not apply to rubbish, trash, garbage, or other such materials."103 This exemption consequently exempts cruise ships from needing permits to dump the mentioned pollutants while sailing. In addition, section 502 states that "pollutant," as defined in the statute does not include "sewage from vessels or a discharge incidental to the normal operation of a vessel [. . .] within the meaning of section [312] of this title."104 Section 502 further defines "discharge of a pollutant" to mean, "any addition of any pollutant to navigable waters from any point source, [and] any addition

98. Id. §1342.
99. Id. §1342 (a)(1).
100. Id. § 1311.
101. Id. § 1362(14) (alteration in original).
102. Id. § 1362(12).
103. 40 C.F.R. § 122.3(a) (2008).
of any pollutant to the waters of the contiguous zone or the ocean from
any point source other than a vessel or other floating craft."\(^{105}\)

Cruise ships fall under the "vessel" definition of this statute, which
exempts them from acquiring permits necessary to discharge
pollutants within navigable waters (three miles from shore), contigu-
ous zones (12 miles from shore), or the ocean (area beyond a contiguous
zone).\(^{106}\) The reasoning behind the vessel exemption from NPDES re-
quirements was "premised on the assumption that vessel discharges,
including graywater, were minor sources of pollutants as compared to
other dischargers."\(^{107}\) After considering the amount of graywater that
is discharged from cruise ships and the negative impacts on the envi-
ronment, marine life and humans, this "assumption" is not well
premised and needs to be re-evaluated.\(^{108}\)

There is recent regulation of the discharge of graywater within
one to three nautical miles from shore. On February 6, 2009, the CWA
NPDES Vessels General Permit ("VGP") issued by the EPA stated
cruise ships must meet treatment standards for graywater.\(^{109}\) Accordin-
to the VGP, cruise ships are prohibited from discharging untreated
graywater within one nautical mile of shore.\(^{110}\) Graywater discharge
is permitted within one nautical mile of shore if they are treated to

\(^{105}\) Id. \S\ 1362 (12) (alteration in original).

Paper discusses that the CWA distinguishes navigable waters from contiguous zones and
the ocean. Id. at 13. Section 502(7) defines navigable waters as "waters of the United
States, including territorial seas." Id. Section 502(8) defines "territorial seas" as the "belt of
the seas measured from the line of ordinary low water along that portion of the coast which
is in direct contact with the open sea and the line marking the seaward limit of inland
waters, and extending seaward a distance of three miles." Id. Section 502(9) defines
"contiguous zone" as "the entire zone established or to be established by the United States
under article 24 of the Convention of the Territorial Sea and the Contiguous Zone." Id. at
13-14. Section 502(10) then defines "ocean" as "any portion of the high seas beyond the
contiguous zone." Id. at 14. The White Paper then cites 15 U.S.T. \$1606 (Article 24(2)) of the
Convention of the Territorial Sea and Contiguous Zone to define the limits of contiguous
zone. Id. It states that "the contiguous zone may not extend beyond twelve miles from the
baseline from which the breadth of the territorial sea is measured." Id. In addition, the
White Paper notes that on September 3, 1999, "Vice President Al Gore announced that
President Clinton signed a proclamation giving U.S. authorities the right to enforce
environmental and other laws at sea within 24 nautical miles from shore, doubling the
current 12 mile area. However, the Executive Order will not have the effect of amending
any statutory definitions found in section 502(9). It might, however, result in a movement to
amend such definitions legislatively." Id.

\(^{107}\) Id. at 14.

\(^{108}\) Copeland, supra note 94, at 4.

\(^{109}\) Klein, supra note 2 at 5.

\(^{110}\) Id.
meet effluent limits. While this is a positive step, discharges of untreated graywater are allowed between one and three nautical miles from shore when a vessel is sailing at a speed of six or more knots. Once a ship is more than three nautical miles from shore, there are no restrictions.

The types of waste from cruise ships that fall under the permit exemption from the NPDES are sewage (also known as blackwater), graywater, and ballast water. According to the EPA’s regulations of implementing section 402 of the CWA, sewage from vessels does not require an NPDES permit, even though in the language of the CWA sewage falls under the definition of a pollutant. Graywater, under current law, is not defined as a pollutant and is generally not considered sewage, consequently it does not require an NPDES permit. Currently, there are no regulations for graywater, except when the CWA classifies it as a pollutant waste disposed of in the Great Lakes, as in section 312 of the CWA. Therefore, unless graywater is being discharged into the Great Lakes under the regulations of section 312 of the CWA, it can be released anywhere by cruise ships without committing a violation.

Ballast water has also been exempt from NPDES permit requirements because it is considered part of the “normal operation” of a cruise ship or vessel. In 1999 environmental organizations petitioned the EPA to regulate the discharge of ballast water. In 2003, after years of consideration, the EPA refused to apply NPDES permit requirements to the discharge of ballast water. It argued, “the ‘normal operation’ exclusion is a long-standing agency policy to which Congress [has twice considered amending] [but] did not alter the EPA’s CWA interpretation.” In 2009, the NPDES VGP that regulated graywater discharge within one to three nautical miles from shore also applied to ballast water discharge in this area. However, the NPDES VGP does

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111. Id.
112. Id. at 5-6.
113. Id. at 6.
118. Id.
119. Id. § 1322(12)(A)(i).
120. Copeland, supra note 94, at 14-15 (alteration in original).
121. Klein, supra note 2, at 8.
not apply to invasive species.\textsuperscript{122} Beyond three nautical miles, ballast water discharge is unregulated.\textsuperscript{123} This application is unacceptable considering that the “international community acknowledged the need to control, eradicate, or prevent the introduction of alien species [which are an inherent part of ballast water] that threaten ecosystems, habitats or native species.”\textsuperscript{124} Further, “the introduction of alien species [thus] remains largely unregulated, despite the widely-held view that loss of biodiversity is one of the greatest risks to natural ecology and human well-being.”\textsuperscript{125}

In 2004, vessels with ballast water tanks were required to have a ballast water management plan.\textsuperscript{126} However, a June 2007 congressional report on ballast water management plans admitted that the most widely used management plan was ballast water exchange, explaining, this “measure is not perfect... [and] organisms with a wide tolerance for different salinities may survive ballast water exchange, especially any such organisms that may reside in unpumpable residual water sediment remaining in the tanks during any ballast water exchange.”\textsuperscript{127} The method that is implemented the most to manage ballast water is recognizably ineffective and yet, it is still used. From this evidence, many actions still need to be taken to address the need for regulations that apply more stringently to cruise ship discharge of pollutants.

\textit{b. Section 312: No Discharge Zones and Marine Sanitation Devices}

NDZs for vessel sewage are addressed in section 312 of the CWA. Under this section, a state could apply for an NDZ which would “prohibit one or more discharges incidental to the normal operation of

\begin{itemize}
\item[122.] Id.
\item[123.] Id.
\item[124.] Hull, supra note 3, at 72 (alteration in original).
\item[125.] Id.
\item[127.] \textsc{Eugene H. Buck,} \textit{CRS Report RL 32344: Ballast Water Management to Combat Invasive Species} 2 (2009), \textit{available at} http://assets.opencrs.com/rpts/RL32344_20090902.pdf (alteration in original).
\end{itemize}
a vessel, whether treated or not, into the [state's] waters.\textsuperscript{128} There are three categories under which a state can apply to the EPA to create an NDZ to protect waters subjected to cruise ship sewage.\textsuperscript{129} One of the categories requires the state seeking an NDZ to show the need for greater environmental protection.\textsuperscript{130} In addition, a state must demonstrate "that adequate [pump out] facilities for safe and sanitary removal of the discharge incidental to the normal operation of a vessel are reasonably available."\textsuperscript{131} Up until 2008, sixty-one areas have used this category to get NDZs.\textsuperscript{132} These areas represent waters of twenty-six states including in-land state waters.\textsuperscript{133} The second and third categories available for states to apply for NDZs do not require the state to show the availability of pump out facilities.\textsuperscript{134} The second category allows states to apply if their waters have a specific environmental importance, such as to protect environmentally sensitive areas like shellfish beds or coral reefs.\textsuperscript{135} Examples of states using this category to obtain NDZs are Florida, for waters within the Florida Keys National Marine Sanctuary,\textsuperscript{136} and Minnesota, for its Boundary Waters canoe area.\textsuperscript{137} The third category allows states to apply for NDZs in order to prohibit the discharge of sewage from ships into waters that are "drinking water intake zones."\textsuperscript{138} New York applied for an NDZ under this category to protect part of the Hudson River.\textsuperscript{139} While the NDZ system is a positive option for states to protect their waters, it only applies to water out to three miles from shore.\textsuperscript{140} Due to this limitation, a state may have an NDZ but ships are still able to dump

\begin{footnotesize}
\begin{enumerate}
\item[129.]  Id. at (7)(B)(i)(I).
\item[130.]  Id. at (7)(B)(i)(I).
\item[131.]  Id. at (7)(B)(i)(II) (alteration in original).
\item[132.]  Copeland, supra note 94, at 11.
\item[133.]  Id.
\item[134.]  33 U.S.C. § 1322 (7)(B)(ii).
\item[135.]  Copeland, supra note 94, at 12.
\item[136.]  Florida Keys Marine Sanctuary, http://floridakeys.noaa.gov/visitor_information/welcome.html (last visited Oct. 7, 2007). (The Florida Keys National Marine Sanctuary is a vast area surrounding the Florida Keys and is an area in which humpback whales breed and calve their young. It also includes coral colonies, kelp forests, deep-sea canyons, and migration corridors for whales. Sanctuary sizes range from less than one square mile to over 5,300 square miles.).
\item[137.]  Official Boundary Waters Canoe Area Wilderness, http://www.bwca.com/index.cfm?fuseaction=home.info (last visited Mar. 27, 2011). (The Boundary Waters Canoe Area Wilderness is in the northern third of the Superior National Forest in Minnesota. It has more than 1500 miles of canoe routes.).
\item[138.]  Id.
\item[139.]  Id.
\item[140.]  Vogt, supra note 115, at 12.
\end{enumerate}
\end{footnotesize}
sewage into the water after it sails farther than the three miles, thus sewage has the ability to drift back into the areas that are meant to be protected from sewage.

Also included in section 312 of the CWA are MSDs. The CWA requires the use of MSDs in order to prohibit "the discharge of untreated or inadequately treated sewage into or upon the navigable waters" of the United States (defined in the act as within 3 miles of shore).141 Cruise ships are subject to this prohibition. The EPA and the Coast Guard are the primary implementers of MSDs.142 The EPA is responsible for performance standards for MSDs and the Coast Guard establishes rules for the design, construction, installation, and operation of them.143 The MSDs hold untreated waste until it is brought to shore to be disposed of or they may treat sewage created onboard before a ship discharges it.144

There are three types of MSDs.145 Of these types, cruise ships normally use either Type II or Type III MSDs.146 In Type II MSDs, the waste is either chemically or biologically treated prior to discharge and must meet limits of no more than 200 fecal coliform per 100 milliliters and no more than 150 milligrams per liter of suspended solids.147 Type III MSDs are more like holding tanks in which waste is not treated and is either discharged by pumping it out to onshore treatment facilities or discharged outside U.S. navigable waters.148

One of the problems with MSDs is that their regulations have not been revised since 1967, and they do not require ship operators to "sample, monitor, or report on their effluent changes."149 MSDs are criticized for having several deficiencies. The first problem with MSDs is that current MSD regulations only apply to the discharge of sewage— that is, "human body wastes and the wastes from toilets."150 The NPDES permit program, on the other hand, regulates the discharge of

143. Id.
144. Copeland, supra note 94, at 10.
146. Id.
147. 40 C.F.R. § 140.3(d) (2000). Type I MSDs use "chemicals to disinfect the raw sewage prior to discharge and must meet performance standards for fecal coliform bacteria of not greater than 1,000 per 100 milliliters and no visible floating solids. Type I MSDs are generally found on recreational vessels or others under 65 feet in length." Copeland, supra note 94, at 9.
149. Copeland, supra note 94, at 10.
pollutants which is a category that includes many more harmful elements such as sewage, chemical wastes, radioactive material, and solid waste.\textsuperscript{151} While the NPDES program does not apply to cruise ships and MSD regulations do, this first critique recognizes that when vessels are subject to NPDES permits, that permit system does more than the MSD regulations. It is important for the existing environmental statutes to function to their fullest since sectors, such as the cruise ship industry, tend to be under-regulated in the discharge of their waste.

A second problem is that MSDs do not impose requirements upon cruise ships to “inspect, monitor, enter, and require reports” to insure compliance with set requirements as does the NPDES permit program.\textsuperscript{152} As previously noted, MSDs are subject only to Coast Guard inspection with standards created by the EPA.\textsuperscript{153} If the Coast Guard fails to properly and regularly inspect cruise ships for their compliance with such standards, the cruise ship industry can be virtually unregulated in this area of protection.

c. Section 311: Regulating Oily Bilge Water

Section 311 of the CWA regulates oily bilge water according to the Oil Pollution Act of 1990 which amended this section.\textsuperscript{154} Cruise ships are regulated by this section through the prohibition of discharging “oil or hazardous substances into or upon the navigable waters of the United States, or into or upon the waters of the contiguous zone,” or which may affect natural resources in the U.S. Exclusive Economic Zone (extending 200 miles offshore).\textsuperscript{155} According to the standards in 33 CFR § 151.10, the Coast Guard regulations prohibit discharging oil within the contiguous zone (twelve miles from the shore), unless the oil is passed through an oil water separator, and unless the “discharge does not cause a visible sheen.”\textsuperscript{156} However, just like other regulations that apply to cruise ships, after a ship has sailed passed the twelve mile zone, oil or oily mixtures are free to be discharged when its dilution is less than 100 ppm.\textsuperscript{157}

\textsuperscript{151} 33 U.S.C. § 1342(a)(1); 33 U.S.C. § 1362 (6).
\textsuperscript{152} 33 U.S.C. § 1342(b)(2)(B).
\textsuperscript{154} Id. §1321(b)(1).
\textsuperscript{155} Id.
\textsuperscript{156} Copeland, supra note 94, at 9.
\textsuperscript{157} Id.
Under the Oil Pollution Act of 1990, cruise ships and other vessels are required to keep a record of disposal of all oily residues and discharges of bilge water. While this regulation seems semi-firm in its instruction, it leaves a lot of responsibility and trust in cruise ships to monitor what they are discharging concerning oily bilge water. Many ships choose not to follow these standards as evidenced by the admissions and findings of several cruise ships that dump their oily waste overboard without meeting any standards. Examples of these violations include the Holland America Line, which in 1998, was fined two million dollars for discharging oily bilge water in Alaska, and in 2002, Carnival Corporation and Norwegian Cruise Line were fined $18 million and $1.5 million respectively for dumping oily waste and oily bilge water from their ships.

There are two legal processing means disposing oily bilge water that cruise ships are supposed to follow. However, both methods are “expensive and incineration is both extremely difficult and time consuming.” In order to circumvent these expenses and burdensome processes, crew members can make bypass hoses that are used to pump this sludge into the ocean. Cruise ships are required to keep an Oil Record Book according to the Oil Pollution Act. The only way to conceal use of bypass hosing is to falsify records that are kept in the Oil Record Book. Royal Caribbean International was fined nine million dollars in 1998 for falsifying records of bilge discharges in Florida and Puerto Rico, and Carnival Corporation did the same in 2002 admitting that employees made false entries in record books from 1998 to 2001.

2. Other Federal Legislation

MARPOL 73/78 is an international agreement concerning marine pollution. The Act to Prevent Pollution from Ships (“APPS”) implements the parts of MARPOL 73/78 that the United States ratified. APPS applies to cruise ships and it prohibits the discharge

159. Klein, supra note 2 at 14.
160. Id.
162. Id.
163. Id.
164. Id.
166. Copeland, supra note 94, at 12. MARPOL 73/78 is the main international convention addressing the prevention of "pollution of the marine environment by ships from
of any garbage three miles from shore, certain types of garbage within contiguous zones, and plastic everywhere. The Coast
Guard is in charge of prescribing and enforcing regulations of the APPS.\textsuperscript{169}

APPS places limits on the discharges of oil and noxious substances on seagoing ships; a category that includes cruise ships.\textsuperscript{170} As section 311 of the CWA requires ships to keep records of oil discharges, APPS requires ships to keep Oil Record Books in which "discharges, disposal, and transfers of oil are kept."\textsuperscript{171} APPS also establishes requirements for monitoring equipment onboard ships.\textsuperscript{172}

The Marine Plastic Pollution and Control Act of 1987 amended the APPS to execute parts of Annex V of MARPOL regulating garbage and plastics.\textsuperscript{173} It has the same ship requirements as the APPS, and includes United States flagged ships anywhere.\textsuperscript{174} The APPS prohibits the discharge of plastics, including "synthetic ropes, fishing nets, plastic bags, and biodegradable plastics into water."\textsuperscript{175} Other prohibitions include the discharge of garbage within navigable waters of the U.S., and in all waters within three miles of the nearest land; disposal of dunnage, lining, and packing materials that float within twenty-five miles from the nearest land and in U.S. navigable waters; discharge of ungrounded garbage within twelve miles from the nearest land and in U.S. navigable waters; and disposal of garbage ground to less than one inch within three miles from the nearest land and in U.S. navigable waters.\textsuperscript{176} Garbage is prohibited from discharge, unless it is macerated and discharged outside of three miles of land into navigable waters or waters within twelve nautical miles from the nearest land, and includes "paper products, rags, glass, metal, bottles, crockery, and similar waste."\textsuperscript{177} Under these restrictions, cruise ships and other ves-

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{169} Id.
\item \textsuperscript{170} 33 U.S.C. §1902(a).
\item \textsuperscript{171} Id. at §1903(b)(2)(A)(i).
\item \textsuperscript{172} Id. at §1902(c)(3)(A); EPA \textit{Cruise Ship White Paper}, supra note 106, at 9.
\item \textsuperscript{173} Id.
\item \textsuperscript{174} Id.
\item \textsuperscript{175} Id.
\item \textsuperscript{176} \textit{Marine Environmental Regulations}, BOATSAFE.COM, http://www.boatsafe.com/nauticalknowhow/polcg.htm (last visited Mar. 22, 2011). Dunnage is the name for "the materials used in holds and containers to protect goods and their packaging from moisture, contamination and mechanical damage. Dunnage may include plastic films. . .wood, rice matting, nonwovens, liner bags or also inlets." Dunnage, TRANSPORT INFORMATION SERVICE, http://www.tis-gdv.de/tis_e/misc/garnier.htm (last visited Mar. 22, 2011). Dunnage is used on cruise ships and there have been reports of cruise ship dumping of dunnage. Id.
\item \textsuperscript{177} EPA \textit{Cruise Ship White Paper}, supra note 106, at 9.
\end{enumerate}
\end{footnotesize}
sels within its definition are required to keep records of garbage discharges and disposals.\textsuperscript{178} However, the APPS is frequently violated by cruise ships through the same methods used to cover-up oily bilge water discharges: falsifying records or simply not following regulations.\textsuperscript{179} In February 2003, "a couple aboard the Norwegian Wind reported observing whole beer bottles, wine bottles, beer and pop cans, corks, plastic plates, plastic utensils, plastic cups and organic material all being tossed into the ocean from the back of the ship."\textsuperscript{180} This cruise line argued that they were not doing anything illegal; however, under the APPS dumping plastics anywhere is forbidden.\textsuperscript{181}

The Marine Protection, Research, and Sanctuaries Act ("MPRSA"), also known as the Ocean Dumping Act, regulates the transport of garbage on cruise ships.\textsuperscript{182} It was originally passed in 1972 and amended in 1988 by the Ocean Dumping Act.\textsuperscript{183} MPRSA prohibits "(1) the transportation by any person of material from the United States . . . for the purpose of ocean dumping (2) the dumping of material transported by any person from a location outside the United States, if the dumping occurs in the territorial sea or the contiguous zone [twelve nautical miles from the base line] of the United States."\textsuperscript{184} The 1988 amendment bans ocean dumping of industrial waste and sewage sludge, including "any solid, semisolid or liquid waste generated by a manufacturing or processing plant," thus no permit to dump these materials can be issued.\textsuperscript{185}

The environmental problem that MPRSA presents stems from the definition of the term "material" when it refers to the need for a permit to dump "material" into oceans.\textsuperscript{186} "Material" is defined as:

[M]atter of any kind or description, including, but not limited to dredged material; solid waste; incinerator residue; garbage; sewage; sewage sludge; munitions; radiological, chemical, and biological warfare agents; radioactive materials; chemicals; biological and laboratory waste; wreck or discarded equipment; rocks;
sand; excavation debris; and industrial, municipal, agricultural, or other waste.\textsuperscript{187}

While it seems that this definition encompasses a plethora of pollutants that need to be kept out of the oceans, the definition fails to include sewage from vessels or oil, unless the oil is transported via a vessel or aircraft for the purpose of dumping.\textsuperscript{188} Yet again, another ban on dumping wastes fails to mention and thus apply to a serious environmental offender of the seas: the cruise ship industry.

\textbf{B. State Activities to Govern Cruise Ship Pollution}

Since federal laws are deficient in many ways to protect the nation’s waters from the cruise ship industry’s polluting, states have initiated their own recourse to combat these giant polluters. Alaska, California, Maine, and Washington are examples of some of the states that have implemented programs that protect their coastal waters from present and future contacts with harmful pollutants.

Between 1999 and 2001, Alaska suffered from over thirty-nine illegal discharges into its waters.\textsuperscript{189} In 2001, Alaska passed the Alaska Cruise Ship Initiative (“ACSI”)\textsuperscript{190} and between 2002 and 2003, there was only one such violation.\textsuperscript{191} This law helps to combat cruise ship pollution by specifying a “verified program of sampling, testing, and reporting of wastewater and air discharges from cruise ships, ... an enforceable standard for what cruise ships may discharge into Alaska waters, and ... a method of payment for the program (a $1 surcharge per cruise ship passenger).”\textsuperscript{192} The ACSI prohibits the discharge of untreated sewage, treated sewage, graywater, or other wastewater according to its standards delineated in the statute.\textsuperscript{193} Another regulation that this statute imposes on the cruise ship industry requires ships to take water samples and record reports subject to the collection and analysis of authorities.\textsuperscript{194} These samples must be taken by a method that is approved by the Department of Environmental Conser-

\textsuperscript{187} Id (alteration in original).
\textsuperscript{188} Id.
\textsuperscript{191} Id.
\textsuperscript{192} Cruise Ship Pollution State Activity Page, supra note 189.
\textsuperscript{193} Id.
\textsuperscript{194} Id. at (b)(1).
vation ("DEC"), and the DEC reserves the right to take its own samples of vessel discharge.\textsuperscript{195}

By allowing the DEC to take its own samples from cruise ships, the ACSI reduces the temptation for ships to falsify records regarding their wastes. Thus, there is a firmer grasp of control over the environmental health of Alaska’s waters. ACSI’s goal is to improve the “industry’s performance through pollution prevention, new technologies and improved waste management, and developing a process to verify and monitor results,” and the ACSI seems to accomplish that, with evidence of “reduced wastewater and air discharge” in the years following its enactment.\textsuperscript{196}

California was prompted to take greater control over the discharges of cruise ship pollution after an incident occurred in October 2002 off the coast of Monterey.\textsuperscript{197} This incident involved the cruise ship Crystal Harmony dumping over thirty-six thousand gallons of treated bilge, treated sewage, and graywater into the Monterey Bay Marine Sanctuary.\textsuperscript{198} Monterey subsequently banned the cruise ship indefinitely from its waters.\textsuperscript{199} This event along with the fifty percent increase of cruise ship traffic in state waters lead California to pass laws to limit cruise ship pollution.\textsuperscript{200} Assembly Bills 121\textsuperscript{201} and 906\textsuperscript{202} passed into laws prohibiting cruise ships from dumping sewage, sewage sludge, oily bilge water, graywater and hazardous wastes into state waters.

Maine’s LD 1158 passed into law in 2004 to regulate cruise ship dumping of graywater off of Maine’s coast.\textsuperscript{203} This law applies to ships carrying 250 or more passengers, but ships that have approved treatments systems from the Coast Guard will be able to continue discharging waste within three miles of Maine’s coast.\textsuperscript{204} However,

\textsuperscript{195} Id. at §46.04.465(c). In 2008, the state of Alaska issued notices of violations to twelve of the twenty ships permitted to discharge in its waters. Klein, supra note 2 at 23. These included forty-five violations involving seven pollutants. Id. In 2009, thirteen of the eighteen ships allowed to discharge in Alaska’s waters were issued violation notices. Id. Sixty-six violations and nine separate pollutants were involved. Id. These violations provide proof that the monitoring of wastewater through random testing holds ships in violation accountable for their waste.

\textsuperscript{196} Effects of Cruise Ships on S.E. Alaskan Environment and Economy, supra note 28.

\textsuperscript{197} Cruise Ship Pollution State Activity Page, supra note 189.

\textsuperscript{198} Klein, supra note 4, at 2.6.

\textsuperscript{199} Cruise Ship Pollution State Activity Page, supra note 189.

\textsuperscript{200} Id.

\textsuperscript{201} A.B. 121, 2003 Leg., Reg. Sess. (Cal. 2003).


\textsuperscript{203} L.D. 1158, 2004 Leg., 121st Sess. (Me. 2004).

\textsuperscript{204} Id. §336(6)(4).
since 2006, ships with this approval must apply for a five year permit from Maine’s Department of Environmental Protection. \textsuperscript{205} Ships must keep records of their discharges and file the information with the state, but ships that do not have the treatment systems are still able to dump wastes once they sail four miles away from shore. \textsuperscript{206} Maine’s attempt to regulate discharges from cruise ships seems to have some loopholes, but its efforts to specifically target the cruise ship industry is environmentally admirable and is a start to keeping the state’s waters cleaner and safer. \textsuperscript{207}

In 2004, Washington implemented a Memorandum of Understanding (“MOU”), which charged the state “with the responsibility of protecting and conserving Washington’s environmental resources in relation to the Cruise Industry’s environmental practices in Washington.” \textsuperscript{208} This agreement requires cruise ships to use “some of the latest Coast Guard-approved equipment to treat and dump sewage and wastewaters inside Washington waters.” \textsuperscript{209} The MOU requires cruise ships to add better filtration systems, such as ultraviolet treatment, if the ships want to expel their waste at Washington ports. \textsuperscript{210} A key aspect of the MOU allows Ecology Department officials “to board ships and audit testing any time and the state maintains its right to impose fines or other penalties if cruise ships willfully violate water quality standards.” \textsuperscript{211} By allowing state officials to conduct their own testing and compare their results with those the cruise ships are required to submit to the state and make available to the public under the MOU, cruise ships are less likely to falsify records or fail to test their discharges. \textsuperscript{212} Florida and Hawaii are other states that have implemented MOUs. \textsuperscript{213} While MOUs are not legally binding like stat-
utes and regulations, and apply only to cruise ships that agree to follow them, they are a step, albeit small, towards more forceful protection of some of America’s waters from cruise ship pollution.\textsuperscript{214}

III. Existing Enforcement Problems and Proposed Amendments

This part of the article identifies the attempts that have been made to regulate the cruise ship industry, namely the FCCSA,\textsuperscript{215} and provides recommendations to amend existing legislation and standards to regulate the cruise ship industry more effectively.

A. Evaluation of the Federal Clean Cruise Ship Act

The FCCSA was submitted in 2004 to both the U.S. House of Representatives and the Senate in a bipartisan effort to pass legislation that would specifically regulate the cruise ship industry.\textsuperscript{216} As of this writing, Congress has not acted on either bill.\textsuperscript{217} The passage of the FCCSA would not amend the CWA or any other current law. Rather, it would be a piece of legislation specifically prohibiting “cruise vessels entering a port of the United States [from discharging] sewage, gray water, or bilge water into waters of the United States,” including the Great Lakes, except in compliance with “all applicable management standards established under this Act.”\textsuperscript{218} In addition, it would guide the EPA and the Coast Guard to “promulgate effluent limits for sewage and gray water discharges from cruise vessels that [are] no less stringent than the more restrictive standards”\textsuperscript{219} set forth in the Alaska Initiative.\textsuperscript{220}

Under Annex I of MARPOL 73/78, the United States regulates the discharge of bilge water; however, FCCSA would “go one step further by expressly forbidding cruise ships from discharging bilge water altogether.”\textsuperscript{221} The purpose of this Act is to address the problem that “laws (including regulations) in effect as of [the proposal of the Act] do

\begin{itemize}
\item \textsuperscript{214} \textit{Id.}
\item \textsuperscript{216} Cruise Ship Pollution State Activity Page, supra note 189.
\item \textsuperscript{217} Copeland, \textit{supra} note 94, at 3. The FCCSA was introduced in the 109th Congress as S. 793 (Durbin) and H.R. 1636 (Farr). \textit{Id.}
\item \textsuperscript{218} H.R. 1636 §4(a)(1)-(2) (alteration in original).
\item \textsuperscript{219} Copeland, \textit{supra} note 94, at 22 (alteration in original).
\item \textsuperscript{220} \textit{See supra} note 190.
\end{itemize}
not provide adequate controls, monitoring, or enforcement of certain discharges from cruise vessels into the waters of the United States."\textsuperscript{222}

The FCCSA would be vital to closing the loopholes existing in current federal law that permit cruise ships to dump their wastes at will into the United States' water with little oversight. One of the many shortcomings of existing federal laws is there is no proper designation and definition of a "cruise ship." The failure to include cruise ships in the definitions of vessels that are held to regulations is one of the loopholes within current federal law. The FCCSA closes this gap by using the term "cruise vessel" throughout the statute. It defines "cruise vessel" as a passenger vessel (as defined in section 2101(22) of title 46, United States Code), but further designates that cruise vessels are: "(i) authorized to carry at least 250 passengers; and (ii) [have] onboard sleeping facilities for each passenger."\textsuperscript{223} Clearly, no cruise ship would evade regulation under this definition and a major gap would be filled.

Similarly to the ACSI, the FCCSA provides for the inspection of discharge operations and equipment, including sampling and monitoring.\textsuperscript{224} Section 6 of the FCCSA addresses inspection and sampling and states that "each cruise vessel that calls on a port of the United States shall be subject to an unannounced inspection at least annually."\textsuperscript{225} This provision adequately combats problems that the CWA fails to properly regulate regarding proper inspection routines and procedures. In addition, this section would close another gap in the legislation under which cruise ships currently operate: the ease with which cruise ships can falsely report their discharges.\textsuperscript{226}

With random, unannounced samplings, the cruise ship industry's temptation to falsify records may diminish, and even if it does not, violations would more frequently surface and in turn, cruise ships penalized. Since each cruise ship would fall subject to one of these unannounced inspections each year, more violators would be caught, and their deficiencies in regulating discharges addressed. This section also requires that each ship provide the Commandant of the Coast Guard and the Administrator of the EPA with a blueprint of the vessel that details "the location of every discharge pipe and valve."\textsuperscript{227} The requirement of blueprint submission tackles the issue of cruise liners.

\textsuperscript{222} Id. at 158 (alteration in original).
\textsuperscript{223} Federal Clean Cruise Ship Act, H.R. 1636, 109th Cong. §3(7)(A) (alteration in original) [hereinafter, Federal Clean Cruise Ship Act].
\textsuperscript{224} Id. §6.
\textsuperscript{225} Id. §6(a)(2)(B).
\textsuperscript{226} See Nelson, supra note 53.
\textsuperscript{227} Federal Clean Cruise Ship Act, H.R. 1636, 109th Cong. §6(b)(5).
rigging their ships “with secret piping systems to bypass pollution treatment equipment,” and thus grasps firmer control over the industry.228

Three other parts of the FCCSA demonstrate ideas specifically tailored to the cruise ship industry, different from any federal law currently in effect. The implementation of independent observers aboard cruise ships, whistleblower protection, and citizen suits would significantly help control harms that the cruise ship industry inflicts on the environment.229

The first of these requires the Coast Guard to establish a program through which independent observers would be placed onboard cruise vessels to inspect and monitor their compliance with all applicable law.230 This provision allows for announced inspections and would also include assessments of “operations, equipment, or discharges, including sampling and testing of cruise ship discharges.”231 This implementation would help keep cruise ships in line with regulations because they would continuously be subjected to potential fines for violations or federal action against them if they discharged or performed other illegal actions. In addition, unannounced or undercover observers may find violations on cruise ships that ordinarily are not found through the current methods of enforcement.

The second part allows for the implementation of whistleblower protection for employees of cruise ships who report a ship’s noncompliance with regulations.232 It provides protection against the termination of employment or any other discrimination against an employee or representative of employees who has “filed, instituted, or caused to be filed or instituted any proceeding under this Act; or [. . .] testified or is about to testify” regarding a proceeding of the Act.233 The cruise ship industry is notorious for covering up its wrong actions and quieting those who try to expose them. Carnival Corp. previously fired an executive who accused the company of pollution and safety violations.234 While Carnival was being federally inspected, “its offi-

230. Id. §6(d)(1).
231. Id. §6(a)(2)(A).
232. Id. §7(a).
233. Id. §7(a)(1)-(2) (alteration in original).
cials ordered the destruction of a 2000 videotape showing ship officers admitting to disabling a pollution-control device." Employees, such as the executive from Carnival Corp., witness and partake in a cruise ship's actions pursuant or contrary to federal law. If employees are protected from being wrongfully discharged from their jobs, it is more likely that they would volunteer information or complaints pertaining to cruise ship violations.

The third part includes allowing citizens to bring civil actions against anyone violating the Act. Passengers, like employees, are apt to witness illegal activity aboard cruise ships since they are aboard them for the duration of the cruise. By allowing passengers as well as other citizens, such as those who may witness cruise ships dumping in prohibited zones in and around coasts, to bring civil actions against a violator of the Act, the cruise ship industry is put under more pressure to remain in compliance with laws pertaining to their operations. The more that sources are aware and able to bring actions against violators of important environmental regulations, the more likely the cruise ship industry will be aware that it too must follow applicable federal laws.

While the CWA has a citizen suit provision similar to the FCCSA, cruise ships are exempt from many provisions of the CWA, and passengers and citizens witnessing cruise ship violations are not as well informed of their ability to file suits as they could be. Under the CWA, citizens need to know which sections of the statute apply to cruise ships, and whether a citizen suit is available for each of those sections. With the enactment of the FCCSA, citizens can be better educated and aware of this ability since it applies directly to the cruise ship industry. The enactment of the FCCSA would make citizen suits available and more applicable to cruise ships. Thus, the industry would be under constant scrutiny and the provisions of the FCCSA add another avenue by which cruise ships are subject to liability.

B. Critiques of Current Methods and Recommendations to Address Them

Many environmental groups vigorously advocate to protect the nation's waters and recommend several things that can be done to make the current system of cruise ship pollution regulation better and more effective. Bluewater Network, the Earth Island Institute, and

235. Id.
238. See Federal Clean Cruise Ship Act, supra note 223.
the Campaign to Safeguard America’s Waters are among some of the most active in vehemently advocating the need for new and improved legislation. The recommendations detailed in this section, in part, come from these organizations. EPA and Congress should consider these recommendations to help protect America’s waters from cruise ship pollution.

Since the cruise ship industry does not have any piece of legislation specifically tailored to it, one critical recommendation would be to pass a federal law, such as the FCCSA, to fully regulate the industry. Short of adopting a completely separate law, there are several sections of current laws that can be modified to control cruise ship activities. First, modifications to definitions in statutes regarding vessels might prove helpful. Ensuring definition sections include terms describing or specifically naming application to cruise ships can help make many of the requirements that other vessels have to employ become applicable to the cruise ship industry.

Additionally, it would be beneficial to repeal 40 CFR §122.3 (a) which applies to the EPA’s regulation of CWA section 420 and the enforcement of NPDES permits. By repealing it, NPDES permits are applicable to cruise ships’ discharges.239 In conjunction with this change is the need for a more strict definition of graywater and its regulation.240 Since graywater currently is not prohibited from being discharged in any area besides the Great Lakes and when untreated within one nautical mile from shore under the EPA’s VGP, a modified definition can make its discharge fall subject to the NPDES permit program.241 Ballast water and sewage/blackwater are additionally exempt from NPDES permits.242 Modifying the definitions and giving consideration to these sources as noteworthy harms to the nation’s water are essential. The sheer amounts disposed of these substances and the lack of regulations prohibiting or restraining their discharge from cruise ships is a blatant failure of the current laws. Making graywater, ballast water, and sewage subject to NPDES permits are several significant steps towards conforming the cruise ship industry towards environmentally conscious standards.

While blackwater is regulated in some way by MSDs, the enforcement of MSDs falls under the control of the Coast Guard.243 Bluewater Network identifies that the “Coast Guard intermittently in-

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239. Schmidt, supra note 42, at 3.
pects cruise ships' MSDs while in port to ensure their proper functioning, but neither the Coast Guard nor the ships are required to sample, monitor, or report on levels of pollutants and other parameters of the effluents it discharges, as are other industries or municipalities that discharge sewage into state waters." This problem is addressed in the provision of the FCCSA which subjects cruise ships to testing, sampling, and monitoring discharges. Absent the adoption of the FCCSA, changes to current laws need to hold the cruise ship industry accountable to these same standards.

Recently, ships traveling to Alaska have installed Advanced Wastewater Treatment Systems (AWTS), which treat sewage and gray-water. Ships visiting Alaska's Inside Passage are required to install such systems as they are required for continuous discharge in state waters. This system provides higher levels of biological treatment, solid removal, and disinfection of waste rather than traditional MSDs. While AWTS's are beneficial and in aid of protecting marine environments, cruise ships are lax in installing these treatment systems, which cost between $1 million and $10 million. There remains room for improvement to AWTS technology; however, they are a major improvement over MSDs. If more ships were to install these devices, the oceans will become considerably cleaner and safer for humans and animals.

Bluewater Network additionally recognizes the regulations the Coast Guard follows while performing inspections and enforcement of federal law are "completely inadequate to ensure compliance with Sec-

244. Schmidt, supra note 42, at 5.
247. Id.
248. Id. explaining that AWTS treat sewage and graywater by using filtration or flotation to separate solids, and ultraviolet light to disinfect. Sampling taken by the Alaska Department of Environmental Conservation and the Coast Guard from 2003 to 2005 have indicated that ATWS are "very effective in removing pathogens, oxygen demanding substances, suspended solids, oil and grease, and particulate metals." Id.
249. David Rosenfeld, Can Cruise Lines and the Ocean Coexist?, Jan. 18, 2010, http://x/dcbureau.org/20100118305/Natural-Resources-News-Service/dirty-waters-cashing-in-on-ocean-pollution.html. (Even the newest ships that are manufactured by cruise ship companies are not equipped with new AWTS and other technology.) Id.
250. Klein, supra note 2 at 3. (AWTS do not adequately address nutrient loading, a problem that exists with MSDs regarding nitrogen and phosphorous. Tests in Alaska waters have revealed higher levels of copper, nickel, zinc, ammonia, and concentrations of chlorine and tetrachlorethylene than permitted standards.) Id.
tion 312.” The United States General Accounting Office (“GAO”) is known as “the investigative arm of Congress. . .[and its duties include] oversight of federal programs, insight into ways to make government more efficient effective, ethical and equitable.” The GAO reported the “Coast Guard’s ability to detect and resolve violations is constrained by the narrow scope of its routine inspections, a significant reduction in aircraft surveillance for marine pollution purposes, and a breakdown of the process for identifying and resolving alleged violations.” This report identifies that part of the problem with reliance of Coast Guard inspection is that it “rarely [has] time during scheduled ship examinations to inspect sewage treatment equipment or filter systems to see if they are working properly and filtering out potentially harmful contaminants.” In order to address this problem, a new method of examining ships and making time to do so is imperative to prevent water pollution. Ships should be required to take, record, and file reports of samples on a regular basis and be subject to random testing. More stringent inspections need to be performed on cruise ships to make them a priority on the same level as other duties and inspections of the Coast Guard.

MPRSA and APPS currently regulate the disposal of solid waste into waters, but both exhibit shortcomings. The Bluewater Network notes that “77% of all ship waste comes from cruise ships.” This is a revealing and frightening statistic since current laws allow the cruise ship industry to easily violate controls over cruise ship solid waste disposal. MPRSA needs to redefine the word “material” to include sewage from vessels. By amending this definition, its standards are applicable to the cruise ship industry and thus with the industry’s conformance to its regulations, the amount of sewage dumped into the oceans can be curtailed.

APPS controls levels and types of garbage disposed overboard and requires ships to keep log books of their wastes. This record keeping requirement is not enough. As noted several times, cruise ships have the tendency to falsify such records. In addition, the inspection of these records is not efficient or adequate since it is suggested that the Coast Guard does not devote enough time to inspect the logs and addi-
tionally may not be devoting resources to cover the scope necessary for these inspections.\textsuperscript{256} To improve this area of waste control, requirements that ports have adequate reception facilities to contain the high volumes of waste generated by cruise ships would give incentives for cruise ships not to illegally dump their waste. Further, if regulations were applied to cruise ships to separate recyclable materials onboard, and if receptacles were to be provided at ports for recyclable materials, the amount of waste that is currently being dumped into waters can be disposed of through environmentally sound practices.

To address the problems encountered when ships falsify their log books, the EPA can “work with the Coast Guard to formulate means to ensure compliance with MPRSA and APPS (such as matching port receipts for garbage to ships’ Garbage Record Books for inconsistencies), and examine the options for regulations requiring” the Coast Guard to take their own tests and samples of cruise ship discharges.\textsuperscript{257}

Another way falsification of records can be addressed is by amending the CWA with, or including in the FCCSA, a criminal false statement provision similar to the one in the Resource Conservation and Recovery Act.\textsuperscript{258} In that act, any person who “knowingly omits material information or makes any false material statement or representation in any application, label, manifest, record, report, permit, or other document filed” is subject, upon conviction, to monetary fines up to $50,000, imprisonment, or both.\textsuperscript{259} The addition of this regulation would encourage employees of cruise ships to keep accurate record books and discourage owners of cruise lines to assert the need to do so. Since “any person” is liable under this type of regulation, employees cannot hide behind a corporation when violations are found.\textsuperscript{260} Thus, the cruise ship industry will be motivated to comply with federal and state laws regarding discharging pollutants, and the number of falsifying records will decrease.

The opportunity for states to apply for NDZs off of their coasts under section 312 of the CWA is only a start to help states take action towards having stricter standards applicable to the sewage of the cruise ship industry. Federal laws should take the NDZ standards into account and require the federal government to formulate a plan to designate such zones encompassing the entire United States. This would prohibit sewage discharge from cruise ships surrounding the nation,

\begin{itemize}
\item \textsuperscript{256} GAO Reports: Marine Pollution, supra note 253, at 4.
\item \textsuperscript{257} Schmidt, supra note 42, at 8.
\item \textsuperscript{259} Id.
\item \textsuperscript{260} Id.
\end{itemize}
and add an essential control mechanism to cruise ship discharges. By requiring the federal government to designate these zones, areas in need of protection do not have to rely on the actions of individual states. However, the NDZ option should remain open to states even if the federal government designates these zones. This would allow for areas that meet NDZ requirements to attain an NDZ during the future if the federal government did not include them in initial designations. This is because marine sanctuaries and waters in need of additional protection continue to form and be discovered, and states should have the power and option to call attention to them and provide protection for them.

The need for the federal government to institute this proposed NDZ along the entire coast of the United States is evidenced by the inconspicuous nature of areas in need of protection. While presently there are certain areas designated as marine sanctuaries, the "degradation of the oceans is less visible, and therefore less capable of galvanizing political outrage," even if the need for sanctuaries is great. Due to the esoteric character of sanctuaries, or areas that are in need of being designated as sanctuaries, a demarcation should be used along areas that are protected so that cruise ships have visible reminders behind the legal regulations that prohibit them from discharging pollutants.

The cruise ship industry fails to provide any valid reason or purpose as to why it is so careless in polluting the nation's waters. The cruise ship industry has paid hundreds of millions of dollars in fines for its unscrupulous handling of environmentally harmful wastes. Hence, the cruise ship industry does not have any excuse that it cannot afford better ways to handle its wastes. If a fraction of the money the industry pays in fines is allocated towards acquiring environmentally friendly recycling and disposal techniques, the destruction of ocean waters and its inhabitants would slow and possibly cease.

CONCLUSION

Cruise travel is a sector of transportation that is flourishing, captivating the United States, and the world. The dearth of specific federal regulations on the industry is a foreshadowing of the destruction of the seas. Kira Schmidt of Bluewater Network attests to the industry's prosperous status by stating: "The cruise ship industry has been riding a tidal wave of prosperity...with more than $1.5 billion in

profits and an explosive growth rate of eight percent per year."

She then addresses the irony of cruise ship pollution: "Although the industry's continued success ultimately depends on the beauty of the oceans, the armada of cruise ships now plying the planet's waters trails behind it a wake of pollution."

The impact that blackwater, graywater, bilge water, ballast water, and other wastes that are dispelled intentionally from cruise ships into the nations' waters will not only undermine the success of the cruise ship industry, but will also aid in the destruction of coasts and the marine and human life thriving off of them. Current U.S. federal laws are not sufficient to regulate the cruise ship industry. The industry continues to falsify important records of its discharges, or completely neglects to record them, and is absolved from the strictures of the laws currently in place.

There is a desperate need to amend or create new laws that will tame and train cruise ships from their harmful and ignorant practices to a law-abiding and more environmentally conscious industry. The FCCSA's provisions need to be enacted or adopted into current federal legislation. Congress has been presented with this bill that would sufficiently address the problems surrounding the industry and must take immediate action in regards to it. If Congress rejects the FCCSA, the U.S. government needs simply to heed the recommendations set forth here and by environmental organizations such as Bluewater Network, Oceana, and the Earth Island Institute, such as setting stricter enforcement methods for the Coast Guard to follow and updating definitions within statutes, to find a path that leads towards clearer, cleaner, and safer waters.

263. Id.