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**CONTROL OF AQUATIC NUISANCE SPECIES
INTRODUCTIONS VIA BALLAST WATER IN
THE UNITED STATES:
IS THE EXEMPTION OF BALLAST WATER
DISCHARGES FROM CLEAN WATER ACT
REGULATION A VALID EXERCISE OF
AUTHORITY BY THE ENVIRONMENTAL
PROTECTION AGENCY?**

*Lisa A. Brautigam**

I. INTRODUCTION

Aquatic invaders hitchhiking in ships' ballast water tanks are far from a new environmental problem in the United States and throughout the world. Hundreds of thousands of invasions have wreaked havoc on ecosystems and native species worldwide. However, the last few years have brought renewed vigor in the United States to implement an effective national regulatory program to address the problem in the United States absent a firm regulatory framework to do so. Within this renewed uprising, there has been increased pressure to regulate ballast water discharges under existing national environmental laws. Perhaps the strongest push has been found in a petition by environmental groups in the United States addressed to the EPA to repeal the current regulatory exemption for ships discharging in the normal course of operations under the Clean Water Act, which would require ships to obtain a National Pollution Discharge Elimination System (NPDES) permit before discharging ballast water into waters subject to the

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Clean Water Act.¹ The environmental groups claim that the EPA has, through the exemption, enacted a categorical exemption of a point source, which they claim is not within the EPA's authority under the Clean Water Act. The EPA has not yet issued a formal response to the petition. A report addressing the problem of aquatic nuisance species ("ANS") was due out in June 2000 for formal comments, however that deadline passed without result.² In light of the assertions of the petition for the repeal of the exemption, questions arise as to whether regulation of ballast water discharges are a valid exercise of authority on behalf of the EPA.

The validity of the exemption has been discussed in many forums; however, most discussions have arisen in a broad discussion of how the current environmental laws in the United States can address the ANS introductions through ballast water.³ While these discussions have led to conclusions that the exemption of ballast water discharges from the Clean Water Act requirements are invalid, these conclusions have been based upon a broad overview analysis with little insight regarding the additional concerns which will arise should regulation of ballast water discharges fall under the Clean Water Act, specifically within the NPDES program. This article will examine, in depth, the validity of the exemption of ballast water discharges from the NPDES program, and offer insight into the considerations that must be examined prior to any implementation of regulation of ballast water discharges under the NPDES program.

The concern regarding ships discharging in their normal course of operations arises from the ecological and economic impacts of ANS on the waters of the United States. One of the most significant vectors by which aquatic nuisance species are introduced into a waterbody is through the discharge of ships' ballast water containing ANS. Once introduced, ANS have major ecological and economic impact including destruction of natural habitat, species diversity, and the natural resources upon which many coastal states heavily depend.

1. Letter from Craig N. Johnston, Attorney, Pacific Environmental Advocacy Center, to Carol Browner, Administrator, U.S. Environmental Protection Agency (January 13, 1999). Petitioning groups include the Pacific Environmental Advocacy Center, Northwest Environmental Advocates, Association of California Water Agencies, the Center for Marine Conservation, the Pacific Coast Federation of Fishermen's Associations, San Francisco BayKeeper, Great Lakes United, Chippewa-Ottawa Treaty Fishery Management Authority, Dogwood Alliance, the Great Lakes Sportfishing Council, People for Puget Sound, the Coastal Waters Project, Friends of the San Juans, DeltaKeeper, the Quoddy Spill Prevention Group, and Ted Lempert of the California Assembly.

2. Telephone Interview with Thomas Charlton, Attorney, Office of Water, Environmental Protection Agency (April 21, 2000).

3. See Brent C. Foster, *Pollutants Without Half-Lives—The Role of Federal Environmental Laws in Controlling Ballast Water Discharges of Exotic Species*, 30 ENV. L. 99 (2000).

ANS is both a national and international concern. Nationally, the United States has initiated legislative action with the United States Coast Guard having authority to regulate ballast water discharges.⁴ The international community has addressed ANS through the United Nations Convention on the Law of the Sea (UNCLOS) and voluntary guidelines issued by the International Maritime Organization (IMO). Further response may come forth on the international level if the IMO incorporates the voluntary guidelines into the International Maritime Organization Convention on Marine Pollution(MARPOL) or a distinct treaty.

This article concludes that the exemption of ballast water discharges from NPDES requirements is not a valid exercise of EPA authority under the Clean Water Act. Analysis of the exemption, in light of Congressional intent within the statute and legislative history, shows that the exemption is invalid. Congress directly addressed the authority granted the EPA, mandating that pollution discharges from point sources are only permitted under a permit issued by the EPA. Since vessels are a point source under the NPDES Program, the only means by which a vessel may legally discharge ANS, a pollutant under the Act, is under authority of a permit granted by the EPA.

Regulation of ballast water discharges under the NPDES Program will need to be implemented carefully to avoid internal inconsistency, federal inconsistency, and possible federal preemption issues. A repeal of the current exemption of ships ballast water from regulation under the NPDES program could have significant policy effects on national shipping and trade, as well as raise serious policy questions for the United States with regard to international shipping and trade.

This article will address the EPA's authority to regulate ballast water discharges under the NPDES program and whether the current exemption for ships discharging ballast water incidental to their normal operations is valid. Part II will discuss why ANS is a problem and how ANS causes severe ecological and economic damages. Part III will examine why ballast water is both a necessity for the safe and optimal operation of ships and a major vector, or means, by which ANS are transported around the globe. Part IV will address the national and international legal regimes already in place to control ANS introductions through ballast water. Part V will give an overview of the Clean Water Act, reviewing its history. Part VI will examine the exemption under the NPDES Program for discharges from ships incidental to their normal operation. Part VII will analyze the validity of the exemption under statutory construction and judicial interpretation of

4. 16 U.S.C. §§ 4701-4751 (1994 & Supp. IV 1998).

the EPA's ability to exempt classes of point sources from NPDES requirements, concluding that the exemption is not a proper exercise of EPA's authority under the Clean Water Act. Finally, Part VIII will put forth the considerations that are required and make recommendations for the implementation of regulation of ballast water discharges to control introductions of ANS under the NPDES Program.

II. AQUATIC NUISANCE SPECIES: AN INTRICATE PROBLEM WITH NO CLEAR SOLUTION

Aquatic nuisance species⁵ are organisms that, although harmless in their natural environment, cause severe ecological and economic damage when transported outside their native environment. When non-indigenous, or non-native species, are discharged into an aquatic ecosystem, that species may distribute themselves, establish themselves as a population, and in many cases, out compete native species, causing those native species to eventually disappear.⁶ As the non-indigenous species replace the native species, major changes may occur in the ecosystem over time.⁷ It is at the point where the non-indigenous species begin to establish themselves at the expense of the existing native species that they are called Aquatic Nuisance Species.⁸ In addition to ecological destruction and economic damage, ANS can endanger human health, particularly when the ANS is a human pathogen. To better understand the possible ecological and economic damage caused by ANS, a brief review of two notable invasions, and subsequent establishment, of ANS may be helpful.

Possibly the most publicized invasion in the United States has occurred in the Great Lakes by zebra mussels. The zebra mussel is suspected to have entered the Great Lakes via ballast water. It quickly colonized the area,

5. See 33 U.S.C. § 4702(1) (Supp. IV 1998). Aquatic Nuisance Species has been defined as "a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on such waters." *Id.* Nonindigenous Species has been defined as "any species or other viable biological material that enters an ecosystem beyond its historic range, including any such organism transferred from one country into another." 16 U.S.C. § 4702 (11) (Supp. IV 1998).

6. See James T. Carlton & Jonathan B. Geller, *Ecological Roulette: The Global Transport of Nonindigenous Marine Organisms*, 261 *Science* 78, 82 n.12 (1993) [hereinafter Carlton (1993)]; James T. Carlton, *Transoceanic and Interoceanic Dispersal of Coastal Marine Organisms: The Biology of Ballast Water*, 23 *Oceanography and Marine Biology: An Annual Review* 313, 318 (1985) [hereinafter Carlton (1985)].

7. See National Research Council, *Stemming the Tide* 1 (1996); Carlton (1985), *supra* note 6, at 364-65.

8. Aquatic Nuisance Species is defined, *supra* note 5.

causing fouling problems on water intakes of local water supplies, industries, and nuclear power plants, threatening human health and welfare.⁹ From 1989 to 1994, industries and municipalities surrounding the Great Lakes spent over \$120 million in an effort to control zebra mussels, which are still a major economic and ecological problem today.¹⁰

While the zebra mussel invasion in the Great Lakes has been highly publicized due to its destructive nature and enormous control costs, San Francisco Bay has been called the most heavily invaded estuary in the world.¹¹ Local experts estimate that one new species of ANS has become established in the Bay every fourteen weeks since 1961.¹² One of the species of ANS invading the Bay is the Chinese mitten crab.¹³ The Chinese mitten crab, which reproduces very quickly, is born in the ocean but can travel up rivers hundreds of miles to live its adult life.¹⁴ Once it reaches what becomes its home river, the Chinese mitten crab will burrow into the sides of the banks to live.¹⁵ Because they live close together in large numbers, the Chinese mitten crab can ruin the structural integrity of riverbanks, causing major erosion problems and silting over riverbeds that may be used as salmon spawning habitat.¹⁶

III. BALLAST WATER:

A NECESSARY EVIL AS A VECTOR FOR THE INTRODUCTION OF AQUATIC NUISANCE SPECIES

A. The Necessity of Ballast Water for Optimal and Safe Operation of Ships

Ballast is defined as “any solid or liquid placed in a ship to increase the draft, to change the trim, to regulate the stability, or to maintain stress loads within acceptable limits.”¹⁷ The draft of a vessel describes how high or low

9. See *Report on United States Progress—Exotic Species* (visited May 23, 2000) <<http://www.epa.gov/glnpo/glwqa/usreport/part5.html>>.

10. See US Coast Guard: *Aquatic Nuisance Species Gallery* (last modified October 3, 2000) [hereinafter Gallery] <<http://www.uscg.mil/hq/g%2Dm/mso4/ansgal.html>> (containing multiple pictures and descriptions of ANS).

11. Telephone interview with Scott Smith, Washington State Department of Fish and Wildlife (May 19, 2000).

12. See *Coastlines October 1999*, (last visited May 23, 2000) <<http://www.epa.gov/owow/estuaries/coastlines/oct99/usingcwa.html>>.

13. See *id.*

14. See Gallery, *supra* note 10 (containing multiple pictures and descriptions of ANS).

15. See *id.*

16. See *id.*

17. National Research Council, *supra* note 7, at 23. Ballast water is also simply

the entire vessel sits in the water. The trim of a vessel is the balance of the ship in the water, resulting from how a ship is weighted from one area of a ship to another. For example, trim will create such characteristics as a raised bow if the trim is adjusted so that the stern of a ship is heavier (with increased cargo or ballast) than the bow.

As the definition implies, ballast is necessary for safe operation of ships by controlling the draft and trim of a ship while it is in operation.¹⁸ Proper ballasting while a ship is at sea can reduce the stress on the hull of a ship, aid in propulsion, aid in maneuverability, and compensate for weight changes by providing the best draft or trim for the sea conditions at hand.¹⁹ Proper balancing increases the optimal operation of the ship, but more importantly, ensures the safe operation of the ship.

Sea conditions can change considerably as a ship travels through different areas or weather conditions. As a ship travels along its voyage, the ship's crew may need to adjust ballast levels by either discharging or taking up additional ballast water to maintain optimal and safe operations.²⁰ Decisions to adjust a ship's ballast are made by the ship's officers based upon factors including the ship's specific design and conditions within which the ship is operating.²¹ These decisions require particular knowledge unique to each ship and the conditions encountered by the ship at the particular time in question.

When ships embark on a voyage, ballast water may be taken up if the cargo load is either absent or inadequate to allow for proper draft and trim.²² Once a ship has reached its destination port, cargo may be unloaded, and additional cargo may be taken on board, and the change in cargo weight may require discharge or uptake of ballast water to maintain optimal and safe operating conditions.²³

In addition to port and high seas adjustments, ships may also require adjustment of their ballast to travel through waters just outside their

defined as "any water or associated sediments used to manipulate the trim and stability of a vessel." 16 U.S.C. § 4702 (Supp. IV 1998).

18. See National Research Council, *supra* note 7, at 23.

19. See *id.* at 24. Weight changes can occur while at sea through the use of fuel and use of water enroute.

20. See *id.* at 24-27.

21. See *id.* at 24.

22. See *id.* at 29.

23. See Fang zhu Zhang & Mike Dickman, *Mid-Ocean Exchange of Container Vessel Ballast Water I: Seasonal Factors Affecting the Transport of Harmful Diatoms and Dinoflagellates*, 176 Mar. Ecol. Prog. Series 243 (1999) (discussing the discharge of ballast water and the species therein occurring when a ship takes on additional cargo) [hereinafter Zhang].

destination port. For example, when a ship enters the internal waters of the coastal state, it may have to pass through a straight or pass. The conditions of the strait or pass may require a ship to discharge ballast to pass over a navigational obstacle.²⁴ However, the discharge of the ballast is dependent upon the ship's ability to maneuver safely in the prevailing conditions if it is lighter and higher out of the water.

For the reasons discussed above, any regulations regarding discharging ballast water will have to consider the safety implications. Further, due to the dynamic environment within which ships operate, regulation of ballast water discharges must be flexible, allowing those individuals with the direct knowledge of conditions and individual ship requirements, to exercise their judgment regarding ballast water discharges and uptake.

B. Ballast Water as a Vector of Aquatic Nuisance Species

Ballast water is one of the major vectors by which aquatic nuisance species are introduced into an ecosystem.²⁵ It has been recognized as a vector since as early as 1908.²⁶ Researchers have found ballast water to be the largest single vector of non-indigenous species.²⁷ It has been estimated that several thousand species are transported through ballast water each day.²⁸ As ships' speeds and numbers increase, it is unlikely that ballast water will become less of a threat to coastal waters in the near future.²⁹

Ballast systems vary greatly from ship to ship. The size, location, loading and discharging systems of the ballast tanks differ significantly.³⁰ Ballast water is stored in a ship either in designated ballast tanks, or, in the case of older tank vessels, in the empty cargo tanks.³¹ The differences in

24. See Carlton (1985), *supra* note 6, at 315.

25. See *id.* at 318.

26. See Williams et al., *Cargo Vessel Ballast Water as a Vector for the Transport of Non-Indigenous Marine Species*, 26 *Estuarine Coastal and Shelf Science* 409 (1988) (citing Meddelelser, Fra; *Kommissionen Fur Danmarks Fiskeri-og Havundersogelser*, Serie Plankton 1, No. 6 (1908)).

27. See Gregory M. Ruiz et al., *Global Invasions of Marine and Estuarine Habitats by Non-Indigenous Species: Mechanisms, Extent, and Consequences*, 37 *Amer. Zool.* 621, 622 (1997).

28. See Carlton (1993), *supra* note 6, at 82 n.12.

29. See *id.*

30. See Natural Research Council, *supra* note 7, at 22-23. Even in ships of identical design, the ballast need of the ships differ according to cargo, sea conditions, and operating local of a particular ship at a given time. See *id.* at 23.

31. See Carlton (1985), *supra* note 6, at 361.

ship design will cause significant variance in ballast requirements from ship to ship.³²

Ballast water is discharged and taken up through a pump or gravity system, which will vary from ship to ship.³³ In spite of the variance, generally all ships will have a mechanism by which they filter the water coming on board the ship to prevent large objects from entering and fouling the system.³⁴ While this system prevents large objects from entering the ballast system, small aquatic organisms can easily enter with the water.³⁵ When the system is not maintained properly, the filtering mechanism can be altered or absent allowing larger objects to enter the ship's ballast tanks.³⁶

Regardless of whether the filtering mechanism is functioning properly, sediments are also taken up when a ship brings on ballast water.³⁷ The amount of sediment taken on board varies depending upon the conditions of the waters where the ship is located and the depth of water remaining under the ship's uptake system at the time ballast water is taken on board.³⁸ These sediments can contain benthic organisms living in that sediment.³⁹ Therefore, when a ship takes on ballast, it can also take up various benthic and pelagic organisms that are living in the waters where the ballast water is taken on board.

When a ship discharges its ballast, it will also discharge the organisms contained in the ballast water. The discharge of ballast can occur thousands of miles or fifty miles from the point at which the ballast water was taken on board, releasing organisms that might not naturally be found in the receiving waters. These organisms can include fish, bacteria, planktonic species, seaweed, benthic organisms, or algae.⁴⁰ These organisms, if they are not native to the receiving water, are called non-indigenous or non-native species.⁴¹

Many of the discharged non-indigenous species fail to survive. The non-indigenous species may perish on the voyage from extended contain-

32. See National Research Council, *supra* note 7, at 22-23.

33. See *id.* at 29.

34. See *id.*

35. See *id.* at 29-31.

36. See *id.* at 29. Fish as large as twelve inches have been found in ballast tanks. See *id.* at 15 n.3.

37. See *id.* at 31 see also Carlton (1985), *supra* note 6, at 315.

38. See Williams et al., *supra* note 26, at 418.

39. See *id.* at 415.

40. See Zhang, *supra* note 23, at 243 (citations omitted).

41. Nonindigenous Species is defined *supra* note 5.

ment in a tank within the ship.⁴² Increase in ships' speeds in recent decades has allowed non-indigenous species to have an increased rate of survival due to decreased containment time.⁴³ The non-indigenous species may also perish upon discharge from differences in ecological characteristics between their native waters and the receiving waters.⁴⁴ Such differences include temperature, salinity, or even turbidity.⁴⁵ The non-indigenous species may also find themselves capable of surviving in the ecosystem, but incapable of competing with native species.⁴⁶ The ANS problem arises, however, when the non-indigenous species are able to survive, and thrive, in the receiving waters.

To complicate matters, the ballast water discharged from a ship may contain organisms from several distinct ecosystems, rather than just the ecosystem that was the last port of call. When a ship discharges its ballast, a portion of the ballast water and sediment remain.⁴⁷ The amount of water and sediment remaining in the ballast tanks of a ship will vary depending upon the ballast system used by each particular ship.⁴⁸ Generally, older ships will use a system that draws water for discharge from a point in the tank that is higher than in newer ships.⁴⁹ The higher the point of withdrawal, more water and sediment will remain in the tanks after discharge.⁵⁰ Therefore, over time, a ship could easily contain organisms from areas all over the world assuming that the organisms can survive extended periods of time in the tanks.

Ballast water discharges are not the only vector by which aquatic nuisance species can be introduced into an ecosystem. The introduction could occur by human release of organisms into the coastal water or by organisms attaching themselves to the hull of a commercial ship or a recreational watercraft.⁵¹ However, as many have previously discussed, ballast water is possibly the most significant vector of ANS introductions.⁵² Because of the necessity of ballast water for shipping and trade, however, this vector poses a unique problem for which a solution is not readily available.

42. See Carlton (1985), *supra* note 6, at 348.

43. See *id.* at 361.

44. See National Research Council, *supra* note 7, at 16–17.

45. See *id.*

46. See *id.*

47. See National Research Council, *supra* note 7, at 30–31.

48. See *id.*

49. See Zhang, *supra* note 23, at 249.

50. See *id.*

51. See Carlton (1985), *supra* note 6, at 321–44.

52. See Foster, *supra* note 3, at 101.

*C. Ballast Water Treatment Technology:
The Struggle for a Solution*

In spite of the attention given to the ANS problem, treatment technologies to prevent ANS invasions have been difficult to develop. The major difficulties in developing treatment options are found in ensuring ship safety and preventing new or increased damage to the receiving waters from the treatment options. Further, because of the diversity of potential ANS, a single treatment option may not be effective for all species contained within a single ballast tank.⁵³ These difficulties have not, however, slowed the number of emerging technologies. In 1996, the National Research Council enumerated several options, within three categories of treatment options including options for uptake, enroute treatment, and treatments upon arrival.⁵⁴ These options included using conservation methods upon uptake, screening and filtering of uptake water, and shore side treatment options upon discharge.⁵⁵ The uptake options are common options utilized today to avoid uptake of ANS, however, such options have not proven to be a complete solution, in spite of their convenience of avoiding further treatment on board or upon arrival.

Arrival treatment options include offloading ballast either upon a designated vessel outside of ports of call or upon land based facilities. However, such options are expensive and limited in capacity given the tremendous quantities of ballast water entering ports in the United State and worldwide.⁵⁶

Shipboard treatments, to be administered enroute, included biocides, thermal treatments, ultraviolet light treatment, electric pulse treatment, acoustic systems, and magnetic field treatment.⁵⁷ However, all of these treatments were questioned as to their universal effectiveness.⁵⁸ Particularly with biocides, the subsequent release of treatment residual products was not found to be safe.⁵⁹

In 1996, there were no off-the-shelf technologies for treating ballast water to effectively eliminate ANS introduction without some redesign and modification.⁶⁰ However, the search for technological solutions has not

53. See National Research Council, *supra* note 7, at 52.

54. See *id.* at 33.

55. See *id.* at 33-36.

56. See *id.* at 39-40.

57. See *id.* at 64-70.

58. See *id.* at 72.

59. See *id.* at 71.

60. See *id.* at 72.

laid dormant since 1996. A 1997 study by the U.S. Coast Guard discussed gravity treatments for settling processes on land, centrifugation by which the ballast water and the organisms it contains are separated by specific gravity, radiation, as well as the other options presented by the National Research Council.⁶¹ However, the only comprehensive conclusion established by the study centered on the need for each individual port and shipping route to assess their needs and special circumstances before implementing any sort of control mechanism.⁶² The report failed to recognize any treatment option as superior to another.⁶³ Instead a port criteria flow chart was developed for port officials to deduce the method of transporting ballast from a vessel to a treatment facility most appropriate for their port.⁶⁴

Since the major studies, the industry has taken measures to begin testing various control systems for elimination of ANS discharge. For example, Princess Cruise Lines has chosen to install and test a system that will use centrifugal techniques to separate organisms from the ballast water and then inactivate the organisms by treatment with ultraviolet light in two stages.⁶⁵ UV light treatment, alone, is also being employed by the Maryland Port Administration in Baltimore Harbor.⁶⁶

The thermal treatment method is also getting much attention as a reasonable treatment option. The thermal method utilizes hot water from engine processes, which would normally be discharged at sea, and runs this water through the ballast tanks to increase the temperatures to lethal levels.⁶⁷ However, this method does not always eliminate all the organisms contained within the ballast water, and will not always be effective if ships are traveling through seas with cool temperatures as lethal temperature levels will be difficult to attain.⁶⁸

61. See Debra Greenman, et al., *Ballast Water Treatment System: A Feasibility Study*, ¶¶ 47–56 (Dec. 17, 1997) (visited Nov. 11, 2000) <<http://www.anstaskforce.gov/ballaststudy.htm>>.

62. See *id.* at ¶ 141.

63. See *id.*

64. See *id.*

65. See *Ballastwater Treatment Breakthrough*, MARINELOG.com, (July 2000) (visited Oct. 3, 2000), <<http://marinelog.com/DOCS/PRINT/mmjhyde.html>>.

66. See EVTN/Maritime Solution Press Release, *EVTN/Maritime Ballast Water Treatment System Receives Funding from the State of Maryland's Port Administration*, August 3, 2000, available in Businesswire <<http://biz.yahoo.com/bw000803/flenviro.html>>.

67. See Brendan Lee, *Treatment of Ballast Water: The Issue Heats Up* (visited Oct. 12, 2000) <<http://www.ammeff.com.au.pulicat/groundwk/grnd698/gtechnol.htm>>.

68. See *id.*; See also G.R. Rigby, et al. *Novel Ballast Water Heating Technique Offers Cost-Effective Treatment to Reduce the Risk of Global Transport of Harmful Marine Organisms*, 191 Mar. Ecol. Prog. Ser. 289, 293 (1999).

None of these treatment options are an effective means of treatment of ballast water in all situations. Thus, any regulatory measures controlling ANS introductions will need to be flexible to accommodate developing ANS treatment technologies.

IV. THE CURRENT LEGAL REGIMES REGULATING BALLAST WATER DISCHARGES

A. *The International Legal Regime*

ANS is a problem of global proportions. Therefore, management of ballast water introduction of ANS is an international concern. Because the problem of ANS is an international concern, there is a need for a comprehensive agreement to deal with the problem. As the United States confronts this problem through existing and future regulatory regimes, it must consider its potential obligations under future international regulatory regimes, and current policy issues with regard to international trade.

The United Nations Convention on the Law of the Sea (UNCLOS)⁶⁹ addresses the ANS issue briefly. Article 196 of UNCLOS provides that "states shall take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from the . . . intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause significant and harmful changes thereto."⁷⁰ The United States, although failing to ratify UNCLOS, considered itself bound to the provisions⁷¹ under customary international law.⁷²

Member Nations of the International Maritime Organization have also issued guidelines to manage ballast water discharges.⁷³ These voluntary guidelines describe the methods by which states, vessel owners, operators,

69. See United Nations Convention on the Law of the Sea, Oct. 7, 1982, 21 I.L.M. 1261.

70. *Id.* at 1308.

71. See Vienna Convention on the Law of Treaties, Art. 18, *opened for signature* May 23, 1969, 8 I.L.M. 679 (providing that states are obliged not to defeat the purpose of a treaty to which they are a party prior to ratification).

72. See *United States Proclamation: Proclamation on an Exclusive Economic Zone*, 22 I.L.M. 461, 464 (1983); RESTATEMENT (THIRD) FOREIGN RELATIONS LAW OF THE UNITED STATES, § 514 cmt. a (1989 & Supp. 2000).

73. See *Guidelines for the Control and Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens*, IMO Assembly Res. A. 868 (20) (1998) [hereinafter IMO Guidelines].

and port authorities can prevent ANS introductions.⁷⁴ Additionally, the IMO Marine Environment Protection Committee's Working Group on Ballast Water has been working to address ballast water as a vector of ANS.⁷⁵ The Working Group is drafting a document that can stand alone as a convention to address prevention of ANS or be incorporated into MARPOL 73/78 as an annex.⁷⁶ The Working Group drafts are similar to the voluntary guidelines, addressing treatment options, operations and procedures, and other measures designed to prevent ANS introductions.⁷⁷

The IMO ballast water control guidelines provide recommendations for both ports and ships. Regarding ships, the guidelines recommend measures to prevent the uptake and containment of organisms in their ballast tanks by selectivity in upload sites, advanced technology, regular cleaning and maintenance of the ballast tanks, careful consideration of necessity of ballast water discharge, and deep water ballast exchange.⁷⁸ Regarding receiving ports, the guidelines recommend usage of reception and treatment facilities, careful discharge monitoring, and development and implementation of ballast water management procedures.⁷⁹ While making strong recommendations for ports' actions to achieve efficient control of ANS introductions, the guidelines are properly concerned that the regulations of port states remain consistent with the guidelines to promote internationally uniform management measures.⁸⁰ The guidelines recommend that each port state shall attempt to implement regulations in a uniform manner within the state, and if that is not possible, they are requested to notify the IMO.⁸¹ The uniformity recommendations in the guidelines are integral to the application of ballast water management techniques, allowing ship owners, operators and the flag states to implement measures in a comprehensive, yet predictable, manner.

B. The United States' National Regulatory Regime

The United States has recognized the importance of controlling ANS invasions for just over a decade. In 1990, Congress enacted the Nonindig-

74. *See id.* at Annex I (4).

75. *See* MEPC Adopts Marpol Amendments to Delete Tainting as a Criterion for Marine Pollutants, IMO MEPC 44 (March 2000) <<http://www.imo.org/imo/meetings/mpc/44.htm>>.

76. *See id.* at 3.

77. *See id.* at 2-3.

78. *See* IMO Guidelines, *supra* note 72, at Annex I (9).

79. *See id.* at Annex I (7), (4).

80. *See id.* at Annex I (4).

81. *See id.* at Annex I (11.7).

enous Aquatic Nuisance Prevention and Control Act (NANPCA),⁸² as amended by the National Invasive Species Act of 1996 (NISA).⁸³ NANPCA recognized ANS as a cause of major economic and ecological damage, thus highlighting the introduction of the zebra mussel in the Great Lakes.⁸⁴ Specifically, Congress acknowledged that "the potential economic disruption to communities affected by the zebra mussel due to its colonization of water pipes, boat hulls and other hard surfaces has been estimated at \$5,000,000,000 by the year 2000, and the potential disruption to the diversity and abundance of native fish and other species by the zebra mussel and ruffe, round goby, and other nonindigenous species could be severe."⁸⁵ The economic detriment is increasing exponentially as new species are introduced into ecosystems throughout the United States.⁸⁶ These species include the ruffe in Minnesota and Wisconsin,⁸⁷ the mitten crab on the Pacific Coast,⁸⁸ the green crab in Atlantic coastal waters,⁸⁹ the brown mussel along the Gulf of Mexico,⁹⁰ and shellfish pathogens⁹¹ throughout the United States.

Congress enacted NANPCA to prevent further introductions of ANS through the development of "environmentally sound control methods."⁹² They also mandated that such goals could not be met without a coordinated approach with both the federal government and the states.⁹³

NANPCA authorizes the Secretary of Transportation, the Secretary overseeing the Coast Guard, to implement regulations utilizing various methods to control the introduction of ANS.⁹⁴ Congress instructed the

82. See Nonindigenous Aquatic Nuisance Prevention and Control Act, Pub. L. No. 101-646, 104 Stat. 4761 (codified at 16 U.S.C. §§ 4701-4751 (1994 & Supp. IV 1998)).

83. See National Invasive Species Act of 1996, Pub. L. No. 104-332, 110 Stat. 4073 (codified in scattered sections of 16 U.S.C. §§ 4701-4751 (1994 & Supp. IV 1998)).

84. See 16 U.S.C. §§ 4701-4751 (1994 & Supp. IV 1998) (addressing, at length, the particular activities to be undertaken with regard to the introduction of the zebra mussel in the Great Lakes).

85. *Id.* § 4701(a)(4).

86. See NANPCA recognizes that "the zebra mussel is only one example of thousands of nonindigenous species that have become established in waters of the United States and may be causing economic and ecological degradation with respect to the natural resources of waters of the United States." *Id.* § 4701(a)(9).

87. See *id.* § 4701(a)(10).

88. See *id.* § 4701(a)(11)(A).

89. See *id.* § 4701(a)(11)(B).

90. See *id.* § 4701(a)(11)(C).

91. See *id.* § 4701(a)(11)(D).

92. See *id.* § 4701(b)(1), (b)(3).

93. See *id.* § 4701(b)(2).

94. See *id.* § 4702 (12).

Secretary to develop voluntary guidelines to control ballast water introductions of ANS nationwide⁹⁵ and to later develop mandatory regulations to prevent ANS introductions through ballast water in the Great Lakes.⁹⁶

While the national guidelines are voluntary guidelines, if the Secretary finds they are not followed, and thus not effectively controlling introductions of ANS through ballast water, the Secretary may promulgate mandatory national regulations under NANPCA.⁹⁷ The timeframe for the promulgation of mandatory guidelines is not clearly stated in the statute. While the voluntary guidelines were to be in place by October 1, 1996, the actual final regulations were not in place until July 1, 1999.⁹⁸ Thus, it will likely be some time before any mandatory regulations are in place.

In enacting NANPCA and authorizing the Secretary to implement regulations, Congress proscribed certain contents of the national guidelines that the Secretary must follow. The guidelines shall apply to all vessels equipped with ballast water tanks operating in waters of the United States, and protect the safety of the vessel and its crew.⁹⁹ The guidelines should require a ballast water exchange outside the exclusive economic zone of the United States or in other waters which will not be adversely affected by discharges, or require treatment of the ballast water to destroy the organisms contained therein.¹⁰⁰ The Secretary is specifically instructed that regulations regarding ballast water discharges "not affect or supersede any requirements of prohibitions pertaining to the discharge of ballast water into waters of the United States under the Federal Water Pollution Control Act."¹⁰¹ These guidelines are not to apply to "crude oil tankers engaged in the coastwise trade."¹⁰²

The Coast Guard has issued two distinct sets of regulations managing ballast water discharges to prevent ANS introductions. The earliest set of regulations deals specifically with measures to reduce the introduction of zebra mussels in the Great Lakes.¹⁰³ These regulations set out mandatory management practices for ships entering the Great Lakes and the Hudson River.

95. *See id.* § 4711(a)(1), (b)(2).

96. 16 U.S.C. § 4711(c)(2) (Supp. IV 1998).

97. *See id.* § 4711(f).

98. *See id.* § 4711(c)(1); *see generally*, 33 C.F.R. 151 (1999). Vessels carrying oil, noxious liquid substances, municipal garbage or commercial waste, and ballast water.

99. *See id.* § 4701(c)(2)(B).

100. *See id.* § 4711(c)(2)(D).

101. *Id.* § 4711(b)(2), (c)(2)(J).

102. *See id.* § 4711(c)(2)(L).

103. *See* Ballast Water Management of Control of Nonindigenous Species in the Great Lakes and Hudson River, 33 C.F.R. § 15,1504 (1999).

In May of 1999, the Coast Guard promulgated final rules regarding ballast water management measures for the prevention of introductions of ANS in all waters of the United States.¹⁰⁴ The regulations implement the provisions of NANPCA, and set out voluntary guidelines for ballast water management.¹⁰⁵ The regulations apply to all ships equipped with ballast water tanks, whether they are United States ships or foreign ships.¹⁰⁶ The regulations apply only to ballast water taken up in waters either within 200 miles of any shore or with a depth of less than 2,000 meters.¹⁰⁷ However, there are exemptions from the general application requirements for oil tankers in coastwise trade, military and Coast Guard vessels, passenger vessels with treatment systems, ships which take on and discharge ballast water from the same area, and a limited exemption for ships in innocent passage.¹⁰⁸

To prevent the introduction of ANS within U.S. waters,¹⁰⁹ the voluntary guidelines address issues such as avoidance of discharges in marine protected areas or sensitive areas, avoidance of uptake where the probability of uptake of ANS are likely, uptake during dark hours, and regular cleaning of ballast tanks.¹¹⁰ The voluntary guidelines call for limiting discharge of ballast water as much as possible.¹¹¹ Additionally, the guidelines call for ship operators to employ either ocean ballast water exchange or other treatment of ballast water to reduce the amount of ANS found in their ballast water tanks.¹¹²

The Coast Guard has also implemented mandatory requirements for vessels that are carrying ballast water after operating outside of the

104. *See generally*, Ballast Water Management for Control of Nonindigenous Species in Waters of the United States. *See id.* § 151 (subpart D).

105. *See id.* § 151.2000; *see also* § 151.2035.

106. *See id.* § 151.2005 (the application will vary between certain regulatory requirements based upon whether the ship is carrying ballast water after operating outside the U.S. EEZ).

107. *See id.* § 151.2020.

108. *See id.* §§ 151.2010, 151.2015.

109. *See* Ballast Water Management for Control of Nonindigenous Species in Waters of the United States, 33 C.F.R. § 151.2035.

110. *See id.*

111. *See id.*

112. *See id.* § 151.2035 (b). Ballast water treatment options include thermal treatment, biocides, filtration, ultraviolet treatment, electric pulse techniques, biological predator introduction, deoxygenation, and magnetic fields. *See* National Research Council, *supra* note 7, at 55. While mid-ocean ballast water exchange is favored within most efforts to control ANS, ballast water exchange does not fully eliminate ANS in ballast water and can pose significant safety hazards to ships at sea.

exclusive economic zone (EEZ) of the United States.¹¹³ The mandatory requirements consist of reporting requirements for ships, other than those entering the Great lakes, which carry ballast water after operating outside the EEZ.¹¹⁴ The Coast Guard has, however, recognized that these regulations will not supersede other regulations or safety requirements. Mirroring the statute, the Coast Guard regulations state that none of the requirements of the regulations are to supersede or affect the regulation of ballast water discharges under the Federal Water Pollution Control Act.¹¹⁵ Therefore, the Coast Guard has not been authorized to take exclusive jurisdiction over this area of regulation.

The regulations also create a safety exemption if any management technique would "threaten the safety of the vessel."¹¹⁶ For the Great Lakes or Hudson River, there are specific alternatives that must be followed.¹¹⁷ For other waters of the United States, the exemption relieves the ship from any ballast water management technique when implementation of ballast water management techniques would jeopardize the safety of a ship or its crew.¹¹⁸

Recognizing the importance of ANS control, President Clinton issued an executive order regarding actions to be taken to "prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause."¹¹⁹ The Order identifies the actions that are to be taken by agencies with regard to ANS, including such actions as are economically feasible, to control, prevent, and research the issue or introduction and spread of

113. See *Ballast Water Management for Control of Non Indigenous Species in Waters of the United States*, 33 C.F.R. § 1515,2040 (1999).

114. See *id.*

115. See *id.* § 151,2040(f).

116. See *id.* § 151,2030(b)(2).

117. See *id.* § 151,2030(b)(1).

118. See *id.* § 151,2030(b)(2).

119. Exec. Order No. 13,112, 64 Fed. Reg. 6183 (1999). The definitions include:

- (a) "Alien species" means, with respect to a particular ecosystem, and species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem. . . .
- (e) "Introduction" means the intentional or unintentional escape, release, dissemination or placement of a species into an ecosystem as a result of human activity.
- (f) "Invasive Species" means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.
- (g) "Native species" means, with respect to a particular ecosystem, a species that, other than as a result of an introduction, historically occurred or currently occurs in that ecosystem.

ANS.¹²⁰ Agencies are directed to refrain from actions that will "cause or promote the introduction or spread of invasive species in the United States, or elsewhere" unless the Agency has publicly demonstrated that the benefits of the actions outweigh the consequences associated with ANS.¹²¹ The Order also creates committees and a council to research the problems associated with ANS and encourage the development and implementation of control measures.¹²² The Order does provide, if deemed necessary by the Secretary of The Interior or the Secretary of Defense, for exemptions from the requirements in the interest of national defense or national security.¹²³

The Ports and Waterways Safety Act of 1972, as amended by the Ports and Tanker Safety Act of 1978 ("PWSA/PTSA"), was enacted to broaden the Coast Guard's authority to prevent pollution and major marine casualties in U.S. waters. The PWSA/PTSA offers a comprehensive approach to prevention of major pollution incidents through regulation of all aspects of tanker design, construction, maintenance and operation.¹²⁴ Congress, in enacting the PWSA/PTSA, recognized the critical importance of improved standards of design, construction, maintenance and operation of ships to protect life and property from damage from marine incidents.¹²⁵

While the PWSA/PTSA does not directly address the ANS problem, it does dictate design, construction, and operation issues which may be affected by any subsequent regulation to control ANS invasions from ballast water discharges.¹²⁶ Therefore, as will be discussed in later sections, any future regulations of ballast waters discharges will need to be analyzed to ensure consistency with the PWSA/PTSA.

120. *See id.*

121. *See id.*

122. *See id.*

123. *See id.*

124. *See* 33 U.S.C. §§ 1221-1224 (1994 & Supp. 1998); *see also* 46 U.S.C.A. §§ 2101-31343 (West Supp. 2000) (scattered throughout Title 46).

125. *See* Economic Opportunity Amendments of 1972, H. REP. No. 95-1384, at 2-3 (1978), *reprinted in* 1978 U.S.C.C.A.N. 3224, 3270-71.

126. *See generally* 33 U.S.C. §§ 1221-1224; *see also* 46 U.S.C.A. §§ 8101-8105 (West Supp. 2000) (dictating manning of vessels per safety requirements).

V. THE CLEAN WATER ACT

A. History

The Clean Water Act¹²⁷ (hereinafter "The Act"), as we know it today, is the product of several water pollution legislative efforts. Throughout the evolution of water pollution control legislation, a great deal of authority has been delegated to the states. However, the remaining federal authority over water pollution control efforts still remains a strong enforcement mechanism.

In its infancy, water pollution control legislation was found in several statutory schemes, including the Federal Water Pollution Act of 1948.¹²⁸ In addition to the 1948 Act, the Rivers and Harbors Appropriations Act of 1899 regulated water pollution.¹²⁹ Early on, water pollution control legislation vested most of the control in the states, with the federal government merely rendering assistance to the states to enable them to reach their goals.¹³⁰ The 1948 act, for example, vested the enforcement powers with respect to control of water pollution in the governors of each state.¹³¹ As the need for more extensive water pollution control grew, Congress worked to provide greater cooperation between the federal government and the states to promote a more national approach to controlling and, in some cases, reversing water pollution.¹³²

The standards by which water pollution has been controlled have also evolved through the maturation of water pollution legislation. The amendments to the Water Pollution Control act of 1965 mandated that the states determine water quality standards that would dictate the enforcement of water pollution control legislation.¹³³ Through water quality standards, a discharge of a pollutant was regulated according to its relative effect on the receiving water.¹³⁴ The states were charged with determining the maximum level of pollution allowed in a particular water body, and

127. See generally, 33 U.S.C. § 1301 (1994). Prior to 1977, the Act was called the Federal Water Pollution Control Act.

128. See Water Pollution Control Act Amendments of 1972, S. REP. NO. 93-414 (1972), reprinted in 1972 U.S.C.C.A.N. 3668, 3675; see also WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW, AIR AND WATER, § 4.1(A)(4) (1994 and West Supp. 1999).

129. See RODGERS § 4.1(A)(11).

130. See 1972 U.S.C.C.A.N. 3668, 3669.

131. See *id.*

132. See *id.*

133. See *id.* at 3675; see also, RODGERS, *supra* note 128, § 4.1(A)(4).

134. See Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), reprinted in 1972 U.S.C.C.A.N. 3668, 3671-72.

discharges were regulated depending upon how the receiving water compared with the maximum limit of pollution allowed under the state's determination.¹³⁵ This method allowed discharges of pollution in the navigable waters of the United States so long as the overall water quality standards were still within the limits set by individual states. Congress, however, was not satisfied with the resulting ongoing pollution.¹³⁶ This dissatisfaction compelled Congress to address the issue in 1972.¹³⁷

The 1972 amendments to the Act changed the regulatory approach from a water quality standard to effluent limits.¹³⁸ This change was made to implement the new goal of eliminating pollutant discharges.¹³⁹ Effluent limits changed the enforcement criteria to focus upon the actual discharge rather than the quality of the receiving water.¹⁴⁰ The implementation of effluent limits closely followed the principles set forth in the Rivers and Harbors Act.¹⁴¹ The Rivers and Harbors Act prohibited the discharge of "any refuse matter of any kind or description whatever other than that flowing from streets and sewers and passing therefrom in a liquid state."¹⁴² Congress made it clear, in the 1972 amendments implementing effluent limits, that the discharge of a pollutant into the waters of the United States, inconsistent with the provisions of the Clean Water Act, is unlawful.¹⁴³ This statement of intent by Congress is considered a restatement of the Rivers and Harbors Act.¹⁴⁴

B. EPA Authority Under the Act

The federal government has shifted the responsibility of administration of the federal portions of water pollution control programs within the executive branch. Under the original legislation, the Federal Water Pollution Control Administration, within the Department of Health, Education and Welfare, administered the Act.¹⁴⁵ In 1966, the Department

135. See RODGERS, *supra* note 128, § 4.1(A)(4).

136. See Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), reprinted in 1972 U.S.C.C.A.N. 3668, 3671-72.

137. See *id.*

138. See *id.* at 3675.

139. See *id.* at 3674, 3678.

140. See *id.* at 3675; see also, RODGERS, *supra* note 128, § 4.1(A)(4).

141. See RODGERS, *supra* note 128, § 4.1(A)(4).

142. Rivers and Harbors appreciation Act of 1899, 33 U.S.C. § 407 (1994).

143. See Clean Water Act, 33 U.S.C. § 1311 (1994); S. REP. NO. 92-414 (1972), reprinted in 1972 U.S.C.C.A.N. 3668, 3709.

144. RODGERS, *supra* note 128, § 4.1(A)(4).

145. See Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414,

of Interior charged with administering the Act, before administration of the Act came to rest with the Environmental Protection Agency in 1970.¹⁴⁶

Specific authority for the EPA to prescribe regulations under the Clean Water Act is found in 33 U.S.C. § 1361.¹⁴⁷ While the EPA is given great deference in the development of the regulations under the Clean Water Act, the EPA must not frustrate the purpose of the Act as set forth by Congress.¹⁴⁸ The amount of deference given to an agency is dependent upon the express language of the statute and the specific findings and intent of Congress.¹⁴⁹ Where the Congress has left a discernible gap in the details of a statute's implementation, the Agency will receive a greater amount of deference from the courts.¹⁵⁰

C. The NPDES Program

The National Pollution Elimination Discharge Program ("NPDES Program") was created by the 1972 amendments of the Federal Water Pollution Control Act¹⁵¹ to further the goal of eliminating pollution discharges. The NPDES program was implemented to create¹⁵² a federal mechanism to control water pollution on a source-by-source basis.¹⁵³ Under the NPDES Program, the EPA may issue a permit to discharge a pollutant from a point source consistent with the goals of the act.¹⁵⁴

reprinted in 1972 U.S.C.C.A.N. 3668, 3669-70.

146. *See id.*

147. *See* Water Pollution Control Act, 33 U.S.C. § 1361 (1994).

148. *See* Natural Resources Defense Council, Inc. v. Costle, 568 F.2d 1369 (D.C. Cir. 1977) (finding that exemptions from the permit requirements for categories of point sources directly frustrates the purposes of the Clean Water Act).

149. *See generally* Chevron U.S.A. v. Natural Resources Defense Council, Inc., 467 U.S. 837 (1984) (developing a two part inquiry to review an agency's construction); *see also* Discussion, Part VII (A)l.

150. *See* Chevron U.S.A. v. NRDC, 467 U.S. at 843.

151. *See* Clean Water Act, 33 U.S.C. § 1342 (1994); Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3675.

152. Congress intended to bring together various legislative controls which gave rise to a Federal permit authority for water pollution control. *See* Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3736-37 (report page numbers omitted in reprint).

153. *See id.*

154. *See* 33 U.S.C. § 1342(a)(1) (1994). Specifically, this section provides that:
(a)(1) . . . the Administrator *may*, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding the section 1311(a) of this title, upon condition that such discharge will meet either
(A) all applicable requirements under sections 1311, 1312, 1316, 1317, 1318, and

The states' authority to control water pollution within their boundaries is not completely absorbed by the NPDES Program. Under the NPDES program, the permit authority of the EPA can be transferred to the states under specific circumstances.¹⁵⁵ In order for a state to assume the permit authority, that state must submit a description of its proposed program and demonstrate that the state has the authority under its own laws or an interstate compact to enforce the program.¹⁵⁶ The program of the state is then subject to approval by the EPA Administrator and subject to review every five years.¹⁵⁷ Once the Administrator has approved a state's program, the federal program is suspended.¹⁵⁸ The Administrator also has the authority, after public hearing, to withdraw the approval of the state program if the state fails to adequately administrate the program.¹⁵⁹ However, through this approach, by allowing states to implement the program, states may reach further than the EPA minimum standards. Due to consistency and preemption concerns, the EPA will need to set a uniform approach for states to follow in an area such as ballast water discharge regulation, as will be discussed further.

While the Administrator of the EPA has the authority to approve and review state program, the administrator may also review individual permits issued by a state.¹⁶⁰ The Administrator has the option to waive the review of each permit application submitted to a state when the Administrator approves the state's programs.¹⁶¹ The Administrator may also choose to limit the waiver to certain categories of point sources when the state has an approved program.¹⁶²

The statute, on its face, grants the Administrator of the EPA a broad regulatory authority to permit discharges of pollution from point sources under the NPDES program.¹⁶³ However, this broad authority is subject to restrictions created by authority granted to other agencies under other

1343 of this title, or

(B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.

(emphasis supplied).

155. See Clean Water Act, 33 U.S.C. § 1342(b) (1994).

156. See *id.*

157. See *id.* § 1342(b)(1).

158. See *id.* § 1342(c)(1). The suspension of the federal program is subject to subsequent approval of the state's program as provided for in the statute.

159. See *id.* § 1342(c).

160. See *id.* § 1342(d)(2).

161. See *id.* § 1342(e).

162. See *id.* § 1342(f).

163. See *id.* § 1342(a)(1).

federal statutes. For the purposes of this article, it is important to note that the Administrator's permit approvals for ships are subject to the Coast Guard's regulations regarding safe operations of ships.¹⁶⁴ Under this limitation, regulations by the EPA must not frustrate the purpose of the regulations implemented by the Coast Guard.¹⁶⁵

VI. THE EPA'S EXEMPTION OF BALLAST WATER DISCHARGES FROM NPDES PROGRAM REQUIREMENTS

A. *The Nuts and Bolts of the NPDES Program*

To fully understand the NPDES program and subsequently apply its framework to ballast water discharges, a review of the meaning of the terms within the Clean Water Act relevant to the program is essential. First, a point source is defined as "any discernible, confined and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or *vessel or other floating craft*, from which pollutants are or may be discharged."¹⁶⁶ The courts have interpreted the term point source to include such sources as a barge which caused sand blasting materials and paint chips to fall into water¹⁶⁷ and pipes which diverted water from one water body to another receiving water body.¹⁶⁸

A pollutant is defined as "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, *biological materials*, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial municipal, and agricultural waste discharged into water."¹⁶⁹ The courts have interpreted the term

164. See *id.* § 1342(g) (1994). The statute specifies:

(G) Other regulations for safe transportation, handling, carriage, storage and stowage of pollutants.

Any permit issued under this section for the discharge of pollutants into the navigable waters from a vessel or other floating craft shall be subject to any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage, and stowage of pollutants.

165. For analysis pertaining to Coast Guard regulations, see discussion *supra* Part IV (B).

166. 33 U.S.C. § 1362(14) (emphasis added).

167. See *United States v. West Indies Transport, Inc.*, 127 F.3d 299, 308 (3rd Cir. 1997), *cert. denied*, 533 U.S. 1052 (1998).

168. See *National Wildlife Federation v. Gorsuch*, 693 F.2d 156, 165 (D.C. Cir. 1982).

169. 33 U.S.C. § 1362(6) (Supp. 1998) (emphasis added).

pollutant to include dead fish and fish remains¹⁷⁰ and naturally occurring atmospheric gases.¹⁷¹

When determining whether a particular material, not specifically mentioned in the definition, is a pollutant, a review of the legislative history shows an intent to broadly apply the definition of pollutant. Congress addressed the definition of a pollutant for the first time in the 1972 amendments to the Federal Water Pollution Control Act.¹⁷² Congress intended to follow the definition used in the Refuse Act, with the addition of municipal discharges, so that "before *any* material can be *added*"¹⁷³ to the navigable waters authorization must first be granted by the Administrator [of the EPA], or State" where the State has an approved program."¹⁷⁴ Therefore, interpretation of the Congressional intent appears to include any materials under the term pollutant. However, the definition of pollutant expressly excepts two substances. These exceptions are sewage from vessels and water, gas, or other materials associated with the secondary recovery of oil.¹⁷⁵ Sewage from vessels was excepted due to its coverage in another section of the act dealing with marine sanitation devices.¹⁷⁶

A discharge of a pollutant or pollutants is defined as "any addition of any pollutant to navigable waters from any point source" or "any addition 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."¹⁷⁷ This definition was added to define the "scope of the control requirements under the Act."¹⁷⁸ However, the definition of a discharge of a pollutant excludes discharges from vessels or other floating craft when the discharge occurs in the contiguous zone or the ocean.¹⁷⁹ Therefore, the statute only allows

170. See *National Wildlife Federation v. Consumers Power Co.*, 657 F. Supp. 989, 1006-7 (W.D. Mich. 1987), *rev'd on other grounds*, 862 F.2d 580 (6th Cir. 1988) (finding discharge was not from a point source).

171. See *National Wildlife Federation v. Gorsuch*, 530 F. Supp. 1291, 1311 (D.D.C. 1982) (finding water flowing through a dam did not constitute an addition of pollutants), *rev'd on other grounds*, 693 F.2d 156 (D.C. Cir. 1982).

172. See Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668.

173. See *infra* text accompanying notes 181-87.

174. Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3743.

175. 33 U.S.C. § 1362(6)(A)(B) (Supp. 1998).

176. Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3742.

177. 33 U.S.C. § 1362 (12) (1994).

178. Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3743.

179. See 33 U.S.C. § 1362 (12) (1994).

the NPDES program to apply to a discharge from vessels within the territorial sea or the internal navigable waters of the United States.¹⁸⁰

For a discharge to require an NPDES permit “five elements must be present: (1) a pollutant must be (2) added (3) to navigable waters (4) from (5) a point source.”¹⁸¹ The act fails to define “added.” The courts have interpreted the Act to require that the pollutant be introduced from the “outside world.”¹⁸² In *Gorsuch*, the water flowing through a dam, although altered by flowing through the dam to negatively affect water quality, was not considered to contain a pollutant added from the “outside world” because a substance was not added to the water.¹⁸³ Instead, the court reasoned, certain gases and substances increased by passage through the dam.¹⁸⁴ The court in *Gorsuch* held that the operations of the dam caused the death of fish and subsequent discharge of the dead fish matter on the other side of the dam.¹⁸⁵ However, the decision focused on the fact that since the fish were present, prior to the dam changing the live biological materials to deceased biological materials, those biological materials were present in the water prior to passing through the dam.¹⁸⁶

The reasoning behind the previous “addition cases” are very similar to cases decided under the theory that polluters should get “credit” for the pollution amount which existed in the water prior to the actions of the polluter.¹⁸⁷ For example, if a facility’s intake water is polluted with heavy metals and then that facility’s processes add further heavy metals to the water prior to discharge the facility would only be responsible for effluent levels determined from the level of pollution in the intake water and would not be responsible for treatment beyond that level.

The definitions, as expressly stated in the statute, described in the legislative history, and interpreted by the courts, are integral to the analysis of whether the EPA’s exemption is valid and whether ballast water discharges must be subject to the requirements of the NPDES Program.

180. *See id.* § 1362(8) (1994) (the Act defines the territorial sea as “the belt of 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.*

181. *National Wildlife Federation v. Gorsuch*, 693 F.2d at 165.

182. *Id.* (finding that the EPA had the discretion to define this term).

183. *See id.* at 175 (finding that Congress did not intend for all pollution discharged from a point source to be regulated under the NPDES permit, rather only pollution added to the waters of the United States).

184. *See id.*

185. *See id.*

186. *See id.*

187. *See* RODGERS, *supra* note 128, § 4.30 (citing 40 C.F.R. § 122.45(h)(1), (2) (1984)).

While the battle rages on in the courts with regard to certain terms contained within the definitions, the law is sufficiently developed to allow full analysis of the ballast water discharge issue at hand.

B. EPA's Regulatory Exemption for Discharges Incidental to the Normal Operations of Ships

The EPA has promulgated regulations under the NPDES program that govern their processes for issuing, or refusing to issue, permits for pollution discharges into the waters of the United States.¹⁸⁸ Through regulation, the EPA has enumerated the circumstances under which a permit is not required.¹⁸⁹ Within these circumstances, the EPA has created an exemption for discharges from a vessel incidental to the normal operations of that vessel.¹⁹⁰ The effect of this exemption is that all discharges from ships, which are incidental to their normal operations, are not required to have a permit to discharge into the navigable or internal waters of the United States.¹⁹¹ Examination of the act of ballast water discharge demonstrates that the discharge and uptake of ballast water is necessary and incidental to the safe and optimal operation of any ship.¹⁹² Therefore, the exemption in 40 C.F.R. section 122.3(a) directly applies to the discharge of ballast water, including any organisms contained therein.

The regulatory exemption was created within the first major rulemaking under the NPDES program.¹⁹³ The EPA did not, in enacting the

188. See 40 C.F.R. § 122 (1999).

189. See *id.* § 122.3.

190. See *id.* § 122.3(a). The regulation states:

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 sink wastes, or any other discharge incidental to the normal operation of a vessel. This exclusion does not apply to rubbish, trash, garbage, or other such materials discharged overboard; nor to other discharges when the vessel is operating in a capacity other than as a means of transportation such as when used as an energy or mining facility, a storage facility or a seafood processing facility, or when secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone or waters of the United States for the purpose of mineral or oil exploration or development.

See *id.*

191. See *id.*

192. See discussion *infra* Part III(A) (regarding the purposes of ballast water in the normal operations of ships).

193. See 38 Fed. Reg. 1362 (1973) (proposed rulemaking); National Pollutant Discharge Elimination System, 38 Fed. Reg. 13,528 (1973) (final rule); see also 40 C.F.R. § 125.40 (1973) (original location of the exemption).

regulation, find that (1) the ballast water is not a pollutant, (2) the vessel is not a point source, (3) the discharge of ballast water is not an addition of a pollutant to the waters of the United States, or (4) the discharge of ballast water falls within another legal exemption. Instead, the only reasoning given for the enactment of the exemption was the fact that discharges incidental to the normal operation of ships cause little pollution and exemption of such discharges would ease EPA's administrative costs.¹⁹⁴

VII. THE VALIDITY OF EPA'S EXEMPTION OF DISCHARGES INCIDENTAL TO THE NORMAL OPERATION OF SHIPS FROM THE NPDES PERMIT REQUIREMENTS

As discussed above, the Administrator of the EPA is charged with implementing the Clean Water Act and with promulgating regulations to further the purposes of the act, with some exceptions in the area of dredge spoil discharges.¹⁹⁵ However, whether the EPA has the authority to exempt discharges from the requirements of the NPDES program must be examined within the context of the rules of statutory construction.

A. *Analysis Under Chevron U.S.A. v. Natural Resources Defense Council, Inc.*

If the exemption created by the EPA is brought before a court for review, that court will be constrained by the rules of statutory construction and the rulemaking procedures of the Administrative Procedures Act. Although it is often applied inconsistently, the controlling case on statutory construction with regard to the validity of an agency's regulation is *Chevron U.S.A. v. Natural Resources Defense Council, Inc.*¹⁹⁶ In *Chevron*, the Court devised a two-part inquiry to review an agency's construction of a statute. First, it must be determined whether Congress has "directly spoken to the precise question at issue."¹⁹⁷ If Congress has spoken directly on the issue, then the inquiry stops and the statutory language must be followed by the court and the agency.¹⁹⁸ The court may look to the

194. See National Pollution Discharge Elimination System, 38 Fed. Reg. 13,528 (1973).

195. See discussion *infra* Part V(B); see also 33 U.S.C. § 1361 (1994) (recognizing the authority of the administrator to prescribe regulations).

196. See *Chevron U.S.A. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984) (holding the EPA's "bubble concept" definition of a stationary source under the Clean Air Act was a permissible construction of the statute).

197. *Id.* at 842.

198. See *id.*

legislative history as well as the express language of the statute to determine whether Congress has "spoken" to the issue at hand.¹⁹⁹

If Congress has not spoken directly to the issue at hand, then a court must determine if the agency's construction of the statute is permissible.²⁰⁰ A court's role, if it were to review the EPA's exemption, would be to determine if there was a gap, explicit or implicit, left by Congress, which is essentially addressed in the first step.²⁰¹ If Congress has left a gap, then the court must determine if the agency properly filled that gap by examining the agency's construction of the statute, and whether that construction was reasonable.²⁰²

Based upon *Chevron*, analysis of the validity of the exemption created by the EPA must begin with the question of whether Congress has spoken as to whether the EPA can create an exemption for ballast water discharges from ships. The Act does not expressly grant EPA the authority to exempt certain classes of discharges or point sources from the NPDES program. The Act and the legislative history do, however, specify that the discharges of pollutants from point sources are prohibited unless such discharge has been permitted under the NPDES program.²⁰³

Specifically, the Act does include vessels operating in the territorial sea or navigable internal waters of the United States as point sources.²⁰⁴ The legislative history is clear that, absent a permit under the NPDES program, discharge of pollutants from a point source is strictly prohibited by law.²⁰⁵ The Senate Committee's statement that "[t]he Committee believes it is important to clarify this point: No one has the right to pollute"²⁰⁶ on its face demonstrates Congress' intent that all pollution be abated absent an NPDES permit.

Congress has, in fact, spoken by specifically including vessels as a point source under the Act. Applying the analysis set forth by the Supreme Court in *Chevron*, the exemption created by the EPA for discharges from

199. *See id.*

200. *See id.* at 843.

201. *See id.*

202. *See id.*

203. *See* Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3709.

204. *See* Clean Water Act, 33 U.S.C. § 1362(14) (1994) (defining a point source as "any discernible, confined and discrete conveyance, including but not limited to any . . . vessel or other floating craft, from which pollutants are or may be discharged").

205. *See* Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3709.

206. *Id.*

ships in the normal course of their operation is inconsistent with the statutory language and Congressional intent.²⁰⁷ Therefore, if a discharge of a pollutant occurs, ships should fall under the requirements of the NPDES program.

*B. Judicial Interpretation as to Whether the EPA has
the Authority to Exempt Certain Classes of Point Sources
from NPDES Requirements*

The courts have already examined whether the EPA has the authority to create exemptions under the NPDES program. In *Natural Resources Defense Council, Inc. v. Costle*, the court found that the issuance of a permit is the only means by which a polluter may circumvent the no discharge requirements set forth in the Clean Water Act.²⁰⁸ The Natural Resources Defense Council ("NRDC") challenged the EPA's authority for exempting point sources from the permit requirements.²⁰⁹ The reasoning behind the EPA's exemptions was the need to allow the agency's limited resources to be spent on the larger point sources.²¹⁰ The NRDC claimed that the Administrator was not authorized to exempt point sources from the NPDES program as such exemptions would be directly contrary to Congress' intent to reach zero discharge of pollutants.²¹¹ The NRDC argued that the NPDES permits were the only means by which a pollutant could be discharged into a water body.²¹²

The *NRDC v. Costle* court relied upon a careful analysis of the legislative history to determine whether the EPA had the authority to enact regulations creating the exemption from the permit requirements for certain point source discharges. The court limited its analysis to the history of

207. For the purposes of this article, further analysis only addresses whether ballast water discharges are a discharge of a pollutant. It is important to note, however, that ships discharge many materials incidental to their normal operations, including galley wastes and water which may contain a whole host of additional pollutants under the definition in the act. Other statutes, which are not addressed in this article, may regulate such discharges. Further, other discharges may create additional considerations which must be addressed before a full repeal of the exemption occurs.

208. See *Natural Resources Defense Council, Inc. v. Costle*, 568 F.2d 1369 (D.C. Cir. 1977).

209. See *id.* at 1373. The particular exemptions the NRDC was challenging can be found in 40 C.F.R. § 125.4 and included silviculture point sources, smaller animal feed operations, various agricultural point sources, and a class of storm sewers.

210. See *Natural Resources Defense Council, Inc. v. Costle*, 567 F.2d at 1373.

211. See *id.*

212. See *id.*

Section 402 of the Clean Water Act²¹³ because it was the only section that could have arguably created the authority in question.²¹⁴

The court found that the exemption of categories of point sources from the permit requirements under the NPDES program and the Act frustrated the overall findings and intent of Congress.²¹⁵ The court reasoned that Congress intended all discharges of pollutants be eliminated unless a permit was granted by the EPA under the NPDES program.²¹⁶ The court did not agree with the EPA assumption of authority to grant exemptions to particular point sources, finding the only authority the EPA received under the Act to allow discharges of pollutants was through the issuance of a permit under the NPDES program.²¹⁷ The EPA only has the authority to issue a permit if they, in their discretion, deem it necessary.²¹⁸ Without such a permit, a discharge is prohibited.²¹⁹

While *NRDC v. Costle* appears to answer the question at hand, one must be cognizant of the fact that it was decided prior to *Chevron v. NRDC*. While it has not been expressly overruled by *Chevron v. NRDC*, it would benefit the analysis to compare the two rulings. A simple comparison is all that is required. The court in *NRDC v. Costle* looked to the statutory language and the legislative history to determine the Congressional intent behind the Act and the NPDES Program, essentially performing the same analysis found in *Chevron* by inquiring whether Congress had spoken to the issue at hand. Further, the court in *NRDC v. Costle* examined the reasonableness of the EPA exemption by determining that the exemption would frustrate the express intent of Congress if allowed to stand. Therefore, the court in *NRDC v. Costle* employed an analysis that would stand up in light of the reasoning set forth in *Chevron*.

C. Are Ballast Water Discharges a Discharge of a Pollutant?

The analysis of the EPA's exemption, in light of *Chevron* and *NRDC v. Costle*, clarifies that the EPA does not have the authority to exempt ballast water discharges from the NPDES Program. Vessels are point sources and the EPA does not have the authority to exempt classes of point sources from the requirements of the Act. Since the EPA did not specify,

213. See 33 U.S.C. § 1342 (1994 & Supp. 1998).

214. See *Natural Resources Defense Council, Inc. v. Costle*, 568 F.2d at 1373-74.

215. See *id.* at 1375.

216. See *id.*

217. See *id.*

218. See *id.*

219. See *id.*

when creating the exemption, whether discharges incidental to the normal operation of ships were exempt because a ship is not a point source or the discharges did not constitute a discharge of a pollutant under the Act, we must also examine whether a discharge of ballast water is, in fact, a discharge of a pollutant.

The Act, in defining "pollutant," includes "biological materials."²²⁰ The Act does not, however, define biological materials. Thus, while ballast water will almost certainly contain biological organisms, which could, when alive, cause severe ecological and economic damage if those organisms survive and thrive, the statute is silent as to whether live biological organisms constitute a pollutant.

Review of the legislative history, however, does lend some guidance on the issue of whether ANS constitutes a pollutant. The express purpose of the Act is to "restore and maintain the natural chemical, physical, and biological integrity of the Nation's waters . . . that, consistent with the provisions of the Act, the discharge of pollutants into the navigable waters be eliminated. . . ."²²¹ If the purpose of the Act is to restore and maintain the biological integrity of a water body, it would frustrate that purpose to allow biological invaders such as ANS to hamper or destroy the natural state of an ecosystem.

Further questions arise when analyzing whether ballast water discharges are an addition, or discharge, of a pollutant.²²² Congress did not define the word addition. However, as discussed previously, Congress intended to follow the definition used in the Refuse Act so that "before *any* material can be *added* to the navigable waters authorization must first be granted by the Administrator [of the EPA], or State" where the state has an approved program.²²³ Therefore, interpretation of Congressional intent in this instance could lead to the assumption that the addition of any material is a pollutant. Simple analysis leads to the conclusion that ballast water discharges add no more than natural elements to a system. However, these natural elements added to a non-native ecosystem can be fatal to the natural balance of the ecosystem.

220. Clean Water Act, 33 U.S.C. § 1362(6) (Supp. 1998).

221. See Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), reprinted in 1972 U.S.C.C.A.N. 3668, 3678. The original "Discussion of Intent" declared a policy that such elimination be complete by 1985. See *id.*

222. See Clean Water Act, 33 U.S.C. 1362(12) (1994).

223. See Water Pollution Control Act Amendments of 1972, S. REP. NO. 92-414 (1972), reprinted in 1972 U.S.C.C.A.N. 3668, 3742 (emphasis added).

D. Administrative Infeasibility and De Minimis Effects

Historically, the EPA has claimed it has the authority to create exemptions for certain classes of point sources if regulation is administratively infeasible or would have a de minimis effect. The EPA is having difficulty in determining how to administer the NPDES program to regulate ballast water discharges, specifically with regard to developing effluent standards.²²⁴ The reasoning behind the exemption stated that discharge from ships caused little pollution and would create a tremendous administrative burden on the Agency.²²⁵ However, these arguments have either been found to be unavailable or limited by the courts, and will likely not be a viable means of avoiding regulation of ballast water discharges under the NPDES Program.

In *NRDC v. Costle*, the EPA argued that the exemption of certain categories of point sources were permissible because regulation of the point sources in question would put such a heavy burden on the Agency, that regulation of larger sources of pollution would be hindered.²²⁶ Further, the EPA argued that effluent limitations would be difficult, if not impossible, to develop for the types of pollution in question.²²⁷ The court, however, was not persuaded that such reasoning gave rise to a valid exemption. The court found that the agency could not argue that the resulting heavy burden created the authority to exempt point sources that Congress intended to include in the NPDES Program.²²⁸ Further, the court determined that while uniform effluent standards may be elusive, the EPA did not have the authority to exempt point sources, as a permit could be adjusted to work around absent effluent standards.²²⁹ Under *NRDC v. Costle*, the argument by the EPA that effluent standards are difficult, if not impossible, to develop for ballast water discharges with regard to ANS will likely be unsuccessful.

The EPA claimed it has the authority to grant an exemption when the result of a discharge of a particular pollutant or a discharge from a particular point source would have a de minimis effect.²³⁰ In exempting discharges incidental to the normal operations of ships, the EPA reasoned those discharges, including ballast water discharges, "generally causes little

224. See Telephone interview with Thomas Charlton, *supra* note 2.

225. See National Pollution Discharge Elimination System, 38 Fed. Reg. 13,528 (1973).

226. See Natural Resources Defense Council, Inc. v. Costle, 568 F.2d at 1377.

227. See *id.*

228. See *id.* at 1379.

229. See *id.* at 1379-80.

230. See Alabama Power Co. v. Costle, 636 F.2d 323, 360 (D.C. Cir. 1979).

pollution.”²³¹ However, such authority is only allowed when either Congress has specifically not addressed the issue in the statute or legislative history, or the regulation of the exempted category would “yield a gain of trivial or no value.”²³² While this statement may have been true at the time of issuance of the regulation, today we know that statement is false.²³³ The results of ballast water regulation would be far from trivial. Regulation of ballast water would allow for the prevention of ANS introduction, a serious ecological and economic problem in the United States.²³⁴ The EPA cannot assert that the result of such a regulation is *de minimis*, making an exemption permissible. Since the discharge of ballast water would be considered a discharge of a pollutant from a point source into the waters of the United States, this discharge would fall under the requirements for an NPDES permit. Without a permit from the EPA, a discharge of ballast water into the territorial sea or internal waters of the United States should be unlawful.

VIII. CONSIDERATIONS REQUIRED AND RECOMMENDATIONS FOR IMPLEMENTING BALLAST WATER REGULATION UNDER THE NPDES PROGRAM

A. *Internal Consistency*

NPDES Program regulation of ballast water discharges, under the above analysis, would require regulation of discharges that contained a small amount of oil, such as bilge water discharges, if the exemption was repealed in full. These types of discharges are addressed in the Clean Water Act under 33 U.S.C. section 1321, and allowed within certain limits.²³⁵ Section 1321 only applies to oil or hazardous substances that have been defined as such by the Administrator of the EPA.²³⁶ The biological materials of concern, ANS, are not listed as a hazardous material, and thus are not covered under Section 1321. However, if ANS are to be regulated under the NPDES Program successfully, the regulations and standards must be written so they only apply to the ANS problem, and not those substances regulated under Section 1321.

231. National Pollution Discharge Elimination System, 38 Fed. Reg. 13,528 (1973).

232. *Natural Resources Defense Council, Inc. v. EPA*, 966 F.2d 1292, 1306 (9th Cir. 1992) (quoting *Alabama Power Co. v. Costle*, 636 F.2d 323, 361 (D.C. Cir. 1979)).

233. See discussion *supra* Part II.

234. See Foster, *supra* note 3, at 104–108.

235. See 33 U.S.C. § 1321(b)(3) (Supp. IV 1999).

236. See *id.* § 1321(b)(2)(A).

B. Preemption

Issues of federal preemption arise when considering the EPA's authority to regulate ballast water under the NPDES program due to the nature of the NPDES program. This occurs as some states administer the program after EPA delegation even though other states choose to let the EPA continue to administer the program.

States, and regions, have also begun to realize the importance of regulating ballast water discharges to prevent the introduction of ANS into state coastal waters.²³⁷ If ballast water discharges are regulated under the NPDES Program, many states with approved programs will be delegated the regulatory authority. Many states are already beginning to stir regarding the need to regulate ballast water discharges, and if given the authority to do so under the NPDES Program, they may promulgate harsher regulations than any minimum standards set forth by the EPA. Washington State, for example, has already promulgated legislation to address the ANS issues due to the State officials' perception that the Federal Government has not adequately addressed the issue to protect Washington's waters from ecological degradation, or even destruction, from ANS introductions.²³⁸

States are not prohibited from regulating in an area where the federal government has exercised valid regulatory authority under limited circumstances. These circumstances have been enumerated in the courts, specifically in the context of maritime regulation.

1. NANPCA/NISA

NANPCA, as amended by NISA, specifically calls for state and federal cooperation with regard to measures to control ANS invasions.²³⁹ Further, NANPCA specifically states that it shall not "effect the authority of any State or political subdivision thereof to adopt or enforce control measures for aquatic nuisance species, or diminish or affect the jurisdiction of any State over species of fish and wildlife."²⁴⁰ Since Congress has directly

237. See generally Kristen M. Fletcher, "If You Can't Beat 'Em, Eat 'Em:" *Legal Methods to Control Aquatic Nuisance Species in the Gulf of Mexico*, 5 OCEAN & COASTAL L.J. 245 (2000) (giving a detailed analysis of a regional ballast water management program).

238. See Electronic Mail from Pamala Meacham, Washington Department of Fish and Wildlife, to author, March 22, 2000 (on file with OCLJ). The Washington legislation is currently not intended to fall under the NPDES program, but Washington's frustration is illustrative of similar frustrations throughout the nation. See SHB 2466, 56th Leg. Reg. Sess. (Wash. 2000).

239. See 16 U.S.C. § 4701(a)(15) (Supp. IV 1998).

240. See 16 U.S.C. § 4725 (1994).

spoken within the statute, stating NANPCA shall not preempt state regulation for the purposes of controlling ANS, further analysis is not necessary. State actions will not be preempted by NANPCA.

2. PWSA/PTSA

Analysis of decisions regarding other regulations on ships entering state waters must be examined to determine if the PWSA/PTSA will preempt state regulatory efforts to control ANS. Decisions concerning state regulation of ships' conduct with regard to operations and equipment will lend some guidance on the issue.

The State of Washington has, on two separate occasions, attempted to issue regulations regarding ship traffic, operations, manning, and equipment to prevent major environmental damage from oil spills in Puget Sound. The Supreme Court has, on both occasions, found the Washington regulations to be preempted by federal regulatory authority under Federal statutes by applying a preemption analysis that will be controlling in this case.

In *Ray v. Atlantic Richfield Company*,²⁴¹ the Supreme Court addressed a challenge to the first set of laws regulating the movement, size, and design regulations promulgated by Washington.²⁴² The Court set forth the first step in the analysis as examining whether Congress, in enacting the federal law, implicitly or explicitly prohibited the states from regulating with regard to the subject matter of the PWSA by failing to leave room for the states to regulate in that area.²⁴³ Integral to this analysis is whether the federal interest is so strong in the subject area that federal legislation will be "assumed to preclude" state regulation and enforcement.²⁴⁴ This first step of the analysis has come to be known as "field preemption."²⁴⁵

If the federal law leaves room for state regulation, analysis must move to the second step set forth in *Ray*. Federal law will preempt a state statute if it directly conflicts with the federal statute.²⁴⁶ A state statute will conflict with a federal statute when the state statute renders compliance with both

241. See 435 U.S. 151 (1978).

242. See *id.* (holding the Washington regulations were preempted by federal law under the Ports and Waterways Safety Act).

243. See *id.* at 157 (citing *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947)).

244. *Id.*

245. See *United States v. Locke*, 120 S.Ct. 1135, 1150 (2000).

246. See *Ray v. Atlantic Richfield Co.*, 435 U.S. at 158.

the federal and state statutes impossible.²⁴⁷ The second step of the analysis has come to be known as "conflict preemption."²⁴⁸

Ray examined tanker laws of Washington that dictated pilotage requirements within, and outside, state waters and design requirements including mandatory safety equipment.²⁴⁹ The Court found, with regard to the design and safety requirements, that the PWSA intended for a uniform design and safety equipment standard to apply to the nation as a whole.²⁵⁰ The Court reasoned the PWSA/PTSA applied to both "insuring vessel safety and protecting the marine environment," specifically in Title II.²⁵¹ The Court found state requirements in the area of design or equipment frustrated the purpose of the PWSA and, therefore, were preempted.²⁵² However, the Court did not address any factual issues with regard to ballast water discharges.

The Supreme Court reiterated their analysis used to address federal preemption in *Ray* in *United States v. Locke* (hereinafter "*Locke*").²⁵³ In a unanimous decision, the Court found that the federal interest in regulating of ships, ports, and waterways, has been manifest since this country's infancy.²⁵⁴ This interest necessitated a need for uniformity to avoid "embarrassment from intervention of the separate States and resulting difficulties with foreign nations."²⁵⁵ The Court was also concerned with the protection of interstate and international commerce.²⁵⁶

The Court in *Locke* disagreed with *Ray*, however, which discussed a presumption against preemption, when a state regulates in an area where the federal government has already applied its regulatory authority.²⁵⁷ In *Locke*, the Court found that because Congress had a "history of significant federal presence" in regulation of shipping and ports, an assumption against preemption, as posited on the facts of *Ray*, would not apply.²⁵⁸

While the majority of the opinion in *Locke* leaned towards preemption of state laws with regard to shipping design, construction, manning and

247. See *id.* (citing *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U.S. 132, 142-43 (1963)).

248. See *United States v. Locke*, 120 S.Ct. at 1148.

249. See generally, *Ray v. Atlantic Richfield Co.*, 435 U.S. at 157-60.

250. See *id.* at 163.

251. *Id.* at 165.

252. See *id.* at 165-66.

253. See *United States v. Locke*, 120 S.Ct. at 1141.

254. See *id.* at 1143.

255. *Id.* (citing *The Federalist* nos. 44, 12, 64).

256. See *id.*

257. See *id.* at 1139.

258. See *id.*

operational procedures, the Court did offer one small area carved out as reserved for state law.²⁵⁹ The Court found, as they did in *Ray*, that a state could regulate areas under Title I of the PWSA directed at "local circumstances and problems, such as water depth and narrowness, idiosyncratic to a particular port or waterway."²⁶⁰ These rules will not be preempted unless they directly conflict with the federal authority in the same subject area.²⁶¹

Extraterritorial reach of a state's regulation will also be considered when examining the validity of a state's regulation.²⁶² In other words, the state may regulate, subject to the limitations discussed above, but such regulatory requirements may not reach beyond their waters, forcing conduct outside the waters that the regulations are peculiar to.²⁶³ For example, in *Ray* the court found the requirements for tug escorts once a ship was entering Puget Sound not preempted by federal law.²⁶⁴

In addition to the preemption analysis set forth above with regard to the PWSA and tanker regulation, the Ninth Circuit has also addressed ballast water regulations promulgated by Alaska for prevention of oil pollution in *Chevron v. Hammond*.²⁶⁵ Alaska promulgated regulations to be included under their NPDES program that prohibited oil tankers from discharging ballast into territorial waters of Alaska unless the ballast water was designated clean beyond the definition of clean found in the federal regulations.²⁶⁶ In terms of the analysis put forth above by *Locke*, the court was called upon to apply conflict preemption analysis to determine if Alaska's ballast water regulations conflicted with Title II of the PWSA.²⁶⁷ The court held that the regulations were not preempted as both the PWSA Title II allowed for stricter state standards and, coupled with the Clean Water Act, states were partners with the federal government in promulgating regulations to prevent pollution of navigable waters.²⁶⁸ Due to the

259. *See id.*

260. *Id.*

261. *See id.*

262. *See id.* at 1150.

263. *See id.*

264. *See Ray v. Atlantic Richfield Co.*, 435 U.S. 151, 171-72 (1978).

265. *See Chevron U.S.A., Inc. v. Hammond*, 726 F.2d 483 (9th Cir. 1984), *cert. denied*, *Chevron U.S.A., Inc. v. Sheffield*, 471 U.S. 1140 (1985).

266. *See Chevron U.S.A., Inc. v. Hammond*, 726 F.2d at 486. Clean ballast in the federal regulations is that which "if discharged from a vessel that is stationary into clean, clam water on a clear day would not produce visible traces of oil on the surface of the water or on adjoining shore lines . . ." *Id.* at 485 (citing Coast Guard regulations at 33 C.F.R. § 157.03(e)(1)).

267. *See id.* at 486.

268. *See id.* at 489-91.

underlying purposes of the PWSA and the Clean Water Act, combined with the regulations of the Coast Guard under the PWSA, the court ruled that Alaska's regulations did not conflict with the PWSA.²⁶⁹

It is difficult to ascertain, absent specific state NPDES regulatory efforts to control ANS, how the preemption analysis outlined above could be applied. However, states, if given the authority to regulate ballast water discharges under the NPDES program, must be cautious in developing those regulations, if the regulations exceed any minimum standards that may be put forth by the EPA. Efforts to regulate issues beyond the minimum standards put forth by the EPA in the area of vessel equipment or operations, such as ballast water exchange or flushing outside of state waters, could easily be challenged under a preemption theory. Preemption analysis should be undertaken prior to actual promulgation of regulations, applying the Supreme Court's analysis in *Locke*.

C. Federal Consistency

When federal statutes arguably regulate the same activity, analysis of the consistency between the two statutes is necessary. Regulation under two statutes and by different agencies is not prohibited. The general rule is to construe two statutes so that each will apply, consistent with each other, and that the intent of Congress in both statutes can be realized.²⁷⁰ This rule, of course, only applies when Congress has not expressed intent to the contrary, such as specific language, which would supersede an existing statute.²⁷¹ Further, a statute will not necessarily be repealed by subsequent statutes on the same issue, regardless of priority of enactment.²⁷² In order to accomplish the above principles, statutes may be affected by subsequent legislation and must be construed as consistent with that legislation.²⁷³ Therefore, construction may change over time.

1. NANPCA/NISA.

At first glance, it may seem that Congress never intended the Clean Water Act and the NPDES program to regulate ballast water discharges.

269. See *id.* at 497-99, 501.

270. See *Get Oil Out! Inc. v. Exxon Corp.*, 586 F.2d 726, 729 (9th Cir. 1978) (citations omitted).

271. See *Morton v. Mancari*, 417 U.S. 535, 551 (1974) (citing *United States v. Borden Co.*, 308 U.S. 188, 198 (1939)).

272. See *Morton v. Mancari*, 417 U.S. at 550-51.

273. See *FDA v. Brown & Williamson Tobacco Corp.*, ___ U.S. ___, 120 S.Ct. 1291, 1301 (2000) (citations omitted).

When Congress enacted NANPCA and NISA, Congress recognized the need to control ballast water discharges to control ANS, and responded by enacting an entirely new statutory regime to address the problem as opposed to revisiting the Clean Water Act and mandating action under the NPDES program.

First, the rules requiring the more recent and specific statute to prevail over an older statute only apply if the two statutes are in direct conflict with each other.²⁷⁴ There would be little direct conflict between the two statutory regimes. The actual regulatory mechanisms would be consistent in that both would work to reduce discharges and call for reporting of discharge amounts and frequency.

However, detailed analysis of the above general statement is not necessary because NANPCA specifically states that it will not preempt control of pollution discharges under the Clean Water Act.²⁷⁵ NANPCA states that for both the mandatory and voluntary guidelines to be issued by the Coast Guard, they shall not "affect or supersede any requirements or prohibitions pertaining to the discharge of ballast water into waters for the United States under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.)"²⁷⁶ Therefore, regulation under the NPDES Program of ballast water discharges will be consistent with NANPCA/NISA.

2. PWSA/PTSA

The PWSA/PTSA does not contain direct language regarding the application of the Clean Water Act as is found in NANPCA. We must, therefore, look to both the PWSA/PTSA and the Clean Water Act and apply the above legal principles to address the issue of federal consistency between the statutes. Both statutes were enacted in 1972, which leaves no room for a temporal analysis of congressional intent. Both of the statutes intended to address pollution issues, with the Clean Water Act addressing pollution to all water and the PWSA more specifically addressing marine pollution from ships.²⁷⁷

However, the PWSA specifically recognized pollution caused by discharges incidental to the operation of ships.²⁷⁸ The pollution Congress

274. See *Watt v. Alaska*, 451 U.S. 259, 266–7 (1981) (citing 2AC Sands, Sutherland on Statutes and Statutory Construction § 51.02 (4th ed. 1973)).

275. See Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, 16 U.S.C. § 4711(b)(2)(C), (c)(2)(J) (1994 & Supp. IV 1998).

276. *Id.*

277. See discussion *infra* Parts IV, V.

278. See S. REP. NO. 92-724 (1972), reprinted in 1972 U.S.C.C.A.N. 2766, 2785 (report page numbers omitted in report).

specifically addressed, however, was pollution from oil transport and oil from general operations of ships.²⁷⁹ Specifically, the PWSA only applied, at the time of enactment, to ships carrying bulk oil or hazardous substances as designated under the Clean Water Act.²⁸⁰

Of critical importance for consistency analysis is a consideration of the operational aspects of PWSA/PTSA and whether regulation under the NPDES permit system would conflict with those requirements if ballast water were to fall under its regulatory scheme. Consistency concerns can be addressed properly if the regulations are applied to ballast water and biological material pollutants.

Beyond general operational requirements, possibly the most critical areas where NPDES constraints on ballast water discharges would conflict with the PWSA/PTSA would be in the area of emergency safety regulations. Mandating an open water ballast exchange or prohibiting a discharge once inside the territorial sea or navigable internal waters of the United States could jeopardize the safety of a ship or its crew, and increase the likelihood of an environmental catastrophe beyond the dangers of ANS introductions. When considering conditions for an NPDES permit, safety exemptions should be created to avoid conflict with safety measures required under the PWSA/PTSA.

The NPDES program requires, in many instances, the use of best available technology with regard to treatment of pollutants prior to discharge. If ballast water were to fall under the regulatory arm of the NPDES program, ultimately some requirements would be put on ships to utilize means possibly beyond a mid-ocean ballast water exchange. This could conflict with the design specifications in the PWSA/PTSA. Such design implications are difficult to ascertain due to the lack of technological treatment options realistically available. However, such technology mandates must be addressed as they become available to avoid conflict with the PWSA/PTSA.

D. International Trade Policy Considerations

The EPA regulation of ballast water discharges would impose severe restrictions upon international shipping and trade. Ships could be delayed beyond reason while waiting for permission to enter the waters of the United States with permission to discharge ballast water. Trade routes on land could be halted waiting for cargo to arrive from ships.

279. See *id.* at 1972 U.S.C.C.A.N. 2779, 2784-85.

280. See *id.* at 2784.

If the regulation through the NPDES program is implemented, the United States risks regulating beyond the recommendations contained within the IMO guidelines. Such regulation could result in other nations requiring stricter standards in response to the United States regulation, which would in turn, burden the ships of the United States as well. Uniformity of response is integral in maintaining free flowing international trade. Regulation of ballast water discharges independently could jeopardize such uniformity. The shipping industry has an enormous economic interest in maintaining predictability in regulation of ballast water discharges. Unilateral action by the United States, and subsequent reaction by other nations, would hinder the shipping industry's ability to consistently comply with varying standards.

While it is clear that the EPA's exemption of ballast water discharges from NPDES requirements is invalid, regulation of ballast water discharges must be developed with careful consideration of the need for uniformity from the perspective of international trade interests. Consideration by the EPA must include careful analysis of the IMO Guidelines and attempts to work within that existing framework.

E. Permit Development

The actual implementation of a permit system for the regulation of ballast water discharges under the NPDES program will tax the resources of the EPA for years to come.²⁸¹ The EPA may consider either general permits or a model permit as a possible solution.²⁸² Under the general permit allowance, the EPA may issue general permits for discharges by region or industry type.²⁸³ These general permits may lead to a somewhat relaxed standard that may not offer any greater protection than those already in place in state regulations or international guidelines. However, such a relaxed standard may be appropriate given the uncertainty in treatment technologies and effluent standards. A general permit is still additional control beyond the existing exemption. As the Court stated in *NRDC v. Costle*:

[t]here is also a very practical difference between a general permit and an exemption. An exemption tends to become indefinite: the problem drops out of sight, into a pool of inertia, unlikely to be recalled in the absence of crisis or a strong political protagonist.

281. See Telephone Interview with Thomas Charlton, *supra* note 2.

282. See *id.*

283. See 40 C.F.R. § 122.4(h)(2)(i) (1999).

In contrast, the general permit or area permit approach forces the Agency to focus on the problems of specific regions and requires that the problems of the region be reconciled every five years. . . .²⁸⁴

A model permit would be a means of the EPA controlling, to some extent, the content of individual state implementation of regulatory authority. A model permit, if written clearly and comprehensively, could eliminate some of the uniformity problems that might affect interstate commerce and international trade. However, without an example of a model permit to review, more detailed analysis is impossible.

Finally, no matter what type of permit is utilized to regulate ballast water discharges under the NPDES program, the EPA's broad authority is found in their authority to draft permits with conditions ranging from effluent limitations to merely reporting requirements.²⁸⁵ Therefore, the EPA will have some ability to address infeasibility issues in the absence of a full regulatory exemption. Regardless of the type of permit written to regulate ballast water discharges, the EPA will have to consider all of the issues previously presented in this section prior to execution of any type of permit. Careful consideration will relieve the agency of time and resources which could be spent on countless challenges to each permit related action.

IX. CONCLUSION

The EPA's exemption of ballast water discharges, under the exemption for discharges incidental to the normal operation of ships, is not a valid exercise of authority under the Clean Water Act. While the invalidity of the exemption is clear under legal principles, the actual regulation of ballast water discharges to control ANS is not without serious ramifications on international trade, existing federal statutory regimes, and the EPA's limited resources.

Subsequent regulation of ballast water discharges must be undertaken with care to avoid issues such as conflicts with existing federal regulations. The drafting of the permits, whether they are individual permits, individual permits mirroring a model permit, or general permits, must be undertaken with due care to avoid such conflicts, and possible federal preemption issues in cases where states are writing the permits.

284. *Natural Resources Defense Council, Inc. v. Costle*, 568 F.2d 1369, 1382 (D.C. Cir. 1977).

285. *See id.* at 1380.

Regulation of ballast water discharges under the NPDES Program must also be implemented with the utmost respect for the interests of the shipping industry and international trade policy issues. Unilateral actions, while not new territory to the United States, result in high economic costs within international trade, either from the actions themselves or reactions of other nation states. The EPA must exercise due care to consult with the proper agencies to assess any detrimental effects on the shipping industry and international trade to protect the United States' economy. Such consultation will not be easy, or timely, but must be undertaken.

While it is clear the exemption is not a proper exercise of the EPA's authority, implementing the regulations under the NPDES Program to control ANS introductions through ballast water will take a great deal of time and resources. In the meantime, many issues, such as technology development and international response, may come to the forefront of ANS control efforts, lending guidance or complicating matters more. As discussed throughout this article, due to the options available to the EPA to implement regulation under the NPDES Program, the resulting permitting system may be lacking concrete standards to enforce against dischargers of ANS. However, each step closer to tighter control of ANS introductions in the United States will slow the ever-increasing invasions and the resulting ecological degradation of our coastal resources. As the court stated in *NRDC v. Costle*, at least even minimum regulatory efforts will prevent a situation where "the problem drops out of sight, into a pool of inertia, unlikely to be recalled in the absence of crisis or a strong political protagonist."²⁸⁶

286. *Id.* at 1382.

