

NOTE

Noontime Dumping: Why States Have Broad Discretion to Regulate Onboard Treatments of Ballast Water

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Ballast water discharges from shipping vessels are responsible for spreading numerous forms of aquatic invasive species, a form of biological pollution that leads to billions of dollars in annual costs. In the wake of inaction from the federal government and inaction from the shipping industry, several Great Lakes states are currently considering legislation to address the problem. Michigan has already passed a law to prevent ballast water introductions of invasive species. As states begin to regulate ballast water discharges from oceangoing vessels, such laws will likely face challenges based on the constitutional principles of the Dormant Commerce Clause and the federal preemption doctrine of the Supremacy Clause. This Note contends that state ballast water laws do not violate either the Dormant Commerce Clause or the Supremacy Clause. States can regulate ballast water discharges without violating the Dormant Commerce Clause because state regulations in this area do not discriminate against interstate commerce, and, even if they did, courts allow discrimination in this context. Under the Supremacy Clause, federal law does not preempt state regulation of ballast water discharges. Although federal regulation of onboard equipment might impose some limitations on similar state regulations, federal law does not preempt states from preapproving certain methods for treating ballast water.

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INTRODUCTION

Imagine someone opening a valve that dumps vast amounts of pollution into a body of water. Although that may sound like a “midnight dumping” operation,¹ these polluters do not hide what they are doing. They do their dumping in the middle of the day, and no one stops them. To make matters worse, imagine that this particular type of pollution never goes away. In fact, rather than breaking down over time, this type of pollution multiplies and travels long distances to pollute new areas of the body of water. Although federal and state governments have largely dealt with the problem of midnight dumping, they have given relatively little attention to discharges that happen in broad daylight.

1. For an explanation of “midnight dumping” operations, see Thomas H. Maugh II, *Toxic Waste Disposal a Growing Problem*, 204 SCIENCE 819, 819 (1979) (referring to “drums of chemicals of unknown ancestry . . . dumped into municipal sewers and private wells”).

Every year, shipping vessels discharge billions of gallons of ballast water—the water stored in large tanks in the bottom of a cargo ship to keep the ship at the proper weight—into the waters of the United States.² Because cargo ships are designed to travel with heavy loads, these ships can only maintain their proper balance by taking in ballast water as they unload cargo.³ The ballast water often travels long distances before a cargo ship reloads, at which point the ship discharges the ballast water—and any invasive species that have hitched a ride—into the surrounding body of water.

Invasive species pose one of the largest environmental threats that our waterbodies have ever faced.⁴ Once invasive species are introduced into a body of water, they can multiply and disrupt the entire ecological fabric of the area.⁵ The primary reason that invasive species are able to wreak such widespread destruction is that many of them have no natural predators in the invaded area.⁶ The delicate balance between predators and prey quickly becomes unbalanced in favor of the nonnative species.⁷

Introductions of invasive species have historically had a disproportionately large impact on the Great Lakes. To anyone who resides in one of the eight Great Lakes states⁸ and keeps abreast of environmental issues, the mention of zebra mussels or sea lamprey will elicit a fiercely negative reaction.⁹ And the worst might be yet to come, as the leaping Asian Carp and other strange science-fiction-like creatures, such as the snakehead fish, approach waterways that lie on the borders of the Great Lakes. In fact, Asian carp are already “at the door to the Great Lakes.”¹⁰ At a recent conference on

2. *E.g.*, EPA, AQUATIC NUISANCE SPECIES IN BALLAST WATER DISCHARGES: ISSUES AND OPTIONS 4 (2001), available at http://www.epa.gov/owow/invasive_species/ballast_report_attach5.pdf.

3. James T. Carlton & Jonathan B. Geller, *Ecological Roulette: The Global Transport of Nonindigenous Marine Organisms*, 261 SCIENCE 78, 79 (1993).

4. Christopher Bright, *Invasive Species: Pathogens of Globalization*, 116 FOREIGN POL'Y 50, 50 (1999); see also Great Lakes Radio Consortium, Ten Threats to the Great Lakes (Oct. 10, 2005), <http://www.glrc.org/topten.php3> (last visited May 15, 2007) (listing invasive species as the number one threat). Invasive species are sometimes referred to as “biological pollution.” The Clean Water Act explicitly defines “pollutant” as including “biological materials,” 33 U.S.C. § 1362(6) (2000), which arguably includes invasive species, see *Nw. Env'tl. Advocates v. EPA*, No. C 03-05760 SI, 2005 WL 756614, at *9 (N.D. Cal. Mar. 30, 2005). Scholars use the term “biological pollution” as well. *E.g.*, Bright, *supra*, at 50. This Note only addresses invasive species as forms of biological pollution, even though the transportation of invasive species under certain circumstances might also trigger other laws, such as the Lacey Act, 16 U.S.C. §§ 3371–3378 (2000).

5. Bright, *supra* note 4, at 51.

6. *Id.*

7. *Id.*

8. Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin.

9. Zebra mussels and sea lamprey are two of the most prominent invasive species in the Great Lakes, and they have caused widespread damage throughout the region. See, *e.g.*, sources cited *infra* note 15.

10. Editorial, *Asian carp ban will protect Great Lakes*, SHEBOYGAN PRESS, NOV. 7, 2005, available at http://www.greatlakesdirectory.org/wi/110705_great_lakes.htm (“The only thing standing between the fish—which can grow up to 100 pounds or larger—is an electronic fence near Chicago that is designed to deliver a non-lethal jolt of electricity . . .”). The electronic fence is not cheap: “At a construction cost of \$9 million and an annual expense of \$500,000, state and federal

the Great Lakes, Peter Annin cautioned that “if [Asian carp] get into the Great Lakes, [it] will change the Great Lakes more than sea lamprey and zebra mussels together.”¹¹ According to one member of Congress, the Asian carp “could devastate the Great Lakes’ multi-billion dollar fishing industry.”¹²

Invasive species are extremely costly to the Great Lakes. To put numbers on the matter, “[t]he most comprehensive estimate of Great Lakes Basin economic and environmental costs, while [it] is based on a review of other studies, suggests annual costs of *US\$5.7 billion*, including *US\$4.5 billion* in damage to commercial and sport fishing.”¹³ Government officials agree that invasive species cost the Great Lakes region alone as much as five billion dollars every year.¹⁴

Over the last four decades, oceangoing vessels—specifically, cargo ships carrying ballast water—have been the main pathway for the introduction of invasive species.¹⁵ Interestingly, these same oceangoing vessels bring just under fifty-five million dollars in annual economic benefits.¹⁶ Comparing these benefits to the costs of invasive species shows that by allowing ocean-going vessels to ship cargo, society as a whole is arguably spending over ninety dollars for every dollar it gets back.¹⁷ Thus, from an economic stand-

engineers are electrifying 500 feet of water to prevent the Asian carp from reaching Lake Michigan.” Peter Slevin, *It’s Asian Carp Against the Current: Authorities Try Shocking Solution To Halt Menace*, WASH. POST, May 22, 2005, at A03.

11. Audio file: Peter Annin, Keynote Address at the University of Michigan Law School’s Environmental Law Society Symposium: The Great Lakes: Reflecting the Landscape of Environmental Law (Sept. 29, 2006), available at http://students.law.umich.edu/avlaw/20060929_Great_Lakes_Symposium/20060929_Great_Lakes_Symposium_2.WMA (at 1:04:51) (last visited May 16, 2007).

12. Editorial, *supra* note 10 (quoting Rep. Mark Green (R-Wis.)).

13. JOHN C. TAYLOR & JAMES L. ROACH, OCEAN SHIPPING IN THE GREAT LAKES: TRANSPORTATION COST INCREASES THAT WOULD RESULT FROM A CESSATION OF OCEAN VESSEL SHIPPING 64 (2005), available at <http://www.gvsu.edu/forms/business/OceanShippingReport091105.pdf> (citing David Pimentel, *Aquatic Nuisance Species in the New York State Canal and Hudson River Systems and the Great Lakes Basin: An Economic and Environmental Assessment*, 35 ENVTL. MGMT. 692 (2005)) (emphasis added).

14. *E.g.*, EPA, *supra* note 2, at 9.

15. Kristen T. Holeck et al., *Bridging Troubled Waters: Biological Invasions, Transoceanic Shipping, and the Laurentian Great Lakes*, 54 *BIOSCIENCE* 919, 920 (2004) (“Since completion of the St. Lawrence Seaway in 1959, at least 43 [invasive species] have become established in the Great Lakes, of which 73% have been attributed to the discharge of ballast water by transoceanic ships.” (emphasis added)). The zebra mussel, for example, is by far the most costly invasive species in the Great Lakes, and its introduction can be traced to ballast water discharges. *See, e.g.*, Ladd E. Johnson & James T. Carlton, *Post-Establishment Spread in Large-Scale Invasions: Dispersal Mechanisms of the Zebra Mussel Dreissena Polymorpha*, 77 *ECOLOGY* 1686, 1687 (1996).

16. TAYLOR & ROACH, *supra* note 13, at 1. Taylor and Roach refer to this as the “transportation cost penalty” of the cessation of all of the shipping services provided by oceangoing vessels in the Great Lakes. *Id.* This penalty was measured in terms of the cost of alternative modes of transportation that could replace oceangoing shipping vessels. *Id.* Because this information, as well as information about the cost of invasive species introduced by such vessels, is readily available, Taylor and Roach were able to complete their study without running into the usual difficulties that occur when trying to gauge the environmental costs and economic benefits of a polluting activity. For a general overview of those difficulties, see MARK SAGOFF, PRICE, PRINCIPLE, AND THE ENVIRONMENT 108–10 (2004).

17. Five billion dollars divided by fifty-five million dollars is \$90.91. Granted, oceangoing vessels are probably not responsible for introducing all of the costly invasive species that have entered

point, unless this industry can take drastic measures to lower the costs of dealing with invasive species, society would benefit from the cessation of all oceangoing shipping in the Great Lakes.¹⁸

The United States currently has surprisingly few laws that address the problem of invasive species. Although the federal government has passed two laws to address ballast water introductions of invasive species,¹⁹ neither measure has had much success.²⁰ Moreover, Congress has done nothing in the last ten years, despite numerous attempts by environmental groups and others to pass federal legislation requiring oceangoing vessels to refrain from discharging untreated ballast water.²¹ The shipping industry has also failed to address this problem effectively, despite being on notice for many years that it was engaging in a dangerous and costly activity whenever it discharged ballast water.²² In the wake of inaction from the federal government and from the shipping industry, several Great Lakes states are currently considering legislation to address the problem,²³ and

the Great Lakes. Thus, it is not fair to attribute the entire five billion dollars in expenses to the shipping industry. Nevertheless, as mentioned earlier, the ballast water discharges of oceangoing vessels were responsible for the introduction of zebra mussels and other invasive species that are responsible for the vast majority of these costs. *See generally* Johnson & Carlton, *supra* note 15, at 1687.

18. It is not unrealistic to suggest the cessation of all of the shipping services provided by oceangoing vessels in the Great Lakes. *See* TAYLOR & ROACH, *supra* note 13, at 1 (“While . . . other modes [of shipping] have some potential capacity constraints, we believe laker and rail capacity would be able to accommodate the extra volume.”).

19. Congress passed the Nonindigenous Aquatic Nuisance Prevention and Control Act (“NANPCA”) in 1990, Title I of Pub. L. No. 101-646, 104 Stat. 4761, and amended it in 1996 with the Nonindigenous Invasive Species Act (“NISA”), Pub. L. No. 104-332, 110 Stat. 4073 (codified at 16 U.S.C. §§ 4701–4751 (2000)).

20. *See, e.g.*, INTERNATIONAL JOINT COMMISSION, TWELFTH BIENNIAL REPORT ON GREAT LAKES WATER QUALITY 15 (2004), available at <http://www.ijc.org/php/publications/html/12br/english/report/index.html> (“While [federal and other] initiatives are encouraging . . ., the flow of new invasive species to the Great Lakes has not been stopped.”); INTERNATIONAL JOINT COMMISSION, ELEVENTH BIENNIAL REPORT ON GREAT LAKES WATER QUALITY 33 (2002), available at <http://www.ijc.org/php/publications/html/11br/english/report/index.html> (noting that federal measures have not been entirely effective). Federally required open-ocean ballast water exchanges are ineffective because they often result in an “incomplete discharge of water and sediments,” and, as a result, invasive species remain in the tanks throughout the process. Fangzhu Zhang & Mike Dickman, *Mid-ocean exchange of container vessel ballast water*, 176 MARINE ECOLOGY PROGRESS SERIES 243, 250 (1999), available at <http://www.int-res.com/articles/meps/176/m176p243.pdf>.

21. At least five bills have been introduced in recent years, and Congress has yet to act on any of them. *See* National Aquatic Invasive Species Act, S. 725, 110th Cong. (2007); Great Lakes Invasive Species Control Act, H.R. 801, 110th Cong. (2007); Prevention of the Aquatic Invasive Species Act, H.R. 5030, 109th Cong. (2006); Ballast Water Management Act, S. 363, 109th Cong. (2005); National Aquatic Invasive Species Act, H.R. 1591, 109th Cong. (2005).

22. In this sense, the position of the shipping industry is remarkably similar to the position taken by manufacturers of the ozone-depleting chlorofluorocarbons (“CFCs”), who expected people to accept ozone depletion as a side effect of refrigeration. *See, e.g.*, EDWARD A. PARSON, PROTECTING THE OZONE LAYER: SCIENCE AND STRATEGY 60 (2003).

23. *E.g.*, S. File No. 53, 85th Leg., Reg. Sess. (Minn. 2007); S.B. 119, 98th Leg., Reg. Sess. (Wis. 2007). Both of these proposed bills are similar in structure to the Michigan statute described *infra* notes 24, 26–27 and accompanying text.

Michigan has already passed a law to prevent ballast water introductions of invasive species.²⁴

When a state decides to regulate ballast water discharges, it has several options. It might choose to ban these discharges altogether. In light of the enormous threat that invasive species pose to the Great Lakes,²⁵ it would not be surprising if one or more of the eight states bordering on these treasured waterways decided to impose such a ban. Nevertheless, given the general reluctance of most state legislatures to take what some would consider drastic measures when a more moderate approach is readily available, it is more likely that states will choose (as Michigan did) to ban the discharge of *untreated* ballast water.²⁶ The shippers can then continue to go about their business as usual, so long as they treat the ballast water before discharging it. Accordingly, Michigan's state ballast water law provides the following:

Beginning January 1, 2007, all oceangoing vessels engaging in port operations in this state shall obtain a permit from the [D]epartment [of Environmental Quality]. The department shall issue a permit for an oceangoing vessel only if the applicant can demonstrate that the oceangoing vessel will not discharge aquatic nuisance species or if the oceangoing vessel discharges ballast water or other waste or waste effluent, that the operator of the vessel will utilize environmentally sound technology and methods, as determined by the department, that can be used to prevent the discharge of aquatic nuisance species.²⁷

In response to this legislation, Michigan's Department of Environmental Quality recently approved a "General Permit" that allows shippers to use any one of four separate methods of treating ballast water.²⁸ Ultraviolet radiation and deoxygenation are two of the approved treatment methods.²⁹ The other two approved methods are biocide treatments—one involving hypochlorite, and the other involving chlorine dioxide.³⁰ Other Great Lakes states are likely to follow Michigan's model and ban the discharge of untreated ballast water, although the precise treatment methods in each state may differ.³¹

24. 2005-3 Mich. Adv. Legis. Serv. 98 (codified in scattered sections of MICH. COMP. LAWS SERV. § 324 (LexisNexis Supp. 2006)); 2005-3 Mich. Adv. Legis. Serv. 99 (LexisNexis) (codified in scattered sections of MICH. COMP. LAWS SERV. § 324 (LexisNexis Supp. 2006)).

25. See *supra* notes 2–18 and accompanying text.

26. See MICH. COMP. LAWS SERV. § 324.3112(6) (LexisNexis Supp. 2006).

27. *Id.*

28. MICH. DEP'T OF ENVTL. QUALITY, PERMIT NO. MIG140000: BALLAST WATER CONTROL GENERAL PERMIT: PORT OPERATIONS AND BALLAST WATER DISCHARGE (Oct. 11, 2006), available at <http://www.deq.state.mi.us/documents/deq-water-mpdes-generalpermit-MIG140000.pdf> [hereinafter GENERAL PERMIT]. A General Permit is essentially a preapproved permit for all those that meet its requirements. It is an agency's way of fast tracking the permitting process. Significantly, the existence of an agency-approved General Permit does not preclude potential permittees from applying for individual permits. GENERAL PERMIT, *supra*, at 2.

29. *Id.* at 1.

30. *Id.*

31. For a discussion of the ramifications (or lack thereof) of different states choosing to preapprove different treatment methods, see *infra* Section II.B. Because Michigan's statutes and

As states begin to regulate ballast water discharges from oceangoing vessels, such laws will likely face challenges based on the constitutional principles of the Dormant Commerce Clause and the federal preemption doctrine of the Supremacy Clause. In fact, representatives of the shipping industry and port authorities have already raised both of these claims in an effort to strike down Michigan's recently passed state ballast water laws.³² This Note contends that state ballast water laws do not violate either the Dormant Commerce Clause or the Supremacy Clause.

Part I argues that states can regulate ballast water discharges without violating the Dormant Commerce Clause because state regulations in this area do not discriminate against interstate commerce, and, even if they did, courts allow discrimination in this context. Part II explains that although federal law might preempt some state regulations of ballast water discharges, federal law does not preempt state regulations that preapprove certain methods for treating ballast water.

I. STATE BALLAST WATER LAWS DO NOT VIOLATE THE DORMANT COMMERCE CLAUSE

The Commerce Clause of the United States Constitution provides that “Congress shall have Power . . . [t]o regulate Commerce . . . among the several States.”³³ To give full meaning to this positive grant of power, courts have interpreted the Commerce Clause to include a “negative” or “dormant” aspect “that denies the States the power unjustifiably to discriminate against or burden the interstate flow of articles of commerce.”³⁴ Courts have employed a

regulations provide a model for other Great Lakes states, the analysis in this Note uses the term “state ballast water laws” to refer to state statutes and regulations similar to those currently in force in Michigan.

32. Complaint at 8–9, *Fednav, Ltd. v. Chester*, No. 07-11116, 2007 WL 2336072 (E.D. Mich. Aug. 15, 2007). At the time that this complaint was filed (March 15, 2007), much of this Note had already been completed, and an earlier version of this Note was posted to the Social Science Research Network on May 8, 2007. Just before this Note was published, Judge Feikens issued an opinion dismissing the shipping industry's lawsuit for some of the same reasons discussed throughout this Note. See *Fednav, Ltd.*, 2007 WL 2336072 (E.D. Mich. Aug. 15, 2007).

33. U.S. CONST. art. I, § 8, cl. 3.

34. *Or. Waste Sys., Inc. v. Dep't of Env'tl. Quality*, 511 U.S. 93, 98 (1994). This Note assumes that Congress has not affirmatively granted states the power to regulate in this area. If Congress were to make such a grant, it would “authorize the States to engage in regulation that the Commerce Clause would otherwise forbid.” *Maine v. Taylor*, 477 U.S. 131, 138 (1986). One federal district court has held that the Clean Water Act, 33 U.S.C. §§ 1281–1387 (2000) (“CWA”), is such a grant because it bans the discharging of any pollutant into a navigable waterway without a permit, § 1311(a), and it gives states the authority to implement—and augment—these laws, § 1313. *Nw. Env'tl. Advocates v. EPA*, No. C 03-05760 SI, 2005 WL 756614, at *13 (N.D. Cal. Mar. 30, 2005) (striking down an EPA rule, 40 C.F.R. § 122.3(a), exempting ballast water discharges from the Clean Water Act); accord Liwen A. Mah, In Brief, *EPA Cannot Exempt Discharges of Ballast Water from the Clean Water Act's Permit Requirements*, 32 *ECOLOGY L.Q.* 757, 757 (2005) (“Strongly repudiating an [EPA] interpretation of the [CWA], a federal district court held that releases of ballast water are subject to the CWA. As a result, ships cannot discharge ballast water into U.S. waterways without first obtaining permits . . .”). The *Northwest Environmental Advocates* court recognized the “unambiguously expressed intent of Congress” that states regulate ballast water discharges under the CWA's permitting program and held that the EPA's rule was “in excess of its statutory authority.”

two-tiered test for determining whether the Dormant Commerce Clause has been violated.³⁵ The first step is to determine whether the state law discriminates against interstate commerce.³⁶ Nondiscriminatory state laws, which merely have incidental effects on interstate commerce, “will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits.”³⁷ Discriminatory state laws call for “more demanding scrutiny” whereby “the burden falls on the State to demonstrate both that the statute ‘serves a legitimate local purpose,’ and that this purpose could not be served as well by available nondiscriminatory means.”³⁸

This Part argues that state ballast water laws do not violate the Dormant Commerce Clause. Section I.A contends that these laws do not discriminate against interstate commerce and instead have only incidental effects on it. Section I.B argues that the burden of these incidental effects is not clearly excessive in relation to the benefits of such laws. Section I.C maintains that even if there were discrimination, it would be justified in this context because state ballast water laws serve a legitimate purpose that could not be served by nondiscriminatory means.

A. State Ballast Water Laws Do Not Discriminate Against Interstate Commerce

According to the Supreme Court, “the first step in analyzing any law subject to judicial scrutiny under the negative Commerce Clause is to determine whether it ‘regulates evenhandedly with only “incidental” effects on interstate commerce, or discriminates against interstate commerce.’”³⁹ To guide this analysis, the Sixth Circuit has noted that “a ‘statute can discriminate against out-of-state interests in three different ways: (a) facially, (b) purposefully, or (c) in practical effect.’”⁴⁰ Realistically, state ballast water laws are unlikely to have any purpose other than to protect a state’s

Nw. Env'tl. Advocates, 2005 WL 756614, at *13; *cf. Taylor*, 477 U.S. at 139 (quoting *S.-Cent. Timber Dev., Inc. v. Wunnicke*, 467 U.S. 82, 91 (1984)) (requiring this type of “unmistakably clear” congressional intent to allow states to regulate in an area otherwise forbidden by the Dormant Commerce Clause). Nevertheless, because the EPA has appealed the *Northwest Environmental Advocates* ruling, and because the current EPA rule remains in effect until September 30, 2008, *Nw. Env'tl. Advocates v. EPA*, No. C 03-05760 SI, 2006 WL 2669042, at *1 (N.D. Cal. Sept. 18, 2006), this Note’s analysis does not rely on the *Northwest Environmental Advocates* court’s well-reasoned interpretation of the CWA.

35. See *Or. Waste Sys.*, 511 U.S. at 99. For a discussion of how this two-tiered test also applies to state laws that “burden” actual transportation networks (such as waterway shipping), see *infra* notes 76–87 and accompanying text.

36. *Or. Waste Sys.*, 511 U.S. at 99.

37. *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970) (citing *Huron Cement Co. v. Detroit*, 362 U.S. 440, 443 (1960)).

38. *Taylor*, 477 U.S. at 138 (quoting *Hughes v. Oklahoma*, 441 U.S. 322, 336 (1979)).

39. *Or. Waste Sys.*, 511 U.S. at 99 (citation omitted).

40. *LensCrafters, Inc. v. Robinson*, 403 F.3d 798, 802 (2005) (citation omitted).

waters from invasive species.⁴¹ Such a purpose does not discriminate against out-of-state interests. Although challengers of state ballast water laws might claim that they are facially discriminatory or discriminatory in practical effect, those arguments are also ultimately unpersuasive.

Regardless of what type of discrimination is at issue, courts have primarily invoked the Dormant Commerce Clause as a check on state parochialism.⁴² The overriding concern is that each state government will enact laws that benefit its respective constituents, even if these laws act at the expense of out-of-staters and the nation as a whole.⁴³ An in-depth look at state ballast water laws reveals that these are not the type of parochial laws which give preference to in-state goods. Rather, the regulating state's own residents bear most of the costs of such laws.⁴⁴ Also, by forcing the shipping industry to take cost-effective measures (from a societal point of view),⁴⁵ state ballast water laws create an overall benefit for the nation as a whole and are therefore unlikely to be struck down under traditional Dormant Commerce Clause analysis.⁴⁶

1. Facial Discrimination

Although state ballast water laws might distinguish between oceangoing and nonoceangoing vessels,⁴⁷ this distinction is insufficient to anchor a claim that such laws are facially discriminatory. Facial discrimination usually involves state laws that focus solely on whether something is generated in-state or out-of-state.⁴⁸ The distinction between oceangoing and nonoceangoing vessels does not focus on state borders. The Michigan legislature, for instance, defines "oceangoing vessel" as "a vessel that operates on the Great Lakes or the St. Lawrence waterway after operating in waters outside of the Great Lakes or the St. Lawrence waterway."⁴⁹ Because the Great Lakes and the St. Lawrence waterway border a number of states besides Michigan, this type of statute on its face draws no distinction between in-state and out-of-state ships.

41. See *infra* Section I.C.1 for an explanation of why state ballast water laws are free of any pretextual effort to bolster in-state interests at the expense of out-of-staters.

42. See, e.g., Timothy Sandefur, *Equality of Opportunity in the Regulatory Age: Why Yesterday's Rationality Review Isn't Enough*, 24 N. ILL. U. L. REV. 457, 481 (2004) ("[D]ormant Commerce Clause cases involve a faction in one state using their own government to deprive out-of-state traders of economic opportunity."). For a thorough analysis of when courts use the Dormant Commerce Clause to strike down state laws, see Donald H. Regan, *The Supreme Court and State Protectionism: Making Sense of the Dormant Commerce Clause*, 84 MICH. L. REV. 1091 (1986).

43. See Sandefur, *supra* note 42, at 481.

44. See the discussion *infra* text accompanying notes 56–58 for the argument that, if anything, state ballast water laws discriminate against the regulating state's own businesses by making it more difficult for them to export goods.

45. See *supra* notes 13–18 and accompanying text.

46. See *infra* Section I.B.

47. See, e.g., MICH. COMP. LAWS SERV. § 324.3112(6) (LexisNexis 2006).

48. E.g., *Or. Waste Sys., Inc. v. Dep't of Env'tl. Quality*, 511 U.S. 93, 100 (1994); *Chem. Waste Mgmt. v. Hunt*, 504 U.S. 334, 336 (1992); *City of Philadelphia v. New Jersey*, 437 U.S. 617, 618 (1978).

49. MICH. COMP. LAWS SERV. § 324.3101(p) (LexisNexis 2006).

Further, the distinction between oceangoing vessels and nonoceangoing vessels is not a proxy for distinguishing between in-state and out-of-state interests. Rather, the distinction is the only rational way to limit regulation to those vessels that threaten to bring nonnative invasive species to the waters of the regulating state. The distinction focuses on what ships *do*—whether they operate in waters that contain nonnative species—rather than on a ship’s state of origin. After all, ships that operate only within the Great Lakes and St. Lawrence waterway (and are therefore nonoceangoing vessels) cannot introduce nonnative species to this area. Finally, these regulations equally burden any Michigan-based ships that operate outside the Great Lakes or the St. Lawrence waterway, and the regulations do not apply to out-of-state ships that only travel within the Great Lakes or the St. Lawrence waterway.⁵⁰

2. *Having the Practical Effect of Discriminating*

State ballast water laws do not have the “practical effect”⁵¹ of discriminating against interstate commerce. The Supreme Court has noted that “‘discrimination’ simply means differential treatment of in-state and out-of-state economic interests that *benefits the former and burdens the latter*.”⁵² The Court appears to be worried only about laws that a state passes to benefit its own producers at the expense of out-of-state producers.⁵³ Thus, a state is theoretically free to pass a law that harms its own residents and benefits out-of-staters, because, even if such a law affects interstate commerce, it does not “discriminate[] against interstate commerce.”⁵⁴

State ballast water laws do not benefit in-state producers at the expense of out-of-state interests. If state ballast water laws dissuaded out-of-state producers from shipping goods to the regulating state, effectively creating a preference for in-state goods, this would almost certainly discriminate against interstate commerce.⁵⁵ But state ballast water laws only present hurdles for the

50. For these reasons, the *Fednav* court recently held that Michigan’s laws do not discriminate against interstate commerce. *Fednav, Ltd. v. Chester*, No. 07-11116, 2007 WL 2336072, at *12 (E.D. Mich. Aug. 15, 2007). Further, the Supreme Court has sometimes found it immaterial that the state laws in question also discriminated against in-state interests. See *Fort Gratiot Sanitary Landfill, Inc. v. Mich. Dep’t of Natural Res.*, 504 U.S. 353, 361 (1992); *Dean’s Milk Co. v. Madison*, 340 U.S. 349, 354 n.4 (1951). These cases involved local or state laws with suspiciously protectionist motives. For instance, in *Dean’s Milk Co.*, the Court explicitly stated that the law in question was “an economic barrier protecting a major local industry against competition from without the State.” *Dean’s Milk Co.*, 340 U.S. at 354. In this sense, the laws struck down in these cases are easily distinguishable from state ballast water laws, which are not motivated by protectionism. See *supra* text accompanying note 44; *infra* notes 56–58 and accompanying text.

51. *E.g.*, *LensCrafters, Inc. v. Robinson*, 403 F.3d 798, 803 (6th Cir. 2005).

52. *Or. Waste Sys.*, 511 U.S. at 99 (emphasis added).

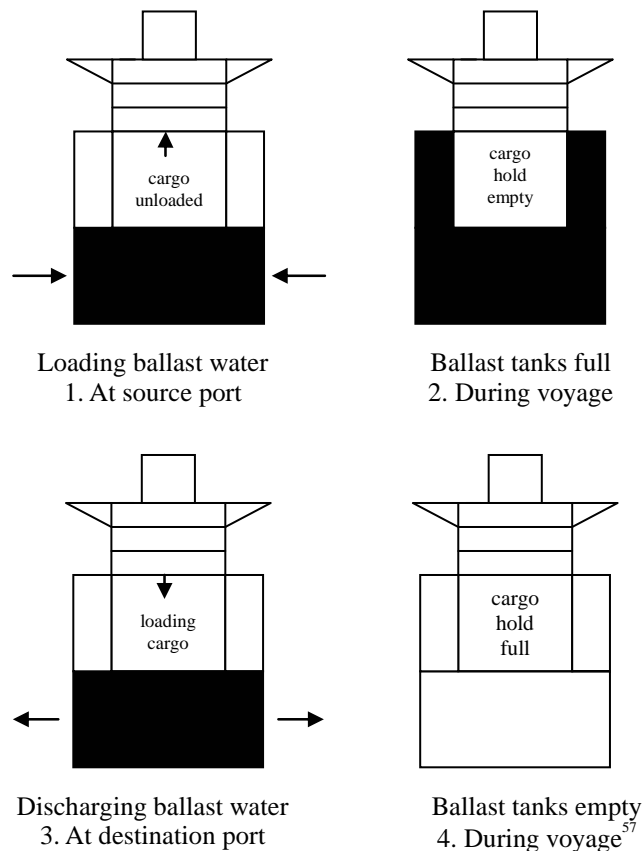
53. Although the term “economic interests” is ambiguous and could be read to refer to consumers, the *Oregon Waste Systems* Court likely meant for the term to refer to producers, since industrial interests usually represent the primary economic interests of the state. For instance, the state laws at issue in the seminal Dormant Commerce Clause case *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 138 (1970), in effect sought to shift the business of cantaloupe packing and processing from out-of-state industries to in-state industries.

54. *Or. Waste Sys.*, 511 U.S. at 100 (emphasis added).

55. See, *e.g.*, *id.* (striking down a state law that “favors shippers of [in-state] waste over their counterparts handling waste generated in other States”). Although the *Oregon Waste Systems* Court struck down the state law, it did so only after finding that the state law had no justification for its

regulating state's own exporters. The reason is that vessels only discharge ballast water when they are loading cargo, not when they are unloading it.⁵⁶ To maintain the proper balance, the amount of ballast water on a ship is inversely proportional to the amount of cargo on the ship. The typical ballast water discharge occurs when a ship that has no cargo (and therefore has the maximum amount of ballast water) enters a port. That full load of ballast water is then discharged as the ship loads its cargo:

Cross section of ships showing ballast tanks and ballast water cycle



discrimination. *See id.* at 100–08. In other words, it does not end the matter when a court finds that a state law discriminates against interstate commerce. Rather, as described *infra* Section I.C, courts will uphold a state law that discriminates against interstate commerce whenever a state can show that the law “advances a legitimate local purpose that cannot be adequately served by reasonable nondiscriminatory alternatives.” *Or. Waste Sys.*, 511 U.S. at 101 (citations omitted). States can make that showing in the case of ballast water laws, for the reasons described *infra* Section I.C.

56. *E.g.*, Carlton & Geller, *supra* note 3, at 79.

57. *See* Global Ballast Water Management Programme—The Problem, <http://globallast.imo.org/index.asp?page=problem.htm&menu=true> (last visited May 12, 2007).

In this typical scenario, ballast water laws only affect ships that arrive without cargo (meaning without any out-of-state goods). Ships that arrive fully loaded—those that are bringing out-of-state goods to the regulating state—are not carrying ballast water. As they unload their cargo, they either need to reload the ship with new cargo or take in ballast water, but they do not need to discharge anything. As a result, they are not subject to ballast water regulations.⁵⁸

Although ballast water regulations could arguably affect out-of-state imports into the regulating state—for instance, if shippers decided to avoid ports where they could not load cargo⁵⁹—this argument is ultimately unpersuasive. As an initial matter, it is incorrect to say that shippers could not load cargo at all, because state ballast water laws are only an impediment to loading a larger amount of cargo than what is unloaded. Even if a ship arrives with less than a full load, it can still load an equal amount of cargo without discharging any ballast water, so long as the loading and unloading happen at roughly the same time and thereby keep the ship balanced.⁶⁰ In

58. This assumes that the regulating state has decided to regulate the actual discharging of ballast water. Although Michigan's General Permit also applies to oceangoing vessels that "engage in port operations in Michigan and do not discharge ballast water into the waters of the state," GENERAL PERMIT, *supra* note 28, at 1, such vessels are only subject to a minimal amount of regulation—namely, notification and reporting requirements to ensure that they do not actually discharge any ballast water, *id.* at 3. This minimal regulation can hardly be seen as a burden on interstate commerce and therefore should not affect the analysis. *See Fednav, Ltd. v. Chester*, No. 07-11116, 2007 WL 2336072, at *13 (E.D. Mich. Aug. 15, 2007) (finding that the burden on ships without any ballast "is *de minimis*").

59. One possibility is that a ship might want to carry a half load of goods to a regulating state's port and then reload the ship with a full load of goods, thereby discharging all of the ballast water that kept the ship at the right weight when it was only half-loaded. Again, there would be no problem if the ship arrived fully loaded, but, because it is only half-loaded, it needs to discharge ballast water when it swaps its half load for a full load. If ballast water regulations prevent this ship from loading goods at the regulating state's port, then, according to this argument, this ship might decide to avoid this trip altogether.

60. This type of coordination is possible. *See, e.g.*, Transport Desgagnés, Inc., Technical Data on the M/T Véga Desgagnés (Feb. 5, 2003), http://www.groupepedesgagnes.com/en/upload/vega_ang_final11.pdf (listing features that include the "[s]imultaneous loading and unloading of four grades of cargo"). The ability to load and unload cargo simultaneously without discharging ballast water rebuts recent arguments by representatives of the shipping industry who claim that if a ship must retain its ballast water, Michigan's laws would "effectively preclud[e] any loading of cargo in Michigan." Plaintiffs' Brief in Support of Motion for Summary Judgment on Their Complaint for Declaratory and Injunctive Relief to Prevent Defendants from Enforcing the Michigan Ballast Water Statute, MICH. COMP. LAWS § 324.3112(6) at 11, *Fednav, Ltd.*, 2007 WL 2336072 [hereinafter Plaintiffs' Summary Judgment Brief]. Further, society benefits from forcing the shipping industry to find ways to eliminate the transportation of ballast water because ballast water represents an inefficiency—namely, unutilized cargo carrying capacity. The trucking industry realized this long ago and developed cooperative networks and sophisticated planning systems to minimize the number of times a tractor-trailer truck had to travel without cargo. For a discussion of how the trucking industry uses dispatchers and, more recently, computer software programs to maximize "backhauls" (meaning returning with cargo rather than with an empty load), see Thomas N. Hubbard, *Information, Decisions, and Productivity: Onboard Computers and Capacity Utilization in Trucking*, 93 AM. ECON. REV. 1328, 1330 (2003) ("[S]hippers themselves [in the trucking industry] search for other shippers with complementary demands. For example, a shipper with one-way demands between Chicago and St. Louis will search for a shipper with one-way demands between St. Louis and Chicago."). As a result of these efforts, one rarely sees a tractor-trailer truck traveling without cargo in tow. If state ballast water laws force the shipping industry to plan routes

reality, state ballast water laws are not an impediment to importing goods; if anything, these laws encourage the shipping industry to bring *larger* loads of imports into the regulating state.⁶¹

Other courts have formulated slightly different standards for determining whether a state law has the practical effect of discriminating, but under these standards, too, state ballast water laws do not discriminate against interstate commerce.⁶² For instance, in *Chemical Waste Management, Inc. v. Hunt*, the Supreme Court recognized that discrimination against interstate commerce can be found whenever a state “tax[es] a transaction or incident more heavily when it crosses state lines than when it occurs entirely within the State.”⁶³ Because state ballast water laws place disproportionately large burdens on “ocean-going vessels,”⁶⁴ most of which cross state lines on a regular basis, these laws seem to fall under the *Chemical Waste Management* definition of discrimination.⁶⁵ Nevertheless, *Chemical Waste Management* involved state taxes that directly increased the tax revenue of the regulating state in a way that benefited in-state interests at the expense of out-of-state interests; those laws effectively forced out-of-state interests to subsidize in-state interests.⁶⁶

that maximize the use of cargo carrying capacities and avoid the use of ballast water, such laws would eliminate this inefficiency and could thereby potentially lead to an *increase* in profits for the shipping industry.

61. Even if larger loads delay the arrival times of imports, the benefits of rapid delivery are unlikely to justify sending two half loads of cargo instead of one full load. Further, the trucking industry has shown that proper coordination can allow for the delivery of full loads with little, if any, delay. See Hubbard, *supra* note 60.

62. For an interesting discussion of other definitions of “discrimination” in Dormant Commerce Clause jurisprudence, see Jennifer L. Larsen, Student Article, *Discrimination in the Dormant Commerce Clause*, 49 S.D. L. REV. 844 (2004).

63. 504 U.S. 334, 342 (1992) (citing *Armco Inc. v. Hardesty*, 467 U.S. 638, 642 (1984)).

64. Michigan’s laws in fact apply *only* to “ocean-going vessels.” MICH. COMP. LAWS SERV. § 324.3112(6) (LexisNexis Supp. 2006).

65. See *Chem. Waste Mgmt.*, 504 U.S. at 342.

66. The laws at issue in *Chemical Waste Management* were particularly suspicious because they in effect regulated only out-of-state interests. *Id.* at 343 (“[O]nly rhetoric, and not explanation, emerges as to why Alabama targets *only* interstate hazardous waste . . .”). If that is why the Supreme Court struck down those laws, state ballast water laws should easily survive such an analysis. Granted, with respect to the actual ships that are subject to state ballast water laws, most of the burdens are placed on ships from other states. As an empirical matter, at any given port, ships that have already traveled from another state are more likely to be ocean-going vessels and therefore subject to state ballast water laws. (Indeed, when the shipping industry and port authorities recently filed a lawsuit against Michigan to enjoin the implementation of Michigan’s ballast water laws, the complaint alleged that “the only entities affected by the Ballast Water Statute are non-Michigan registered ships; and, therefore, the Ballast Water Statute has a discriminatory effect.” Complaint at 8, *Fednav, Ltd. v. Chester*, No. 07-11116, 2007 WL 2336072 (E.D. Mich. Aug. 15, 2007)). Nevertheless, particular ships are just one subset of the interests affected by state ballast water laws, and Dormant Commerce Clause analysis requires a broader inquiry into all of the affected interests: “The fact that the burden of a state regulation falls on some interstate companies does not, by itself, establish a claim of discrimination against interstate commerce.” *CTS Corp. v. Dynamics Corp. of Am.*, 481 U.S. 69, 88 (1987) (quoting *Exxon Corp. v. Governor of Md.*, 437 U.S. 117, 126 (1978)). A broader view reveals that state ballast water laws place the largest limitations on the regulating state’s own industries, and that these laws place no limitations on out-of-state industries that wish to ship their goods to the regulating state. See *supra* text accompanying notes 55–58. As noted earlier, the only caveat is that these ships might be subject to minimal notification and reporting requirements, but that should not affect the analysis. See *supra* note 58. Another possible inquiry is to look

Because state ballast water laws do not create any such subsidy or directly increase the revenue of the regulating state,⁶⁷ they are not nearly as vulnerable to these types of challenges. Rather, the effects of state ballast water laws are the exact opposite of those effects that the Supreme Court has traditionally found to violate the Dormant Commerce Clause.⁶⁸

Another argument for finding a practical effect of discrimination sufficient to invoke the Dormant Commerce Clause is that these laws may have the effect of forcing nonregulating states to bear the burden of invasive species. For example, as long as Michigan is the only Great Lakes state with laws imposing barriers on the discharge of ballast water, shippers may avoid Michigan's ports. Ports in states like Ohio might then be subject to additional discharges of untreated ballast water containing invasive species. As a result, Michigan is, in a way, exporting future invasive scenarios from its own waters to the waters of nearby states. These types of laws could thereby be said to protect the regulating state's own water resources at the expense of the water resources of other states. The *Oregon Waste Systems* Court noted that the Dormant Commerce Clause forbids states from engaging in "resource protectionism."⁶⁹ The Court stated that "[n]o State may attempt to isolate itself from a problem common to the several States by raising barriers to the free flow of interstate trade."⁷⁰ Invasive species undoubtedly constitute a problem that is shared by all of the Great Lakes states, and Michigan's laws could be seen as an attempt by Michigan to isolate itself from this problem.

The resource protectionism argument is ultimately unpersuasive for at least three reasons. First, because many invasive species spread far from their point of introduction, Michigan's ballast water laws do not shift the burden of dealing with invasive species to other states. If anything, Michigan's laws will likely have collateral benefits that help lessen the burden on other states by encouraging shippers to find ways to prevent the

at whether these laws in effect create a preference for intrastate shipping. This inquiry correctly assumes that oceangoing vessels generally engage in interstate—as opposed to intrastate—shipping. Thus, state ballast water laws in effect burden interstate commerce more than intrastate commerce and thereby seem to create a preference for the latter. Nevertheless, because these laws do not impede the importation of goods, *see supra* text accompanying notes 55–58, the only harm to interstate commerce is in the form of placing barriers to the regulating state's exportation of goods. Although the Supreme Court has invalidated state laws that place barriers on exports, *see, e.g.,* *H.P. Hood & Sons, Inc. v. Du Mond*, 336 U.S. 525, 539 (1949) (focusing on the need for producers to have "free access to every market in the Nation"), those decisions are easily distinguishable because they generally involved both facial discrimination and blatantly improper state motives, *see, e.g., id.* at 525–45; *Hughes v. Oklahoma*, 441 U.S. 322 (1979).

67. Indeed, these laws are more likely to decrease the revenue of the state by harming the ability of in-state industries to export their goods. *See supra* text accompanying notes 55–58. Although some of those revenue losses might be offset by savings in the clean-up costs of dealing with invasive species, the point here is that state ballast water laws do not force out-of-state interests to subsidize in-state interests.

68. Compare *supra* text accompanying notes 55–58 (explaining why state ballast water laws present obstacles for local industries) with *H.P. Hood & Sons, Inc. v. Du Mond*, 336 U.S. 525, 531 (1949) (invalidating a state law because it served "solely" local economic industrial interests).

69. *Or. Waste Sys., Inc. v. Dep't of Env'tl. Quality*, 511 U.S. 93, 107 (1994).

70. *Id.* (quoting *Chem. Waste Mgmt.*, 504 U.S. at 339–40).

discharge of invasive species into the Great Lakes in general. Second, even if Michigan were engaging in a form of resource protectionism, the Supreme Court has expressed a willingness to allow a degree of resource protectionism when the resource being protected is water, which “unlike other natural resources, is essential for human survival.”⁷¹ The special status of water helps explain why states still have laws that place strict limits (such as requiring a permit) on water exported to other states.⁷² Third, state control over water resources similarly receives special recognition under federal law—specifically, the Clean Water Act (“CWA”) might empower states to regulate discharges into state waters.⁷³

B. State Ballast Water Laws Survive the Pike Test for Incidental Effects on Interstate Commerce

Because state ballast water laws do not discriminate against interstate commerce, their incidental effects on interstate commerce trigger the test that the Supreme Court outlined in *Pike v. Bruce Church, Inc.*⁷⁴ Under the *Pike* test, these laws “will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits.”⁷⁵ Such burdens are measured in terms of societal costs, which include negative effects on actual transportation networks for the flow of goods.⁷⁶

State ballast water laws should be able to survive the *Pike* test because they do not clearly impose societal costs that outweigh the putative benefits of preventing invasive species from entering the regulating state’s ports.⁷⁷ As mentioned earlier, in the Great Lakes, even the costs of shutting down all

71. *Id.* (quoting *Sporhase v. Neb. ex rel. Douglas*, 458 U.S. 941, 952 (1982)).

72. *See, e.g.*, COLO. REV. STAT. § 37-81-101 (2006). *But see Sporhase*, 458 U.S. at 957–58 (striking down a Nebraska reciprocity requirement that effectively acted as a complete ban on the exportation of groundwater to Colorado). Before *Sporhase*, Colorado prohibited the exportation of groundwater. Richard S. Harnsberger et al., *Interstate Transfers of Water: State Options After Sporhase*, 70 NEB. L. REV. 754, 848 (1991) (quoting COLO. REV. STAT. § 37-90-136 (repealed 1983)). After *Sporhase*, Colorado amended its laws by repealing the all-out prohibition of section 37-90-136 and replacing it with section 37-81-101, which places severe restrictions on out-of-state transfers; those restrictions are still “extant.” *Id.*

73. *See supra* note 34 for an explanation of how states might be able to regulate ballast water discharges under the Clean Water Act.

74. 397 U.S. 137, 142 (1970).

75. *Pike*, 397 U.S. at 142.

76. The *Oregon Waste Systems* Court stated that the Dormant Commerce Clause “denies the States the power unjustifiably to discriminate against *or burden* the interstate flow of articles of commerce.” *Or. Waste Sys., Inc.*, 511 U.S. at 98 (emphasis added). Although courts usually do not address the “or burden” part of this definition, and, indeed, the *Oregon Waste Systems* Court itself focused only on whether the state law in question discriminated against interstate commerce, *see supra* text accompanying note 36, this Section includes an exploration of the extent to which burdening actual transportation networks might affect the Dormant Commerce Clause analysis, *see infra* text accompanying notes 81–87.

77. *See supra* notes 13–18 and accompanying text. The *Fednav* court did not analyze whether Michigan’s ballast water laws survive the *Pike* test when looking at how these laws affect ships that discharge ballast water. *See Fednav, Ltd. v. Chester*, No. 07-11116, 2007 WL 2336072, at *14 (E.D. Mich. Aug. 15, 2007).

ocean-going commerce (roughly fifty-five million dollars per year) are far outweighed by the putative benefits of avoiding the costs associated with dealing with invasive species (roughly five billion dollars per year).⁷⁸ Because ocean-going commerce in the Great Lakes currently does more economic harm than good,⁷⁹ any burden on this commerce (even a law that required ocean-going vessels to stop shipping altogether in the Great Lakes) would be outweighed by the benefit of stopping the introduction of invasive species.⁸⁰

Because incidental effects on an actual means of transportation might be said to “burden” interstate travel even if not discriminatory, more difficult questions arise,⁸¹ but these concerns are ultimately not enough to invalidate state ballast water laws. Professor Don Regan has noted that courts might be doing more than fighting economic protectionism when a case involves the actual means of interstate transportation (meaning physical modes of transportation, such as waterway shipping).⁸² This theory would presumably apply to state ballast water laws, since they involve interstate shipping, which is clearly a means of transporting cargo across state lines. Nevertheless, even in many of the cases involving transportation networks, courts

78. See *supra* notes 13–18 and accompanying text. Even if we assume that invasive species cost less than five billion dollars per year, it is inconceivable that the cost would be less than fifty-five million dollars per year. Further, representatives of the shipping industry cannot read the word “putative” out of the *Pike* test by arguing that state ballast water laws might not succeed in preventing future introductions of invasive species. See Plaintiffs’ Summary Judgment Brief at 11, *Fednav, Ltd.*, No. 07-11116, 2007 WL 2336072. A state need only show that its ballast water laws aim to prevent future invasive scenarios. Cf. *Raymond Motor Transp., Inc. v. Rice*, 434 U.S. 429, 448 (1978) (striking down a law that “failed to make even a *colorable showing* that its regulations *contribute* to highway safety” (emphasis added)). States can easily make a “colorable showing” that ballast water laws will “contribute” to the prevention of invasive species. Further, the state laws at issue in *Raymond* were part of an overall regulatory scheme that was enacted to “primarily benefit” in-state industries. *Id.* at 447. Because state ballast water laws do not primarily benefit in-state industries, see *supra* Section I.A.2; *infra* notes 105–107 and accompanying text, *Raymond* is arguably inapplicable.

79. See *supra* notes 13–18 and accompanying text.

80. Indeed, under these circumstances, it would be an affront to the underlying principles of the Dormant Commerce Clause for a court to strike down a state ballast water law on Dormant Commerce Clause grounds. After all, state ballast water laws correct a market failure—namely, the shipping industry’s failure to internalize the costs it imposes on society by introducing invasive species into public water bodies. See generally Mollie Lee, Note, *Environmental Economics: A Market Failure Approach to the Commerce Clause*, 116 YALE L.J. 456, 477–82 (2006) (explaining why environmental harm represents a market failure). By correcting this market failure, these laws create an overall societal economic benefit that far outweighs any harm. See *supra* notes 13–18 and accompanying text. This overall societal economic benefit is precisely the opposite of what the Dormant Commerce Clause traditionally aims at—namely, parochial state laws that harm national welfare. See *supra* notes 42–43 and accompanying text; see also Thomas K. Anson & P.M. Shenkkan, Observation, *Federalism, The Dormant Commerce Clause, and State-Owned Resources*, 59 TEX. L. REV. 71, 76 (1980) (“The Court historically has sought to ensure that, when a state intervenes in the marketplace . . . it does so without unduly subverting economic efficiency, viewed on a national scale.”) Professor Paul McGreal has gone further and argued that “harm[ing] the efficiency of the national economy” should be a prerequisite to the striking down of a state law on Dormant Commerce Clause grounds. Paul E. McGreal, *The Flawed Economics of the Dormant Commerce Clause*, 39 WM. & MARY L. REV. 1191, 1201 (1998).

81. See *supra* note 76.

82. Regan, *supra* note 42, at 1182–85.

have been primarily concerned with fighting state economic protectionism.⁸³ For the reasons already mentioned, state ballast water laws are not incidents of economic protectionism.⁸⁴ Indeed, unlike parochialism, state ballast water laws create an overall benefit for society that far outweighs any costs associated with the laws.⁸⁵ These laws should therefore survive even a more probing inquiry into their validity. As Professor Paul McGreal has noted, “states should be allowed to regulate interstate commerce, even to the extent of blocking the flow of goods or services across their border, when doing so *does not harm the welfare of the national economy.*”⁸⁶ State ballast water laws do not harm the national economy; rather, such laws should bring enormous benefits to the national economy.⁸⁷

C. State Ballast Water Laws Are Justified in Burdening Interstate Commerce

Even if state ballast water laws discriminated against or burden interstate commerce, the Supreme Court has held that discrimination against nonnative species to conserve native species is justifiable.⁸⁸ In *Maine v. Taylor*, the Court noted that although discriminatory state laws trigger the strictest scrutiny, they can still survive by demonstrating “both that the statute ‘serves a legitimate local purpose,’ and that this purpose could not be served as well by available nondiscriminatory means.”⁸⁹ State ballast water laws meet both of those criteria and, therefore, do not violate the Dormant Commerce Clause.⁹⁰

83. *Id.* at 1183.

84. *See supra* Section I.A.2.

85. *See supra* notes 78–80 and accompanying text.

86. McGreal, *supra* note 80, at 1222.

87. *See supra* notes 13–18, 60 and accompanying text; *see also infra* text accompanying notes 205–208.

88. *Maine v. Taylor*, 477 U.S. 131, 151–52 (1986). *Taylor* was a nearly unanimous opinion upholding a Maine statute banning the importation of live baitfish, even though “Maine’s import ban discriminates on its face against interstate trade.” *Id.* at 138. In many ways, *Taylor* was foreshadowed by *Hughes v. Oklahoma*, 441 U.S. 322 (1979). Although the *Hughes* Court ultimately struck down a state statute that banned the exportation of minnows in an “overtly discriminat[ory]” way, *id.* at 338, it recognized the validity of nonprotectionist efforts to conserve natural resources:

The State’s interest in *maintaining the ecological balance in state waters* by avoiding the removal of inordinate numbers of minnows may well qualify as a legitimate local purpose. We consider the States’ interests in conservation and protection of wild animals as *legitimate local purposes* similar to the States’ interests in protecting the health and safety of their citizens.

Id. at 337 (emphasis added); *accord id.* at 338–39 (referring to “protect[ing] and conserv[ing] wild animal life” as a “legitimate [local] purpose”).

89. *Taylor*, 477 U.S. at 138 (quoting *Hughes*, 441 U.S. at 336).

90. *See, e.g., Am. Trucking Ass’n v. Mich. Pub. Serv. Comm’n*, 545 U.S. 429, 433 (2005) (noting that the Supreme Court has “found unconstitutional state regulations that *unjustifiably* discriminate on their face against out-of-state entities” (citing *City of Philadelphia v. New Jersey*, 437 U.S. 617 (1978)) (emphasis added)).

1. State Ballast Water Laws Serve a Legitimate Local Purpose

Even if state ballast water laws discriminated against interstate commerce, they serve a legitimate local purpose.⁹¹ *Taylor* is directly on point because that case also dealt with the threat that nonnative species pose to native species.⁹² The state statute at issue in *Taylor* forbade the importation of live baitfish; Maine justified this statute by “arguing that the ban legitimately protects the State’s fisheries from parasites and nonnative species that might be included in shipments of live baitfish.”⁹³ The Court noted expert testimony that “nonnative species inadvertently included in shipments of live baitfish could disturb Maine’s aquatic ecology to an unpredictable extent by competing with native fish for food or habitat, by preying on native species, or by disrupting the environment in more subtle ways.”⁹⁴ Nonnative baitfish also carried parasites that were “not common” to native fish.⁹⁵

The *Taylor* Court held that states can take measures to prevent the importation of potentially harmful nonnative species even when it is unclear whether any threat is posed:

[T]he constitutional principles underlying the commerce clause cannot be read as requiring the State of Maine to sit idly by and wait until potentially irreversible environmental damage has occurred or until the scientific community agrees on what disease organisms are or are not dangerous before it acts to avoid such consequences.⁹⁶

The Court held that even if the environmental risks of nonnative species “may ultimately prove to be negligible,” Maine had “a legitimate interest in guarding against imperfectly understood environmental risks.”⁹⁷ Because nonnative species presented unique threats to native species, Maine’s statute was “not a case of arbitrary discrimination against interstate commerce; the record suggests that Maine has legitimate reasons, ‘apart from their origin, to treat [out-of-state] baitfish differently.’”⁹⁸

91. See *Hughes*, 441 U.S. at 337 (recognizing the protection of native species as a “legitimate local purpose”).

92. *Taylor*, 477 U.S. at 133.

93. *Id.*

94. *Id.* at 141.

95. *Id.*

96. *Id.* at 148 (quoting *U.S. v. Taylor*, 585 F. Supp. 393, 397 (D. Me. 1984), *rev’d*, 752 F.2d 757 (1st Cir. 1985), *rev’d sub nom. Maine v. Taylor*, 477 U.S. 131).

97. *Id.* (emphasis added).

98. *Id.* at 141, 151–52 (quoting *City of Philadelphia v. New Jersey*, 437 U.S. 617, 627 (1978)). Thus, a later Court interpreted *Taylor* as justifying state laws that discriminate against out-of-state goods when there are “safety or health reason[s] unique” to the out-of-state goods. *Or. Waste Sys., Inc. v. Dep’t of Env’tl. Quality*, 511 U.S. 93, 101 (1994); see also *Fort Gratiot Sanitary Landfill, Inc. v. Mich. Dep’t of Natural Res.*, 504 U.S. 353, 367 (1992) (striking down a state law discriminating against out-of-state waste but noting that the “conclusion would be different if the imported waste raised health or other concerns not presented by [in-state] waste”); *Chem. Waste Mgmt. v. Hunt*, 504 U.S. 334, 348 (1992) (striking down a state law discriminating against out-of-state wastes because they posed “no

If Maine's statute served a legitimate purpose, then state laws regulating ballast water discharges to address invasive species do as well. Like the parasites that presented unique threats to native species in *Taylor*,⁹⁹ only nonnative ballast water contains nonnative invasive species that pose unique environmental threats to a state's waters. Native species are part of the natural ecosystem and therefore do not bring about the problems wrought by invasive species. Numerous studies have found that most of the invasive species in the Great Lakes, including the astronomically expensive zebra mussel, are directly attributable to the discharge of ballast water from oceangoing vessels.¹⁰⁰ On the other hand, the ballast water from nonocean-going vessels should contain only species that are native to the Great Lakes region and that are, by definition, not invasive species. Thus, as in *Taylor*, states that pass ballast water laws have legitimate "reason[s], 'apart from the[] origin'"¹⁰¹ of out-of-state ballast water to treat such ballast water differently.

Indeed, the argument for upholding state laws addressing invasive species is much stronger today than it was when the Court decided *Taylor*, because there is no longer any doubt that invasive species pose a serious threat to waterbodies and the native species that inhabit them.¹⁰² In the twenty years since *Taylor*, scientists have amassed a large amount of data proving that those environmental risks are clearly not negligible.¹⁰³ Non-native species indeed threaten native populations and cause billions of dollars worth of damage to local economies.¹⁰⁴ Further, because state ballast water laws do not aim to benefit the regulating state's economy at the

unique threat"); *Taylor*, 477 U.S. at 149 n.19 ("Even overt discrimination against interstate trade may be justified where, as in this case, out-of-state goods or services are particularly likely for some reason to threaten the health and safety of a State's citizens or the integrity of its natural resources . . .").

99. *Taylor*, 477 U.S. at 148.

100. See *supra* note 15 and accompanying text. For an example of how the term "oceangoing" is defined with reference to the Great Lakes, see *supra* text accompanying note 49.

101. *Taylor*, 477 U.S. at 152 (quoting *Philadelphia*, 437 U.S. at 627). The *Philadelphia* Court struck down a state law banning the importation of out-of-state waste because there was no "reason, apart from their origin, to treat them differently." *Philadelphia*, 437 U.S. at 627, 629. Also, although this Note will not attempt to address the intricacies of quarantine laws, it is worth noting that the *Philadelphia* Court stated that "quarantine laws have not been considered forbidden protectionist measures, even though they were directed against out-of-state commerce." *Id.* at 628. Justice Rehnquist's forceful dissent seized upon this language as support for upholding state laws that ban the importation of waste. See *id.* at 631–32 (Rehnquist, J., dissenting). Although the majority rejected this argument in the context of out-of-state waste, invasive species—which have the ability to spread far and wide—arguably present a much closer analogy to those substances that justified discriminatory quarantine laws. Indeed, Justice Thomas wrote a more recent dissenting opinion that cited *Taylor* (which upheld a state ban on certain nonnative species) as an example of the proposition announced as long ago as 1888 "that States can prohibit the importation of 'cattle or meat or other provisions that are diseased or decayed, or otherwise . . . unfit for human use or consumption.'" *Camps Newfound/Owatonna, Inc. v. Town of Harrison*, 520 U.S. 564, 620 (1997) (Thomas, J., dissenting) (quoting *Bowman v. Chicago & Nw. Ry. Co.*, 125 U.S. 465, 489 (1888)).

102. See *supra* notes 13–18 and accompanying text.

103. See *supra* notes 13–18 and accompanying text.

104. See *supra* notes 13–18 and accompanying text.

expense of out-of-state interests, they are not clouded by “what the [*Taylor*] Court of Appeals took to be signs of protectionist intent.”¹⁰⁵ Because state ballast water laws make it more difficult for the regulating state to export its own in-state goods,¹⁰⁶ these laws cannot be characterized as economic protectionism and are therefore less susceptible to the claim that they aim at an illegitimate local purpose. The only purpose of state ballast water laws is to prevent the introduction and spread of invasive species, a purpose that *Taylor* held to be legitimate.¹⁰⁷

2. The Purpose Behind State Ballast Water Laws Could Not Be Served as Well by Nondiscriminatory Means

Because state ballast water laws serve a legitimate local purpose, they will survive a Dormant Commerce Clause challenge, even if discriminatory in nature, so long as nondiscriminatory means could not achieve a similar result.¹⁰⁸ Dormant Commerce Clause doctrine demands that states refrain from burdening interstate commerce to promote a legitimate local purpose if “alternative means could promote this local purpose as well without discriminating against interstate commerce.”¹⁰⁹

It is difficult to imagine alternatives that would prevent the introduction of invasive species. Although the U.S. Coast Guard currently requires ships to undergo open-ocean ballast water exchange before discharging any ballast water,¹¹⁰ numerous studies have found that such exchanges do not

105. *Taylor*, 477 U.S. at 148. The Supreme Court ultimately rejected the argument that Maine had enacted its prohibition on live baitfish to encourage a local market for live baitfish. *Id.* at 150.

106. *See supra* Section I.A.2.

107. *Taylor*, 477 U.S. at 151 (upholding the district court’s finding that Maine’s law to keep out nonnative species and parasites “serves legitimate local purposes”).

108. *See id.*

109. *Id.* at 146 (citing *Hughes v. Oklahoma*, 441 U.S. 322, 336 (1979)).

110. 33 C.F.R. § 151.1510(a) (2006). These regulations list three options, the first of which describes open-ocean exchange:

(1) Carry out an exchange of ballast water on the waters beyond the EEZ [Exclusive Economic Zone], from an area more than 200 nautical miles from any shore, and in waters more than 2,000 meters (6,560 feet, 1,093 fathoms) deep, prior to entry into the Snell Lock, at Massena, New York, or prior to navigating on the Hudson River, north of the George Washington Bridge, such that, at the conclusion of the exchange, any tank from which ballast water will be discharged contains water with a minimum salinity level of 30 parts per thousand.

(2) Retain the vessel’s ballast water on board the vessel. If this method of ballast water management is employed, the COTP may seal any tank or hold containing ballast water on board the vessel for the duration of the voyage within the waters of the Great Lakes or the Hudson River, north of the George Washington Bridge.

(3) Use an alternative environmentally sound method of ballast water management that has been submitted to, and approved by, the Commandant prior to the vessel’s voyage. Requests for approval of alternative ballast water management methods must be submitted to the Commandant (G-M), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001.

Id. Because the U.S. Coast Guard has not yet approved of any alternative treatment methods, *see, e.g.*, Plaintiffs’ Summary Judgment Brief at 8, *Fednav, Ltd. v. Chester*, No. 07-11116, 2007 WL

prevent the discharge of aquatic nuisance species.¹¹¹ Moreover, as in *Taylor*, there are no standardized techniques for determining whether a particular vessel carries invasive species.¹¹²

The *Taylor* Court held that a lack of alternatives in that case justified an all-out ban.¹¹³ Alternative measures, such as standardized inspection techniques, had “not yet been devised.”¹¹⁴ Thus, Maine’s “legitimate local purposes . . . could not adequately be served by available nondiscriminatory alternatives.”¹¹⁵ This reasoning would support state laws requiring a “zero discharge standard,” meaning that ships could only discharge ballast water if they used a treatment method that killed all invasive species. Because no treatment methods can currently meet a zero discharge standard,¹¹⁶ requiring such a standard would effectively ban all discharges of ballast water in the regulating state’s ports. Nevertheless, such a ban would be no different than the Maine statute that survived constitutional challenges in *Taylor*.¹¹⁷ Moreover, a recent report on ballast water discharges concluded that based on current information the only level of discharges that will definitely prevent the introduction of aquatic nuisance species is zero.¹¹⁸ Until someone proves that a more relaxed standard would protect a state’s waters from invasive species, a state “is not required to develop new and unproven means of protection at an uncertain cost”¹¹⁹ and can therefore justify an outright ban on ballast water discharges. Because even an outright ban on ballast water discharges would be a justified means for preventing the spread of invasive species, less burdensome means must also be justified.¹²⁰

2336072 (E.D. Mich. Aug. 15, 2007), open-ocean exchange currently remains the only option (outside of an emergency discharge for safety reasons) that is available to shippers who wish to discharge ballast water, *see* 33 C.F.R. § 151.1510(a).

111. *See* sources cited *supra* note 20.

112. M. FALKNER ET AL., CAL. STATE LANDS COMM’N, REPORT ON PERFORMANCE STANDARDS FOR BALLAST WATER DISCHARGES IN CALIFORNIA WATERS 4 (2006), *available at* <http://ucce.ucdavis.edu/files/filelibrary/5802/25917.pdf> (“Barriers to furthering ballast water treatment technology include: the lack of protocols for testing and evaluating performance . . .”).

113. *Taylor*, 477 U.S. at 151.

114. *Id.* at 150.

115. *Id.* at 151.

116. *See, e.g.*, M. FALKNER ET AL., CAL. STATE LANDS COMM’N, *supra* note 112, at 35 (“[T]he achievability of a zero discharge standard may not be possible at this time.”). The California Commission set a goal of reaching a zero discharge standard by 2020. *Id.* at iii.

117. *See Taylor*, 477 U.S. at 132.

118. M. FALKNER ET AL., CAL. STATE LANDS COMM’N, *supra* note 112, at iii.

119. *Taylor*, 477 U.S. at 147.

120. For instance, Michigan has banned the discharging of *untreated* ballast water. *See supra* notes 26–27 and accompanying text.

II. FEDERAL PREEMPTION ANALYSIS

The Supremacy Clause of the U.S. Constitution proclaims federal laws to be “the supreme Law of the Land.”¹²¹ A state is preempted from enacting laws that are incompatible with legitimate federal laws. Preemption can occur in one of three ways.¹²² First, a state law is preempted if Congress has passed a statute that *explicitly* states that it preempts any state law addressing the same issue.¹²³ Second, even if Congress has not explicitly included preemption language in a statute, a state law is preempted if one or more federal laws make it clear that Congress has “*implicitly* intended to occupy the field.”¹²⁴ Third, a state law is preempted if “it actually conflicts with” a federal law.¹²⁵ This last type of preemption—conflict preemption—is further subdivided into situations where it is physically impossible to comply with both sets of laws and situations where complying with state law would frustrate the purposes of federal law.¹²⁶

This Part argues that federal regulation of onboard equipment does not automatically preempt state ballast water laws that regulate the equipment ships must use to treat ballast water. Section II.A briefly notes that federal laws do not explicitly preempt states from regulating onboard treatments of ballast water. Section II.B argues that Congress has not implicitly occupied the field and concludes that federal law allows states to preapprove certain methods for treating ballast water. Finally, Section II.C argues that state ballast water laws should also survive the conflict preemption analysis.

A. *Explicit Preemption*

Federal law does not explicitly preempt states from enacting ballast water laws. Whenever Congress enacts a valid federal law, “Congress may explicitly define the extent to which [the federal law] intends to preempt state law.”¹²⁷ This is known as explicit preemption, and it prevents states from enacting laws addressing the issues that Congress has decided to regulate exclusively at the federal level.¹²⁸ Although Congress has addressed the

121. U.S. CONST., art. VI, cl. 2.

122. *Mich. Canners & Freezers Ass’n v. Agric. Mktg. & Bargaining Bd.*, 467 U.S. 461, 469 (1984).

123. *Id.*

124. *Chevron U.S.A., Inc. v. Hammond*, 726 F.2d 483, 486 (9th Cir. 1984) (emphasis added).

125. *Id.*

126. *E.g.*, *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 248 (1984).

127. *Mich. Canners & Freezers Ass’n*, 467 U.S. at 469.

128. For instance, when Congress passed the Endangered Species Act, Congress explicitly preempted states by legislating that “[a]ny State law . . . is void to the extent that it may effectively (1) permit what is prohibited by this chapter . . . , or (2) prohibit what is authorized pursuant to an exemption or permit provided for in this chapter or in any regulation which implements this chapter.” 16 U.S.C. § 1535(f) (2000) (emphasis added). This passage is also illustrative of Congress’s ability to refine the area that is preempted—in this part of the Endangered Species Act, Congress’s explicit preemption only applies to state laws that are less protective than federal laws, whereas states are free to pass laws that are more protective: “Any State law . . . may be more restrictive than

issue of aquatic nuisance species twice (once in 1990 and again in 1996), it has failed in both instances to include express preemption language.¹²⁹ In fact, the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (“NANPCA”), as amended by the Nonindigenous Invasive Species Act of 1996 (“NISA”), included a saving clause that explicitly recognized the ability of states to pass their own laws to address this issue:

All actions taken by Federal agencies in implementing the provisions of section 4722 of this title shall be consistent with all applicable Federal, State, and local environmental laws. Nothing in this chapter shall affect 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.¹³⁰

The saving clause makes it clear that Congress did not explicitly preempt states here.

B. *Occupation of the Field Preemption*

Federal law does not occupy the field of ballast water regulations. Although Congress has not explicitly preempted state laws regulating ballast water, a state law is still preempted if one or more federal laws make it clear that Congress has “*implicitly* intended to occupy the field.”¹³¹ If Congress passed valid laws that demonstrated intent to have exclusive power to regulate in this area, courts would likely strike down state laws addressing the same matters, even if the state laws filled in gaps that federal laws left open. Courts are most likely to find federal preemption in fields where Congress has passed *comprehensive* federal regulations, where there is great need for *uniform* federal regulations, and where Congress has a *history* of regulating the field at the federal level.¹³² Similarly, courts are most likely to allow state regulations in fields where Congress has left large gaps, where there is no need for national uniformity, and where states have a history of regulating the field.

This Section contends that federal law allows states to preapprove certain methods for treating ballast water. Section II.B.1 argues that federal law does not preempt state ballast water laws that focus on discharges. Section II.B.2 concedes that under existing precedent federal law would preempt

the exemptions or permits provided for in this chapter . . .” *Id.*; see also DALE D. GOBLE & ERIC T. FREYFOGLE, *WILDLIFE LAW* 1290–91 (2002) (describing this part of the Endangered Species Act as creating a floor, but not necessarily a ceiling).

129. 16 U.S.C. § 4701–4751 (2000) (codifying the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended by the Nonindigenous Invasive Species Act of 1996).

130. 16 U.S.C. § 4725.

131. *Chevron U.S.A., Inc. v. Hammond*, 726 F.2d 483, 486 (9th Cir. 1984) (emphasis added); see also *Kerr-McGee Corp.*, 464 U.S. at 248 (“If Congress evidences an intent to occupy a given field, any state law falling within that field is pre-empted.”).

132. *Chevron*, 726 F.2d at 486. Other factors include “consideration of state police power” and “congressional intent that there be collaborative federal/state efforts to protect the marine environment.” *Id.*

state ballast water laws that prescribe the *only* type of equipment that ships can use to treat ballast water. Finally, Section II.B.3 argues that this limited area of federal preemption does not prevent states from passing ballast water laws that preapprove specific equipment and methods for treating ballast water.

1. *Federal Law Does Not Preempt State Ballast Water Laws that Focus on Discharges*

Federal law does not preempt state ballast water laws that focus on regulating the discharges of oceangoing vessels. In *Chevron U.S.A., Inc. v. Hammond*, the Ninth Circuit held that federal laws did not preempt an Alaska statute regulating ballast water discharges of oil tankers.¹³³ The state statute at issue in *Chevron* banned the discharge of ballast water that had been stored in an oil tank.¹³⁴ The statute noted that oily ballast water must be brought to “an onshore ballast water treatment facility and may not be discharged into the waters of the state.”¹³⁵ U.S. Coast Guard regulations, on the other hand, allowed the discharge of ballast water that contained small amounts of oil residue, since the Coast Guard considered such ballast water to be “clean.”¹³⁶ The Alaska legislature passed its more restrictive law because it did not believe that the federal government was doing enough to protect Alaska’s waters from the oil that mixes with ballast water held in oil cargo tanks: “even the small amount of oil contained in ballast meeting the federal definition of ‘clean’ causes harm to the Alaskan marine environment.”¹³⁷ Although second-guessing of federal laws by the states is normally a violation of the Supremacy Clause, the Ninth Circuit held that Alaska was not preempted from regulating in this area.¹³⁸ The Ninth Circuit reasoned that “Congress did not implicitly intend to occupy the field of regulating discharges of pollutants from tankers into a state’s territorial waters.”¹³⁹

The lack of a need for uniformity weighs heavily in favor of allowing states to regulate this area. Of the three factors that courts look to when determining whether Congress intended to occupy the field,¹⁴⁰ the Ninth Circuit focused on whether a need for uniformity existed that would motivate Congress to want to preempt states from passing their own regulations. The court found that “there is no need for strict uniformity in regulating pol-

133. *Id.* at 501.

134. *Id.* at 485.

135. *Id.* at 485 n.1 (quoting ALASKA STAT. § 46.03.750(e) (1976)) (emphasis omitted).

136. *Id.* at 485–86. Significantly, these particular regulations applied only to oil tankers, and the term “clean” was only intended to mean that the ballast water was relatively free of oil residue. *See id.* Thus, these regulations were not in any way an attempt to regulate aquatic nuisance species.

137. *Id.* at 486.

138. *Id.* at 501.

139. *Id.* at 495.

140. *See supra* text accompanying note 132.

lutant discharges into the territorial waters.”¹⁴¹ It distinguished *Ray v. Atlantic Richfield Co.*,¹⁴² where the U.S. Supreme Court held that the federal Ports and Waterways Safety Act of 1972 preempted state laws in the field of regulating the design requirements of oil tankers.¹⁴³ The *Ray* Court reasoned that “Congress intended *uniform* national standards for design and construction of tankers that would foreclose the imposition of different or more stringent state requirements.”¹⁴⁴ According to the *Chevron* court, the preemption analysis of *Ray* only applied to “ship design and construction standards[, which] are matters for national attention.”¹⁴⁵ Environmental regulations concerning ocean pollutant discharges, “on the other hand, [have] long been regarded by the Court as particularly suited to local regulation.”¹⁴⁶

The *Chevron* court also found that the CWA expressed congressional intent to allow state ballast water laws to supplement federal laws because the area was not one that needed uniformity:

Congress has indicated emphatically that there is no compelling need for uniformity in the regulation of pollutant discharges

While design standards need to be uniform nationwide so that vessels do not confront conflicting requirements in different ports and so that the Coast Guard can promote international consensus on design standards, there is no corresponding dominant national interest in uniformity in the area of coastal environmental regulation. Here, in fact, the local community is more likely competent than the federal government to tailor environmental regulation to the ecological sensitivities of a particular area.¹⁴⁷

Because local regulation is preferable here, and there is no need for uniformity, federal law should not preempt state ballast water laws.

The CWA also supports allowing state ballast water laws because of “congressional intent that there be collaborative federal/state efforts to protect the marine environment.”¹⁴⁸ If Congress intentionally set up a collaborative regulatory system, it could not have intended for the federal government to have exclusive control over the field. The Ninth Circuit found evidence of congressional intent for collaborative federal/state efforts to reduce water pollution in

141. *Chevron*, 726 F.2d at 495.

142. 435 U.S. 151 (1978).

143. *Ray*, 435 U.S. at 173–78.

144. *Id.* at 163 (emphasis added).

145. *Chevron*, 726 F.2d at 488 (quoting *Ray*, 435 U.S. at 166 n.15).

146. *Id.*

147. *Id.* at 491–93 (citation omitted). For an interesting empirical analysis of how local variations (such as membership in the Sierra Club) have a significant effect on the enforcement of CWA violations, see Eric Helland, *Environmental Protection in the Federalist System: The Political Economy of NPDES Inspections*, 36 *ECON. INQUIRY* 305, 311–13 (1998).

148. *Chevron*, 726 F.2d at 486.

the CWA's National Pollutant Discharge Elimination System ("NPDES").¹⁴⁹ Under the NPDES program, "the states maintain primary responsibility for abating pollution in their jurisdictions; they have authority to establish and administer their own permit systems and to set standards stricter than the federal ones."¹⁵⁰ Similarly, the CWA affirms that Congress intended "to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution."¹⁵¹ These provisions of the CWA led the Ninth Circuit to conclude that "Congress has clearly expressed its intent to allow the states to take an active role in abating water pollution."¹⁵² This reasoning suggests that federal laws should not preempt state laws that focus on regulating discharges from vessels into state waters.

Although *Chevron* was decided before NISA and NANPCA, those later statutes only bolster the argument that Congress intended to leave room for state regulations in the field of ballast water discharges. Indeed, NANPCA's saving clause, which recognizes the authority of states to pass their own control measures, arguably encourages states to pass laws that supplement the federal regulations.¹⁵³ Even the U.S. Coast Guard, which is in charge of implementing NANPCA and would likely prefer an exclusively federal approach to regulating ballast water discharges, has interpreted NANPCA's saving clause as "allow[ing] for states to develop their own . . . prevention measures."¹⁵⁴

Even when Congress has not sanctioned state regulation in a particular area, state interests can play a role in how courts decide to handle a preemption case,¹⁵⁵ and states undoubtedly have a strong interest in protecting their waterways and fisheries from invasive species.¹⁵⁶ When states have such strong interests in a particular field, courts may infer congressional intent to sanction states' individual regulations. Although congressional intent theoretically supersedes all other interests,¹⁵⁷ courts have broad discretion when

149. *Id.* at 489 (citing 33 U.S.C. § 1342 (1976 & Supp. V 1981)) ("[It was] Congress' intent that, within three miles of shore, the protection of the marine environment should be a collaborative federal/state effort rather than an exclusively federal one.").

150. *Id.* (citing 33 U.S.C. §§ 1342(b), 1370).

151. *Id.* (quoting 33 U.S.C. § 1251(b)).

152. *Id.*

153. *See supra* note 130 and accompanying text (citing NANPCA, 16 U.S.C. § 4725 (2000)).

154. Ballast Water Management for Vessels Entering the Great Lakes That Declare No Ballast Onboard, 70 Fed. Reg. 51,831, 51,832 (Aug. 31, 2005).

155. *See Chevron*, 726 F.2d at 486 (referring to "consideration of state police power" as a relevant factor); *see also* ERWIN CHEMERINSKY, CONSTITUTIONAL LAW: PRINCIPLES AND POLICIES 376–79 (2d ed. 2002).

156. *See supra* Section I.C.1.

157. *E.g.*, CHEMERINSKY, *supra* note 155, at 377 n.6. Interestingly, federal Indian law jurisprudence, on the other hand, has explicitly recognized a role for state interests in the preemption analysis:

[O]ur cases have rejected a narrow focus on congressional intent to preempt State law as the sole touchstone. . . . State jurisdiction is preempted by the operation of federal law if it inter-

attempting to discern such intent, and, in the absence of explicit preemption, the tests for field occupation and frustration of Congress's purpose often do not yield obvious answers.¹⁵⁸ For instance, in *Pacific Gas & Electric v. State Energy Resources Conservation & Development Commission*,¹⁵⁹ the U.S. Supreme Court upheld a California law imposing a moratorium on building nuclear power plants.¹⁶⁰ The Court noted two things: (1) "the Federal Government has occupied the entire field of nuclear *safety* concerns;"¹⁶¹ and (2) California was prohibiting the construction of new nuclear plants "until its *safety* concerns [were] satisfied."¹⁶² This seemed like a straightforward case of federal preemption, and, indeed, the Court noted that a "state moratorium on nuclear construction grounded in safety concerns falls squarely within the prohibited field."¹⁶³ Nevertheless, the Court proceeded to search for a "nonsafety rationale"¹⁶⁴ and found one in California's "avowed economic purpose."¹⁶⁵ The Court parsed out this economic purpose, and, without inquiry into whether it was "California's true motive," accepted it as grounds for upholding the state law.¹⁶⁶ In doing so, the *Pacific Gas and Electric* Court exemplified the enormous amount of flexibility and discretion inherent in the preemption test. This discretion helps courts uphold state laws against preemption challenges when such laws address crucial state interests, as state ballast water laws do.

2. Federal Law Preempts State Ballast Water Laws that Prescribe the Only Type of Onboard Equipment Ships Can Use

Although NANPCA's saving clause bolsters the argument that Congress intended to allow states to supplement federal laws regulating ballast water discharges, existing precedent still prevents states from passing laws that prescribe the *only* type of equipment ships can use. The *Ray* Court struck down state laws that the Court found to be preempted by the Ports and Waterways Safety Act of 1972,¹⁶⁷ a federal law that also contained a saving

feres or is incompatible with federal and tribal interests reflected in federal law, *unless the State interests at stake are sufficient to justify the assertion of state authority.*

New Mexico v. Mescalero Apache Tribe, 462 U.S. 324, 334 (1983) (emphasis added).

158. See CHEMERINSKY, *supra* note 155, at 377–78.

159. 461 U.S. 190 (1983).

160. *Pac. Gas & Elec.*, 461 U.S. at 216.

161. *Id.* at 212 (emphasis added). The Court qualified this statement by noting an exception for instances where Congress had "expressly ceded" powers to the state, such as the regulation of radioactive air pollutants. *Id.* at 212 & n.25. Those instances were not applicable to the case at hand. *See id.*

162. *Id.* at 212 (emphasis added).

163. *Id.* at 213.

164. *Id.*

165. *Id.* at 216.

166. *Id.*

167. *Ray v. Atlantic Richfield Co.*, 435 U.S. 151, 173–78 (1978).

clause specifically allowing states “to impose additional liability or additional requirements.”¹⁶⁸ Moreover, in *United States v. Locke*, the Supreme Court revisited and reaffirmed most of the analysis in *Ray*, and the Court warned against placing “more weight on the saving clauses than those provisions can bear.”¹⁶⁹

If state ballast water laws prescribe the only type of equipment that can be used on ships, an area that has a strong need for uniformity, those laws would likely be as doomed as the state laws that the Supreme Court stuck down in *Locke*. It would be difficult to argue that NANPCA’s saving clause expresses Congressional intent “to disrupt national uniformity in all of these matters.”¹⁷⁰ The *Locke* Court emphasized the need for “uniformity of regulation for maritime commerce”¹⁷¹ and found that federal laws regulating oil tankers expressed a “congressional desire of achieving *uniform, international standards.*”¹⁷² Even the *Chevron* court noted that vessel design and traffic safety are “international matters,” and states cannot regulate in this area of “exclusively federal concerns.”¹⁷³ The Supreme Court has held that design and construction standards “could not properly be left to the diverse action of the States” because each state might pass its own particular set of rules and thereby create different standards.¹⁷⁴ Thus, “only the Federal Government may regulate the ‘design, construction, alteration, repair, maintenance, operation, *equipping*, personnel qualification, and manning’ of tanker vessels.”¹⁷⁵ Although this list only applies to “tanker vessels,” since the *Ray* and *Locke* decisions assessed only the preemptive effect of federal laws regulating oil tankers, courts could easily analogize the holdings of these cases to state laws regulating the “equipping” of any cargo ship.

This broad language giving the federal government exclusive control over the equipping of tanker vessels is probably the greatest threat to state laws that regulate ballast water discharges by specifying the type of onboard equipment that cargo vessels must use to treat ballast water. Listing approved treatment methods and specifying how these treatments must be done opens a state to legal challenges that it is regulating the “equipping”—and maybe also the operation—of cargo ships, when this might be a field that “only the Federal Government may regulate.”¹⁷⁶ For example, before Michigan released a General Permit that lists four specific treatment meth-

168. 33 U.S.C. § 2718 (1994) quoted in *United States v. Locke*, 529 U.S. 89, 105 (2000).

169. *Locke*, 529 U.S. at 105.

170. *Id.* at 106.

171. *Id.* at 108.

172. *Id.* at 110 (quoting *Ray*, 435 U.S. at 168) (emphasis added); see also *Ray*, 435 U.S. at 166 n.15 (“[S]hip design and construction standards are matters for national attention.”).

173. *Chevron U.S.A., Inc. v. Hammond*, 726 F.2d 483, 493 (9th Cir. 1984).

174. *Ray*, 435 U.S. at 166 n.15 (quoting *Kelly v. Washington ex rel. Foss Co.*, 302 U.S. 1, 15 (1937)).

175. *Locke*, 529 U.S. at 111 (quoting 46 U.S.C. § 3703(a) (2000)) (emphasis added).

176. *Id.*

ods and how they must be carried out,¹⁷⁷ lawyers for the shipping industry submitted comments analogizing between the laws and regulations Michigan passed and the state laws struck down in *Ray* and *Locke*.¹⁷⁸ These similarities give the shipping industry a strong argument that, as in *Ray*, this is an area that “could not properly be left to the diverse action of the States.”¹⁷⁹

Unlike regulations that focus on the discharges of vessels, an area where Congress has expressed an intent to allow “collaborative federal/state effort[s],”¹⁸⁰ state laws like those that Michigan has adopted might appear to tread upon an area of “exclusively federal concerns.”¹⁸¹ In addition to the need for uniformity in this area, this is “an area where the federal interest has been manifest since the beginning of our Republic and is now well established.”¹⁸² Thus, some of the traditional factors, such as the need for uniformity and the history of regulation in the field, arguably point toward federal preemption of state regulation that prescribes the only type of equipment that shipping vessels can use.

3. Federal Law Does Not Preempt State Ballast Water Laws that Specify the Equipment that is Preapproved Under a General Permit

Although state laws cannot prescribe the *only* type of equipment that cargo ships must use when operating in that state’s waters, states are not preempted from doing what Michigan has done—namely, specifying the equipment that is preapproved under a General Permit. The *Ray* Court, for example, upheld a Washington state law requiring vessels to receive a tug-escort if they could not meet the state’s design requirements.¹⁸³ The Court ultimately determined that the “overall effect” of the law did not force shippers to make specific design changes.¹⁸⁴ The Court noted that

177. See *supra* notes 28–30 and accompanying text.

178. Compare Letter from Kenneth C. Gold, Partner, Honigman Miller Schwartz & Cohn LLP, to Mich. Dep’t of Env’t. Quality (July 27, 2006) (“[W]hat would happen to interstate and international shipping if Michigan requires system ‘x,’ Wisconsin demands system ‘y,’ and Ontario insists on system ‘z’?”), with *Ray*, 435 U.S. at 166 n.15 (“The State of Washington might prescribe standards, designs, equipment and rules of one sort, Oregon another, California another, and so on.” (quoting *Kelly*, 302 U.S. at 15)).

179. *Ray*, 435 U.S. at 166 n.15 (quoting *Kelly*, 302 U.S. at 15); see also *Locke*, 529 U.S. at 111 (“Congress has left no room for state regulation of these matters.”).

180. *Chevron U.S.A., Inc. v. Hammond*, 726 F.2d 483, 489 (9th Cir. 1984).

181. *Id.* at 493. But see *infra* Section II.B.3 for an explanation of why a more in-depth look reveals that federal law does not preempt Michigan’s regulatory scheme.

182. *Locke*, 529 U.S. at 99; accord *id.* at 108 (“Congress has legislated in the field [of maritime commerce] from the earliest days of the Republic, creating an extensive federal statutory and regulatory scheme.”). When the *Fednav* court recently looked at this issue, it also found that state ballast water laws such as those passed by Michigan “strongly bear[] upon interstate and foreign maritime commerce” and therefore do not receive any presumption against preemption. *Fednav, Ltd. v. Chester*, No. 07-11116, 2007 WL 2336072, at *8 (E.D. Mich. Aug. 15, 2007).

183. *Ray*, 435 U.S. at 179.

184. *Id.* at 180.

Washington's law was not an indirect method to force shippers to meet the state's design requirements because tanker operators likely would choose to rely on tug-escorts rather than undergo significantly more expensive design changes.¹⁸⁵ Although state ballast water laws are more likely to lead shippers to make design changes, since other options (such as stopping discharging altogether) are more costly than the tug-boat option in *Ray*, these laws do provide other viable options. As long as the equipment specifications in state ballast laws only apply to those oceangoing vessels that wish to seek preapproval under a General Permit, vessels can elect either of the following options to avoid the equipment requirements specified in the General Permit: (1) find ways to avoid discharging any ballast water,¹⁸⁶ or (2) seek individual permits for whatever equipment they prefer to use. Because these options allay the fear expressed by the *Ray* court that a state could force shippers to undergo specific equipment changes,¹⁸⁷ states are not preempted from specifying the equipment that is preapproved under a General Permit.¹⁸⁸

185. *Id.* at 173 n.25.

186. For one explanation of how ships could use existing technologies to coordinate the loading and unloading of cargo to avoid discharging ballast water, see Transport Desgagnés, Inc., *supra* note 60. It is also not unreasonable to suggest that proper incentives could lead the shipping industry to develop new technologies that would allow cargo ships to avoid discharging ballast water. For instance, when Alaska banned the discharging of ballast water contaminated by oil, see *supra* notes 134–137 and accompanying text, this created an incentive for the shipping industry to find and use technologies that would allow oil to be stored in ballast water tanks without polluting any of the ballast water stored in the same tanks. At least one type of system—the dual membrane system, which uses “stretchable membranes” to separate oil from water within the tanks—was already available at the time. Cargo/ballast Separation by Dual Membrane Sys., U.S. Patent No. 3,943,873 (filed Mar. 18, 1974) (issued Mar. 16, 1976).

187. While individual permits would require shippers to undergo equipment changes of some kind, the Supreme Court has previously upheld local laws limiting the amount of smoke that ships can emit even though “[s]tructural alterations would be required in order to insure compliance.” See *Huron Portland Cement Co. v. City of Detroit*, 362 U.S. 440, 441, 448 (1960). Thus, the *Ray* Court could not have meant to preclude states from ever requiring shippers to undergo some form of design and equipment changes. Rather, the *Ray* Court was primarily concerned with the possibility that each state might force shippers to abide by a whole host of inconsistent laws. See *supra* text accompanying note 174. The Supreme Court expressed a similar concern in the Dormant Commerce Clause context when it struck down an Illinois mudflap law that directly conflicted with an existing Arkansas law. See *Bibb v. Navajo Freight Lines, Inc.*, 359 U.S. 520, 527, 530 (1959). The Illinois law would have required truckers to stop at the border and spend two to four hours attaching the specific mudflaps that Illinois required. *Id.* at 527. State ballast water laws avoid these concerns by allowing shippers to comply with every state's laws either by not discharging ballast water at all or by applying for an individual permit for a system that will meet the standards of the strictest state laws.

188. These options (avoiding discharging of ballast water or seeking individual permits to use different equipment) also help address the concern that state ballast water laws might have impermissible extraterritorial effects. In *Locke*, the Supreme Court implied that it would not look favorably upon state laws that have extraterritorial effects “requiring [a] tanker to modify its primary conduct outside the specific body of water purported to justify the local rule.” *United States v. Locke*, 529 U.S. 89, 112 (2000). Michigan's ballast water laws arguably fit into this category because they list several treatments that could require shippers to take measures while outside of Michigan's jurisdiction. See GENERAL PERMIT, *supra* note 28, at 4 (requiring a nineteen hour holding time for hypochlorite treatment); *id.* at 7 (requiring a twenty-four hour holding time for chlorine dioxide treatment); *id.* at 11 (requiring a forty-eight hour holding time for deoxygenation treatment); see also *id.* at 9 (requiring ultraviolet radiation treatment to occur both upon discharging and upon taking in ballast water). Indeed, the *Fednav* court has recently acknowledged that Michigan's General Permit requires shippers to make changes “outside of Michigan's borders.” *Fednav, Ltd. v.*

C. Conflict Preemption

State ballast water laws should also survive the conflict preemption analysis. When Congress has not occupied the field—explicitly or implicitly—states are free to pass laws that supplement the federal regulatory regime,¹⁸⁹ unless such laws “*actually conflict*[] with federal law.”¹⁹⁰ Actual conflict—also known as conflict preemption—occurs where “it is impossible to comply with both state and federal law, or where the state law stands as an obstacle to the accomplishment of the full purposes and objectives of Congress.”¹⁹¹ Because it is possible to comply with state ballast water laws and federal laws, and because such laws do not frustrate congressional purposes, these laws should survive the conflict preemption analysis.¹⁹²

Chester, No. 07-11116, 2007 WL 2336072, at *8 (E.D. Mich. Aug. 15, 2007). Nevertheless, because ships can avoid discharging or seek individual permits for treatments that could occur without any extraterritorial effects, these concerns are not as worrisome as they at first appear. Further, a ship could meet its minimum holding times while in the regulating state’s ports. Although this would slow down the shipping process, it would be justifiable because even the more extreme step of an all-out ban on discharges is justifiable here. *See supra* notes 116–119 and accompanying text.

189. *See, e.g.*, Gil Seinfeld, *The Puzzle of Complete Preemption*, 155 U. PA. L. REV. 537, 575 (2007) (“Absent field preemption, state legislatures are typically permitted to supplement the federal regime by, for example, imposing requirements on regulated entities above and beyond what federal law requires.”). Professor Seinfeld uses the word “typically” to indicate that “states might be prohibited from supplementing a federal regulatory scheme, if doing so would ‘frustrate the purpose’ of the federal scheme.” *Id.* at 575 n.117. For a discussion of whether state ballast water laws frustrate of purpose of the federal scheme, see *infra* Section II.C.2.

190. *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 248 (1984) (emphasis added).

191. *Id.* (citations omitted).

192. The *Fednav* court recently held in accordance with this view, although its treatment of the issue was somewhat cursory compared to the issues explored in this Section. *See Fednav*, 2007 WL 2336072, at *11. The *Fednav* court also failed to note that the only situation in which conflict preemption might arise would be if a state approved specific treatments that ran counter to federal regulation in this area. Specifically, state laws allowing the use of biocides arguably conflict with the federal requirement that any alternative ballast water treatment system be an “environmentally sound method . . . approved by[] the [Coast Guard] Commandant.” 33 C.F.R. § 151.1510(a)(3) (2006). Federal law defines “‘environmentally sound’ methods” as methods that “emphasize . . . nonchemical measures.” NANPCA, 16 U.S.C. § 4702(6) (2000). Thus, those portions of state ballast water laws that allow treatment methods using biocides that are obviously chemical measures, *see, e.g.*, GENERAL PERMIT, *supra* note 28, at 4–8 (permitting the use of hypochlorite treatment and chlorine dioxide treatment), may be in conflict with federal law and may not survive a preemption analysis. Of course, these portions should be easily severable from the rest of the state’s regulatory scheme. Indeed, severing the approval of biocide treatments from a state’s regulatory scheme would not only prevent state ballast water laws from conflicting with federal regulation, but it would also have the practical effect of forcing shippers to find nonchemical solutions for treating ballast water. For reasons why chemical treatments are poor choices for treating ballast water, see Public Comment Letter from Neil S. Kagan, Senior Counsel, and Kyle Landis-Marinello, Legal Intern, National Wildlife Federation’s Great Lakes Natural Resource Center, to Barry Burns, Water Bureau, Michigan Department of Environmental Quality 10–17 (July 26, 2006) (on file with author) (compiling numerous studies on the effects of chlorine dioxide and hypochlorite treatments and concluding that these treatments are not environmentally sound).

1. *Impossible to Comply with Both State and Federal Law*

State ballast water laws do not make it impossible for ships to comply with applicable federal laws. Pursuant to NANPCA,¹⁹³ the U.S. Coast Guard has promulgated regulations regarding ballast water management.¹⁹⁴ Specifically, the Coast Guard has mandated that cargo ships entering the Great Lakes carrying ballast water can only discharge that water if they have either (1) carried out a deep-water open-ocean exchange of their ballast water at least two hundred miles away from any shore, *or* (2) treated the ballast water with “an alternative environmentally sound method . . . approved by[] the [Coast Guard] Commandant.”¹⁹⁵ State laws addressing ballast water discharges are unlikely to run afoul of the Coast Guard’s regulations because a vessel can comply with both sets of laws. For instance, a vessel could avoid discharging ballast water, and this would clearly comply with both sets of laws.¹⁹⁶ Alternatively, a vessel could do an open-ocean exchange to meet the Coast Guard’s standards and then do an additional treatment to meet the regulating state’s standards.

2. *Frustration of Purposes*

State ballast water laws do not frustrate the purposes of federal laws addressing the subject. The Supreme Court has noted that even when it is physically possible to comply with state and federal law, state law is preempted if it “stands as an obstacle to the accomplishment of the full purposes and objectives of Congress.”¹⁹⁷ Congress has given the U.S. Coast Guard broad authority over regulating the safety of ships, and state ballast water laws do not place any obstacles in the accomplishment of that purpose because nothing in these state laws will detract from—or interfere with—the U.S. Coast Guard’s authority.¹⁹⁸

Although state ballast water laws force vessels to do more than what the federal government has required them to do, NANPCA’s saving clause recognized the need for state laws to augment the federal scheme.¹⁹⁹ Professor Jose Fernandez has noted that federal environmental laws often provide only

193. 16 U.S.C. §§ 4701–4751 (2000).

194. 33 C.F.R. §§ 151.1500–.2065 (2006). For the full version of this regulation, see *supra* note 110.

195. 33 C.F.R. § 151.1510(a) (2006).

196. See *supra* notes 60, 186 and accompanying text for an explanation of why this is not an unreasonable suggestion.

197. *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 248 (1984).

198. See *supra* Section II.C.1. State ballast water laws are only concerned with what leaves ships when they choose to discharge ballast into state waters. Thus, these laws are nowhere near the affront to U.S. Coast Guard authority that was at issue in *Ray* and *Locke*, where state laws explicitly aimed at preventing shipwrecks and thereby questioned the efficacy of the Coast Guard’s safety regulations. See *United States v. Locke*, 529 U.S. 89, 111 (2000) (“[T]he federal judgment that a vessel is safe to navigate United States waters prevail[s] over the contrary state judgment.” (quoting *Ray v. Atlantic Richfield Co.*, 435 U.S. 151, 165 (1978))).

199. See 16 U.S.C. § 4725 (2000).

a foundation and “generally allow[] for the enactment of more stringent state standards.”²⁰⁰ In the case of ballast water regulation, Congress intended NANPCA, like the CWA, to be a floor rather than a ceiling.²⁰¹ Thus, if anything, state ballast water laws actually further the purposes of Congress by building upon that floor.²⁰² The Supreme Court has historically shown great reluctance to find that state environmental laws such as these frustrate the purposes of federal legislation.²⁰³

CONCLUSION

In the absence of federal regulations, states must address the issue of ballast water discharges of invasive species, and they have broad discretion to do so without running afoul of the Dormant Commerce Clause or the Supremacy Clause. Although the shipping industry is likely to object to any efforts to regulate ballast water discharges,²⁰⁴ something must be done to stop this noontime dumping. Until the federal government passes comprehensive regulations to prevent the spread of invasive species, it is up to the states to pass such laws.

State ballast water laws do not discriminate against interstate commerce, and, even if they did, such laws would be justified by the benefits they bring and should therefore survive any Dormant Commerce Clause challenge. Professor Eric T. Freyfogle has noted that in general “environmental laws generate economic benefits that exceed their costs, usually by a wide margin.”²⁰⁵ By remedying market failures, environmental laws often lead to gains in overall efficiency.²⁰⁶ Although the economic benefits and costs of environmental laws are usually difficult to calculate,²⁰⁷ that is not the case with regard to oceangoing shipping to the Great Lakes. Indeed, such calculations have already been made, and they reveal that society currently pays roughly five billion dollars every year to save fifty-five million dollars.²⁰⁸

200. Jose L. Fernandez, *The Purpose Test: Shielding State Environmental Statutes From the Sword of Preemption*, 41 SYRACUSE L. REV. 1201, 1201 (1990).

201. See *supra* text accompanying notes 153–154. For an explanation of why the Clean Water Act is only a floor and therefore allows states to supplement federal regulation, see *supra* text accompanying notes 147–152.

202. The *Fednav* court also recently recognized that because the purpose of NANPCA is to prevent the introduction of invasive species, “another method which is designed to protect these waters cannot frustrate the purpose of the federal law.” *Fednav, Ltd. v. Chester*, No. 07-11116, 2007 WL 2336072, at *11 (E.D. Mich. Aug. 15, 2007).

203. See *supra* notes 155–166 and accompanying text.

204. Indeed, the shipping industry has already filed a lawsuit challenging Michigan’s ballast water laws. See Complaint, *Fednav, Ltd.*, 2007 WL 2336072 (E.D. Mich. Aug. 15, 2007).

205. ERIC T. FREYFOGLE, *WHY CONSERVATION IS FAILING AND HOW IT CAN REGAIN GROUND* 46 (2006).

206. *Id.* at 50.

207. See SAGOFF, *supra* note 16, at 108–10.

208. See *supra* notes 13–18 and accompanying text.

The lack of comprehensive federal regulation in this area allows state ballast water laws to survive federal preemption challenges as well. Although states must be careful in how they draft ballast water laws, federal law does not preempt state laws that focus on avoiding discharges of invasive species, even if such laws preapprove specific onboard equipment. If anything, state ballast water laws further the congressional goals behind the CWA and NANPCA, both of which encourage states to take additional measures to protect treasured waters.