



National Marine Manufacturers Association

Overview of the Recreational Boating Industry's Aquatic Stewardship through Technology, Innovation and Education

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Abstract

This study will provide an overview of the recreational boating industry's contributions to aquatic stewardship and environmental responsibility. It provides a thorough analysis of the boating industry's efforts to promote responsible recreation through the promotion of education and outreach programs, the development and marketing of new, environmentally friendly products and the cooperative efforts of the industry to work in conjunction with state and federal government to institute policies that protect the environment.

I. Introduction

The U.S. recreational marine industry, along with other outdoor recreation interests, has long been faced with the challenge of balancing the need to protect and preserve the environment with the desire to keep outdoor aquatic recreation open and accessible to the American public. Often, these two demands are seen to compete, and are sometimes even viewed as mutually exclusive. The National Marine Manufacturers Association (NMMA), however, takes a different view: environmental protection and open access for boating are mutually reinforcing—two goals which can be achieved by

similar means and at the same time. It is the goal of NMMA, the nation's leading recreational marine industry association, to make boating the number one choice in outdoor recreation. With that endeavor comes the responsibility to promote proper, environmentally-sustainable uses of America's aquatic resources.

The National Marine Manufacturers Association (NMMA) is the nation's largest recreational marine industry association, representing more than 1,600 boat builders, engine manufacturers, and marine accessory manufacturers, as well as more than 800 marina operators and owners through its affiliated Association of Marina Industries (AMI). NMMA members collectively produce more than 80 percent of all recreational marine products made in the United States, including boats, engines, and marine accessories and components.

NMMA and its member companies are well aware of the need to promote responsible boating. It has long been the aim of NMMA and the companies, large and small, comprising it to attain this outcome through a variety of mechanisms which at once serve the environment, the industry and those who depend on it for their economic well-being, and the boating enthusiasts who are closest to the resource. To that end, they have been actively involved in advancing the cause of aquatic stewardship through the development and marketing of new, innovative products and through the support of environmental initiatives and outreach.

Environmentally-friendly products are often pursued by companies because there is consumer demand and when companies offer pioneering, state-of-the-art products, they are helping shape consumer preferences. Boaters are increasingly concerned about things like water quality and the protection of important aquatic habitats and ecosystems.¹ Although innovative products initially come with a higher price tag, boaters are demonstrating their commitment to the environment by electing to purchase them. This is consistent with polling which indicates that consumers are increasingly drawn to green marketing campaigns and, given the choice, will opt for environmentally-friendly products and companies most of the time.²

The need for these product offerings is abundantly clear. The corporate role in—indeed responsibility for—advancing aquatic stewardship is based centrally on the notion that the making and marketing of advanced, environmentally-safe products constitutes an articulation of the need for responsible recreation and offers consumers the widest possible opportunities to do so. Though central, the corporate role in aquatic stewardship is far greater than simply offering environmentally-sensitive products. Therefore, we outline the marine industry's larger role in aquatic stewardship by discussing a sampling of past and present environmental initiatives as well as attempting to chart a course for future corporate participation in the important task of

¹ See, for example, Douglas Lipton, The Value of Improved Water Quality to Chesapeake Bay Boaters, Working Paper, University of Maryland, College Park (2003), at www.arec.umd.edu/Publications/papers/Working-Papers-PDF-files/03-16.pdf.

² For a general discussion of environmentalism and its impact on consumer purchasing, see Ketchum, Inc. at <http://www.ketchum.com/DisplayWebPage/0.1003.2870.00.html>.

preserving the beauty and bounty of the world's oceans, lakes, rivers, and coasts—all of which are essential to a thriving recreational marine industry.³

Although 70 percent of boating occurs in the nation's lakes,⁴ NMMA has taken note of the warnings regarding ocean environmental health issued by the United States Commission on Ocean Policy (USCOP) in its 2004 Final Report to the President and the United States Congress.⁵ In that report, which rightly acknowledges that "oceans affect and sustain all life on Earth," the commissioners conclude soberly, and simply, that "our oceans and marine resources are in serious trouble."⁶ NMMA has expressed its broad support for nearly all of the Commission's more than 200 recommendations directly to the Bush administration and to key Members of Congress, as well as to the Commission itself. Like our oceans, many of our lakes and rivers are experiencing similar environmental stresses, and users of these resources, federal, state and local agencies, and the public at large must be aggressive in attempting to improve the conditions of all America's aquatic resources. In America's nearly 1,800 federal lakes, which host more than 900 million visits each year and generate over \$44 billion in economic impact,⁷ almost 40 percent are said to suffer from some source of pollution or habitat degradation, while nearly half of America's 2,000 watersheds are "seriously or moderately deficient" in water quality.⁸

II. Boating, A Growth Industry

From the thrills of wakeboarding and waterskiing, to fishing, to simply enjoying the sunshine and fresh air of cruising along the coast, millions of Americans enjoy boats and related recreation every year. In 2005, recreational boating contributed approximately \$37 billion to the nation's economy.⁹ The more than 33,000 marine businesses in the United States support some 500,000 well-paying American jobs.¹⁰ The number of boats in use in 2004 was 17.6 million, an increase of 210,000 over 2003 and a more than 12.5 percent increase from 1989.¹¹ There are approximately 71.3 million boaters in the United States.¹² Despite a modest drop in overall boating

³ Of necessity, this overview represents merely a sampling of activities, accomplishments and developments and is not intended to comprise a comprehensive or exhaustive litany of the myriad innovations in products, technologies or outreach which the industry has inaugurated.

⁴ Mark Damian Duda, Vicki L. Wise, William Testerman, Steven J. Bissell, Alison Lanier, Factors Related to Recreational Boating Participation in the United States: A Review of the Literature, Harrisonburg, VA. (Responsive Management, Aug. 17, 2000), at 22.

⁵ United States Commission on Ocean Policy, An Ocean Blueprint for the 21st Century, Washington, D.C., (Sept. 2004).

⁶ U.S. Commission on Ocean Policy, Letter to the President, October 2004 at 1.

⁷ National Recreation Lake Study Commission, Reservoirs of Opportunity (June 1999), at 3. The Omnibus Parks and Land Management Act of 1996, P.L. 104-333, authorized the National Recreation Lakes Study Commission to assess "anticipated demand for recreational opportunities at federally-managed manmade lakes and reservoirs" and "to develop alternatives for enhanced recreational use of such facilities."

⁸ National Recreation Lake Study Commission, at 65, citing U.S. Environmental Protection Agency, National Water Quality Inventory: 1996 Report to Congress, Office of Water, Washington, D.C. EPA 841-R-97-008 (1998).

⁹ National Marine Manufacturers Association, Recreational Boating Statistical Abstract, Chicago, IL (2005).

¹⁰ Id.

¹¹ Id.

¹² Id.

participation during the past 15 years, it is clear that interest in boating is once again gaining traction among the American public. Certainly, the demographics are ripe for a significant increase in participation, with the baby boomer generation now reaching the age where time and financial resources for boating are no longer constraints but opportunities. NMMA is dedicated to growing boating further and expanding the industry in order to sustain a strong and socially-rewarding American enterprise. But as the popularity of recreational boating grows, so too does the responsibility to effectively foster a national ethic of sound environmental stewardship. To be sure, the boating industry takes this responsibility seriously. The efforts of the boating industry to help foster environmentally-appropriate behaviors among recreational boaters provide the focus for this paper.

The marine industry depends on its users to protect the environment, a behavior that comes naturally to most boaters. On water, especially, every action or sound a boater makes has a potential impact on air and water quality, near-shore and shoreline ecosystems, and the marine life which inhabit them. A responsible, common sense approach to boating will help protect aquatic ecosystems. Clearly, clean water is the foundation for enjoyable boating. At a basic level, it is up to those who appreciate and recognize the privilege of using America's aquatic environments to protect those resources now and for future generations. It is also incumbent upon manufacturers of boats and related products, however, to promote responsible boating practices and manufacture products that help safeguard the environment.

Industry is in a position to be a very positive force in promoting environmental stewardship through the "pursuit of new business opportunities and markets, reduction of operation footprints, development and deployment of new technology, and establishment of effective partnerships. In addition, business can demonstrate leadership in support for and reform of public policy that seeks to raise industry environmental performance standards in order to gain first-mover advantages while improving the reputation of their industry as a whole with important customers and constituencies."¹³ In the marine industry, through research and development, testing and employing technology of related industries, propulsion systems are gaining efficiency, waste treatment systems are becoming more effective, and maintenance products are getting greener. Industry workers understand that their livelihood depends on clean water, and that they play a critical role in helping to keep waters clean.

Indeed, it has long been the position of the association that a healthy and clean marine environment makes solid business sense. Not only does careful attention to environmental issues stave off cumbersome government regulations which slow business growth, but without clean and healthy waterways, the desire to boat will diminish. This outcome would have a direct and negative impact on the boating industry, shrinking the demand for boats, reducing interest in coastal tourism, and slowing the local economies that depend on these industries. Moreover, the marine

¹³ Millennium Ecosystem Assessment Business and Industry Synthesis Team, Millennium Ecosystem Assessment, Ecosystems and Human Well-Being: Opportunities and Challenges for Business and Industry. World Resources Institute, Washington, DC (2005), at 5.

industry recognizes that it is in the interest of everyone, from boat, engine and accessory manufacturers to boaters themselves, to promote sound environmental policies, enhance environmental awareness, and develop innovative marine technologies which ensure the long-term sustainability of America's aquatic treasures for current and future generations to enjoy. The efforts of the industry to promote sound environmental policies will be explained in further detail in a subsequent section.

Demand for marine products is inextricably tied to the health of marine environments. This linkage affirms the view that businesses in the marine industry are enhanced rather than hindered by adhering to environmental standards and advancing products which protect aquatic resources. This explains why the recreational boating industry has historically been well ahead of the curve in advancing new technologies, meeting new government regulations, and never shying from the apparent challenges associated with maintaining a healthy corporate bottom line as well as a healthy environment. As the entire marine industry embarks on a coordinated, multi-year, multi-million dollar venture to increase interest in boating and create an entirely new crop of boating consumers through the Grow Boating Initiative, it is clear that environmental awareness and corporate environmental responsibility will play a key role in locating new market opportunities, attracting new boaters, and enhancing the overall boating experience.

III. Environmental Challenges for the Boating Industry

In April 2003, *Environmental Health Perspectives*, a journal on environmental and human health, published an article discussing some of the environmental concerns associated with recreational boating. The article, "The Environmental Pain of Pleasure Boating," overly dramatizes and substantially mischaracterizes boating's impact on the environment as "death by a thousand cuts," in which recreational watercrafts "put petroleum products, human and pet waste, trash, and potentially toxic metals into coastal waters, lakes, and rivers," as well as "slice swaths through slow-to-heal marine vegetation" and produce noise that "disturb[s] sea life."¹⁴ The article also impugns marinas, which it says "provide a treasure trove of potential ecological disruptors, including slips, mooring pins, launch ramps, gas docks, sewage pumpout stations (if used improperly), boating supply stores, and boatyards where vessels are repaired and maintained."¹⁵ But the article also notes the considerable progress made by the marine industry and others to mitigate boating's footprint on the environment, and it concludes optimistically with a quote from Andre Mele, an environmentalist who wrote a now hard-to-find book called *Polluting for Pleasure*. Says Mele: "Boaters can be the best conservationists on the water."¹⁶ And increasingly, the recreational marine industry and its manufacturers are providing boaters new products that tap into the innate conservation ethic common to most boaters.

¹⁴ Scott Fields, The Environmental Pain of Pleasure Boating, *Environmental Health Perspectives*, Volume 111, Number 4 (April 2003), at P. A218.

¹⁵ Id. at A218.

¹⁶ Andre Mele, *Polluting for Pleasure*, Norton, New York, 1993

Boating can impact the environment in numerous ways, including air and water pollution, habitat disturbance, fuel and oil spills, trash and other marine debris, and sewage disposal and waste treatment. Recreational boat engines have been identified as a source of air pollution, and older marine engines have an impact on water quality, although that impact is difficult to determine with any precision. While the environmental impacts of petroleum discharges from boats have in many cases been greatly exaggerated, the marine industry has recognized the need to mitigate the risk of fuel spillage, increase the fuel economy of marine engines, and reduce water and air emissions. Manufacturers are promoting new technologies and products to address these challenges in addition to limiting engine pollution; bilge waste, which contains wastewater mixed with oil and fuel; and refueling spills, which leak volatile organic compounds (VOCs) directly into aquatic ecosystems.

The industry is working proactively to promote more effective disposal of maritime trash and sewage; cleaner waste treatments; and the elimination of marine debris, including discarded fishing gear, which can entangle marine wildlife. Marine manufacturers are also developing new products to mitigate the environmental impact of boat cleaners, hull stripping, painting and repair products and antifouling and bottom paints, which can introduce toxins and heavy metals into ecosystems.

IV. The Revolution in Marine Engines & the Selling of Cleaner Boating

In the mid-1990s, the U.S. Environmental Protection Agency (EPA) initiated a rulemaking which had profound implications for boat engine manufacturers.¹⁷ Because, as some studies allege,¹⁸ conventional carbureted two-stroke outboard marine engines release as much as 20-30 percent of fuel directly into the air or water, and consequently emit hydrocarbons (HC) and nitrogen oxide (NO_x) into the environment, EPA began consultations with the marine industry to begin a process to address this concern. Working closely with NMMA and marine engine manufacturers, EPA developed regulations in 1996 that should result in an unprecedented 75 percent reduction of hydrocarbon emissions by 2025 from outboard engines, personal watercraft (PWC) engines, and jet boat engines.¹⁹ From 1998 to 2006, the corporate average exhaust emission standards for outboard and PWC marine engine manufacturers become increasingly more stringent, with EPA expecting to achieve the following projected hydrocarbon and NO_x reductions nationally: 4 percent in 2000; 26 percent in 2005; 52

¹⁷A provision was added to the Clean Air Act (CAA) in 1990 authorizing EPA to regulate “non-road vehicles,” which included marine outboard motors and personal watercraft (PWC).

¹⁸It is important to note that NMMA does not concur with the findings of some studies that suggest significant fuel discharges into the water from recreational boat engines. Many of these studies employ faulty methodologies and test in non-representative environments (e.g. enclosed test tanks), the findings of which cannot be verified or replicated in actual marine environments. In fact, several credible scientific studies indicate no substantial or detectable water pollution from boats. These studies include: (1) Keuka Lake Water Quality Testing Program. Peter Landre and Amy Barkley, Keuka Lake Association, (Hammondsport, NY: 2000); (2) Water Test: Donner Lake, California, Deloro Water Co. / Donner Lake Division; (1999); (3) Water Test: Anaheim California. Orange County Water District (1997); (4) Oregon Department of Environmental Quality. Water Quality Status Assessment Report, Section 305(b) Report (2000).

¹⁹EPA 40 CFR Parts 89, 90, & 91. Air Pollution Control; Gasoline Spark-Ignition Marine Engines; New Nonroad Compression-Ignition and Spark Ignition Engines, Exemptions; Rule. October 4, 1996

percent in 2010; 68 percent in 2015; 73 percent in 2020; and 75 percent in 2025, with the model showing a constant 75 percent reduction in HC and NOx emissions through 2050.²⁰

At the time of the rulemaking, the technology to meet EPA standards did not, on the whole, exist—EPA acknowledged then that its emission standard would “require revolutionary technology that does not currently exist across the product line, the lead time for implementation is short, and the targeted reductions across the phase-in are large.”²¹ Engine manufacturers responded to the rulemaking by pursuing two key technology advancements: direct fuel injected (DFI) two-stroke engine technology and four-stroke engines. In two-stroke DFI engines, fuel is injected directly into the combustion chamber and burned while the exhaust port is blocked by the piston at the top of its stroke, effectively reducing emissions by preventing unburned fuel from escaping through the exhaust port. Four-stroke engines, like those in a car, are lubricated by circulating multi-viscosity oil in the engine. These engines require oil changes after a certain period of time, and easily meet EPA’s emissions standards. Although four-stroke engines are heavier, more complex, and more expensive than traditional two-stroke engines, they are far quieter, improving the quality of the boating experience and minimizing environmental impacts on sensitive habitats. They are also 40 percent more fuel efficient, lowering fuel costs and significantly limiting pollution impacts. Despite not having technology at the ready when the EPA regulation was finalized, the marine industry’s aggressive pursuit of new technology means the four-stroke and DFI two-stroke marine engines available today already meet the EPA emissions standards for 2006.²²

The EPA rulemaking is so important because of its reach. According to EPA, over ten million marine engines are operated in the United States, contributing to “hydrocarbons (HC) and oxides of nitrogen (NOx) emissions in many areas of the country.”²³ Accelerating the retirement of old-technology two-stroke engines is one environmental challenge that remains. Clearly, it is in the business interests of the marine industry to sell the new engine technologies which it has spent so much time and money developing. In this instance, maintaining a healthy corporate bottom line converges with that which is best for the environment. The boating industry is pursuing rapid fleet turnover—that is, the accelerated transition from traditional two-strokes to four-stroke and DFI two-stroke technology—through a variety of channels, including broad-based public relations and marketing efforts, incentive programs, warranty deals, and others. This change in engine technology and the accompanying educational and marketing efforts to prompt consumers to switch from two-stroke to four-stroke engines demonstrates how industry interests and stewardship interests go hand-in-hand. The two-stroke marine engine population, as a result of the EPA rulemaking as well as

²⁰ United States Environmental Protection Agency, Regulatory Impact Analysis: Control of Air Pollution Emission Standards for New Nonroad Spark-Ignition Marine Engines (1996).

²¹ Fields, *supra* note 7.

²² Unlike the auto industry, which had 25 years to comply, outboard and PWC builders were given ten years to achieve the same standard.

²³ U.S. Environmental Protection Agency, Boating Pollution Prevention Tips (2005), at <http://www.epa.gov/otaq/boat-fs.htm>.

innovative product development and aggressive marketing by engine manufacturers, is rapidly declining. But the accelerated decline in the two-stroke population also is due in large measure to government-industry voluntary, cooperative partnerships in several critical areas of the country.

Although the California Air Resources Board (CARB)²⁴ elected to pursue a command-and-control approach which placed more stringent regulations²⁵ on the marine industry than had EPA in 1996, several state environmental agencies chose a different tack and implemented cooperative programs with industry that have proved immensely successful. For example, the New Hampshire Department of Environmental Services (DES) in 2000 approached the New Hampshire Marine Trades Association (NHMTA), a local marine trade group which includes marine engine dealers, to form a partnership designed to encourage boating consumers to purchase and use low-pollution two- and four-stroke marine engines through a statewide education and outreach campaign.²⁶ The New Hampshire boating industry responded enthusiastically—NHMTA signed a Memorandum of Understanding (MOU) with the state environmental agency in February of 2000 and nearly 40 marine retailers in the state had signed onto the agreement by 2002. Through the program, New Hampshire marine dealers agreed to immediately encourage customers to buy low-pollution engines and report sales totals back to DES in order to evaluate the success of the program. As a result of the program, participating dealers “met the New Hampshire program's goal for 2001 of having clean engines comprise 75 percent of all new engine sales, well ahead of the schedule required by EPA regulations. The program has set a goal of 90 percent for 2002 through 2005,” and is well on track.²⁷

The program in New Hampshire turned out to have a lasting impact beyond the state's borders. In early 2002, NMMA joined EPA and other national partners in celebrating the success of the New Hampshire program and with that backdrop embarked on a program to expand the initiative to the entire New England region. Out of the New Hampshire program was born the New England Clean Marine Engine Initiative.²⁸ This cooperative effort, also known as the “Get on Board Initiative,” was designed “to accelerate the sale of low-pollution two- and four-stroke marine engines which emit substantially less pollution than conventional marine engines.”²⁹ The New England agreement, formalized in a Memorandum of Understanding (MOU) among NMMA and other parties, includes Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, and ten Tribal Nations. NMMA signed a similar accord with the

²⁴California is the only state in the nation which has the authority to pursue more rigorous clean air regulations than the U.S. Environmental Protection Agency. Such regulations are promulgated through the California Air Resources Board.

²⁵CARB regulations require marine engine manufacturers to reduce HC emissions by 75 percent on 2001 models and by 90 percent on 2008 models.

²⁶ See New Hampshire Department of Environmental Services, Clean Marine Engine Initiative, at http://www.des.state.nh.us/ard/marine_engines.htm.

²⁷ Press Release, U.S. Environmental Protection Agency, EPA and National Marine Industry Associations Celebrate New Hampshire Initiative for Cleaner Small Boat Engines (March 27, 2002), at <http://www.epa.gov/ne/pr/2002/mar/020319.html>.

²⁸ See U.S. Environmental Protection Agency, New England Clean Marine Engine Initiative, at <http://www.epa.gov/ne/assistance/cmei/index.html>

²⁹ U.S. EPA, *supra* note 26.

state of Wisconsin in 2001, an important development since that state is home to both Mercury Marine and Bombardier Recreational Products (BRP), two major engine manufacturers. In addition, NMMA signed clean engine MOUs with appropriate state agencies in Oregon and Florida in 2002 and with New Jersey in 2003. In 2000, NMMA's Canadian affiliate, the Canadian Marine Manufacturers Association (CMMA), signed an MOU with Environment Canada, the federal environmental agency, designed to "fast track the early introduction of cleaner engines" in that nation.³⁰

There is no question that these efforts have hastened the introduction of these new-technology, low emissions engines into these markets and had a demonstrable impact on consumer purchasing. Indeed, statistics released in July of 2005 by the New England Office of the EPA, which runs the Get on Board Initiative, verify the success of that program. "About four-fifths of the outboard motors and watercraft engines sold in New England in the last three years by participating retailers were low pollution models," according to EPA. These cleaner engines "help meet EPA low-pollution requirements by reducing air pollution by 75 percent or more, lowering gasoline discharges to the water, improving fuel efficiency by 35 to 50 percent, and using up to 50 percent less oil."³¹

Boat builders are also doing their part to increase fuel efficiency through the design and development of lighter, more technologically advanced hulls. MJM Yachts, a Boston-based company, is manufacturing a 34 foot vessel using pieces of fiberglass cloth injected with a resin to reduce the weight from fiberglass without compromising any additional strength. The 34Z requires only 11 gallons of diesel fuel per hour to run at 25 knots, which is up to three to four times less fuel than its comparable counterparts.³² Duroboats, a fishing boat manufacturer, uses a unique hull contouring system to offer several high performing models that operate with minimum fuel use including a 16 foot craft that can achieve speeds up to 30 mph when combined with a new 40 HP 4 stroke engine or 2 stroke DFI engine. One such product used in making lighter, more fuel-efficient hulls and decks is BALTEK Balsa cores. In addition to conserving fuel, the cores are a renewable resource that is produced without depleting hydrocarbons.

When confronted with the prospect of increased government regulation, the industry engaged rather than obstructed the process. Instead of hiring a team of corporate attorneys and systematically attempting to delay or derail new government mandates on marine engine technology, NMMA and its member companies embraced reform, offering technical expertise, testing data and facilities, and industry-wide cooperation. The boating industry, from manufacturer to dealer, in essence acknowledged its inherent responsibility as an environmental steward. The Get on Board Initiative and similar efforts in other states in effect amount to a specific aquatic stewardship

³⁰ Press Release, Environment Canada, Environment Canada and the Canadian Marine Manufacturing [sic] Association Fast Track the Introduction of Cleaner Engines in Canada (Jan. 17, 2000), at http://www.ec.gc.ca/press/cmma_n_e.htm.

³¹ Press Release, U.S. Environmental Protection Agency, EPA Efforts to Promote Clean Marine Engines Paying Off—Most of New England's Marine Engine Sales Are Lower Polluting Models (July 13, 2005), at <http://www.epa.gov/ne/pr/2005/jul/sr050707.html>.

³² Brodie, Marshall. "Wheels and Waves." The Miami Herald 3 Nov. 2005

education campaign. In the participating states, boating consumers were educated about the environmental benefits associated with the new generation of marine engines, made aware of the environmental concerns associated with older technology, and directed to retailers offering the cleaner option. These programs have been demonstrably successful in raising awareness as sales data indicate that consumers, in large numbers and well ahead of regulatory deadlines, are actively choosing the environmentally safer product, even though these products come with a higher price tag. Independently, this provides compelling evidence about the efficacy of education and outreach in general, and it validates the view that most boaters have an innate sense of personal responsibility to the environment—a sense which can be further cultivated through targeted and purposeful education campaigns, government-industry cooperation, and dedicated resources.

V. Boat Sewage: A Three-Pronged Approach

The release of untreated sewage into the water by recreational boaters is an important environmental and human health concern. In lakes, waters surrounding marinas, and other waters with low hydrologic flushing rates, the impact of improper waste disposal can be particularly significant. Untreated sewage discharges result in the increased concentration of fecal coliform bacteria and consequent human health risks.³³ Such discharges contaminate and degrade water quality by introducing microbial pathogens and hazardous compounds into the marine environment and reducing dissolved oxygen levels (biological oxygen demand) required to decompose organic matter, therefore negatively impacting local aquatic habitats and fish species. The marine industry has approached the boat sewage issue in three central ways: (1) supporting a federal grant program for the construction and maintenance of pumpout facilities under the Clean Vessel Act, and the legislation which authorizes it; (2) participating in and supporting educational outreach on boat waste; and (3) developing innovative products which effectively treat and/or safely contain waste while mitigating or eliminating pollution concerns.

To address the issue of boat sewage, Congress enacted two central pieces of legislation. The Federal Water Pollution Control Act of 1972 required recreational boats with installed boat toilets to be equipped with marine sanitation devices (MSDs) to treat sewage. Amended in 1977, the Federal Water Pollution Control Act became commonly known as the Clean Water Act (CWA).³⁴ Under the Clean Water Act, the discharge of untreated sewage from vessels within all navigable waters of the U.S., including coastal waters within three miles of shore, is prohibited.³⁵ The Clean Water Act also provides for states to petition through a written application for a No Discharge Area (NDA) designation from EPA, which may only be approved if EPA determines that there are adequate and reasonably available facilities for the safe and sanitary removal and

³³ Andrew S. Milliken and V. Lee, *Pollution Impacts from Recreational Boating: A Bibliography and Summary Review* (Rhode Island Sea Grant, 1990), at 2. According to Milliken and Lee, “there have been no studies directly linking the discharge of boat sewage to disease incidence.”

³⁴ 33 U.S.C. § 1322 (2000).

³⁵ *Id.*

treatment of sewage.³⁶ Within No Discharge Areas, neither treated nor untreated waste may be released from a vessel. NMMA has always supported the designation of No Discharge Areas only when an adequate number of open, operable pumpout facilities are available to boaters.

In 1992, Congress passed a second legislative remedy in the Clean Vessel Act (CVA). CVA established a five-year federal grant program, administered by the U.S. Fish and Wildlife Service (FWS), authorizing \$40 million from the Sport Fish Restoration Account of the Wallop-Breaux Aquatic Resources Trust Fund for use by states to establish a network of pumpout stations at marinas throughout the United States. Congress reauthorized the program in 1998, providing \$50 million to establish additional pumpout stations to serve as alternatives to the overboard disposal of untreated sewage. Under the law, CVA grants provide up to 75 percent federal matching funds for education programs for recreational boaters regarding the environmental pollution problems associated with untreated sewage discharges from vessels; information on the location of pumpout stations; construction, maintenance and operation of pumpouts; pumpout boats, and any activity necessary to hold and transport sewage to sewage treatment plants. Grantees are responsible for 25 percent of the costs under the program.

NMMA helped secure the passage of the Clean Vessel Act in 1992, as well as reauthorization of the program in 1998. NMMA worked closely with the present Congress to secure another round of reauthorization—as well as increased funding—for the Act through legislation to reauthorize the Wallop-Breaux Aquatic Resources Trust Fund, which houses the Act. Following an aggressive lobbying campaign by NMMA and a coalition of interested parties, President Bush signed into law on August 10, 2005 the Transportation Equity Act: A Legacy for Users (TEALU), which included language reauthorizing the Wallop-Breaux Aquatic Resources Trust Fund. The language in this bill included a recapture of the entire 18.3 cent gasoline tax attributable to motorboats, which will mean more than \$110 million additional dollars each year for boating safety and fish restoration programs.

The Clean Vessel Act also dedicates a portion of its total funding for educational outreach programs regarding the environmental and human health effects of dumping untreated sewage overboard. This outreach campaign is made possible by the support and cooperation of marina owners and operators, many of whom are members of the Association of Marine Industries (AMI), as well as North American pumpout manufacturers, all of which voluntarily pledged to affix the national pumpout symbol developed by FWS on every unit they produce. Other outreach efforts conducted through the National Clean Boating Campaign include educational seminars and distribution of promotional materials such as pamphlets and posters that provide tips on how to protect the environment while boating. According to FWS, the overall “awareness campaign has reached thousands of boaters through magazines, newspapers and television.”³⁷ This number does not include the on-the-ground

³⁶ § 312(f)(3) of the Clean Water Act.

³⁷ Division of Federal Assistance, U.S. Fish and Wildlife Service, The Clean Vessel Act (Aug. 27, 2004), at http://federalaid.fws.gov/cva/cva_info.html#CVA.

outreach at marinas and other boating facilities, and at events such as NMMA-sponsored Clean Boating Week, which have reached additional thousands. The mere availability of pumpout facilities at marinas has likely heightened environmental awareness among boaters and led to proper waste disposal, something which has been anecdotally documented by the Service.³⁸ Clearly, the Act has had considerable success, much of which was made possible through the cooperative efforts of various segments of the marine industry. From the passage of the Act up to 1999, the grant program “resulted in 49 States receiving \$47.6 million for 207 grants,” and “involve[s] surveys and plans in 33 coastal States, construction of 2,730 pumpout and 1,778 dump stations in 45 States, and education programs in 40 States.”³⁹

Marine Sanitation Products

Marine sanitation device manufacturers are also providing consumers new, products to protect the marine environment from boat sewage. Manufacturers are working hard to develop and market innovative technologies that treat, store and contain waste more effectively and result in fewer environmental consequences for habitat and fish species.⁴⁰ For example, Raritan Engineering Company’s *Lectra San*, MSD, treats waste through a process of maceration and electrolytic decontamination. Raritan has also developed the *ManaGerm*, which utilizes an aerobic biological sewage treatment system in which air, water and naturally occurring bacteria biologically convert waste to water and carbon dioxide. Headhunter Inc, produces a new chemical-free MSD, the *TidalWave HMX*, which uses a four stage system featuring a patented crossflow separation technique to thoroughly destroy biomass and treat waste water. Standard models can treat up to 50,000 US gallons each day.

Manufacturers are also developing environmentally-friendly products to limit holding tank odors. Sealand’s line of holding tank products eliminates odors without using formaldehyde, glutaraldehyde, quaternary salts or other harsh chemicals. In these and other instances, marine sanitation device manufacturers are increasingly offering boaters the opportunity to practice stewardship-related behaviors by providing innovative technologies which effectively mitigate the environmental concerns associated with marine waste.

VI. The Sound of Boating: Voluntarily Quietening American Waterways

Manufacturers of boats, engines and marine accessories are working proactively to limit noise from boats and prevent its potential negative impacts for human and marine populations. In this area, the industry’s aggressive self-regulation has far outpaced any government mandates. In May 2003, NMMA joined the efforts of the National Association of State Boating Law Administrators (NASBLA) to quiet waterways across the country so that both boaters and non-boaters can enjoy the natural environment.

³⁸ Id.

³⁹ Division of Federal Assistance, U.S. Fish and Wildlife Service, Clean Vessel Act Pumpout Grant Program (Aug. 27, 2004), at <http://federalaid.fws.gov/cva/cvajul97.html>.

⁴⁰ It has been argued by some in the environmental community that the chemicals used in marine sanitation devices are unhealthy for marine wildlife.

The NMMA Board of Directors, which is comprised of representatives from all aspects of the boating industry, unanimously voted to endorse the NASBLA Model Noise Act, sample legislation that restricts boat noise.⁴¹

Through the combined effort of NMMA and NASBLA, the Model Noise Act has now been adopted by a high percentage of the states where boat noise had become a major source of complaints, mostly from shoreline residents. The Act requires all boats with above-water exhaust to employ exhaust silencers (mufflers) to reduce exhaust noise. To demonstrate compliance with this requirement, boats must not produce noise levels in excess of 88 dBA (90 dBA in some states) when subjected to a stationary-mode test standard. The Act also limits the shoreline sound level to 75 dBA for individual boats. Compliance with these restrictions has been accomplished by industry development of high quality exhaust silencers on boats with above-water exhaust. To date, 32 states have adopted noise regulations equivalent to the standards set forth by the Model Noise Act, and NMMA actively lobbies other state legislatures to do so.⁴²

The personal watercraft (PWC) industry has moved rapidly to reduce noise emissions from its watercraft. Personal watercraft manufacturers, in the absence of government regulations, have invested over \$1 billion over the last several years to develop technologies to reduce both noise and hydrocarbon emissions from their vessels. Some of these technologies include baffles, insulation, and resonator-equipped mufflers.⁴³ Employing these new technologies, personal watercraft manufacturers have reduced noise emissions by some 70 percent since 1998.⁴⁴ In sensitive aquatic environments, the Personal Watercraft Industry Association (PWIA), endorses the use of shoreline sound measurement laws and the establishment of slow- or no-wake zones, as well as the development of educational programs that promote environmentally-sensitive PWC use.

VII. Marine Accessories: Marketing Stewardship through Product Innovation

Marine businesses are working to develop environmentally-friendly technologies in order to position themselves as innovators and market leaders and meet consumer demand. Such an approach allows companies to keep pace with competitors, improve brand reputation, and in many ways determine the direction of the market. As consumers increasingly demand environmentally-sensitive products, the boating industry is responding boldly and enthusiastically. Many marine accessories and

⁴¹ National Association of State Boating Law Administrators, Model Noise Act, at <http://www.nasbla.org/pdf/Model%20Acts/Motorboat%20Noise.pdf>; Press Release, National Marine Manufacturers Association, NMMA Partners with State Boating Law Administrators to Quiet the Waters (May 15, 2003), at <http://www.nmma.org/news/news.asp?id=1232&sid=3>.

⁴² These states include: Alabama, Arizona, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Iowa, Maine, Maryland, Missouri, Mississippi, Minnesota, Michigan, Montana, New Hampshire, New Jersey, New York, Nevada, North Carolina, Oklahoma, Ohio, Oregon, Pennsylvania, Tennessee, Texas, Utah, Washington State, Wisconsin, and Vermont.

⁴³ Personal Watercraft Industry Association. PWIA is an affiliate of NMMA.

⁴⁴ Personal Watercraft Industry Association, Industry Achievements in Engine Exhaust and Sound, the Environment, Safety and Boater Relations (2000) (on file with author).

components manufacturers are demonstrating leadership in support of advancing clean boating technologies and products that improve the overall environmental performance of the industry.

Introducing these products into the marketplace serves two vital functions that contribute to aquatic stewardship. First, these products draw attention to environmental concerns with boating which they claim to mitigate or avert. Second, they empower boating consumers to take personal responsibility for protecting the environment. Purchasing is an affirmative act, and it involves a choice between or among competing products. The act of purchasing a product which is branded as good for the environment signals that a boating consumer is both knowledgeable about the skills and behaviors necessary for being a good aquatic steward and willing to make a personal investment in the environment.⁴⁵ That these products have flourished in a competitive marketplace is a measure of the effectiveness of green marketing initiatives based on environmental branding.

Savvy marketing professionals within the boating industry have long understood the appeal of environmentally-sensitive products. In a race-to-the-top style of competition, many industry leaders have sought to establish a reputation for having products which minimize the human impact on the environment. These companies have sought to increase the appeal of their products by communicating their environmental commitment directly to customers, competitors, peers, distributors, and others. The success of this type of marketing is premised on two central foundations: (1) a good product which does not harm the environment; and (2) consumer demand fueled by an ingrained environmental ethic.

NMMA encourages and supports the development of innovative new products through the NMMA Innovation Awards, which are awarded with substantial publicity to companies in the marine industry that have developed interesting new products. NMMA, and its partner in this endeavor, Boating Writers International (BWI), issue the awards at NMMA-owned or -sponsored industry events, such as boat shows and product exhibitions. Many of the products selected represent environmental solutions—accessories designed to address a particular environmental concern which may be perceived to be tied to boating. NMMA specifically awards an Environmental Innovation Award to recognize what has become a niche market in the boating industry which focuses on manufacturing products that minimize boating's impact on aquatic systems across a broad spectrum of environmental concerns. These awards serve to reward companies that have elected to take an environmentally responsible corporate posture, to encourage other companies in the industry to do so, and alert consumers about the availability of these products and the companies that make them. Many of the green products listed below have been honored by NMMA as leading examples of the marine industry's commitment to environmental responsibility

Fuel and Petroleum Spill and Pollution Products

⁴⁵ Per Knuth and Siemer, supra note 15.

For example, Clean Water Solutions, Inc. has developed a line of products that mitigate petroleum pollution by efficiently bio-remediating oil and other pollutants; these products target marinas, boat bilges, catch basins, and holding tanks. Immediate Response Spill Technologies' (IRST) *CI Agent* is another petroleum pollution option that uses revolutionary technology to solidify petroleum-based spills and encapsulate them into a removable mass. Clean Water Solutions, Inc. was awarded the NMMA Environmental Innovation Award at NMMA's Accessories Trade Show Las Vegas in July 2005.⁴⁶ Power Service's *Diesel Kleen Performance Improver with Cetane Boost* exceeds industry standards for thermal stability and improves diesel fuel's resistance to thermal and oxidative degradation to improve engine efficiency.

Several manufacturers are developing new, innovative products to prevent spillage. Racor Parker Filtration's Lifeguard line of fuel/air separators has an automatic shut-off feature which trips to let you know your fuel tank is full. Davis Instruments has patented a fuel-resistant bottle designed for temporary attachment to the hull, over the fuel tank vent, to capture any spillage that would otherwise run into the water. Bocatech Inc. produces a bilge mate switch that does not switch when oil is present in the bilge which prevents oil from polluting surrounding waters. EMP Industries *SaniSailor BilgeMate Systems* eliminate harmful oily bilge water from entering our waterways by integrating high suction peristaltic vacuum pump with an oil and water separator along with a hydrocarbon accumulator and suction hose to cleanly and conveniently remove oily bilge water from recreational boats.

Another product which is beginning to penetrate the marine market is biodiesel, a fuel made from renewable sources like soybeans and natural fats and oils. Although increasingly common in commercial marine applications, such as charter boats and water taxis, biodiesel fuel is relatively new to the recreational sector, with only a small number of private marinas in the U.S. making it available to boating consumers. Nevertheless, interest in this eco-friendly product continues to grow, and biodiesel is the fastest growing alternative fuel in the U.S.⁴⁷ Pure biodiesel fuel (B100) contains no petroleum, and can be used in any diesel engines "with few or no modifications."⁴⁸ The fuel is good for marine engines, burns efficiently, and significantly reduces soot emissions. The most common formula of biodiesel fuel, B20 (80 percent regular diesel and 20 percent biodiesel), biodegrades three times as fast as regular diesel, mitigating the environmental impact of spills. An NMMA-backed federal tax incentive, which went into effect January 2005, should further increase the availability of the fuel.

Antifoulants, Paint and Cleaning Products

⁴⁶ The company immediately publicized the award, issuing a press release and detailing news on the award on its homepage. See Press Release, Clean Water Solutions, Inc., Breaking News: Clean Water Solutions Wins NMMA Innovation Award and Environmental Innovation Award at MAATS 2005 Trade Show in Las Vegas (2005), at <http://www.cleanwatersolutionsinc/>.

⁴⁷ DOE.

⁴⁸ Amber Thurlo Pearson, Biodiesel Takes to Waters and Brings Environmental Advantages, *Boat and Motor* (May 2005), at 34.

The marine industry has been proactive in other areas as well. When it became clear that phosphate-based boat soaps degrade water quality and contribute to algal blooms and low dissolved oxygen levels, the industry developed and made available a series of non-toxic, non-phosphate based, biodegradable boat soaps, which have a minimal impact on the aquatic environment. The marine industry is increasing its reliance on silicon, Teflon, and similar slick-surface, non-fouling agents rather than toxins to keep marine growth off boat bottoms as well. Natural Marine's new *One and Only Spot Remover* is a unique, color safe oxygen release gel that removes spots without the use of bleach or other hazardous materials. Many manufactures are also developing more environmentally-friendly paint strippers. Pettit's *Bio-Blast* and Sea Hawk's *Marine Paint Stripper 1280* are biodegradable products that remove antifouling paint without the use of traditional toxic chemicals.

Marine Generators and Mufflers

Westerbeeke, a prominent manufacturer of generators for the marine market has garnered several honors for developing and marketing revolutionary products that limit carbon monoxide emissions. Carbon monoxide is a colorless, odorless, and extremely poisonous gas that can have fatal consequences when inhaled. Westerbeeke's *Safe-CO* generators use a combination of innovative engineering and electronic fuel injection to reduce carbon monoxide emissions by 99% compared to conventional generators. Westerbeeke, already a recipient of an NMMA Innovation award for its small gasoline-fueled generator in 2003, was honored again last year as the winner of the 2005 Electrical Systems Innovation award from NMMA. Gentek recently developed the compact *Gen-Kleen*, the first product that protects boating waters by removing hydrocarbon contamination from generator exhaust

Batteries and Horns

Amtronix, Inc. is introducing *ABC-DS12*, an innovative 12V Battery Desulfator that prolongs the life of lead batteries. By utilizing the power of the battery and returning it as a surge or pulse, the Battery Desulfator, actually delays and reduces sulfation within the battery, the primary cause of premature failure. The product can also revive many old batteries to a state of normal functionality. The *SeaSense EcoBlast Refillable Air Horn* is a chemical-free refillable horn that does not introduce CTC toxins into the air when used. The horn is refilled using a bicycle pump and contains no batteries or disposable metal containers.

Mooring and Sonar Products

In some marine environments, such as marine sanctuaries, coral reefs, and other sensitive or essential habitats, mooring a boat can disturb certain benthic communities and wildlife. New elastic mooring technologies have been designed by companies such as Hazlett-Marine and Seaflex to specifically address the increasingly stringent environmental regulations associated with marina siting and construction.

Marine manufacturers are developing advanced scanning technology to give boaters the ability to prevent injury to marine life. Interphase's line of iScan sonar products provides boaters long-range bottom to surface color sonar up to 1,200 feet, helping to protect manatee, whales and other aquatic species. These and other products in the accessories marketplace are pursued because there is consumer demand and when companies offer more pioneering, state-of-the art products, they in turn help shape consumer preferences. Nevertheless, the success of aquatic stewardship education programs will have a direct bearing on consumer purchasing, and will ultimately benefit those marine businesses who are marketing a green product.

VIII. Advancing Clean Boating through Education, Legislation & Outreach

In a December 2004 article published by the American Fisheries Society, the authors attempt to define "aquatic stewardship" and outline the components of programs fostering the ethic of personal responsibility which forms the basis for stewardship. The article emphasizes that a successful aquatic stewardship program should convey three fundamental elements: (1) awareness of aquatic systems; (2) personal investment in the environment; and (3) knowledge and skill in the behaviors of a good aquatic steward.⁴⁹ The boating industry, although not in the business of designing or implementing aquatic stewardship education programs, participates, either directly or indirectly, in all three components, particularly in making accessible to boaters certain behavioral options that constitute desirable aquatic stewardship. The businesses that make up the membership of NMMA are already proactively contributing to aquatic stewardship education and outreach, and many have been leading this effort for quite some time. The historical significance of the boating industry's financial and political support in helping to establish and maintain environmental initiatives is significant. This section will outline specific aquatic stewardship education initiatives undertaken by either NMMA and its affiliates, or by prominent members of the industry, along with specific legislative proposals that NMMA is working on to help protect the environment.

The NMMA Water Watch Program

In the early 1990s, NMMA secured a one-time \$25,000 grant from EPA to develop and distribute educational materials directly to boaters at the point of purchase.⁵⁰ This educational brochure, called the Water Watch program⁵¹, was one of the first comprehensive clean boating brochures to be developed and represented the first time that such materials were systematically distributed to boating consumers. The Water

⁴⁹ Barbara Knuth, and W. Siemer, Fostering Aquatic Stewardship: A Key for Fisheries Sustainability, American Fisheries Society Symposium 43 (2004), at 243.

⁵⁰ National Marine Manufacturers Association, Water Watch: What Boaters Can Do to be Environmentally Friendly. The brochure used material prepared by the Chesapeake Bay Foundation in a similar document, "Your Boat and the Bay," edited by Margaret Podlich, now of BoatU.S., as well as material provided by the Izaak Walton League of America and other outdoor recreation groups.

⁵¹ National Marine Manufacturers Association, Water Watch: What Boaters Can Do to be Environmentally Friendly. The brochure used material prepared by the Chesapeake Bay Foundation in a similar document, "Your Boat and the Bay," edited by Margaret Podlich, now of BoatU.S., as well as material provided by the Izaak Walton League of America and other outdoor recreation groups.

Watch brochure, called “What Boaters can do to be Environmentally Friendly,” includes a top-ten list of eco-friendly boating practices, including adherence to federal marine sanitation rules, use of biodegradable cleaning agents, proper fueling to avoid spills, control of bilge water, and others. The brochure explains in detail the environmental concern at issue and outlines a set of actions that boaters should take to mitigate risks to aquatic systems. Once the brochure was finalized, NMMA, using grant monies as well as its own resources, distributed the brochure to marine dealers nationwide and to every consumer who purchased a new boat that year, a massive undertaking. The dealers were to provide to boating consumers the brochure with the packet of informational materials (owner’s manual, warranty documentation, etc.) that comes with the purchase of new boat. Although the program was not extended because the grant expired after one year, NMMA continues to make this brochure available upon request. More importantly, as federal and state agencies develop similar educational materials for boaters within their jurisdictions, they have drawn heavily on the expertise and advice contained in the Water Watch brochure, often employing virtually identical language. In that regard, the legacy of this particular outreach initiative has been sustained over the long term, extending beyond its own life and reaching thousands of boaters nationwide.

The Tread Lightly! Campaign

Tread Lightly!® is a national, nonprofit organization based in Utah dedicated to empowering “generations to enjoy the outdoors responsibly through education and restoration.” Although the program began in 1985 in the U.S. Forest Service as an effort to address growing participation in outdoor recreation, Tread Lightly! became a private endeavor in 1990, funded by a variety of “individual members, corporations, dealerships, clubs, retailers and other organizations interested in spreading the message of responsible and ethical use of the outdoors.” In 1997, Tread Lightly! expanded from its traditional focus on land issues to include water-based recreation. In addition to its Tread Trainer™ program designed to produce a network of instructors of the campaign’s responsible recreation message, the organization also produces a multitude of educational pieces for outdoor enthusiasts, including a guide to responsible personal watercraft (PWC) use. Tread Lightly! also develops public service announcements (PSAs) focused on spreading the message of aquatic stewardship. In this way, Tread Lightly! serves as an “ethical and educational force in bringing together and unifying a broad spectrum of stakeholders including agencies, industry, media, conservation and enthusiast groups, and concerned individuals who share a common goal -- to find a balance between humans and nature.”

Tread Lightly! also seeks to increase dialogue and expand government-industry partnerships regarding environmental stewardship. From 2000-2002, NMMA and PWIA sponsored Tread Lightly!’s Convergence Dialogue Series, which was designed to “open lines of communication, build common ground, and discuss pertinent issues and challenges facing the future of responsible outdoor recreation by bringing together representatives from various forms of recreational interests.” This series brought together state and federal resource management agencies, conservation organizations,

resource users, industry, and other stakeholders, who worked to identify common challenges facing responsible recreation, including stewardship education, and develop an agenda for future cooperation and actions. Water-related recreation was a major focus of the series.

NMMA and PWIA, along with the individual manufacturers of personal watercraft have provided significant support and technical expertise to the Tread Lightly! campaign over the years. The campaign has reached eight million people each year through its print public service announcements in enthusiast magazines, and another eight million through the display of its public service announcements (PSAs) as signage on public lands.⁵² Since 2003, as a result of boating and water recreation enthusiast magazines donating advertising space to the Tread Lightly! campaign,⁵³ the initiative has communicated its responsible recreation message to at least 3.8 million boaters, anglers, and other water recreationists.⁵⁴

The FishAmerica Foundation

Recreational boating and fishing are closely tied, with approximately 60-70 percent of boaters claiming to use their boats for angling.⁵⁵ The FishAmerica Foundation, founded and largely financially supported by boating and fishing companies, represents a highly successful conservation grant giving program, well-regarded within the conservation and environmental communities. According to the Foundation, FishAmerica provides “nearly \$1 million in matching grants each year to community partners across the country. Over the last 20 years, FishAmerica has provided more than \$6 million for nearly 750 grassroots conservation projects that improve fisheries habitat and fishing opportunities.”⁵⁶

Environmental Legislation

The NMMA Government Relations team monitors legislation and lobbies policymakers on behalf of the environment in Washington DC and in state capitals around the country.

The Wallop-Breaux Aquatic Resources Trust Fund

In addition to the Water Watch program, NMMA has been and continues to be a major player in the political fights which seem to inevitably accompany the authorization of funds for the Wallop-Breaux Aquatic Resources Trust Fund (ARTF) a user-pay fund, used to enhance the boating and fishing experience. Congress allocates funds generated directly by boaters through taxes on motorboat fuel and fishing tackle, along

⁵² Id.

⁵³ Several enthusiast magazines have donated at least \$166,293 of advertising space for Tread Lightly! water-related public service announcements. E-mail from Olson, supra note 74.

⁵⁴ E-mail from Olson, supra note 74. .

⁵⁵ Duda, supra note 10.

⁵⁶ American Sportfishing Association, Fish America Foundation (2005), at <http://www.fishamerica.org/faf/projects/index.html>.

with other fees. Part of the monies generated by the tax are dedicated to specific environmental restoration and protection projects, including coastal wetlands restoration, a variety of sport fish restoration programs, grant programs for the construction of pumpout stations under the Clean Vessel Act, and monies for the Recreational Boating and Fishing Foundation (RBFF),⁵⁷ which actively researches and promotes conservation among boaters and anglers. Significant dollars go directly toward funding state-based aquatic stewardship education programs. More than \$4 billion has been collected and invested in the program since its inception.

The Sport Fish Restoration Account of the Aquatic Resources Trust Fund has been nothing if not successful.⁵⁸ The funds in the account are generated through a ten-percent excise tax on certain items of sport fishing tackle; a three-percent excise tax on fish finders and electric trolling motors; import duties on fishing tackle, yachts and pleasure craft; interest on the account; and a portion of motorboat fuel tax revenues and small engine fuel taxes authorized under the Internal Revenue Code. Funds for state sport fish restoration and related programs are apportioned on a formula basis⁵⁹ and pay up to 75 percent of the cost for approved programs, including restoration efforts, land acquisition, research on habitat and fish stocks, surveys and inventories of fish populations, and the development and improvement of boating facilities, among others. States are also directed to use up to ten percent of the funds for aquatic stewardship education and boating access facilities.⁶⁰

Wallop Breaux monies are also used to fund critical education programs. To name but one example, the Fish and Wildlife Research Initiative of the Florida Fish and Wildlife Conservation Commission, a state agency, has developed a series of Boating and Angling Guides to inform boaters and anglers about Florida's coastal and marine ecosystems. The guides, which originally appeared in 1992 and are divided regionally, consist of maps displaying the "distribution of natural marine resources" along with text explaining "the role of the marine habitat in the health of the marine ecosystem and how boating and angling behavior can influence the environment."⁶¹ According to the Florida Fish and Wildlife Conservation Commission, over 1.9 million guides have been printed to date. Monies from Wallop-Breaux are also directed to the Recreational Boating and Fishing Foundation (RBFF) in order to carry out a National Outreach and Communications Program. This program seeks to increase responsible participation in boating and angling through an aquatic resource education initiative that provides for states to be "reimbursed not to exceed 15 percent of the state's total Sport Fish Restoration apportionment."⁶²

⁵⁷ The Recreational Boating and Fishing Foundation is a partner in NMMA's Discover Boating Mobile Marketing Tour.

⁵⁸ 26 U.S.C. § 9504.

⁵⁹ According to the Congressional Research Service (CRS), "Sixty percent of each state's share is based on its number of licensed anglers (fishermen) and 40% on its land and water area. No state receives more than 5% or less than 1% of each year's total apportionment." Eugene H. Buck, CRS Report for Congress: The Aquatic Resources Trust Fund, Congressional Research Service (Apr. 6, 2005), at <http://www.ncseonline.org/NLE/CRSreports/05apr/RS22060.pdf>

⁶⁰ U.S. Fish and Wildlife Service, Federal Aid in Sport Fish Restoration Act, Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service, at <http://laws.fws.gov/lawsdigest/fasport.html>.

⁶¹ Florida Fish and Wildlife Institute, at http://research.myfwc.com/features/view_article.asp?id=5862.

⁶² Congressional Research Service, *supra* note 65.

In order to ensure that the Wallop-Breaux monies are reauthorized and dedicated appropriately, NMMA has worked closely with the American League of Anglers and Boaters (ALAB), which spearheaded the coordinated effort by stakeholders to secure passage of reauthorizing legislation in the 109th Congress. ALAB is comprised of 34 member organizations, including NMMA, Association of Marina Industries, American Fisheries Society (AFS), American Sportfishing Association (ASA), International Association of Fish and Wildlife Agencies (IAFWA), Trout Unlimited (TU), and Boat Owners Association of the United States (BoatU.S.). In addition to featuring Wallop-Breaux as an issue at NMMA's annual legislative conference, the American Boating Congress, the association's government affairs staff routinely meet with congressional staff in order to advance the consensus legislative objectives of ALAB, which include creating a permanent appropriation of funding, as well as a reallocation of the fuel tax receipts, part of which have heretofore been redirected to the General Fund for deficit reduction rather than to the boating and angling accounts for which they were intended.⁶³ The recapture of the diverted funds, a major advocacy coup in 2005, now means that an additional \$110 million a year will be directed back into the Wallop-Breaux account.

Marine Debris

Clean water is the foundation for an enjoyable boating experience, which is why protecting the environment is a priority for the recreational boating industry. NMMA testified in support of S. 362, a bill that seeks additional monies for National Oceanic and Atmospheric Administration (NOAA) and the U.S. Coast Guard to improve enforcement of illegal vessel-based pollution and debris, before a joint committee of the United States House Resources Subcommittee on Fisheries and Oceans and the House Transportation Subcommittee on Coast Guard and Maritime Transportation in 2005. The bill proactively deals with marine debris such as discarded rope and line that foul propellers, and plastic bags and sheeting that clog seawater intakes and damage marine ecosystems and human health. The U.S. Congress approved the legislation in December 2006 and the President has signed the measure into law. NMMA will work with appropriate federal agencies to ensure that the established programs are funded and properly implemented.

Invasive Species

NMMA is also supporting several pieces of legislation that address the increasing menace of invasive species on America's waterways. NMMA is working with the United States Senate to draft a comprehensive bill that would: identify aquatic invasive species and how they are transported; set protocols, systems and standards to monitor the efficiency and efficacy of prevention methods; and establish ballast water and sediment standards for vessels of the armed forces.

⁶³ Until recently, only 13.5 cents was sent to the Aquatic Resources Trust Fund, which was only a portion of the 18.3 cents that is collected on motorboat and small engine fuels.

IX. The Clean Marina Program: Achieving Sustainable Marina Ecosystems

Over a decade ago, NMMA initiated an effort to recognize leaders in the marina industry who were striving to implement policies and protocols that fostered clean marinas. One such effort, the Recreational Boating Facilities Environmental Responsibility Award, generated considerable national publicity and facilitated efforts to draw attention to clean marina programs. In an attempt to build upon this program, NMMA worked with European marine industry counterparts to develop a program to certify clean marinas, known as the Blue Flag Program.⁶⁴ After lengthy consultations with administrators of the European program, NMMA and its partners sought out the Marine Environmental Education Foundation (MEEF) to implement and administer a similar education and certification program in the United States. Despite efforts by industry to implement this endeavor, a lack of available federal grant monies hindered, for a time, further progress and led to a series of ad hoc, yet highly successful, efforts by states, in conjunction with the National Clean Boating Program, to implement clean marina programs. To date, Clean Marina programs have been developed in 18 states, the District of Columbia, several federal agencies, and the Tennessee Valley Authority TVA.⁶⁵

In 2002, the Association of Marina Industries (AMI), then the Marina Operators Association of America (MOAA), worked with other industry partners to conduct a national workshop designed to address the necessity of implementing EPA's national management measures to control non-point source pollution from marinas and recreational boating.⁶⁶ This workshop brought together the National Park Service, U.S. Army Corps of Engineers, TVA, U.S. Fish and Wildlife Service, U.S. Coast Guard, Bureau of Reclamation, numerous state agencies, the marina industry, and the majority of Clean Marina programs in the United States. In total, more than 100 local, state, and federal officials responsible for the development and delivery of clean marina programs as well as national and regional marine trade group representatives attended the workshop. For the first time, the nation's leading clean marina practitioners agreed on a set of Clean Marina Principles. The results continue to have a significant impact on the development of clean marina programs nationwide.

AMI—the new association born out of the January 2005 merger of MOAA and the Institute of Marina Industries (IMI)—has worked closely with states and marina owners and operators to implement clean marina programs based on best practices and educational outreach. For example, AMI offers professional training and program development in furtherance of clean marina objectives. In addition, AMI will continue to advance the cause of clean marinas through the Certified Marina Manager (CMM) program. The CMM designation, requiring extensive marina management training, signals a marina owner's or operator's commitment to professional standards and

⁶⁴ Ron Brazda, *The Clean Marina Program: Public Recognition for Environmentally Proactive Marinas*, *Marina Dock Age* (Nov. 1999), at http://www.marinamanagement.com/articles/rs-11_99.html.

⁶⁵ States include: Alabama, California, Connecticut, Delaware, Florida, Georgia, Louisiana, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, North Carolina, Ohio, South Carolina, Texas, and Virginia.

⁶⁶ U.S. Environmental Protection Agency, *National Management Measures to Control Non-point Source Pollution from Marinas and Recreational Boating*, EPA 841-B-01-005 (Nov. 2001).

environmental stewardship.⁶⁷ The CMM designation affords marina managers the opportunity to market their marinas as environmentally responsible, and gives them an edge over competitors. Many marina owners are turning to the CMM program to improve their company's bottom line.

As state clean marina programs continue to gain traction across the nation, AMI has pursued a federal track which would establish a national clean marina program, a goal which would significantly raise the profile of clean marinas and possibly offer a stable revenue stream and grant-giving program. The U.S. Commission on Ocean Policy's Final Report and President Bush's response in his U.S. Ocean Action Plan call for a federal clean marina program.⁶⁸ As a result, NMMA initiated an aggressive lobbying campaign with key staff of the Council on Environmental Quality (CEQ), the president's environmental advisory panel charged with overseeing federal environmental programs, to secure federal dollars for a national program. Unfortunately, the present federal fiscal climate has made securing these funds difficult, although AMI and NMMA will continue to advocate for such a program.

The marina industry is increasingly adhering to strong environmental standards and principles. Indeed, industry has worked with government regulators and non-profit organizations to systematically promote aquatic stewardship. The resulting norm which has been developed within the marina industry is beginning to take hold, and it is clear that the future promises additional, voluntary adherence to environmentally responsible marina management. The 1996 EPA study confirms this view, noting that "clearly, the marina industry has begun to embrace the need to promote clean boating, clean facilities, and clean operations."⁶⁹ The 25 marinas explored as case studies in that evaluation were, ten years ago, already "demonstrating innovation, determination, and an almost missionary zeal for clean operations."⁷⁰ Importantly, the study also determined that the majority of the facilities it evaluated had voluntarily employed clean marina practices in order to "improve their service to boaters and to stay ahead of the regulations."⁷¹

X. The Corporate Role in Aquatic Stewardship Education: Future Prospects

The desire to advance aquatic stewardship and create a national stewardship ethic with respect to the boating public is one shared by conservation groups, scientific organizations such as the American Fisheries Society, federal and state agencies, and the marine manufacturing industry. For its part, the boating industry will continue to pursue technological solutions to environmental concerns, adhere to environmental regulations, and utilize the marketplace to encourage boating consumers to act

⁶⁷ The CMM program was previously administered by IMI, but has been incorporated into AMI as the result of the recent merger.

⁶⁸ United States Commission on Ocean Policy, *An Ocean Blueprint for the 21st Century* (Sept. 2004); The White House, *U.S. Ocean Action Plan* (Dec. 17, 2004), at 33.

⁶⁹ U.S. EPA, *supra* note 83.

⁷⁰ U.S. EPA, *supra* note 83, at 4.

⁷¹ *Id.*

responsibly on the water. NMMA believes strongly that, although unconventional, the advertising of environmentally-sensitive products constitutes a form of aquatic stewardship education. Such an approach raises awareness about environmental risks and provides environmental solutions to the users of America's aquatic resources. Affording boaters the choice to affirm and employ their inherent conservation ethic is at once empowering and effective.

In addition, industry has an important role to play in working with those organizations dedicated to conserving and protecting aquatic environments. Industry's role is derived from its recognized corporate social responsibility, as well as the desire to sell product. As has been noted, clean and healthy waters are the foundation of enjoyable boating. Consumers, too, are increasingly demanding products which serve to remedy environmental concerns, rather than exacerbate them.

The products, innovations, technologies, and educational outreach described herein do not constitute a comprehensive or exhaustive litany of the accomplishments and developments within the recreational boating industry. What is presented is meant to provide an illustrative overview and sampling of some of the significant activities and milestones. An overview of this length and scope could not begin to capture each important development or innovation.