



Annotated Bibliography of Coastal Pollution Prevention Sources

This bibliography was written by Manoj Shrivani, Research Associate; Daniel Suman, Associate Professor; and David Letson, Assistant Professor; University of Miami. Annotations describe, in alphabetical order, all publications appearing in the Coastal Pollution Prevention Resource List. Codes in parentheses show the corresponding Resource List section for each publication:

- (G) General coastal, marine, or aquatic P2 literature
- (B) P2 literature directly related to Boston Harbor
- (Ch) P2 literature directly related to the Chesapeake Bay
- (Cr) P2 literature related to cruise lines, marine debris, and national and international programs, laws, and guidelines
- (M) P2 literature related to waste management in marinas, small boats, and activities that impact the land-sea interface

Most are available in college libraries or through interlibrary loan. For those marked with an asterisk (), see the Resource List to learn how to obtain them.*

Amaral, M., and V. Lee. *Environmental Guide for Marinas: Controlling Nonpoint Source and Storm Water Pollution in Rhode Island*. Narragansett, RI: Rhode Island Sea Grant, 1996. 155 pp. (M) *

Excellent discussion of best management practices (BMPs) for marinas, detailing how pollution affects the inshore marine environment. It outlines and discusses specific BMPs for solid waste and stormwater, fueling and other hydrocarbons, hazardous materials and liquid waste, and vessel sewage discharge. It also includes a section on the development and operation of such BMPs, with examples; five appendices; and a thorough reference section; the latter is particularly useful.

American Boat and Yacht Council. *Sewage Holding Tank Systems for Recreational Boats: System Design, Equipment Selection, Installation and Maintenance*. Edgewater, MD: American Boat and Yacht Council, U.S. Fish and Wildlife Service, and Maryland Department of Natural Resources, 1995. (M) *

This booklet describes the various systems that recreational boaters can install in their vessels to reduce or prevent dumping of sewage in adjacent waters. The authors include a compliance section that discusses some of the regulations that prevent vessel sewage dumping, including the Clean Water Act. The booklet also contains a detailed description of several marine sanitation devices (MSD) that owners should consider installing in their vessels.

Aubrey, D. G., and M. S. Connor. "Boston Harbor: Fallout Over the Outfall." *Oceanus* 36, 1 (Spring 1993): 61–70. (B)

This article details the plans of the Massachusetts Water Resources Authority (MWRA) to upgrade its existing sewer system, as well as a recent history of events that led to the degradation of Boston Harbor. It also describes many of the future problems the MWRA may encounter in the expansion process, including the siting of an outfall pipe somewhere in Massachusetts Bay. Finally, the writers call for local partnerships on the issues, as that may be the only way that ratepayers, scientists, environmentalists, and government officials can reach a consensus and move the process forward.

Brathaug, H. "Prevention of Marine Pollution." *Environmental Health* 99, no. 10 (1991): 260–262. (Cr)

This article discusses the role of the International Maritime Organization (IMO) in the prevention of ship-generated pollution, provides data on recent vessel-related oil pollution, and describes alternative concepts that may result in cleaner vessels. It also describes the International Convention on Oil Pollution Preparedness, Response, and Cooperation (1990), which should assist in the prevention of oil pollution at sea.

Broward County Department of Natural Resource Protection. *Pollution Prevention and Best Management Practices for Marine Facilities*. Ft. Lauderdale: Broward County Board of County Commissioners, 1996. (M) *

This report outlines the 20 best management practices (BMPs) that the Broward County Department of Natural Resource Protection recommends to marinas and marine facilities.

Buller, P., and M. Cadranell. *Clean Marina + Clean Boating + Clean Water Partnership*. Seattle: Puget Soundkeeper Alliance, 1995. (M) *

Though this publication was written for use in the U.S. Pacific Northwest, its material could be useful in developing and implementing best management practices (BMPs) elsewhere. Pertinent sections concern sources and fates of marine pollution, environmental regulations to prevent marine pollution, recommended BMPs, an example in a Washington coastal community, and various checklists of "to-do" items for marinas and boaters. Also included is an appendix with various governmental and NGO contacts, BMP-related articles, and pollution prevention regulations.

Burke, C. J., and J. A. Veil. "Pollution Prevention Reduces Offshore Toxicity." *Water Environment and Technology* 6 (March 1994): 33–34. (G)

An influent-effluent approach using pollution prevention as its primary goal succeeds significantly over command-and-control approaches in reducing toxicity of drilling muds. EPA Region X (Alaska) has utilized this approach to obtain lower toxicity levels than any of the other EPA regions considered in the article. The article discusses the types of interactions and compliance mechanisms required by an EPA regional agency to ensure industrial compliance, along with the overall need for government-industry cooperation in order for pollution prevention measures to succeed.

California Department of Toxic Substances Control, Office of P2 and Technology Development. *Hazardous Waste Minimization Checklist and Assessment Manual for Marine Ship and Pleasure Vessel Boat Yards*. Sacramento, 1993. (M) *

This manual consists of three parts: Section 1 describes waste minimization and its benefits to marine shipyards;

Section 2 evaluates various waste minimization options; and Section 3 is an economic worksheet. The manual also contains material on additional publications, an appendix of waste minimization opportunities tables, and contacts for further information. Carey, P. M. "Urban Decay." *Infrastructure Finance* (October/November 1994): 22–28. (B)

This article discusses how cities can modernize infrastructure without federal or state funding. It describes how the Massachusetts Water Resources Authority (MWRA) in Boston is utilizing a mixture of ratepayer bonds, state and local government loan funds, and minimal federal grants to finance its Boston Harbor project.

Chesapeake Bay Commission. *Annual Report to the General Assemblies of Virginia, Maryland, and Pennsylvania 1994*. Annapolis, MD: Chesapeake Bay Commission, 1994. (Ch) *

Summary chapters describe various activities in the Chesapeake Bay region, including legislative and council actions, ecological and resource issues, and future research topics. Appendix A is a copy of the "Resolution Concerning a Pollution Prevention Policy Adopted by the Chesapeake Bay Commission" on January 6, 1994.

Chesapeake Bay Program. *Chesapeake Bay: Introduction to an Ecosystem*. Annapolis, MD: U.S. EPA (for CBP), 1995. (Ch) *

This publication is a good, general introduction to the scientific components of Chesapeake Bay, such as its geology, hydrology, ecology, and natural resources. It also contains a chapter on nutrient enrichment and common-sense ways by which people can reduce such input into the bay.

———. *The State of the Chesapeake Bay 1995*. Annapolis, MD: U.S. EPA (for CBP), 1995. (Ch) *

This publication describes the ecosystems in the Chesapeake Bay watershed region and the threats surrounding them, including population growth and associated wastewater discharges. It also describes the sources of nutrient enrichment in the bay, their current levels and effects on water quality and wildlife, and reduction goals. Finally, it explains how citizen monitoring programs can help.

Clifton, C. B., E. J. A. McCoy, and L. T. Johnson. *Clean Boating Guide*. San Diego: University of California Cooperative Extension, Sea Grant Extension Program; 1995. (M)

A guide to pollution prevention for boaters who maintain their boats within a marina, this pamphlet contains information on vessel repair and maintenance, fuel-handling, and waste disposal.

———*Marina Pollution Prevention Manual*. San Diego: University of California Cooperative Extension, Sea Grant Extension Program; 1995. (M) *

This publication relates to pollution generated from vessels in marinas and neighboring marine environments, and ways by which marinas can prevent such pollution. The wastes discussed include oil and fuel pollution, hazardous materials, marine debris, and boat cleaning and painting chemicals. The publication describes specific practices that marinas can employ to prevent boat pollution; it also has a list of references, further information, and a set of enclosed publications (topics range from boating tips to pollution impacts).

Diller, J. M. "Compliance with NPDES Storm Water Discharge Permit Requirements." *Environmental Progress* 14, no. 1 (1995): 41–43. (B)

The article describes the U.S. EPA Storm Water Pollution Prevention Plan (SWPPP), development and implementation requirements (for environmental engineers), and on the usefulness of such a plan. SWPPPs are required for almost all industrial facilities that are required to have a National Pollutant Discharge Elimination System (NPDES) permit, which concerns the regulation of wastewater and stormwater discharges.

Duke, D. L. "Industrial Storm Water Runoff: Pollution Prevention Practices." *AIPE Facilities* (January/February 1995): 49–55. (B)

The article discusses pollution-control regulations for industrial facilities and the resulting government-industry cooperation that has led to a reduction of industrial pollutants in stormwater. The article further discusses the regional strategies that the EPA and various California municipalities have employed toward pollution prevention, using local, industrial case studies as examples.

Epstein, L. N., and S. A. Skavroneck. "POTWs Play Large Role in Promoting Pollution Prevention." *Water Environment and Technology* 7 (December 1995): 29–30. (B)

The article discusses how publicly owned treatment works (POTWs) can serve as detection points for various sources of pollution and even reduce such input. In the case of various sources, POTWs can promote public awareness via educational campaigns; in situations of point-source dischargers, POTW operators can require that polluters employ preventive measures and comply with discharge guidelines. Finally, POTWs can work with local industries to set local limits, addressing specific pollutants and encouraging cooperation.

Faris, J., and K. Hart. *Seas of Debris: A Summary of the Third International Conference on Marine Debris*. Seattle: National Oceanic and Atmospheric Administration, 1996. (Cr) *

This document summarizes the 1994 Miami conference on marine debris. It discusses ship-based, land-based, and non-point sources of marine debris and their fates. It also contains information on how industries in each source are reducing debris and how means such as education and technology can improve compliance.

Flanigan, F. H., and C. A. Dunn. "Involving the Public in Developing Nutrient Reduction Strategies for Chesapeake Bay." In *Changes in Fluxes in Estuaries: Implications From Science to Management*, ed. K. R. Dyer and R. J. Orth (University of Plymouth). Fredensborg, Denmark: Olsen & Olsen, 1994. (Ch)

This article discusses the portion of the Chesapeake Bay restoration effort that is geared towards educating and involving the public in policy decisions and pollution prevention strategies in farms, industry, sewage treatment, and homes. It also discusses the positive effects that public involvement has had in this particular project, and how such partnerships could be developed for other estuarine programs.

Florida Department of Environmental Protection. "Broward County DNR: Assisting Businesses With a Non-Regulatory Approach." *P2 Links* 1, no. 1 (1996): 2. (M) *

The article briefly describes the pollution prevention program in Broward County and its marine facilities component; it also defines DNR's objectives and implementation strategies in pollution prevention.

Florida Sea Grant. *What Responsible Boaters Can Do To Keep Florida's Waters Clean*. Gainesville: Florida Sea Grant College Program, University of Florida, October 1995. (M) *

This booklet contains a list of activities that boaters in Florida can modify in order to reduce pollution in the marine environment, including fuel and engine management, black- and graywater disposal, alternative products, boat maintenance activities, and other hazardous material disposal. It also lists items that can be recycled, including oil and oil filters, plastics, batteries, aluminum, monofilament line, and chemicals.

Franckx, E. "Coastal State Jurisdiction with Respect to Marine Pollution — Some Recent Developments and Future Challenges." *The International Journal of Marine and Coastal Law* 10, no. 2 (1995): 253–280. (G)

The article analyzes various national and international marine pollution legal regimes — including the U.S. Oil Pollution Act, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, and MARPOL — in the context of their importance to the marine environment. It also discusses the International Maritime Organization's role and its recent initiatives, including the protection of the Straits of Bonifacio in the Mediterranean Sea.

Galloway, B. *Restoring the Chesapeake: Chesapeake Bay Progress Report 1995*. Annapolis, MD: State of Maryland, 1995. (Ch)

This report is a good summary of Maryland's efforts in Chesapeake Bay restoration activities, including accomplishments in wastewater treatment, developed lands, agricultural areas, resource protection, and watershed planning.

Garrod, B., and D. Whitmarsh. "The Economics of Marine Pollution Control." *Marine Pollution Bulletin* 30, no. 6 (1995): 365–371. (G)

The paper discusses the many misperceptions that villify economics as an adversary of environmentalism. It then describes economic approaches to pollution control, including examples from various firms whose "corporate environmentalism" approaches demonstrate a more responsible attitude toward the environment; such approaches can be optimally attained only via economic incentives rather than "command-and-control"

means. However, the writers do conclude that while industries will be driven by competition and commercial success to include environmental concerns in their agendas, the government must work toward the broader environmental interests of society.

Gervasi, K., T. James, and L. Wiesner. "Environmental Symposium Report." *Dock Lines* 7, no. 5 (March 10, 1995): 3–5. (M)

This article is a transcript of a panel discussion during the February 1995 Environmental Management Symposium in Ft. Lauderdale. The article describes the evolution of the best management practice (BMP) regime for marine facilities in Broward County and details some of the BMP's successes, including better education among marina operators and benefits from cleaner technologies. (Panelists: Kay Gervasi, pollution prevention manager of Broward County Department of Natural Resource Protection; Ted James, general manager of Associated Marine Technologies, and Larry Wiesner, human resource manager for Derecktor-Gunnell, Inc.)

Hill, Paula, and Steve Nelson, eds. *Chesapeake Research Conference—Toward a Sustainable Coastal Watershed: The Chesapeake Experiment*, Norfolk, Virginia, June 1–3, 1994. CRC Pub. #149. Edgewater, MD: Chesapeake Research Consortium, Inc., 1994. (Ch) *

These proceedings cover pertinent presentations on urban issues (water, growth, and waste management), coastal management issues, watershed processes, and many others. The participant list includes contact information.

Holland America Line. *Environmental Policies and Objectives*. Seattle: Holland America Line, 1996. (Cr) *

This internal document outlines Holland America Line's policies concerning onboard waste. It contains the line's environmental mission statement, current environmental standards, a description of various disposal programs, and vessel waste-reduction technologies. The document also includes detailed examples of programs the company is incorporating and technologies it is installing on its vessels to reduce marine waste.

Houthoofd, J. M. "Pollution Prevention Applications in Construction and Water Resource Management." *Environmental Progress* 14, no. 4 (1995): 254–260. (G)

The article considers various pollution prevention measures in industrial designs. Among these, it discusses stormwater management, wastewater reuse, and trenchless pipelines as examples of preventative strategies in water resource management. It provides sets of guidelines for each such issue as well as a pertinent example. Finally, the article contains several recommendations for environmental engineers and managers that essentially call for the incorporation of P2 technologies and practices in field activities.

Kaunelis, V. P., and J. S. Neibert. "CSO Treatment Options." *Water Environment and Technology* 7, no. 4 (1995): 32–35. (G)

This is a case study of southeast Michigan's Rouge River watershed, which has been greatly affected by the 168 combined sewer outflows (CSOs) in the region. In an innovative move, the Michigan Department of Natural Resources issued the affected counties a two-phased permit: Phase 1, evaluation of alternatives; and Phase 2, by which communities will have to construct improvements. The article describes recent efforts by local, state, and federal entities to develop alternative CSO strategies, their costs, and relative benefits (Phase 1); it also underlines the importance of such a phased, coordinated endeavor toward the development of an efficient, manageable system.

Kimm, D. H., C. T. Paulson, and J. Damas. "An Ounce of Prevention." *Water Environment and Technology* 7 (January 1995): 38-41. (G)

The article describes the efforts of Oakland, California's East Bay Municipal Utilities District in developing a set of best management practices and a permitting system to reduce the amount of pollution — particularly toxins — entering San Francisco Bay. The pollution program described, part of the San Francisco Bay Basin Plan, has led to many reductions since its implementation in 1988.

Levy, P. F. "Sewer Infrastructure: An Orphan of Our Times." *Oceanus* 36, no. 1 (Spring 1993): 53–60. (B)

This articles chronicles a history of sewage in Boston Harbor, from uncontrolled dumping in the 1700s to the comprehensive Boston Harbor Project in the 1980s.

Liebl, D. S., D. S. Natchez, and N. W. Ross. *Reducing Waste and Preventing Pollution in Marinas and Boatyards: A New University of Wisconsin-Madison Videoconference*. Madison, WI: University of Wisconsin-Madison, 1996. (M)

The videoconference to which this manual refers was held across the nation at various sites on October 8, 1996. It consisted of lectures by three experts in marina management pollution prevention; the details of those lectures are included in this manual. The Liebl and Natchez lectures cover best management practices (BMPs) for preventing pollution in marinas; Ross' lecture concerns potential economic benefits of cleaner technology in marinas.

Lucas, E. *Baywatch: A Guide for Boaters*. San Diego: Environmental Health Coalition, 1991. (M) *

The document discusses San Diego Bay pollution and provides a ten-step solution via best management practices (BMPs) for vessels and vessel maintenance. The BMPs include control of fuel and oil, paints, batteries, and other appliances. The document also contains a spill-reporting guide, useful maps for boaters, and emergency contacts.

Marin County Office of Waste Management. *Pollution Prevention at Marinas: Best Management Practices for Marin County Marinas and Tips for Boater Participation*. San Rafael: Marin County Office of Waste Management, 1993. (M) *

This manual contains practices that marinas in Marin County can utilize to control sources of oil and fuel contamination, reduce sewage into the marine environment, properly clean and maintain boats, and dispose of hazardous and solid waste. It also contains a section on boater pollution prevention tips regarding fuel, bilge water, sewage, maintenance, and solid and hazardous waste.

Marine Law Institute. *Dumping of Plastics Prohibited: Requirements of MARPOL Annex V*. Portland, ME: Sea Grant Marine Advisory Program, 1990. (Cr) *

This document discusses the implications of the International Convention for Prevention of Pollution From Ships (MARPOL) Annex V on the types of wastes that vessels can discharge into the marine environment. It also describes the U.S. Marine Plastic Pollution Research and Control Act (MPPRCA) regulations and penalties.

Massachusetts Water Resources Authority. 1994 *State of Boston Harbor: Connecting the Harbor to Its Watersheds*. Boston, 1995. (B) *

The document discusses the state of Boston Harbor in 1994, in terms of its environmental health and the industrial and sewage inputs that enter it. The document contains an executive summary and introduction, a section on pollution sources, a discussion on the MWRA's long-term goals (including the optimization of the sewer system via a combined sewer outflow plan), and a series of watershed maps of the region.

———. *MWRA Pocket Pal: A Guide to Facts, Schedules, and Terminology*. Boston, 1996. (B) *

This booklet describes the history of sewage flow into Boston Harbor, recent developments in sewage disposal (including current treatment projects), and future systems planned for the region. It contains a timeline illustrating the types of sewer systems used in the greater Boston area, a general facts section on the current sewage system, and a glossary of many sewerage and water treatment terms.

McClelland, F. *Best Management Practices for Coastal Marinas*. Hartford: Office of Long Island Sound, Connecticut Department of Environmental Protection; 1992. (M) *

This report discusses the potential effects of marinas on the surrounding marine environment and identifies and describes best management practices (BMPs) that can reduce or abate marina-based pollution. The report also identifies institutional mechanisms to implement and enforce these BMPs, as well as means by which existing or future marinas can incorporate BMPs into their management strategies.

McMahon, P. J. P. "The Impacts of Marinas on Water Quality." *Water Science and Technology* 21, no. 2 (1989): 39-43. (M)

This article discusses the various pollutants that marinas introduce into the marine environment and the effects of those pollutants on various parameters, such as water quality and sediments.

McManus, R. "Pollution at Sea Is Luxury We Can't Afford." *Forum for Applied Research and Public Policy* 9, no. 1 (Spring 1994): 46-49. (Cr)

The article discusses plastics in the marine environment, activities that result in such discharges, regulations on ocean dumping, and the need for coordinated effort to reduce ocean pollution. The International Convention for Prevention of Pollution from Ships (MARPOL 73/78) Annex V and the U.S. Marine Plastics Pollution Research and Control Act (MPPRCA) are specifically discussed as types of international and national legislation utilized in restricting ship-generated marine pollution.

National Research Council. *Clean Ships, Clean Ports, Clean Oceans: Controlling Garbage and Plastic Wastes at Sea*. Washington: National Academy Press, 1995. 384 pp. (Cr) *

This publication is a result of efforts of the Committee on Shipborne Wastes, formed by the National Research Council to determine how to best implement MARPOL Annex V in the U.S. Included are the Committee's findings on sources, fates, and effects of shipborne garbage; implementation of a model abatement strategy; integration of vessel and shoreside management; education and training; overarching issues; and actions to better integrate or improve implementation of Annex V. The appendices, mainly on Annex V issues, are good.

———. *Stemming the Tide: Controlling Introductions of Non-Indigenous Species by Ships' Ballast Water*. Washington: National Academy Press, 1996. (G) *

This book discusses the effects of ballast-water species on host ecosystems, the control of such non-indigenous biological "pollutants," and the management of ballast water discharge. Ballast water species do represent a potentially severe threat, as demonstrated by the proliferation of the zebra mussel in the U.S., and thus can be considered of as pollutants which can be controlled by effective ballast water discharge management.

Neil Ross Consultants. *Clean Marinas—Clear Value: Environmental and Business Success Stories*. Washington: U.S. EPA, 1996. (M) *

Included are 25 case studies on marina facilities across the U.S. Each examines how a particular facility incorporated pollution prevention into its management, and the costs and benefits of the implementation. The document also contains a good introduction, a methodology section, and several appendices, including a literature review and bibliography.

Ohio Environmental Protection Agency, Office of P2. *Fact Sheet 30: Pollution Prevention for Marinas*. Columbus, September 1995. (M) *

This fact sheet discusses boating patterns in Ohio and their effects on the aquatic environment. It recommends that marinas reduce pollution by modifying hull maintenance activities and painting operations, recycling engine repair items and oil, collecting and properly disposing of other hazardous materials that may otherwise pollute the waters, improving fuel station activities, and educating customers. The fact sheet also contains a list of references and information sources.

O'Loughlin, G. G. "Pollution Prevention and Politics—The Recent Experience in Sydney." *Water Science and Technology* 30, no. 1 (1994): 13–22. (G)

The article describes the pollution prevention program adopted by the New South Wales State Government in Australia. The program is part of an effort to resolve stormwater pollution and sewage overflows in Sydney. The article discusses the socio-economic and political factors that prompted the program, complexities in its implementation, and technical progress of its initiatives.

Oregon Sea Grant. *Protecting Oregon Waters: Practical Solutions for Boaters*. Corvallis: Oregon State Marine Board, 1996. (M) *

This publication, targeted for boaters in Oregon, discusses procedures for reducing marine pollution. It includes sections on oil and fuel, plastics, cleaning products, and paints; each section contains descriptions of each pollutant, regulations concerning its disposal, and steps that users can take to abate pollutant disposal in the marine environment. It also contains a section on tips for boaters, which include other chronic pollutants. Finally, it has a list of references (mostly from Oregon), pump-out stations, and "how-to" procedures on boat pollution prevention (on pump-outs and signs).

Pennsylvania Department of Environmental Protection. *Pennsylvania's Chesapeake Bay Nutrient Reduction Strategy*. Harrisburg, 1996. (Ch)

This document outlines Pennsylvania's programs to control nutrient input into the Chesapeake Bay. It includes a description of nonpoint source control programs, point source control programs, alternative control programs, monitoring and tracking programs, and critical issues related to the nutrient reduction strategy.

Peterson, S. "Alternatives to the Big Pipe." *Oceanus* 36, no. 1 (Spring 1993): 71–76. (B)

This article discusses alternatives to the standard method of wastewater disposal ("build a bigger pipe"). Peterson argues that Boston Harbor project managers should consider reducing wastewater at the source, reducing the volume of wastewater from infiltration, reducing the volume of wastewater from storm sewers, cleaning the wastewater that exits the pipe, or having no pipe. Peterson recognizes that the last option is not practical for Boston and such large communities, but her article does present several feasible alternatives.

Philbert, F. J. "The Niagara River: A Water Quality Management Review." *Environmental Monitoring and Assessment* 17 (1991): 157–166. (G)

The article describes the Niagara River Toxics Management Plan (NRTMP), a bilateral agreement between the U.S. and Canada, and its efforts to prevent toxic pollution in the Niagara River watershed. It describes sundry polluting sources in the region and the two nations' efforts to reduce toxic input into a system that affects 80 percent of North America's fresh surface water. It also describes the role of the NRTMP committee in reducing toxins and analyzes some of the committee's recent recommendations for the watershed.

Puget Soundkeeper Alliance. *Pollution Prevention Opportunities: Reducing Hazardous Waste and Chemical Use in the Marine Industry*. Seattle, 1993. (M) *

This publication describes pollution prevention regulations and steps that marine industries can take to reduce pollution in their surrounding environments. Included are pollution prevention case studies in several marine industries, pertinent pollution prevention regulations, and appropriate government contacts.

———. *Sound Information: A Boaters Guide*. Seattle, 1996. (M) *

This publication concerns pollution in Puget Sound, including garbage and sewage from vessels, boat cleaning (and related toxics and metals), fishing, and clamming. It contains a 10-step solution to reducing pollution in the Sound, as well as government contacts where boaters can obtain more information on each particular topic. Although the publication focuses on the Puget Sound area, it contains information that would be useful to other areas with similar boat traffic.

Sheavly, S. B. *1994 U.S. National Coastal Cleanup Results*. Washington: Center for Marine Conservation, 1995. (Cr) *

In 1994, the Center for Marine Conservation sponsored coastal clean-ups around the U.S. The marine debris collected is categorized. This publication describes those debris sources and analyzes them geographically.

U.S. Environmental Protection Agency. *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*. Washington, 1993. (G) *

This document guides states in developing and implementing Coastal Nonpoint Source Pollution Control Programs under EPA and other agency review criteria.

———. *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*. Washington, 1993. (M) *

Chapter 5 addresses 15 marina management measures within two broad categories: (1) siting and design and (2) operation and maintenance. Each measure is described in terms of purpose, management practice type, and effectiveness.

———. *Guides to Pollution Prevention: The Marine Maintenance and Repair Industry*. Washington, 1991. (M) *

This document introduces waste minimization assessment in the marine maintenance and repair industry; profiles the industry in terms of its materials, services, and wastes; and outlines minimization options for each type of waste (e.g., chemical, solvent, equipment, etc.). Includes waste minimization assessment worksheets.

———. "Pollution Prevention." *EPA Journal* 21 (Winter 1995): 38–40. (G)

The article describes EPA's pollution prevention strategy for various industries and environments, including the ocean and coastal environments, which are protected against solid waste dumping and garbage. It also examines voluntary, incentive-driven programs that result in greater compliance and waste reduction. Finally, the article discusses new prevention approaches within the EPA, such as industrial pilot programs, integrated pest management, and biotechnology.

Vivona, M. A. "Design an Effective Storm Water Pollution Prevention Plan." *Hydrocarbon Processing* 74, no. 8 (August 1995): 95–103. (G)

The article contains checklists that engineers can apply toward the development of housekeeping and operational procedures to reduce the workload on wastewater treatment plants. It also has a case study on how to create a Storm Water Pollution Prevention Program (SWPPP), as well as guidelines that describe best management practices.

Wade, Richard. "Infrastructure Requirements for Ecologically Sensitive Environments." Paper presented at the 1994 World Congress on Adventure Travel and Ecotourism, Hobart, Australia November 7-10, 1994. (Cr)

This document is mainly a general discussion on the development of ecotourism and the environmental considerations for resource conservation in that growing industry. It discusses environmental impacts of ecotourism and various areas that managers should improve upon (whether in a facility or a vessel) to minimize environmental damage while maintaining economic growth. The author proposes that a Total Environmental Quality Management system be incorporated into each facility. While the document does not specifically concern marine pollution, it does describe a management system that the author states has been used by the Princess Cruise Lines, and it contains a diagram that illustrates the installation.

Wider Caribbean Initiative for Ship-Generated Waste Project Coordination Unit. *The Caribbean Sea — A Very Special Area: Wider Caribbean Initiative For Ship-Generated Waste*. Port of Spain, Trinidad and Tobago: Media and Editorial Projects Ltd., 1996. (Cr)

This publication concerns the pollution generated from vessels in the Caribbean Sea and the steps needed to achieve mid- and long-term clean-up and protection of the basin. The problems discussed are garbage and oil pollution from vessels and waste management on land. The solutions proposed are those outlined in MARPOL 73/78 (The International Convention for the Prevention of Pollution from Ships); the publication discusses this international agreement and how national ratification of the agreement will lead to better protection for the Caribbean marine environment.

Woodruff, P. H. "Water Quality for the 21st Century." *Water Environment and Technology* (March 1993): 64–67. (G)

As a result of the Water Quality Act of 1987, a coalition of various organizations — including governmental agencies, industry associations, and environmental groups — collaborated to create Water Quality 2000. The group's final report (published in November 1992), *A National Water Agenda for the 21st Century*, recommends a national, unified policy that unites land and water resource management and presents the consensus views of various organizations. The article discusses individual recommendations of the report.

Year 2020 Panel. *Population Growth and Development in the Chesapeake Bay Watershed to the Year 2020: The Report of the Year 2020 Panel to the Chesapeake Executive Council*. Annapolis, MD: Rogers, Golden + Halpern, 1988. (Ch)

This document summarizes state and federal actions that have been completed or will be undertaken for the Chesapeake Bay region. It also contains an introduction to the 1987 Chesapeake Bay Agreement, the 2020 Panel and its experiences, problems surrounding the Chesapeake Bay, development patterns in the bay, and alternatives to current projections.



National Pollution Prevention Center for Higher Education
430 East University Ave., Ann Arbor, MI 48109-1115
734-764-1412 • fax: 734-647-5841 • nppc@umich.edu

The mission of the NPPC is to promote sustainable development by educating students, faculty, and professionals about pollution prevention; create educational materials; provide tools and strategies for addressing relevant environmental problems; and establish a national network of pollution prevention educators.

In addition to developing educational materials and conducting research, the NPPC also offers an internship program, professional education and training, and conferences.

The NPPC provides educational materials through the World Wide Web at this URL: <http://www.umich.edu/~nppcpub/> Please contact us if you have comments about our online resources or suggestions for publicizing our educational materials through the Internet.