



CLEAN MARINA

GUIDEBOOK

A Partnership Between the National Park Service
and the District of Columbia Department
of the Environment



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Clean Marina Guidebook

A Product of the Clean Marina Initiative

A public-private partnership between
the National Park Service and the District of Columbia
designed to help marina and boatyard owners, operators, and concessioners

**The National Park Service cares for special
places saved by the American people so that all
may experience our heritage**

Experience Your America

Prepared for:

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Acknowledgements

The Clean Marina Guidebook has been developed as a joint initiative of the National Park Service-National Capital Region and the District of Columbia. The *Guidebook* draws extensively upon the model provided by the Maryland Clean Marina Initiative. Together these organizations are making it possible to extend voluntary clean marina programs to the marinas along the Anacostia and Potomac Rivers in the District of Columbia.

The Maryland Clean Marina Initiative is coordinated by the Maryland Department of Natural Resources in partnership with industry and government representatives. Together, the partners developed the Maryland Clean Marina Guidebook (written by Elizabeth Fuller Valentine) and established an awards program to recognize environmentally responsible marinas. Using the exceptional collection of well-researched best management practices and federal regulations from the Maryland Clean Marina Guidebook, as well as additional DC and federal information sources, the National Park Service and District of Columbia have created a guidebook that fits the experiences and needs of marinas and boating facilities within the District.

The Clean Marina Guidebook has also been made possible by input of all stakeholders who advised in developing the final version of the *Guidebook*. These include but are not limited to: NPS representatives from National Capital Parks-East and George Washington Memorial Parkway, which are the local parks that have marinas, boatyards and concession operations on the Anacostia River and Potomac River, and the marina owners/operators for Anacostia Marina, Buzzards Point Marina, James Creek Marina, District Yacht Club, Eastern Power Boat Club, Seafarers Boat Club, Washington Yacht Club, Columbia Island Marina, Washington Sailing Marina, and Belle Haven Marina. Representative from the District of Columbia Department of the Environment and the U.S. Environmental Protection Agency were also key stakeholders in the development of this *Guidebook*.

The input of each of these organizations has been critical for the development of a guidebook that should provide an effective management tool in helping users to comply with requirements and implement best management practices to protect District waterways. However, use of this *Guidebook* does not guarantee compliance with all required federal and District of Columbia statutes, regulations, ordinances, or other requirements. It is incumbent upon the marina, boat club, yacht club, and other users to ensure compliance with all applicable requirements.

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*Throughout the Guidebook, owners, operators, managers, and marina owners operating as concessioners on NPS property will be referred to as **operators** or **managers**.*

Introduction

The Clean Marina Program is a joint effort of the National Park Service (NPS), National Capital Region (NCR) and the District of Columbia Department of Environment (DDOE). Its two main purposes are (1) to establish a voluntary program that serves and supports marinas and boatyards along the navigable waters of the District of Columbia (District or DC), and (2) to encourage marina and boatyard owners, operators, managers, and concessionaires (“operators”) to take further steps to protect the District’s environment. Program participants are rewarded for such efforts by the granting of “Clean Marina” status.

The Maryland Department of Natural Resources and the State of Virginia have already put this concept to work in an effort that has involved collaboration among regulatory agencies, marina owners, and industry. The *Maryland Clean Marina Guidebook*—an exceptional collection of best management practices (BMPs) and relevant state and federal regulations—has served as the model for this *Guidebook*.

This *Clean Marina Guidebook* documents regulatory requirements and BMP recommendations for the District. It is a dynamic document, subject to frequent updates and revisions on the basis of give-and-take among program participants. Written specifically for the use of operators of marinas, boat clubs, and boatyards sited along District waterways (whether on NPS property, private land, or District property), the *Guidebook* is an integral part of an ongoing effort to assist operators to not only comply with environmental regulations, but to go beyond compliance by implementing BMPs to conserve and improve the resources that provide them with pleasure, good health, and livelihood, namely, the water and air of the District.

The *Clean Marina Guidebook* was drafted by two partners, the NPS and the District. The *Guidebook* serves as the educational tool to inform stakeholders, those who make a living from marinas



or are members of yacht clubs, of their responsibilities in protecting the environment.

1.1 Why do We Need a Clean Marina Program?

Increasing concern about the quality and safety of the water in the District's waterways has led to a variety of initiatives to protect them. Marinas, yacht clubs, and boatyards, situated as they are along these navigable waterways, are in a unique position to help this effort. It is felt that the participation of such marina, yacht club, and boatyard operators will be fuller and more enthusiastic with the advice, assistance, and encouragement of the Clean Marina Program and associated *Guidebook*.

Environmental degradation is not caused by any particular industry or user group.

It is caused by all of us.

Maintenance, operation, and storage of recreational vessels can pollute adjacent waters and impair air quality. Dust, solvents, petroleum, sewage, paint residue—without proper handling, any of these can find their way directly to the water, or be carried in via stormwater runoff.

Marinas, yacht clubs, and boatyards have increasingly become the targets of governmental regulation, in part because the maintenance, operation, and storage of recreational vessels can pollute adjacent waters and impair air quality. Contaminants associated with recreational boating include dust from hull maintenance operations, solvents from engine repair shops, petroleum products from careless fueling practices, sewage discharges, and metals from anti-fouling paints. These pollutants may be deposited directly into the water or may be carried in from shore by stormwater runoff or direct entry to the water. Marina design and location may also contribute to environmental degradation by disturbance of sensitive habitat.

Achieving compliance means meeting all legal requirements for an environmentally sound operation.

Marinas, yacht clubs, and boatyards account for only a small subset of users who contribute to the environmental degradation of waterways. Water quality is also impacted by runoff of fertilizers and pesticides (residential, commercial, and agricultural) from shore, by industrial discharges, and by careless use of home cleaning and maintenance products. Waterways are clouded by sediment washed from land and are degraded by vehicle-related oils and metals swept in with runoff from streets and highways. Environmental degradation is not the result of any particular industry or user group, but is caused by all of us.

The objective of this Program is to encourage informed decision-making in marinas and boatyards interested in achieving an actual reduction in boating related-pollution. The first goal of the *Program* is to clearly establish what is required of all marina, yacht club, and boatyard operators to achieve compliance with

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Going beyond compliance means achieving recognition in the **Clean Marina Initiative for Excellence in Operations**.

According to an EPA study reported in **Clean Marinas Clear Value—Environmental and Business Success Stories**, marina managers found that measurable bottom-line benefits can result from cleaner operations.

Visit the EPA website <http://www.epa.gov/O/WOW/NPS/marinas> for similar success stories.

Recognition as a Clean Marina requires going beyond compliance by adopting a significant proportion of management practices suggested here.

environmental laws and regulations. The *Guidebook* strives to lead its readers through the large amount of federal and District environmental regulations and enforceable requirements, pointing out along the way what must be done to achieve compliance with key environmental regulations.

The second, but equally important, goal of the *Guidebook* is to provide information, recommendations, and opportunities for participants to go beyond compliance by implementing BMPs, and to derive tangible benefits from doing so.

1.2 What are the Benefits of Joining this Program?

The benefits are threefold. First, marina, yacht club, and boatyard operators, through their participation with the NPS, the District of Columbia, and regulatory agencies such as the Environmental Protection Agency (EPA), will find it easy to demonstrate that they are presently, or are about to be, in compliance with applicable environmental regulations. Participation in the Clean Marina Program is also equivalent to adherence to EPA's Clean Marina guidance.

Due to the confusing and sometimes conflicting body of environmental regulations, many marinas, yacht clubs, and boatyards are not in compliance, and their owners are not clear on what they are expected to do to meet their environmental obligations. Use of the *Guidebook*, including its directory of agency contacts, should make it easier to understand the path to compliance; however, participation in the Clean Marina Program does not guarantee compliance. With the increasing numbers of Notices of Violation (NOVs) issued by EPA for releases to District waters, this is likely to be one of the *Guidebook's* most important benefits.

Second, by adopting the BMPs recommended in this *Guidebook*, not only will marina, yacht club, and boatyard operators demonstrate a commitment to good environmental stewardship, but they also raise their visibility. In addition to receiving the Clean Marina certification, marinas, yacht clubs, and boatyards receive public recognition in national and local newspapers, in Clean Marina publications, on the Internet, and at public events such as local boat shows, river initiatives, or Earth Day and cleanup events.

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Third, judging from the results of similar efforts, participants are likely to save money by following *Guidebook* recommendations, ultimately reducing cost of materials, waste cleanup and disposal. Opportunities for increased income may also become apparent—through rental of equipment, such as environmentally friendly vacuum sanders, or by selling recyclable materials such as batteries and scrap metal. A cleaner environment and the use of more efficient equipment can also increase staff productivity. In addition, liability associated with waste handling may also be reduced.

Table 1-1, adapted from EPA's 1996 *Clean Marinas Clear Value—Environmental and Business Success Stories*, documents benefits associated with changes in operating practices that are specifically geared to environmental protection. These practices are highlighted in the appropriate sections of the *Clean Marina Guidebook*.

1.3 Who can Use this *Guidebook*?

The *Guidebook* is targeted at any facility that, from an operational standpoint, could potentially impact waterways. Its recommendations are equally applicable to marinas as to yacht clubs, limited-service boatyards, independent boatyards, and marine contractors. It may also prove to be a valuable information source for other commercial operators on the water such as floating restaurants and even the people who *use* marinas and boatyards, namely, District boaters.

1.4 How to Use this *Guidebook*

The *Guidebook* was written for easy reference, making it possible to turn quickly to a particular topic. It distinguishes between practices required by regulation, and BMPs that take a marina or boatyard beyond compliance into the Clean Marina Program. Compliance items are preceded by a solid diamond (◆). Beyond-compliance recommendations applicable to participants in the Clean Marina Program are preceded by a sun (☀) (or an empty diamond (◇)). A sun denotes a recommended BMP, and an empty diamond indicates a desirable activity.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☀) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



The *Guidebook* provides advice on the following topics:

- Marina Management
- Marina Design and Maintenance
- Stormwater Management
- Facility Management: Vessel Maintenance and Repair
- Petroleum Control
- Sewage Handling
- Waste Management and Disposal

Clean Boating Tip Sheets are included in the *Guidebook*, with space on each sheet for a marina's name and logo. These may be photocopied and distributed to boaters and staff as appropriate. The Tip Sheets cover:

- Vessel Cleaning and Maintenance
- Underwater Hull Cleaning
- Selecting a Bottom Paint
- Petroleum Control
- Fuel Spill Response
- Emergency Response Plan
- Vessel Sewage
- Waste Management and Disposal

References to additional sources of information are made throughout the *Guidebook*. Contact information and brief descriptions of services offered by each authority listed may be found in Appendix B. Resources are cited in each section, with points of contact, telephone numbers, mailing addresses, and e-mail addresses (when available) to facilitate further research.

Subsequent appendices contain information about laws and regulations, environmentally sensitive landscaping, recycling contacts, sample contract language, spill response companies, government publications, and local economic development contacts.



Table 1-1
Benefits from Operational Changes at Marinas and Boatyards

Operational Change	Benefits to Marina	Environmental Benefits
Hull servicing improvements (e.g., pressure wash pads, filters, recycling of washwater, tarps, filter cloths, dustless sanding)	<ul style="list-style-type: none"> • Compliance with regulations • Better service to customers • Increases worker productivity • Reduces cost for cleanup and disposal • Possibility of rental income (e.g., from dustless sanders) 	<ul style="list-style-type: none"> • Reduces pollutants, specifically from silica or paint residues that escape into aquatic environment • Reduces contaminants entering municipal sewer system • Eliminates airborne dust, for worker safety and cleaner grounds
Full pumpout services	<ul style="list-style-type: none"> • Attracts and satisfies customers who do not wish to perform pumpout themselves • Brings in large yachts, whose owners are likely to make use of other marina profit centers (e.g., fuel, boating supplies, food) • Makes marina eligible for state and federal pumpout grants • Positive public image (e.g., from pollution prevention practices) 	<ul style="list-style-type: none"> • Reduces negative impact on shellfish and other aquatic life • Can improve odor of water in marina • Can improve quality and clarity of marina water
Recycling of solid wastes (e.g., battery and scrap-metal recycling)	<ul style="list-style-type: none"> • Adds income from battery and scrap-metal sales • Reduces costs for waste disposal • Results in positive public image 	<ul style="list-style-type: none"> • Reduces litter in water and on shore • Increases quality and clarity of water column • Less trash is sent to landfill
Recycling or petroleum products	<ul style="list-style-type: none"> • Reduces disposal costs and long-term liability 	<ul style="list-style-type: none"> • Reduces impact on nonrenewable petroleum resources

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Table 1-1 (cont.):
Benefits from Operational Changes at Marinas and Boatyards

Operational Change	Benefits to Marina	Environmental Benefits
Insistence on environmental clauses in both user and construction contracts	<ul style="list-style-type: none"> • Combines education with control and enforcement • Provides extra control over marina/boatyard construction projects • Attracts environmentally-conscious clientele and contractors who are less likely to pollute 	<ul style="list-style-type: none"> • Potentially reduces all types of pollutants • Increases public knowledge and awareness
Keeping land surface permeable when possible	<ul style="list-style-type: none"> • Less costly than pavement 	<ul style="list-style-type: none"> • Reduces and slows runoff of pollutants into water
Better management of fueling operations	<ul style="list-style-type: none"> • Avoids spills and potentially costly cleanup fines • Reduces odors, making facility more attractive for users • Makes water more suitable for aquaculture or fishing • Reduces fire hazard 	<ul style="list-style-type: none"> • Keeps petroleum products out of water, reducing their potentially detrimental impacts on fish, shellfish, waterfowl, and shorebirds

Modified from table in EPA Report: *Clean Marinas Clear Value Environmental and Business Success Stories*, August 1996.

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The Clean Marina Initiative: Managing the Process

2.1 The Clean Marina Program

The Clean Marina Program is spearheaded by the National Park Service (NPS) National Capitol Region (NCR) and the District of Columbia Department of Environment (DDOE), and is managed by NPS, DDOE, and the Clean Marina Advisory Committee. The Clean Marina Advisory Committee is comprised of program partners and stakeholders. Stakeholders include a combination of boat owners, boating facility representatives, docked facility representatives, other interested parties, and regulators.

The Clean Marina Advisory Committee is responsible for managing the program, assisting member marinas and boatyards who seek Clean Marina certification, and ensuring that the *Guidebook* is kept up to date. It may also serve as a flexible resource for marina and boatyard operators who need to obtain documentation or practical assistance on a variety of regulatory issues.

Any marina, yacht club, or boatyard operating in District of Columbia (District or DC) waters is eligible to participate in the Clean Marina Program. In general, becoming a certified Clean Marina involves the following actions:

- Signing and submitting the Clean Marina Pledge or partner pledge;
- Filling out the Clean Marina Checklist, obtained from this *Guidebook* or from the NPS, DDOE, or Clean Marina Advisory Committee Contact (see Appendix B for contact information);
- Submitting the completed Checklist to register in the Clean Marina program;
- Working towards meeting the “beyond-compliance” requirements outlined on the Checklist; and
- Requesting an evaluation for Clean Marina certification.

The Clean Marina Partner Checklist is derived from the Clean Marina Checklist, and is geared to those who are not considered a marina or club, but use the rivers for recreation.

2. The Clean Marina Program and Marina Management



Becoming and maintaining the Clean Marina designation is outlined in a seven step procedure on the next page. If a marina, yacht club, or boatyard operator, in using the self-evaluation Checklist, discovers that their marina, yacht club, or boatyard is not in compliance with applicable regulations, the *Guidebook* may be used as a resource to help achieve compliance. Alternatively, the facility may wish to consider some type of environmental audit to evaluate all that may need to be done to achieve and go beyond regulatory compliance.

Text Box 2-1 Steps to Becoming a “Clean Marina”

Step 1: Learn about the Clean Marina Program

For additional information about the Clean Marina Program or this *Guidebook*, or to obtain another Clean Marina pledge form (see 2.2.2), Checklist, or other program information, call the NPS at (202) 619-7083 or the DDOE at (202) 535-2240. These contacts can also provide you with assistance and information on permits and environmental compliance requirements.

Step 2: Take the Clean Marina Pledge

By signing the Clean Marina Pledge, you commit to going beyond compliance and doing your part to “keep the District’s waterways free of harmful chemicals, excess nutrients, and debris.” Send a photocopy of the signed pledge directly to the Clean Marina Advisory Committee. Then display the original in a public area so that your customers will be aware of your commitment.

The Clean Marina Advisory Committee will prepare a news release acknowledging your participation in the Clean Marina Program and will include your facility’s name in its publications and public displays. The pledge expires one year from the date you sign it. If you are unable to achieve Clean Marina status in one year, you may renew the pledge by contacting the Clean Marina office through either the NPS or DDOE contacts mentioned above.

Step 3: Conduct an Assessment of your Property

Assess your own facility using the Clean Marina Checklist and this *Guidebook*. The Checklist outlines environmental practices required for compliance with federal and District of Columbia laws, as well as best management practices, and explains the scores required to achieve Clean Marina status.

Step 4: Call the Clean Marina Advisory Committee with any Questions

Don’t be discouraged if you initially have difficulty meeting the minimum scores. The Clean Marina Advisory Committee will be happy to assist you by scheduling a preliminary visit prior to the confirmation visit. All questions will be kept in strictest confidence. Contact information can be found in Appendix A.

Step 5: Schedule a Confirmation Visit

Once you have assessed your marina, yacht club, or boatyard against the Clean Marina Checklist, and feel satisfied that your facility meets the certification standards, call upon the NPS or DDOE representative, or a member of the Clean Marina Advisory Committee to schedule a confirmation visit. A representative will visit your facility to verify the items checked on the Checklist.

Step 6: Enjoy your Rewards

As a Clean Marina, you will receive a certificate and free publicity from the Clean Marina Program. The Program will promote your facility through publications, public displays, and media releases.

Step 7: Maintain your Clean Marina Status

The best way to establish and maintain your Clean Marina status is to work as a team with your employees. Annually, you need to confirm in writing that you continue to meet the award standards described on the Clean Marina Checklist. At least every third year, a Clean Marina representative will contact you to set up a meeting to reaffirm Clean Marina status.



2.2 Criteria for Clean Marina Status

For a marina, yacht club, or boatyard to attain Clean Marina status, it must be demonstrated that the facility has gone beyond compliance sufficiently to obtain a passing score on the Clean Marina Checklist. The score accounts for having met all compliance requirements, and awards additional points for the adoption of best management practices (BMPs) in any one of the various marina management areas described in this *Guidebook*.

The following paragraphs deal with environmental practices required by federal and District law, and the BMPs required to become a certified Clean Marina. Follow the Clean Marina Checklist closely; it will help you assess the status of your marina. Refer to corresponding chapters in this *Guidebook* for in-depth descriptions of each area of environmental concern and explanations of how to implement each practice.

2.2.1 Environmental Compliance: Know what the Law Requires

The principal federal regulations applicable to environmental protection at marinas, yacht clubs, and boatyards are those based on (1) the Resource Conservation and Recovery Act (RCRA), (2) the Clean Water Act (CWA), (3) the Clean Air Act (CAA) and (4) the Rivers and Harbors Act. Portions of the Federal Oil Pollution Act of 1990 (OPA) may also apply.

The District Water Pollution Control Act has very strict discharge requirements, requiring permits for the discharge of *any* pollutants into District waters. According to the District's Water Pollution Control Act of 1984, "The discharge of sanitary sewage, wash or process water, oil laden bilge water, refuse, or litter from watercraft is prohibited" (D.C. Law 5-188 SS 7, 32 DCR 919). In addition, the District is a designated "non-attainment area" under the CAA (meaning that air in the Metropolitan Washington Region, including the District has not yet met federal air quality standards). Because of this, marinas, yacht clubs, and boatyards within the District are subject to more stringent air quality regulations than marinas in other locations.

In order to comply with *all* federal and local laws, marina owners and operators must comply with *all* the environmental practices designated with a filled-diamond symbol (◆) on the Clean Marina Checklist. Once a marina, yacht club, or boatyard is in compliance

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with these regulations, the operation is close to earning Clean Marina status.

Best management practices (BMPs) are proven industry practices that go beyond compliance requirements.

2.2.2 Clean Marina Status: Know about Best Management Practices

Use the Checklist to assess your own facility and determine what you must do to implement the BMPs required for Clean Marina status. Subject-specific sections within this *Guidebook* provide information on how to implement these practices.

Recommended BMPs will be reviewed periodically by the Clean Marina Advisory Committee, and updated as necessary. Updates will be based on comments received from participants in the program, on changes in legal requirements, and on availability of technologies.

The following summarizes steps to be taken to go beyond compliance and become a Clean Marina.

Training is required as a component of regulations in many areas, but can also be used to create the feeling of working as a team, and to avoid environmental problems through increased employee awareness and commitment to BMPs.

Step 1: Encourage Teamwork among Staff

Teamwork can be enhanced by establishing Standard Operating Procedures (SOPs) for employees and training them to understand and comply with BMPs. SOPs and training begin with compliance requirements, but implementing BMPs can yield even stronger environmental programs and even cleaner marinas.

Emergency Response and Related Training

During a real emergency—when a delay of moments may be critical—you will want employees to know what to do and how to do it. Implementation of the following training recommendations will ensure that your staff (or, in the case of a club, board members) are well prepared for any emergency.

- ☼ Train employees in the current emergency response strategy.
- ☼ Review emergency plans and response procedures with staff (or, in the case of a club, club members) at the beginning of each boating season.
- ☼ Run emergency response drills at least twice annually.
- ☼ Have regulators visit your facility to speak on environmental issues.

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2. The Clean Marina Program and Marina Management



- ☼ Obtain copies of instructional materials from the U.S. Coast Guard (USCG), the Environmental Protection Agency (EPA), and the DDOE. Refer to Appendix B for contact information for these organizations.
- ☼ Keep copies of instructional material in an accessible location.
- ☼ Maintain good training records. If training is given at a staff or club meeting, meeting notes should detail the topics discussed and contain a list and/or signatures of attendees. For other trainings, materials, agendas, and attendance sheets should be collected and maintained.

Keeping Informed

During training, it will be important to encourage everyone working in your facility to be watchful, and to know what to do when certain problems are encountered. A first step to achieving this is to:

- ◇ Invite the USCG and the local fire department to demonstrate emergency response procedures at your marina.

In addition, encourage employees and others working with you to notify you of:

- ◇ Visible plumes in the water where a hull is being cleaned.
- ◇ Uncontained sanding, painting, varnishing, or cleaning.
- ◇ Maintenance debris washed into the water.
- ◇ Sewage discharges within the marina, yacht club, or boat yard.
- ◇ The use of environmentally harmful (e.g., toxic, non-biodegradable) cleaning products.

Approaching Polluters

Employees must learn how you expect them to handle environmental problems. This involves allocating responsibilities among your team. For example:

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- ☀ Determine who will address boaters and contractors who are releasing pollutants to the environment. This is normally a job for the manager. Communicate roles and responsibilities to staff.
- ☀ Politely inform boaters and contractors as to how and why certain practices may be harmful or undesirable. Provide an environmentally preferable alternative and ask the boater or contractor to stop work until it can be continued with less environmental impact. It will be easier to get cooperation if you require boaters and contractors to reduce waste and apply pollution prevention principles as a condition of their contract.

If the problem persists, take any or all of these additional steps:

- ☀ Talk to the boater or contractor again. For contractors, establish a contract with language that prohibits pollution.
- ☀ Mail a written notice asking that the harmful practice be stopped. Maintain a copy of the written notice.
- ☀ Remove any residue from the dock. Charge the boater or contractor for the cost of removal and cleanup.
- ☀ Ask the tenant or contractor to leave the marina, yacht club, or boat yard. To make this easier, you might include language in the contract to explicitly identify the option for the marina, yacht club, or boat yard owner to terminate the contract if the tenant or contractor refuses to comply with applicable environmental regulations.

If follow up action seems appropriate, notify the appropriate federal or state authorities.



Step 2: Show Customers and Contractors How to do Things Better

Incorporate BMPs into Contracts

In addition to being a legal document, a contract or lease can be an effective educational tool. Use the contract to inform boaters and contractors how to minimize their environmental impacts. This can be done by including the following elements in your contracts:

- ☀ Requirement to institute BMPs for slipholders, liveaboards, transients, charters, workers, contractors, and/or tenants.
- ☀ Consequences for those who do not institute identified practices (e.g., expulsion from the marina and/or forfeiture of rental fees).
- ☀ Required use of approved Marine Sanitation Devices (MSDs).

Be Diligent

- ☀ Be diligent in containing pollution, even the pollution generated by marina, yacht club, or boatyard staff. By practicing what you preach, boaters will be more apt to follow your lead.

Post Reminders of BMPs

- ☀ Post signs encouraging implementation of BMPs at fuel docks and pumpout stations, along piers, in vessel maintenance areas, and near dumpsters and recycling stations. See examples of signs in Appendix D.
- ☀ Ensure signs are visible, eye-catching, and posted in appropriate locations to maximize visibility. Durable construction will promote longevity of the signs.
- ☀ Post the marina, yacht club, or boatyard's environmental policy in a conspicuous location.



Distribute Literature

- ☼ Copy and distribute the Clean Boating Tip Sheets included in this *Guidebook* or create your own. Boating Tip Sheet topics include: vessel maintenance, bottom paints, underwater hull cleaning, petroleum control, boat sewage, and waste disposal.
- ☼ Include Clean Boating Tip Sheets in an annual mailing or post them in a central and visible location.
- ☼ Include regular articles about BMPs in marina, yacht club, or boatyard newsletters.
- ☼ Request free copies of Clean Boating materials from organizations such as the Chesapeake Bay Foundation, the Center for Marine Conservation, the BoatU.S. Clean Water Trust, and the USCG. Provide these materials to slipholders, members, and patrons.
- ☼ Contact the USCG for publications summarizing federal boating requirements.

Host a Workshop

- ☼ Schedule a workshop to coincide with an existing marina function that is traditionally well attended.
- ☼ Offer incentives to attendees, such as refreshments or a ten percent discount on a month's slip fees.
- ☼ Include a walking tour of the facility to demonstrate BMPs that have been implemented and benefit the marina, yacht club, or boatyard.

Use Informal Communication Mechanisms

- ☼ Post information about BMPs on the marina, yacht club, or boatyard bulletin boards.
- ☼ Pass along waste reduction and pollution prevention information in conversations with patrons and contractors.



Give Recognition to Cooperative Boaters

- ☀ Publicly recognize boaters who make an effort to control pollution.
- ☀ Provide a reward – in-kind or fee reduction – for boaters who implement BMPs within a specified timeframe.
- ☀ Include a feature in your newsletter, post a flyer with the boater’s picture on a public bulletin board, and/or send a press release to the community newspaper highlighting the good practices and environmental benefits.
- ☀ Create a provision in your slipholder leases or contracts that allows you to cancel the lease or contract for lessees who violate pollution prevention principles.

Step 3: Tell the Public What You Are Doing

Marina, yacht club, and boatyard owners already have many avenues of publicity at their disposal. Participation in the Clean Marina Program provides them with more.

Publicize your Good Environmental Deeds

- ☀ Seek free publicity opportunities with local press, television, and radio to promote the program and practices at your marina, yacht club, or boatyard.
- ☀ Prepare news releases to call attention to innovative practices, new equipment or services, available literature, and/or upcoming workshops. Plan the news releases to coincide with seasonal activities such as the annual Boat Show or winterization.
- ☀ Begin the news release with a contact person’s name and phone number, the date, and a headline. The first paragraph should provide vital information – who, what, where, when, and why. Fill in with secondary information and support data, as appropriate. Conclude with a “call to action” – for example, “Join us for a demonstration of our new plastic-media blasting system.” Double-space text,



and make sure the release is no longer than two pages; one page is best.

- ☀ Pay attention to media deadlines and submit releases in a timely fashion.
- ☀ When submitting a news release, make sure the name of the editor is accurate and spelled correctly.
- ◇ Get press kits from manufacturers of environmentally preferable products. Use their photographs and product information, with their permission, of course.

Become a Clean Marina

- ☀ Apply through the NPS or DDOE for recognition as a Clean Marina. Once you have met the criteria and are certified as a Clean Marina, you will enjoy the publicity provided through the Clean Marina Program in print publications, on the Internet, and at public events.
- ☀ Use your prestige as a certified marina, yacht club, or boatyard to prepare your own press release and or newsletter article.

Step 4: Create an Environmentally Sensitive Fee Structure

- ☀ Meter and charge customers for their energy and water use and trash generation as a means to encourage conservation.
- ☀ Instead of charging a flat environmental surcharge on each contract, reward tenants for the use of environmentally preferable practices and equipment, such as tarps, vacuum sanders, and protective clothing.
- ◇ Consider donating a portion of such equipment rental fees to an environmental organization. Let the boater-tenant know, possibly at the time of the rental, that a portion of the fee charged will be donated to an environmental organization and/or cause. This will help foster a sense of community action and commitment.

3

Compliance Requirements

The Clean Marina Program was developed to aid boating facilities (i.e., marinas, yacht clubs, boatyards) in meeting compliance requirements, to promote pollution prevention through implementation of best management practices (BMPs) and to support other environmental initiatives. In order to truly be a Clean Marina, you must first satisfy your compliance obligations. This chapter highlights some key operational, permit, and license requirements and other obligations marina operators have as legal requirements. Regulatory requirements for some of the major marina operational areas are also described in more detail the chapters that follow. Ultimately, though, the number and complexity of regulatory requirements is very large – too large to address comprehensively in this Guide. Marina, yacht club, or boatyard operators can use this Guidebook as a compliance starting point, but should look to other sources, such as the Environmental Protection Agency (EPA), for more detailed guidance.

3.1 Steps to Achieving Compliance

There are ten steps that marinas, yacht clubs, and boatyards should take to achieve compliance:

- Step 1. [Rectify known violations](#)
- Step 2. [Develop a Stormwater Pollution Prevention Plan](#)
- Step 3. [Obtain a Multi-Sector General Permit for discharges](#)
- Step 4. [Develop a plan to prevent spills](#)
- Step 5. [Educate boaters](#)
- Step 6. [Properly manage hazardous materials and wastes](#)
- Step 7. [Provide trash and recycling receptacles for your customers](#)
- Step 8. [Provide health and safety training to employees](#)
- Step 9. [Make environmentally friendly marina alterations](#)
- Step 10. [Call the Clean Marina Advisory Committee with questions](#)

Each step is explained in more detail later in this chapter or in subsequent chapters.



A **Notice of Violation** will result in an automatic disqualification for certification, and any certified Clean Marina that receives an NOV will be decertified, and must reapply for Clean Marina certification.

Step 1: Rectify Known Violations

A growing number of Notices of Violation (NOVs) have been issued over the past years for pollution to waterways in the District of Columbia (District or DC). Review the history of your facility to determine if your marina or boatyard has received any NOVs. Start by correcting known violations. If your facility has had an environmental audit, make sure any compliance findings are corrected.

Review facility records for evidence of accidental oil spills or other environmentally harmful events. Look for patterns, and think of ways to prevent these situations from recurring. For example, review and update procedures related to fueling and oil-handling activities at the facility. Once updated, train staff on the procedures and require periodic tests for competency to avoid spills.

For further guidance, refer to: *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices*, available at the website: http://cfpub.epa.gov/npdes/docus.cfm?program_id=6&view=allprog&sort=name.

Step 2: Develop a Stormwater Pollution Prevention Plan

Marinas with maintenance shops and equipment and/or fueling operations are responsible for developing a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP helps identify potential runoff of oily waste, washwater, or process water into District waters (with its stringent discharge rules), and helps to ensure that discharge will be kept to a minimum. Refer to Box 3-2 for the contents of an SWPPP.

Refer to Guidebook Section 5.2.1 for more information.

Step 3: Obtain an Multi-Sector General Permit for Discharges

Any marina or boatyard where maintenance activities are conducted (including boat washing and/or fueling), or where wastewater is discharged, must apply for a National Pollution Discharge Elimination System (NPDES) permit for its “industrial” stormwater discharges. Although an individual permit can be obtained, the easiest way for a marina to be permitted is by obtaining coverage under the Multi-Sector General Permit (MSGP) maintained by the EPA. The MSGP provides facility-specific requirements for many types of industrial facilities within one overall permit. The permit outlines steps that facility operators must take prior to being eligible for permit coverage, including development and implementation of the SWPPP.



For more information on how to apply for an MSGP, refer to Guidebook Section 5.2.2.

Step 4: Develop a Plan to Prevent Spills

Marinas, yacht clubs, and boatyards that store oil are required to take measures to prevent any discharge of oil into navigable waters or adjoining shorelines. Does your facility store:

- An aggregate aboveground storage capacity greater than 1,320 gallons in containers of 55-gallons or larger in size; or
- A total underground storage capacity greater than 42,000 gallons in underground storage tanks?

If you exceed the petroleum storage regulatory limits described above, you need to develop and implement a Spill Prevention, Control and Countermeasure (SPCC) Plan as defined under EPA's Oil Pollution Prevention regulation at 40 CFR 112.

If you do not exceed those limits and your marina is in the District, please note that the District still requires that you develop a Spill Prevention and Cleanup Plan (DC Law 8-103.10). The District does not specify plan contents; however, to meet the intent of District requirements:

- Formalize BMPs, as provided under Guidebook Section 7.3, into a plan to fit the needs of your marina [Spill Prevention Part], and
- Develop an Emergency Plan, as detailed under Guidebook Section 7.4 [Cleanup Part].

For more details on the required contents and process for developing spill plans, refer to Guidebook Chapter 7.

“Water Pollution Control Act of 1984 (DC Law 5-188)”: (m) The discharge of sanitary sewage, wash or process water, oil laden bilge water, refuse, or litter from watercraft is prohibited. (*Mar. 16, 1985, D.C. Law 5-188 SS 7, 32 DCR 919. Or DC code 8-103.1*)

Step 5: Educate Boaters

Some compliance requirements fall on boaters themselves, but you can help by making sure they understand compliance obligations and quickly addressing issues when you see someone is not doing what they should.

Education on acceptable practices while docked at a marina can be provided to boaters in many ways. Some marinas chose to provide boaters a handout explaining requirements while docked at a



particular location. Others give a short orientation to boaters upon arrival to or post reminder signs. Whichever method you chose, be sure to cover the following topic areas:

- Dispersing chemicals (including oil and fuel) and dumping of any materials (including trash, fish scraps, and treated sewage) is prohibited.
- Boats with a toilet installed must also be equipped with a United States Coast Guard-certified marine sanitation device (MSD).
- The District has a grant program by which funds can be obtained to assist clubs and marinas in obtaining pumpouts. If your marina does not already have a pumpout station, it may be eligible to receive financial assistance to install one.

Ideas for educating boaters are incorporated in each Guidebook chapter.

Guidance on OSHA's HAZCOM Program requirements and compliance assistance information is available at: <http://www.osha.gov/dsg/haazcom/solutions.html>.

Step 6: Properly Manage Hazardous Materials and Wastes

The Occupational Safety and Health Association (OSHA) has standards concerning the proper management of hazardous chemicals. Employers are required to develop and implement a Hazard Communication (HAZCOM) Program which includes a hazardous chemical inventory, labeling, material safety data sheets (MSDSs), and training elements. OSHA also establishes requirements for the storage of hazardous materials including flammable and combustible materials and compressed gases. In addition, the District has adopted the International Fire Code (IFC) and several National Fire Protection Association (NFPA) codes which outline storage and handling practices for hazardous materials. The NPS has adopted the entire NFPA code. NPS concessioners must adhere to the stricter of the requirements, whether IFC or NFPA.

All facilities that use, store, or dispose of hazardous materials should:

- Store hazardous materials, including solvents paints, fuels, cleaners, and other hazardous chemicals in appropriate, closed containers in protected locations. Hazardous materials should be kept away from drains and sources of ignition, and separated by hazard class. Flammable materials should be stored in approved fire-resistant



cabinets, or approved flammable storage rooms or buildings.

- Maintain a HAZCOM Program. Plainly label all stored materials, and maintain hazardous chemical inventories and MSDSs. Train staff on the HAZCOM Program.
- Ensure hazardous materials storage is conducted in such a way so as to prevent leaking or spills to waterways, in particular “over-water” or “near-water” locations (e.g., provide secondary containment).

Hazardous Waste Generator Compliance Requirements lessen with each generator status, i.e., LQGs have the greatest number of requirements; CESQGs have the least.

Solid wastes that are listed as hazardous by EPA, or that are ignitable, corrosive, reactive, or toxic (i.e., characteristic waste), are considered to be hazardous wastes. Facilities that generate hazardous waste are classified into one of three classes:

- Large quantity generators (LQGs);
- Small quantity generators (SQGs); or
- Conditionally exempt small quantity generators (CESQGs).

A facility’s class depends upon the amount and types of waste it generates in a given period. Most marinas, yacht clubs, and boatyards are SQGs or CESQGs.

All facilities that generate, store, or dispose of hazardous wastes are required to:

- Make waste determinations and understand their generator status.
- Prevent spills and leaks of hazardous waste by using appropriate, closed containers.
- Dispose of hazardous wastes at a Resource Conservation and Recovery Act (RCRA)-permitted facility or legitimate recycler; or if a CESQG, a District-approved industrial or commercial facility.
- Comply with all additional hazardous waste generation and accumulation requirements based on generator status.

For more information on hazardous materials and hazardous waste management, refer to Guidebook Chapter 9.

Step 7: Provide Trash and Recycling Receptacles for Your Customers

Keep the District and your marina, yacht club, or boatyard clean by providing sufficient, clearly labeled, trash and recycling bins for your facility. As required by the Illegal Dumping Enforcement

The EPA RCRA Orientation Manual is a great plain-English resource for understanding the complex hazardous waste regulations. It is available at: <http://www.epa.gov/wastes/inforesources/pubs/orientat/>.



Act [1994, as modified in 1998] and the Mandatory Source Separation Program, authorized by DC Code 8-1007, all commercial properties must properly dispose of trash and separate newspaper, glass, and metal from solid waste for recycling. MARPOL, the International Act to Prevent Pollution from Ships (1973) also requires marinas to provide adequate trash receptacles to visiting boaters. Trash and recycling cans should be kept covered and emptied frequently.

For more information on solid waste management and recycling, refer to Guidebook Chapter 9.

Step 8: Provide Health and Safety Training to Employees

As required under various EPA and OSHA regulations, marina, yacht club, and boatyard managers must regularly train employees in various aspects of their jobs. You are also responsible for ensuring that employees are properly certified for the work they do.

Training specified in regulations that may be applicable include:

- OSHA Emergency Action Plan or Emergency Response Plan
- DC Spill Prevention and Cleanup or EPA SPCC Plan
- SWPPP
- Hazard Communication
- Hazardous Waste Operations and Emergency Response (HAZWOPER)
- EPA Hazardous Waste Management Contingency Planning (SQGs and generators)
- EPA UST Operator Training

Training requirements are described throughout the Guidebook chapters.

Step 9: Make Environmentally Friendly Marina Alterations

If you plan to expand your marina or construct a new one, you are required to first seek approval from the US Army Corps of Engineers (USACE) and the District. If your marina is on NPS property, you must also seek NPS approval before beginning construction.

Marina Alterations

Marina owners interested in expanding their marina or in constructing a new one must first seek approval from the USACE, the District, and if the marina is on NPS property, the NPS.



For more information on environmentally friendly marina alterations, refer to Guidebook Chapter 4.

Step 10: Call the Clean Marina Advisory Committee with Questions

Feel free to call the Clean Marina Advisory Committee with questions regarding federal and local requirements. The Advisory Committee will be happy to assist you in understanding the steps needed for compliance—and to set you on your way to becoming a Clean Marina!

- NPS National Capital Region office: (202) 619-7083
- DDOE office: (202) 535-2600

4

Designing and Expanding a Marina, Yacht Club, or Boatyard

The overall intent of “Green Construction” is to minimize adverse impacts on water quality and to conserve fish, wildlife, and plant habitat.

Sedimentation is a “rain” of soil particles through the water column. It may bury bottom-dwelling organisms, block sunlight, reduce the feeding efficiency of visual feeders, and clog fish gills.

Marinas, yacht clubs, and boatyards are places where boaters and children can learn about nature and environmental responsibility. However, if marinas and boatyards are not sited, designed, planned, and constructed or expanded appropriately—using “green” design, engineering, and construction processes—they can harm ecosystems, sometimes causing them irreversible damage.

Land management decisions, operating procedures, and structural improvements may improve or detract from the quality of the land and water surrounding a marina. Roads and parking areas may convey polluted stormwater directly into adjacent waterways. Dredging may re-suspend toxic substances such as metals and synthetic chemicals. Hazardous chemicals may be leached into the water from piers and other structures. Broken or degraded floats may release buoyant debris that birds and fish mistake for food. Finally, the location and installation of structures by the shore and in water may lead to accelerated coastal erosion and sedimentation.

This ecological system balance is of special concern in District of Columbia (District or DC) waterways because of the cumulative effect of years of neglect and lack of planning. The plant and animal communities along the rivers, for example, serve multiple functions. Riparian (i.e., shoreline) wetlands provide habitat for fish and waterfowl, and nursery space for the young of many aquatic species. They form a natural buffer against the effects of storms and act as a filter to purify runoff from the land. Wetlands also minimize erosion and protect ecosystems. Because of the ecological, economic, recreational, and aesthetic values inherent in riparian resources, it is important that these resources not be diminished by development.



BMP Initiatives are actions that go beyond compliance requirements. There are industry-wide BMPs and also BMPs that are site-specific. Implementation of BMPs is an important part of the Clean Marina Program, once regulatory compliance has been fulfilled.

The **Baltimore District USACE** oversees activities in the District.

To contact the Baltimore USACE call (410) 962-7608

For more information visit: http://www.usace.army.mil/CECW/Pages/cecwo_reg.aspx and chose District of Columbia from the drop-down box.

Obtain a copy of Engineer Form 4345 at: <http://www.nab.usace.army.mil/Regulatory/Permit/applications.htm>

Marinas, yacht clubs, or boat clubs that reside on NPS property as the result of either a permit or a concession contract must obtain NPS approval for modifications to the facility.

4.1 Siting Considerations

If you plan to build or expand a marina or boatyard, or even if you are going to carry out routine maintenance, there are legal requirements to be met and best management practices (BMPs) — which can be built into planning and design activities—to be implemented. Siting and design considerations in any case typically include review of the physical environment, and issues of air, noise, and visual pollution, waste management, and interaction with physical features. The following sections look first at the requirements for basic compliance, and then at recommendations for attaining Clean Marina status.

4.2 Coming into Compliance

Step 1: Getting Started on the Permitting Process

It is important to note at the outset that all construction in or over the District waterways, no matter how minor, must be cleared through the US Army Corps of Engineers (USACE), Baltimore District.

Before any construction may begin, the marina/boatyard owner may wish to contact the USACE to arrange for a pre-application consultation. This informal meeting allows the marina/boatyard owner to discuss the project and identify any potential barriers to approval later. In some cases, the USACE may inform the owner that a USACE permit is not required to carry out a particular project.

US Army Corps of Engineers

The USACE requires a permit for most types of marina development and expansion projects, including in-kind work (e.g., dock replacement). The USACE is responsible for issuing a Section 404 permit under the Clean Water Act as noted on page 4-5.

District of Columbia

The District, in cooperation with the USACE, provides permits for all expansion of marinas under the Clean Water Act (Sections 401 and 404) and the DC's Water Pollution Control Act of 1985.

National Park Service

Any marina, yacht club, or boatyard located on National Park Service (NPS) land requires NPS approval prior to modification or new construction. In such case, an NPS representative will take part

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



in the pre-application meeting. The NPS is also responsible for the review and approval of any modifications or expansions.

Step 2: Environmental Review

The USACE and the District will review all proposals to evaluate whether they are likely to have an impact on the following areas, and how that impact can be minimized:

- Submerged aquatic vegetation (SAV);
- Tidal and non-tidal wetlands;
- Rare, threatened, or endangered species;
- Spawning, nursery, or propagation areas for anadromous fish (i.e., fish that swim upriver to spawn);
- Shallow-water habitat;
- Waterfowl nesting sites;
- Existing riparian forests;
- Forests with interior-dwelling bird species;
- Natural heritage areas;
- Tributary streams;
- Waterfowl staging areas;
- Stream buffers;
- Wildlife corridors;
- Wild and scenic rivers;
- Navigational safety; and
- Fisheries habitat and barriers to migration.

Guidelines for BMPs (necessary for consideration as a Clean Marina) are presented at the end of this chapter.

Step 3: Environmental Requirements

Certain legal requirements are associated with the elements included in the environmental review and must be met when planning marina construction. These are part of the basic regulatory requirements to be met by any marina, yacht club, or boatyard construction project.

Identify Rare and Endangered Species.

Rare and endangered species and their critical habitat may not be disturbed (Federal Endangered Species Act). The U.S. Fish and Wildlife Service (USFWS) and the District of Columbia Fisheries and Wildlife Division must assess all proposed development sites for endangered and threatened species and habitat protection areas.

- ◆ If protected species are identified, an approved protection plan must be implemented prior to project start date.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



Avoid Submerged Aquatic Vegetation.

SAV provides habitat for finfish and food for waterfowl. It is also an indicator of good water quality in coastal areas.

- ◆ District regulations (Water Pollution Control Act, Section 8-103.06), prohibits dredging activities that interfere with fish migration. The Water Pollution Control Act also requires the preservation of underwater habitat, or mitigation of any inadvertent destruction of underwater habitat.
- ◆ Permits generally are not granted for any construction that might impact SAV beds.
- ◆ No dredging should be carried out in water three feet or less deep at mean low water. This is prime depth for SAV growth.
- ◆ All water-dependent facilities should be sited so as to minimize disturbance to SAV.

Minimize Disturbance to Wetlands.

Wetlands serve an important role in the reduction of pollution, acting as a natural filter for water.

- ◆ Disturbance to wetlands in riparian areas should be minimized.
- ◆ Any construction that does extend into tidal wetlands requires authorizations, licenses, or permits from the USACE, the District Department of Health (DOH), and the District Public Works Department.

Avoid Scheduling Construction for Critical Migration, Nesting, or Spawning Periods.

Permitting agencies often require construction to be scheduled during “windows,” or intervals when critical migration, nesting, and spawning periods of important species of finfish and wildlife can be avoided.

- ◆ Consult with the District's Fisheries and Wildlife Division for site-specific determinations of the potential effects of construction activities on wildlife populations.

Contact the DC
**Fisheries and Wildlife
Division** at 202-535-
2260.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



Avoid Waterfowl Nesting and Staging Areas.

Regional waterfowl populations converge in certain areas during specific times of year to breed and feed. The preservation of historic nesting and staging areas is vital to the continued existence of many waterfowl species.

- ◆ Site facilities so that the increased activity associated with new or expanded marinas/boatyards is unlikely to deter waterfowl from using historic staging and concentration areas.

Step 4: Other Permits and Requirements

All proposals will be evaluated for the need for additional permits. These are typically identified in the pre-application meeting, and might consist of:

Section 404 Permit

Section 404 of the Clean Water Act regulates discharges of dredged or fill materials into navigable waters, including wetlands. If a Section 404 permit (issued by the USACE) is required, the District DOH must investigate the site prior to construction. The DOH will initiate a Water Quality Certification process in which an evaluation is made of water quality and the potential for adverse effects upon living resources caused by marina siting and construction.

The purpose of this process is to certify that federally permitted activities will not violate the District's water quality standards. The Water Quality Certification issued by the District's DOH is then incorporated into the federal permit.

- ◆ A Waterway Construction permit and a Section 404 permit are required for all dredging projects. First, contact the Potomac River Basin Permit Section, USACE, Baltimore, Maryland, at (410) 962-7608. If the marina, yacht club or boatyard is sited on NPS property, also contact the NPS to obtain approval before beginning the permitting process.
- ◆ Do not dredge during critical migration or spawning periods of important species of finfish (DC WPCA Sec. 7 (a) (3)). To learn when these periods are, contact the District's Fisheries and Wildlife Division at (202) 535-2260.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



- ◆ Be certain that your dredging contractor selects an appropriate disposal site and containment design. The disposal site must have minimal impact on public safety, adjacent properties, and the environment.

National Environmental Policy Act Compliance

The National Environmental Policy Act (NEPA) is applicable to major federal actions that have a potentially serious negative impact on the environment. NEPA requires all federal agencies to evaluate the historic, socioeconomic, and environmental consequences of major actions and to follow a procedural decision-making process that includes public input and potential mitigation of impacts. Major actions may include marina, yacht club, or boatyard construction or modification/expansion as well as other improvements or changes on federal property or involving the use of federal funds. These requirements are most applicable to marinas on federal property, including NPS lands, but may also apply to other marinas where federal agencies are involved.

EIS – an Environmental Impact Statement is required under NEPA and by the District for projects that meet a size threshold or that could have a substantial impact on the environment, or on public health, safety, or welfare.

The District maintains its own program that is similar to NEPA. According to the D.C. Environmental Policy Act (DC code DC ST § 8-109.02), an Environmental Impact Statement (EIS) is required for any “major action.” A major action is defined in this case as any action proposed by or requiring approval of the District, or by a board, commission, or other authority, with a cost of over \$1,000,000 that may have a significant negative impact on the environment.

Actions under \$1,000,000 may require an EIS if the action imminently and substantially affects public health, safety, or welfare.

There are exemptions to the District EIS requirements. For example, no EIS is required if the “functional equivalent” of an EIS has been prepared and is accepted by the District, if the project is located in the Central Employment Area, or if the project is exempted by rule.

If an adverse effect from a proposed major action is identified in the EIS, with a finding wherein public health, safety, or welfare in the District is “imminently and substantially” endangered, the District will not approve the action. If suitable mitigating measures or alternatives are proposed to avoid a threat to the environment, or to reduce it to an acceptable level, then the action may be approved.

Special Requirements

Some District of Columbia marina yacht clubs, and/or boatyards may be subject to unique requirements under a permit, if they are on federal property, or for other reasons. As such, some of the BMPs identified in this section may be legal requirements for some marinas. Operators are reminded that they need to understand all of their legal obligations before they can start to implement BMPs.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



Various Planning Requirements

- ◆ Ensure you follow applicable federal or District environmental impact assessment and mitigation processes.
- ◆ Minimize the adverse effects of erosion control projects such as breakwaters on adjacent properties, navigation, threatened or endangered species, and significant historic or archaeological resources.

4.3 Going Beyond Compliance: BMPs for Marina Design & Site Selection

In addition to the actions discussed above for meeting basic regulatory requirements concerning design and maintenance of the marina, a marina or boatyard operator can go beyond compliance and consider implementing the following BMPs. By documenting them, it is possible to benefit from the Clean Marina program. BMPs recommended for attainment of Clean Marina status are described in the following subsections.

4.3.1 Redevelop Existing Sites

Development of brownfields (potentially contaminated former industrial sites) often allows negotiation of advantageous permitting conditions and may enable the facility to apply for and benefit from brownfield assistance grants where available.

- ☼ Rather than disturbing pristine areas, place new facilities on previously developed waterfront sites.

4.3.2 Characterize Project Site

It makes good sense to have a site assessment for the facility completed professionally. It can then serve as a solid reference document when construction activities are being considered, or if information is needed to fill out permit applications.

A site assessment should identify:

- ☼ Habitat types and seasonal use of the site by fish, waterfowl, and other organisms.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



- ☼ Rare and endangered species.
- ☼ SAV.
- ☼ Location of on-site wetlands. Mitigation may be required in cases where loss of wetlands is unavoidable.

If you chose to prepare your own site assessment and seek assistance, look to the following resources:

- For a preliminary screening of a project site, contact the local District Wildlife and Fisheries Division.
- For more precise information concerning sensitive habitat, submit a project description and a photocopy of a United States Geological Survey (USGS) topographic quadrangle map – with the site identified – to the USFWS.

4.3.3 Minimize Impervious Areas

- ☼ Keep pavement to an absolute minimum, e.g., restrict its use to designated work areas and to roadways for heavy equipment only.
- ☼ Where walkways are necessary, use permeable material instead of asphalt or concrete.

4.3.4 Use Upland Areas

- ☼ Identify buildings, workshops, and waste storage facilities to the greatest extent possible in upland areas, away from fragile riparian ecosystems. Location of such facilities in an upland area also provides a measure of protection against floods.
- ☼ Identify parking and vessel storage areas away from the water where feasible.
- ☼ Use inland areas for boat repair activities and winter storage.

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4.3.5 Expand Upward

- ◇ Rather than adding wet slips, consider expanding storage capacity by adding dry-stack storage. “Boatels” may provide the following environmental benefits:
 - Dry-stacked boats do not accumulate marine growth. Consequently, toxic anti-fouling paints are not necessary and the associated need to wash, scrape, and paint is eliminated.
 - Dry-stacked boats are less likely to accumulate water in their bilges. They are therefore less likely to discharge oily bilge water.

4.3.6 Avoid Geographic and Hydrographic Impediments

Flushing is impeded at the head of tide and in areas where salinity or temperature differences produce variations in water density. Variations in density cause the water column to separate into distinct layers that do not readily mix. Debris and silt tend to collect in poorly flushed areas and will eventually settle to the bottom. As bacteria decompose the debris, oxygen is removed from the water. Water quality may suffer if oxygen is not replaced as quickly as it is removed.

- ☼ Try to locate marinas in well-flushed reaches of waterways.
- ☼ Consider bottom configuration; a gradual downward slope from the berthing area into deeper water is ideal.
- ☼ Avoid canals, irregular pockets, and sumps that are deeper than adjacent channels.
- ☼ Avoid square corners in marina basins and dead-end channels to the greatest extent possible.
- ☼ Follow natural channels and align entrance channels with them to increase flushing.
- ☼ Where possible, establish openings at opposite ends of the marina to promote flow-through.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



- ☼ Boat lanes should progressively widen toward the seaward end and narrow toward the inland end to allow water to flow freely and maintain its velocity within the marina.
- ☼ Avoid locating the entrance channel perpendicular to the natural channel, since shoaling (with consequent need for dredging) is a potential problem.
- ☼ Avoid long, winding channels to connect marinas to open water.
- ☼ Use fixed or floating piers to enhance water circulation
- ☼ Be mindful of the need for pier/dock systems to provide access during routine operations and under emergency circumstances. Piers and other structures should be placed to enhance, rather than obstruct, water circulation.
- ☼ Select an open design for new or expanding marinas. Open marina designs have no fabricated or natural barriers to restrict the exchange of ambient water with water within the marina.
- ☼ Design new marinas or marina expansions with as few segments as possible to promote circulation within the basin.
- ☼ Orient slips parallel to currents.

4.3.7 Dredging: Minimize the Need and Impact

New marinas must be located in areas where deep waters can be accessed with a minimum of excavation, filling, and dredging. Operators of existing marinas that require maintenance dredging (see Section 4.2 on permitting information) more frequently than once every four years should investigate practicable options to increase circulation or reduce sediment accumulation. Possibilities include:

- ☼ Extend piers into naturally deep waters.
- ☼ Locate slips for deep-draft boats in naturally deep water.
- ☼ Dredge channels to follow the course of the natural channel.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



- ☼ If dredging becomes necessary, use hydraulic dredging if possible, to reduce environmental impacts.
- ☼ If standard bucket dredging becomes necessary, use turbidity curtains to contain suspended sediments.

4.3.8 Employ Nonstructural Shore Erosion Control Measures

- ☼ Nonstructural measures, such as soil bioengineering, beach nourishment, marsh creation, and other methods that encourage the preservation of the natural environment are preferred for shore erosion control.
- ◇ If non-structural measures alone are not sufficient to control erosion, use (in this order of preference) shoreline revetments, breakwaters, groins, or bulkheads.

4.3.9 Conserve Water

- ☼ Encourage maintenance personnel to broom sweep driveways and walkways rather than using a hose.
- ☼ Equip freshwater hoses with automatic shutoff nozzles.
- ☼ Fix leaks and drips as soon as possible.
- ☼ Install “low-flow” faucets, toilets, and showerheads or waterless urinals and composting toilets.
- ☼ Ensure there are aerators installed on all faucets.
- ◇ Use graywater recycling systems for non-potable water applications, such as landscaping.

4.3.10 Adopt Integrated Pest Management Practices

Because of your proximity to the water, it is important to avoid toxic lawn and garden chemicals to the greatest extent possible. Instead, deter unwanted plants or animals with Integrated Pest Management (IPM) practices. The NPS has a state-of-the-art IPM program. NPS marina and other concessioners are typically required to adopt IPM practices as part of their operating plan.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.

4. Designing and Expanding a Marina



Check out the NPS IPM Program Manual at <http://www.nature.nps.gov/biology/ipm/manual/ipmmanual.cfm>

BMPs to deter Canada

Geese are discussed in several forums. A good general resource can be accessed on the internet at http://www.humanesociety.org/animals/geese/tips/solving_problems_canada_geese.html. The Humane Society of the United States wrote the article and included resources and recommendations for solving problems with Canada geese.

- ☼ Select native plants that are disease- and insect-resistant, that will outcompete common weeds, and that can thrive on your property. Refer to the BayScapes list of beneficial plants and consider sun exposure, slope, drainage, amount of shade, wind, volume of foot traffic, soil type, temperature variations, and other environmental factors.
- ☼ Mow lawns properly to suppress weeds. Varieties of grass that grow better in cooler weather should be mowed to no less than 2.5 inches in height. Grasses that grow better in warm weather should be mowed to no less than 1.5 inches.
- ☼ Leave natural predators alone. This might include spiders, praying mantises, dragonflies, lacewings, soldier beetles, birds, bats, frogs, lizards, and certain snakes and toads.
- ☼ Use natural agents (if approved by the NPS) such as milky spore disease to get rid of grubs and Japanese beetles, *Bacillus thuringiensis* (BT) to control mosquito and small moth larvae.
- ☼ Use pesticides only after all other options have been exhausted. Prefer organic alternatives to chemical pesticides. If you must apply pesticides, apply them directly to problem areas rather than broadcasting them. Note that if your property is on NPS land, you must have NPS approval prior to pesticide application.
- ☼ Treat only serious pest infestations, or those that threaten to become intolerable.
- ☼ Purchase the least toxic chemical, in the smallest amount practicable.
- ☼ Do not use pesticides just before a rainfall or on a windy day.
- ☼ Apply insecticides during the evening when honeybees and other beneficial insects are less active.
- ☼ Do not apply pesticides near water, e.g., along the shore, near wells, streams, or ponds, or around bird baths or swimming pools.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



- ◇ Become more tolerant of weeds and pests. If it is not actually harming anything, leave it alone.
- ◇ Pull weeds by hand to reduce reliance on herbicides. Mulching applications are also an effective weed-reducing practice.

4.4 Best Management Practices for Protecting Sensitive Areas

4.4.1 Use Environmentally Preferred Materials

- ☼ For new pilings and other structures that are in or above the water, use materials that will not leach hazardous chemicals into the water and that will not degrade in less than ten years, e.g., reinforced concrete, coated steel, recycled plastic, fiberglass-reinforced plastic.
- ◇ Avoid using wood treated with creosote for pilings or similar structures that are in or above the water. Better options include wood that is pressure-treated with chromated copper arsenate (CCA), ammoniacal copper zinc arsenate (ACZA), or ammoniacal copper arsenate (ACA). Use wood from sustainably-managed forests. Look for certifications such as those provided by the Forest Stewardship Council (FSC).
- ◇ Use naturally durable timbers when possible, but use them conservatively. Black locust, cedar, chestnut, white oak, and certain tropical hardwoods are naturally durable but expensive, and may be hard to find.
- ☼ Use floatation foams that are coated or encapsulated in plastic or wood. As these floats age, the covering contains the degraded foam and protects aquatic life over the long-term.

4.4.3 Practice Water-Wise Landscaping

Save on water bills, reduce your maintenance activities, and protect water quality by minimizing your water use.

The BayScapes description of beneficial plants is available at <http://www.acb-online.org/pubs/projects/deliverables-85-1-2003.pdf>

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4. Designing and Expanding a Marina



- ☀ Water only when plants indicate that they are thirsty: shrubs will wilt and grass will lie flat and show footprints. Water in the early morning or early evening, when temperatures are lower.
- ☀ Select native plants that suit to existing conditions of soil, moisture, and sunlight so that they will require little care in terms of water, fertilizer, and pesticides.
- ☀ Water deeply and infrequently rather than lightly and often. Deep watering promotes a stronger root system, which enables plants to draw on subsurface water during hot spells and droughts.
- ☀ Set up rain barrels to catch water flows from heavy rain events; use the captured rainwater on gardens, plants, and trees, or for equipment rinsing purposes.
- ☀ Select equipment that delivers water efficiently. Sprinklers work well for lawns. Soaker hoses or drip irrigation systems deliver water directly to the roots of shrubs and flowers with minimal loss to evaporation.
- ☀ Check sprinkler systems regularly, and adjust as needed.
- ☀ Plant during spring and fall when water requirements are less. Install a rain shut-off device on your automatic sprinklers to eliminate unnecessary watering.
- ☀ Apply mulch to a depth of 3-4 inches around plants and trees to reduce evaporation of water in soil, prevent weed growth, and reduce the amount of sediment picked up by stormwater.
- ☀ Group plants with similar watering needs together. This practice will ease your maintenance burden, conserve water, and benefit the plants.
- ◇ Plant some lawn cover area with wildflowers, groundcover shrubs, and trees.
- ◇ Adjust your lawn mower to a higher setting. Longer grass shades root systems and holds soil moisture better than a closely clipped lawn.

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4.5 Going Beyond Compliance: BMPs for Creating Habitat

4.5.1 Limit Shaded Areas Over Water

- ◇ Nearshore bottom-dwelling organisms require sunlight. In order to provide them with as much sunlight as possible, limit the number of covered slips.

4.5.2 Maintain or Develop Vegetated Areas

Trees, shrubs, and grasses act as filters, slowing the flow of surface water runoff, stabilizing shoreline, and providing wildlife habitat, flood protection, and visual appeal.

- ☼ Maintain grassy or wooded buffers between all impervious areas (e.g., parking lots and boat storage areas) and the water.
- ☼ Plant “beneficial” plants – plants that require minimal trimming, watering, and/or fertilizer/pesticide application. Native plants typically demand less intensive care, as they are naturally adapted to the local climate and conditions. Many imported plants may be considered beneficial if they are “low maintenance” and do not displace naturally occurring vegetation (i.e., they are not invasive).
- ☼ Select perennials instead of annuals. Perennials need to be planted only once, and tend to shade out most weeds. Few of them require watering or maintenance.
- ☼ Choose plants that bear flowers, fruit, nuts, and seeds to attract birds, small mammals, and other wildlife. Consider installing bird feeders to attract birds.
- ☼ Maintain proper soil pH and fertility levels. Fertility is a measure of the nutrient and mineral content of soil, while pH is a measure of its acidity. These two factors provide a good indication of which plants your soil can support. Organic matter such as compost, leaf mold, manure, grass clippings, bark, or peat moss will improve fertility. Lime or gypsum can be used to adjust alkalinity.

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- ☀ Protect beneficial organisms, such as earthworms, which, during feeding, aerate the soil, improving the flow of water and air to plant roots.
- ☀ Compost leaves, branches, grass trimmings, and other organic matter. Use the mature compost to nourish your soil. Alternatively, chip branches and leaves and use the mixture as mulch to discourage weeds and to conserve soil moisture.

4.5.3 Create a Conservation Easement

- ◇ If your marina, yacht club, or boatyard is on private land, provide a serene setting for it by placing at least five acres of unimproved, adjacent land in a conservation trust. Income, estate, and property tax benefits are possible.
- ◇ Sell or donate the land (or the development rights to the land) to a local land trust or a non-profit organization (e.g., The Nature Conservancy, <http://www.nature.org/aboutus/howwework/conservationmethods/privatelands/conservationeasements/>).

5

Stormwater Management

5.1 Environmental Concerns

Stormwater runoff is precipitation that has not been absorbed by the ground. Rather, it runs over the surface of the land or discharges from a pipe, picking up pollutants as it travels. Stormwater runoff may collect soil particles, petroleum products, residue from industrial activities, litter, and pet waste. All these pollutants (generally known as non-point source pollutants) are eventually carried with the overland flow (i.e., runoff) into surface waters, where they adversely impact water quality.

The volume of stormwater runoff is greater in areas with impermeable or hard ground surfaces. For example, when natural forests and fields are replaced with buildings, parking lots, driveways, and roads, stormwater runoff increases. Moreover, with fewer plants to disrupt or absorb the flow, stormwater moves across developed land more quickly than over undisturbed land. This greater, faster flow of stormwater can severely degrade receiving water bodies by accelerating erosion (which can lead to flooding), by destroying plant and animal life, and by causing loss of habitat. Stormwater carries nutrients such as nitrogen and phosphorus into streams, increasing stream production, reducing available oxygen and nutrients for aquatic organisms, and ultimately decreasing oxygen levels. Significant rain events can introduce heavy loads of suspended solids, creating a similar (and sometimes worse) net effect. For example, temperature sometimes increases, especially if stream banks have been denuded of overhanging trees by development, or if waters have been warmed by flowing over heat-retaining pavement. Levels of toxic metals and hydrocarbons tend to increase, and the pH (a measure of acidity) of the waters may change. Over time, this influx of polluted runoff changes the conditions for survival, eventually altering the composition of aquatic plant and animal populations in the stream. And, also over time, humans may find the stream less attractive as a recreational resource.

When regulatory requirements are met, and best management practices recommended to achieve Clean Marina status are implemented, we can better protect our water resources from additional and often unnecessary pollution loads.

A watershed approach is used in stormwater management, so that water runoff can be managed at the watershed scale. This means the



community-at-large must recognize responsibility in managing runoff waters before these become a problem for down river land uses. Marinas, yacht clubs, and boatyards, located as they are on the down stream end of drainage systems can be the recipients of runoff waters and pollutants from up-stream land uses. However, the protective laws in the District of Columbia (District or DC) require all runoff to be managed, and not just at the entry point to the river, therefore implicitly protecting marinas from having to handle runoff waters from above the property boundary.

Regulatory compliance requirements are discussed below and best management practices (BMPs) are discussed at the end of the chapter. Observance of both can help limit and control stormwater runoff.

5.2 Coming into Compliance

5.2.1 District of Columbia Water Pollution Control Act

According to the DC Water Pollution Control Act, the discharge of any pollutant to waters within the District is strictly prohibited. According to this law:

- ◆ No person is to discharge a pollutant to the waters of the District without a permit (DC Code 8-103.02). Pollutants (defined in DC Code 8-103.01) include any dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemicals, chemical wastes, hazardous wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, oil, gasoline and related petroleum products, and industrial, municipal, and agricultural wastes.
- ◆ According to DC Code 8-103.08, the discharge of sanitary sewage, washwater or process water, oil-laden bilge water, refuse, or litter from a watercraft is prohibited.

The discharge of any pollutant into the waters of the District without a discharge permit is strictly prohibited.

For more information on Sector Q industrial facility stormwater requirements, visit www.epa.gov/npdes/pubs/sector_q_watertransportation.pdf.

NOI
Notice of Intent

5.2.2 Stormwater Pollution Prevention Plans

Under the National Pollutant Discharge Elimination System (NPDES) program regulations, all marinas, yacht clubs, and/or boatyards with significant maintenance and/or fueling activities are considered to be industrial facilities (industrial sectors Q covers water transportation and R covers ship and boat building and repairing yards), and are responsible for developing a Stormwater

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*What constitutes a **maintenance activity** at a marina is not clearly defined. Simply changing batteries and oil in vessels is not likely to be considered “maintenance” adequate to trigger the SWPPP requirements. However, if more significant engine and boat maintenance are occurring, the requirements are likely to apply. Check with EPA Region 3 to confirm your applicability.*

SWPPP templates and guidance are available at <http://cfpub.epa.gov/npdes/stormwater/msgp.cfm>.

Pollution Prevention Plan (SWPPP), implementing control measures, and submitting a request for permit coverage (referred to as a Notice of Intent or NOI). ****NOTE:** NPDES permitting requirements only apply to states authorized by the Environmental Protection Agency (EPA) to implement the program, which currently includes all but a few states and the District.

The SWPPP is a written assessment of potential sources of stormwater pollutants, and control measures that will be implemented by your facility to minimize them. Control measures include site-specific BMPs, maintenance plans, inspections, employee training, and reporting. The SWPPP ensures that the runoff of oily waste, washwater, or process water into District waters will be kept to a minimum.

- ◆ Control stormwater runoff from drydock areas as well as from any expanded parking areas.
- ◆ Maintain all equipment under storage or shelter, and away from areas close to the water, to prevent grease or oil from dripping onto staging areas or into the water.

Once the SWPPP is developed and implemented, submit the plan to EPA, the DDOE Stormwater Management Division, and the NPS (for facilities located on NPS property). The EPA will evaluate your plan and notify you if it does not meet one or more requirements. In such a case, you may amend the plan and submit written certification to EPA that the requested changes have been made.

Amendments should also be made to the plan whenever a change in marina/boatyard design or operation has a significant potential for causing the discharge of pollutants into District waters; or if the plan has proven ineffective in controlling stormwater discharge associated with industrial activity to District waters.

SWPPP training often provides the opportunity to inform staff of a variety of marina standard operating procedures. Staff should be trained in the facility’s SWPPP at least annually. SWPPP training may include the following topics, as applicable:

- Management and disposal of used oil;
- Management and disposal of spent solvents;

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- Proper disposal of spent abrasives;
- Disposal of vessel wastewater;
- Spill prevention and control;
- Proper fueling procedures;
- Good housekeeping procedures;
- Painting and blasting procedures; and
- Management of used batteries.

Contents of a SWPPP

1. Designation of pollution prevention team
2. Description of potential pollutant sources
3. Site map indicating drainage, maintenance, and storage areas
4. Inventory of materials and equipment
5. List of significant spills and leaks that have occurred in the past three years
6. Sampling data describing pollutants in stormwater discharge from the facility
7. Summary of potential pollutant sources and identification of associated risks
8. Description of stormwater management controls
 - Washing areas
 - Blasting and painting areas
 - Material storage areas
 - Engine maintenance and repair areas
 - Material handling areas
 - Drydocks
 - General yard areas
9. Preventive maintenance
10. Spill prevention and response procedures
11. Inspections
12. Employee training
13. Recordkeeping and internal reporting procedures
14. Non-stormwater discharge
15. Sediment and erosion control
16. Comprehensive site compliance evaluation
17. Consistency with other plans
18. Special requirements for stormwater discharge associated with industrial activity to a municipal (separate) stormwater sewer serving a population of 100,000 or more
19. Any special requirements determined by the NPS or the District of Columbia for your particular marina.

Excerpted from: http://cfpub.epa.gov/npdes/pubs.cfm?program_id=6.



The new MSGP was finalized on September 29, 2008. All facilities desiring coverage under the new MSGP, including those with an administrative continuance under MSGP-2000, need to submit **new NOIs** indicating that they meet the eligibility requirements described in the new permit.

NPDES permits are required for certain industrial facilities operating within states authorized to administer the stormwater program; MSGPs are required for certain industrial facilities operating within states (including DC) where EPA administers the stormwater program. For more information on state authorization status, visit: <http://cfpub.epa.gov/npdes/statestats.cfm>.

5.2.3 Multi-Sector General Permit for Discharges from Marinas

All marinas that conduct boat repair, painting, maintenance (including pressure-washing), or fueling in areas where the EPA is the permitting authority (e.g., DC) are required to obtain a Multi-Sector General Permit (MSGP) from the EPA Office of Waste Water Management, Region III. The permit covers stormwater and non-storm wastewater discharges from:

- ◆ Areas involved in boat maintenance (rehabilitation, mechanical repairs, painting, and fueling) and cleaning operations;
- ◆ Wastewater discharges to surface or groundwater from boat or equipment washing areas; and

The MSGP permit, which replaces the permit that was issued in 2000, was updated and finalized on September 29, 2008. Some of the improvements to the permit include:

- Better defined discharge requirements;
- Electronic filing of NOIs and monitoring reports;
- Web based tools for locating waterbodies and determining impairment status; and
- Updated monitoring, inspection, and corrective action schedules.

To apply for a permit, take the following actions:

(1) Implement SWPPP. To obtain coverage, an applicant must first develop and implement an SWPPP.

Important Note: Once BMPs are incorporated in writing into the SWPPP and a marina, yacht club, or boatyard receives coverage under the MSGP, the BMPs become requirements under the permit and are legally enforceable. However, facilities that are able to prevent the exposure of ALL relevant activities and materials to precipitation may be eligible to claim no exposure and qualify for a waiver from permit coverage. Check with your local permitting authority, the DDOE Stormwater Management Division, for additional information.

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To obtain the annual precipitation for the current year, visit the following website:

<http://www.nws.noaa.gov/er/lwx/>

This website also has links to Boating and Marine Forecasts.

Calculating Your Stormwater Diversion Rate. With regard to sewers, your SWPPP should include the volume of any stormwater diverted to the *sanitary* (i.e., not the stormwater) sewer from roof leaders or other connections, as well as the volume of any groundwater diverted to such sewer. To calculate the volume of annually diverted stormwater, multiply the annual precipitation for DC by your facility property in acres, then multiply by the conversion rate (1 foot/12 inches), to convert to acre-feet.

For example, the annual precipitation in DC, for the year 2000 was approximately 40.66 inches (National Weather Service). Because volume of stormwater is normally calculated in acre-feet, convert the annual precipitation from inches to feet. To calculate the volume of diverted stormwater in the year 2000 for a facility that covers 1.5 acres, multiply 40.66 inches by 1.5 acres and divide by 12 inches.

Further instructions for submitting an NOI can be found at:

<http://cfpub.epa.gov/npdes/stormwater/enoi.cfm>.

(2) File a Notice of Intent with EPA

After implementing an SWPPP, submit an NOI to the EPA, Office of Wastewater Management, Region III. There is no fee for filing this form. NOIs should be filed electronically using the EPA's new eNOI system. This system allows users to:

- Fill out all stormwater forms, such as NOIs, Notices of Termination (NOTs), No Exposure Certification (NOE), and Low Erosivity Waivers (LEW) online.
- Terminate existing coverage using eNOI even if a paper NOI was submitted.
- Fill out forms even if the user does not meet the criteria of a certifying official. (The eNOI system lets you complete the form and send it to the appropriate certifying official for signature).
- Modify forms that have already been certified and submitted to the EPA.
- Save forms as draft so that they can be completed at a later time.

Contact the EPA's NOI Processing Center with questions about the eNOI system.

- By Telephone: Support is available from 8:00 am to 5:00 pm (EST). Call their toll-free line at 866-352-7755.
- By Webform: Fill out the online form at www.epa.gov/npdes/noicontact

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- By E-mail: Send an e-mail to Technical Support at noi@avanticorporation.com

5.2.4 Sediment Control and Stormwater Management

- ◆ Marinas are required by the Clean Water Act to obtain a NPDES General Permit for Construction Activities for projects that disturb one or more acres, including smaller sites in a larger common plan of development or sale. (In states and territories where EPA is the permitting authority (e.g., District of Columbia), construction activities are regulated by the 2008 Construction General Permit (CGP) rather than NPDES.)
- ◆ All stormwater management structures must be maintained for continued effectiveness.
- ◆ Hay bales, silt fences, storm drain filters, sediment traps, and earth dikes may be used to meet permit requirements to prevent sediments from leaving construction areas.

5.3 Best Management Practices to Control Stormwater Runoff

Special Requirements

Some District of Columbia marinas, yacht clubs, and/or boatyards may be subject to unique requirements under a permit, if they are on federal property, or for other reasons. As such, some of the BMPs identified in this section may be legal requirements for some marinas. Marina operators are reminded that they need to understand all his or her legal obligations before they can start to implement BMPs.

5.3.1 Practice Low-Impact Development

The goal of low-impact development is to develop a site without altering the hydrologic cycle, namely the natural water “budget” of the area, or the relationship between input (through precipitation) and output (through evaporation, transpiration from leaves, overland runoff, etc.). The approach takes advantage of a site’s natural features—including vegetation—to reduce the need for expensive stormwater control devices. Low-impact development runs counter to traditional development, which presumes the need for structures like curbs, gutters, and storm drains to move water off site. Such structures serve the purpose well, but they cause unnatural volumes of runoff to move into receiving waters, sometimes at high velocity. For low-impact development:

- ☼ Capture and treat stormwater on site. For example, direct the runoff from your parking lot to a bioretention area (e.g., “rain garden”, wet pond, or constructed wetland) where it can soak into the ground or evaporate, rather than toward a

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storm receiver. It might be a *bio*-retention area, such as a “rain garden,” an area planted with native vegetation and sited so as to collect stormwater. Nutrients, pollutants, and the water itself are taken up by soil and plants 24 to 48 hours after a storm. Rain gardens have the added advantages of being attractive, providing shade and wildlife habitat, acting as wind breaks, and muffling street noise.

Contact EPA Region III or visit their web site at <http://www.epa.gov/reg3wapd/stormwater/index.htm> for additional information about low-impact development and rain gardens.

5.3.2 Cultivate Vegetated Area

Healthy soil and vegetation capture, treat, and slowly release stormwater. The water is treated through microbial action in the soil, vegetative uptake, evaporation, and transpiration.

- ☼ Plant environmentally-sensitive landscapes at the edge of parking lots and within parking-lot islands.
- ☼ Plant living buffers between your upland property and the water’s edge.
- ☼ Position downspouts so that they drain to vegetated areas. Avoid directing roof runoff to concrete or asphalt.
- ◇ Use grassed swales instead of pipes to direct stormwater. Grassed swales are low-gradient shallow channels seeded with erosion-resistant grasses. They improve water quality by filtering out particulates, taking up nutrients, and promoting infiltration. Moreover, water generally moves more slowly over a grassed surface than through a pipe or concrete conduit.

5.3.3 Minimize Impervious Area

The less impervious, or hard, surface there is on site, the less runoff you will have to manage.

- ☼ Minimize paved areas.
- ☼ Minimize the length of new roadway required to serve newly opened areas of your marina.

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- ☼ Consider alternatives to asphalt for parking lots and vessel storage areas, e.g., gravel, crushed seashells, engineered porous pavement.
- ◇ Investigate a non-toxic, organic soil binder derived from the plantain family. When this binder is combined with crushed aggregate (e.g., gravel, shells) and soil, it creates a somewhat permeable surface that will not erode. Costing the same as or less than asphalt, it is a resilient material that will not crack during winter freeze/thaw cycles, can be repaired by adding more material and tilling the surface, and can be dug up with a shovel to plant trees and shrubs.

5.3.4 Use Structural Controls as Necessary

Because of space limitations or other constraints, it may be necessary to adopt more traditional practices such as pond, wetland, infiltration, or filter systems.

- ◇ Stormwater pond systems capture and slowly release storm flows. Ponds may be permanent (retention ponds) or may hold water only temporarily (detention ponds). A dry extended detention pond, also known as a dry or detention pond, is an example of a stormwater pond system (see Figure 6-2). Dry extended detention ponds hold runoff for up to 24 hours after a storm. Water is slowly released through a fixed opening. The pond is normally dry between storms. This type of structure is effective for sites that are ten acres or greater in size.
- ◇ Stormwater wetland systems are designed to mimic the ability of natural wetlands to cleanse and absorb storm flows. One example, the pocket wetland, is created by excavating to the high-water-table elevation and can serve drainage areas of 5 to 10 acres.
- ◇ Infiltration systems are designed to take advantage of the soil's natural infiltration capacities and pollutant removal characteristics. A dry well (see Figure 6-4) is an infiltration system designed to treat rooftop runoff. Water is collected from downspouts and directed into a filter composed of

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crushed stone and fabric. Rain gardens and porous pavement are other examples of infiltration systems.

- ◇ Filter systems “strain” runoff to remove pollutants. Conventional sand filter systems (see Figure 6-5) are constructed of layers of sand, from coarse on top to fine below. The sand overlies either a gravel bed (for infiltration) or perforated underdrains (for discharge of treated water). Oil grit separators (see Figure 6-6) are another form of filter system. Water from parking lots and other areas likely to have hydrocarbons should be directed through oil grit separators (or oil-absorbent fabric) before entering any other management structure.

5.3.5 Install Stormwater Management Controls

- ☼ Install oil/water and silt separators for dry storage and vessel maintenance yards
- ☼ Properly manage storage containers and storage areas to control stormwater contamination from materials and equipment.
- ◇ If possible, cover machinery with a roof to prevent rainwater from filling the containment. Create a filter or structural device to properly divert or process the rainwater from the roof.
- ◇ Capture rainwater for irrigation, toilet and urinal flushing, and boat washing (only for land maintenance).

5.3.6 Stencil Warnings on Storm Drains

- ☼ Stencil the words “Don’t Dump” or “Chesapeake Bay Drainage” or “Drains to the Anacostia River” on storm drains. Stencils and instructions are available from the Chesapeake Bay Foundation and the Center for Marine Conservation. Be sure to get permission from the District of Columbia Department of Public Works before stenciling warnings on storm drains.

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6

Facility Management: Vessel Maintenance and Repair

6.1 Environmental Concerns

Vessels require attention and maintenance. They must be scraped, painted, and cleaned. Their engines need to be lubricated and otherwise tended. They need to be prepared for winter. Sanding, blasting, and pressure-washing removes paint and marine growth. In the process, toxic metals such as copper and tin may be released. If such heavy metals find their way into the water, they may be taken up by mussels, worms, and other bottom-dwelling organisms and passed on up the food chain to fish, birds, and humans. Metals that are not incorporated into living tissue will remain in the sediments where they substantially increase the cost of dredge-spoil disposal.

Paints, solvents, thinners, and brush cleaners generally are toxic and may cause cancer. If spilled into a water body, they may harm aquatic life and water quality. Additionally, the vapors – containing volatile organic compounds (VOCs) – released by some paints and solvents contribute to air pollution. Oil and grease from maintenance areas can threaten aquatic life.

Many of the cleaning products used in boat shops and by boaters are also toxic. They may contain chlorine, phosphates, inorganic salts, and metals. Some contain caustic or corrosive elements. Even non-toxic products can be harmful to wildlife. For example, detergents found in many boat-cleaning products will destroy the natural oils on the gill-membranes of fish, reducing their capacity to absorb dissolved oxygen from the water.

Each activity associated with vessel maintenance has the potential to introduce pollutants into the environment. Some activities are regulated, and clear guidance is available on compliance requirements. These are discussed in Section 6.2, while Section 6.3 provides guidance on going beyond compliance to achieve Clean Marina status.



According to the DC Water Pollution Control Act, all waters within the District are considered “No Discharge Areas.”

Pollutants include any dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemicals, chemical wastes, hazardous wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, oil, gasoline and related petroleum products, and industrial, municipal, and agricultural wastes (Section 2(19)).

6.2 Coming into Compliance

6.2.1 District of Columbia Water Pollution Control Act

The discharge of any pollutant into the waters of the District of Columbia (District or DC) without a discharge permit is strictly prohibited. According to this law:

- ◆ No person may discharge a pollutant to the waters of the District unless permitted (Section 3).
- ◆ More specific to marinas, yacht clubs, and boatyards, the discharge of sanitary sewage, wash or process water, oil-laden bilge water, refuse, or litter from a watercraft is prohibited by Section 6(m).
- ◆ Additionally, the discharge of oil, gasoline, antifreeze, acid, or other hazardous substance, pollutant, or nuisance material to any street, alley, sidewalk, or other public space in quantities sufficient to constitute a hazard or nuisance is prohibited by Section 7(d).

6.2.2 Organotin Antifoulant Paint Control Act of 1988

This Act restricts the use of tributyl tin-based (TBT) paints to only those boats that are aluminum hulled, greater than 82 feet (i.e., 25 meters) in length, or have outboard motors or lower drive units. Any marina, yacht club, or boatyard operator wishing to apply TBT paints must obtain a TBT Applicators license from the District Department of Agriculture liaison and employ an applicator certified to apply TBT.

6.2.3 Multi-Sector General Permit for Discharges from Marinas

As described in Chapter 6, all marinas where vessel maintenance and repair (including pressure washing and fueling) is performed must obtain a National Pollution Discharge Elimination System (NPDES) permit from the state or a Multi-Sector General Permit (MSGP) from the Environmental Protection Agency (EPA) Office of Waste Water Management, Region III. The permit requires marina, yacht club, and/or boatyard operators to:

- ◆ Control pollutants from vessel maintenance and wash areas.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



- ◆ Establish a schedule for inspecting and cleaning stormwater systems. Paint chips, dust sediment, and other debris must be removed, and oil/water separators cleaned.
- ◆ Remove paint chips, dust, sediment, and other visible solids from washwater before any permitted discharge. At a minimum, large particles must be allowed to settle out. More thorough treatment involves filtration or chemical or physical techniques to treat the rinse water.
- ◆ Discharge treated wastewater to surface water if no detergents or other chemical cleaning agents were used. If detergents were used, the wastewater must be directed into a sewer system.

Special Requirements

Some District marinas, yacht clubs, or boatyards may be subject to unique requirements under a permit such as the stormwater MSGP, if they are on federal property, or for other reasons. As such, some of the best management practices (BMPs) identified in this section may be legal requirements for some marinas. Marina operators are reminded that they need to understand all his or her legal obligations before they can start to implement BMPs.

6.2.4 DC Air Pollution Control Act

The DC Air Pollution Control Act prohibits emissions into the atmosphere of odorous or other pollutants from any source in any quantity of any characteristic and duration which is, or is likely to be, injurious to the public health or welfare, or which interferes with the reasonable enjoyment of life and property (20 DC Municipal Regulations (DCMR) 903.1).

- ◆ Prevent air emissions from solvent cleaning by employing a control system that includes the following equipment:
 - A container for the solvent and the articles being cleaned;
 - A cover for the container, which can be easily and conveniently used whenever it is not essential that the container be open; and
 - A facility for draining cleaned parts so that the drained solvent is returned to the container (20 DCMR 708.1).
- ◆ Do not permit the discharge into the atmosphere of greater than 15 pounds of photochemically or light reactive solvents in any one day, or greater than three pounds in any one hour, unless the uncontrolled organic emissions are reduced by at least 85 percent (20 DCMR 700).
- ◆ Store open containers of usable solvents as well as waste solvents, rags, and paints in covered, Underwriters

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Laboratory (UL)-listed or Factory-Mutual (FM)-approved containers.

- ◆ Hire a licensed waste hauler to recycle or dispose of used solvents.

6.3 Best Management Practices to Control Pollution from Vessel Maintenance and Repair Activities

6.3.1 Designate Work Areas

One of the easiest ways to contain waste is to restrict the area where maintenance activities may be performed. Another is to recommend work practices for marina boaters and contractors. Try to limit noise and odor pollution. Encourage boaters to minimize the use of odorous substances, and to maintain their engines in good condition, which can reduce noise pollution. The following are suggested good practices.

- ☼ Perform all major repairs—such as stripping, fiberglassing, and spray painting—in designated areas.
- ☼ Establish the maintenance area as far from the water as possible. If on-water maintenance areas are necessary, provide secondary containment and other controls to prevent impacts to the environment.
- ☼ Place a filter cloth underneath boats when performing work to capture debris.
- ☼ Use vegetation or the structural controls cited in Chapter 6, *Stormwater Management*, to treat stormwater runoff.
- ☼ Clearly mark work areas with signs, as, for example, “Maintenance Area for Stripping, Fiberglassing, and Spray Painting.”
- ☼ Post signs throughout the boat yard describing BMPs that boat owners and contractors must follow, as, for example, “Use Tarps to Collect Debris.”
- ☼ Prohibit the practice of hosing down the shop floor.

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- ◇ Construct vessel maintenance areas with an impervious surface (e.g., asphalt or concrete) and, where practical, a roof. Sheltering the area from rain will prevent stormwater from carrying debris into surface waters.
- ◇ If asphalt or concrete is not practical, perform work over filter fabric or over canvas or plastic tarps. Filter fabric will retain paint chips and other debris but will allow water to pass through (unlike plastic or canvas). Tarps may potentially be reused many times.
- ◇ Concentrate all maintenance debris. Clean work areas after completing each operation or at the end of the day, whichever comes first. Remove sanding debris, paint chips, fiberglass, trash, and other potential pollutants.

It is a good idea to integrate these BMPs into the facility Stormwater Pollution Prevention Plan (SWPPP). Remember, however, that once these BMPs are written into your approved SWPPP, they become legally enforceable requirements under the MSGP.

6.3.2 Contain Dust from Sanding

Dust in the air can pose a respiratory hazard, and dust accumulation on the ground can be swept into the water by the wind or through runoff following rainfall.

- ☼ Do not let dust from sanding fall onto the ground or water or become airborne.
- ☼ Invest in vacuum sanders and grinders. These tools collect dust as soon as it is removed from the hull. Vacuum sanders allow workers to sand a hull more quickly than with conventional sanders. Additionally, because paint is collected as it is removed from the hull, health risks to workers are reduced.
- ☼ Require tenants and contractors to use vacuum sanders. Rent or loan the equipment to tenants and contractors.
- ☼ Conduct shore-side sanding in the hull maintenance area or over a drop cloth.

Consider containing blasting and painting activities to prevent abrasives, paint chips, and overspray from reaching a water body or the storm sewer system.



- ☼ Restrict or prohibit sanding on the water. However, if it is unavoidable, use a vacuum sander and keep dust out of the water.
- ☼ Use a damp cloth to wipe off small amounts of sanding dust.
- ☼ Collect debris. Have your waste hauler characterize the waste and bring it to a facility authorized to manage municipal or industrial solid waste.
- ☼ Be sure to contain shavings when field-cutting plastic pilings and timbers.
- ◇ Post signs indicating the availability of vacuum sanders and grinders.
- ◇ Bring vacuum sanders to tenants if you see them working with non-vacuum equipment. Consider charging a small rental fee to recoup the cost of purchasing the sander.

6.3.3 Contain Debris from Blasting

Blasting can cause a release of contaminants to air or water.

- ☼ Prohibit uncontained blasting.
- ☼ Perform abrasive blasting in the vessel maintenance area within a structure or under a plastic tarp enclosure. Do not allow debris to escape from the enclosure.
- ◇ Investigate alternatives to traditional-media blasting. Hydroblasting and mechanical peeling essentially eliminate air quality problems. Debris must, however, still be collected. Consider using a filter cloth ground cover.
- ◇ Invest in a closed, plastic-medium blast system. These systems employ small plastic bits as a blasting medium. Once the blasting is completed, the spent material and the paint chips are vacuumed into a machine that separates the plastic from the paint dust. The plastic is cleaned and may be reused. The paint dust is collected for disposal. A 50-foot vessel will produce about a gallon of paint dust, substantially less than the many barrels of sand and paint

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



that must be disposed of following blasting with traditional media.

- ☼ Collect debris. Have your waste hauler characterize the waste and bring it to a facility authorized to manage municipal or industrial solid waste.

6.3.4 Minimize Impact of Pressure-Washing

The MSGP (applicable to marinas located within the District of Columbia) requires that the release of pollutants from wash areas be contained. Some BMPs that can not only help achieve this, but that even go beyond MSGP requirements include:

- ☼ Pressure-wash over a bermed, impermeable surface that allows the wastewater to be contained and sediment filtered out.
- ☼ Use the lowest amount of pressure necessary to remove growth but that leaves paint intact when pressure-washing ablative paint. Where practical, use a regular garden-type hose and a soft cloth.
- ☼ Collect debris. Have your waste hauler characterize the waste and bring it to a facility authorized to manage municipal or industrial solid waste.
- ☼ Use non-toxic, biodegradable products for cleaning boats in or off the water. For more information visit http://www.boatus.com/foundation/Findings/47/FF47_Mag.pdf.
- ◇ Reuse washwater. For example, recycle it through the power-washing system (a closed water-recycling operation).

6.3.5 Minimize Impact of Paints

- ☼ Consider not painting boats or the bottoms of boats. Determine if paint is actually necessary or if it is being done for aesthetic reasons.

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Prior to use of anti-fouling paint, NPS concessioners must obtain approval for the use of the paint, due the algaecide in anti-fouling paints.

Any and all pesticides or pesticide-containing materials must be approved and reported through the NPS Integrated Pest Management Program.

- ☼ Recommend the use of anti-fouling paints that contain the minimum amount of toxin necessary for the expected conditions.
- ☼ Use low-VOC, high solids content, and water-based paints whenever practicable.
- ◇ Stay informed about anti-fouling products, like Teflon, silicone, polyurethane, and wax, all of which have limited negative impacts. Pass such information along to your customers.
- ◇ Store boats out of the water, where feasible, to eliminate the need for anti-fouling paints.

6.3.6 Minimize Impact of Painting Operations

- ☼ Use brushes and rollers whenever possible, versus spray paint and/or broad-based spray painting.
- ☼ Reduce overspray and solvent emissions by minimizing the use of spray equipment.
- ☼ Limit in-water painting to small jobs. Any substantial painting should be done on land, in the vessel maintenance area, or over a ground cloth.
- ☼ If painting with brush or roller on the water, transfer the paint to the vessel in a small (less than one gallon), tightly covered container. Small containers mean small spills.
- ☼ Mix only as much paint as is needed for the job at-hand.
- ◇ Mix paints, solvents, and reducers in a designated area. This area should be indoors or under a shed roof, relatively far from the water.
- ◇ Keep records of paint use to show where too much paint was mixed for a job. Use this information to prevent overmixing in the future.

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Text Box 6-1 Bottom-Painting Operations

Anti-fouling bottom paints protect hulls from barnacles and other types of fouling organisms that can interfere with vessel performance. Pesticides within them also harm fish and other non-target species. Most paints work by slowly releasing a biocide, generally cuprous oxide (Cu₂O).

Since the interaction of copper and aluminum leads to corrosion, copper-based paints are not used on aluminum hulls (See page 6-2). Instead, tin-based paints (tri-butyl tin, tributyltin, or TBT) are often used on aluminum-hulled vessels. Because tin is extremely toxic, it must be applied cautiously. Concentrations of TBT, as low as a few parts per trillion, have been shown to cause abnormal development and decreased reproductive success in oysters, clams, and snails (EPA 1993). Tin is easily absorbed by fish through their gills and accumulates to high levels in sediments. Anti-fouling paints may be separated into three general categories:

Leaching Paints. Water-soluble portions of leaching anti-fouling paints dissolve slowly in water, releasing the pesticide. The insoluble portion of the paint film remains on the hull. The depleted paint film must be removed before the boat is repainted. Most leaching paints are solvent-based, meaning that vapors may be a concern.

Ablative Paints. Ablative anti-fouling paints also leach toxics into the water. The major difference is that as the active ingredient is leached out, the underlying film weakens and is polished off as the boat moves through the water. As the depleted film is removed, fresh anti-fouling paint is exposed. Several water-based ablative paints on the market are up to 97% solvent-free. Levels of volatile organic compounds in these paints are therefore substantially lower than in solvent-based paints. Ease of cleanup is another advantage of water-based paints.

Non-Toxic Coatings. Teflon, polyurethane, and silicone paints are nontoxic options. All deter fouling by creating hard, slick surfaces, to which fouling organisms cannot firmly attach.

6.3.7 Reduce Overspray

In some cases, spray painting is the only practical choice in terms of time and money. Minimize the impact of spray painting by adopting the following recommendations:

- ☼ Conduct all spray painting on land, in a spray booth or under a tarp.
- ☼ Use equipment with high transfer efficiency. Tools such as high-volume, low-pressure (HVLP) spray guns, air-atomizer spray guys, and gravity-feed guns direct more paint onto the work surface than conventional spray guns. As a result, less paint is in the air, fewer volatile organic compounds are released, less paint is used, and cleanup costs are reduced.

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- ☼ Train staff to use spray-painting equipment properly, to reduce overspray, and to minimize the amount of paint per job.

6.3.8 Handle Solvents Carefully

Refer to Chapter 10, *Waste Containment and Disposal*, for further information about requirements for handling, storing, and transporting hazardous wastes. In addition to the requirements already outlined, consider:

To operate a permanent paint spray booth, you must obtain an air quality permit from the District Air Quality Division. (202) 535-2250

- ☼ Direct solvent used to clean spray equipment into containers to prevent evaporation of VOCs. A closed gun-cleaning system will save you money on cleaning materials.
- ☼ Use only one cleaning solvent to simplify reuse and disposal.
- ☼ Use the smallest amount of solvent (e.g., stripper, thinner) adequate for a given job.
- ☼ For small jobs, pour the needed solvent into a small container in order not to contaminate a large amount of solvent.
- ◇ Use soy- or citrus-based solvents and other similar products with low volatility or none at all.
- ◇ Use alternatives to solvent-based parts washers, such as bioremediating systems that take advantage of microorganisms to digest petroleum. Bioremediating systems are self-contained, meaning that there is no effluent. The cleaning fluid is a mixture of detergent and water. Microorganisms are added periodically to “eat” the hydrocarbons.
- ◇ Order your spray-painting jobs to minimize coating changes. Fewer changes means less frequent purging of the spray system. Order your work light to dark.
- ◇ Allow solids to settle out of used paint strippers and thinners so that you can reuse solvents.

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- ◇ Keep records of solvent and paint usage so that you have some idea of the amount of hazardous waste generated on site. You are required to maintain these types of records if you have a permanent, District-approved spray booth.

6.3.9 Repair and Maintain Engines with Care

In addition to the general requirements noted elsewhere, it is recommended to:

- ☼ Store engines and engine parts under cover on an impervious surface like asphalt or concrete.
- ☼ Do not wash engine parts over bare ground or near water. Contain any wash waters that are generated and dispose them properly.
- ☼ Use dry pre-cleaning methods, such as wire brushing.
- ☼ Avoid unnecessary parts cleaning.
- ☼ Clean engine parts in a container or parts washer if you use a solvent. The container or parts washer should be equipped with a lid to prevent evaporation of VOCs. Reuse the solvent. Once the solvent is spent, recycle it.
- ☼ Use water-based, non-VOC cleaners that are less hazardous than solvent-based degreasers.
- ☼ Use drip pans when handling any type of liquid. Use separate drip pans for each fluid to avoid mixing of fluids. Place liquids into established recycling containers.
- ☼ Use funnels to transfer fluids into established recycling container or engine.
- ☼ Drain fluids into a collection container from parts prior to disposal.
- ☼ Clean engine repair areas regularly using dry cleanup methods, e.g., capturing petroleum spills with oil-absorbent pads.

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- ◇ Encourage boaters to adjust and equip their engines to prevent the escape of visible fumes, or to purchase new low-emissions engines.

6.3.10 Winterize Safely

- ☼ Use propylene glycol antifreeze for all systems. It is much less toxic than ethylene glycol antifreeze.
- ☼ Use the minimum amount of antifreeze necessary for the job.
- ☼ For health reasons, ethylene glycol should never be used in potable water systems. It is highly toxic and cannot be reliably purged come springtime.
- ☼ Add stabilizers to fuel to prevent degradation. Stabilizers are available for gasoline and diesel fuels, and for crankcase oil. These products protect engines by preventing corrosion and the formation of sludge, gum, and varnish. They also eliminate the problem of disposing of stale fuel in spring.
- ☼ Be sure fuel tanks are 85 to 90 percent full to prevent flammable vapors from accumulating and to minimize the possibility of condensation, leading to tank corrosion. Do not fill the tank more than 90 percent full. The fuel will expand as it warms in the springtime, and fuel may spill out the vent line.
- ☼ Use the highest-octane fuel recommended by the engine manufacturer. Premium fuels are more stable than non-premium.
- ☼ Be sure the gas cap seals tightly.
- ◇ Promote reusable canvas or recyclable plastic covers. Some manufacturers will clean and store canvas covers during the boating season.

6.3.11 Conduct In-water Maintenance Wisely

If the impacts of cleaning or maintenance activities (regardless of area involved) cannot be contained or mitigated, remove the boat from the water.

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- ☼ Do not allow debris to fall into the water. Set up tarps or capture floats to prevent materials from falling into the water.
- ☼ Keep containers of cleaning and maintenance products closed.
- ☼ Restrict or prohibit sanding on the water. When it is absolutely necessary to sand on the water, use vacuum sanders to prevent dust from falling into the water. Do not sand in a heavy breeze.
- ☼ Plug scuppers to contain dust and debris.
- ☼ Do not spray paint on the water.
- ☼ Prohibit underwater hull-cleaning in your facility. Given the concentration of boats on the water, underwater cleaning is dangerous to divers, who may also be expensive to insure. The metals that are released are harmful to aquatic life. If you cannot prohibit, then minimize environmental impacts from underwater hull cleaning (see Tip Sheet 2, Underwater Hull Cleaning).
- ◊ Offer incentives, like reduced mid-season haul-out rates, so that boaters may have their hulls cleaned on land, where contaminants are more easily contained.

6.3.12 Maintain Structures Using Clean Marina Practices

- ☼ Scrape, sand, and paint structures (both in water and on land) according to the same management principles recommended for vessels.
- ◊ If feasible, move floating structures to shore for scraping, painting, and major repairs.

6.3.13 Educate Boaters

There are many ways to encourage boaters to help you keep the marina clean and pleasing. A key method is to inform them of alternative practices that they may not be aware of:

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6. Vessel Maintenance and Repair



- ☼ Copy the clean boating Tip Sheets provided with this Guidebook and distribute them to your tenants. There is room to add the name and logo of your marina.
- ☼ Find out about local hazardous waste collection days. Post notices informing your tenants when and where they can take their hazardous wastes for disposal.

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The Issue

In order to keep your boat safe, reliable, and attractive, you must clean and maintain it. Caution is necessary in your choice of products because they can have an impact on the environmental, water quality and aquatic life. For example, if paint chips from a hull are not contained, they may end up in the water. The heavy metals in the paint chips may then be consumed by mussels, worms and other bottom-dwelling organisms and can be passed up the food chain to fish, birds and humans. Following the recommendations listed will help minimize those impacts.

Clean Carefully

- Wash your boat frequently with a sponge or nonabrasive pad and plain water. This approach is very effective at removing salt. Additional “elbow-grease” may be required to remove stains.
- When detergents are necessary, use those that are phosphate-free, biodegradable, and non-toxic. Use soaps and detergents sparingly, because even non-toxic products can be harmful to wildlife. For example, detergents destroy the natural oils on fish gills, limiting their ability to extract dissolved oxygen from the water.
- Wax your boat, if appropriate. A good coat of wax prevents surface dirt from becoming ingrained.
- Clean teak with a mild soap, and abrasive pads or bronze wool. This method is safe for the environment and better for the boat than the solvents found in standard teak cleaners, which tend to damage both wood and seam compounds.
- Avoid detergents that contain ammonia, sodium hypochlorite, chlorinated solvents, petroleum distillates, or lye.
- Try some of the alternative cleaning products listed on the reverse side of this page.

Careful Maintenance

- Collect all paint chips, dust, and residue, and dispose of it in the trash.
- Share leftover paint and varnish rather than storing it or throwing it out.
- Leave empty paint cans open to dry out before disposing of them.
- Use less toxic propylene glycol antifreeze instead of ethylene glycol.
- Select a bottom paint developed for the mid-Atlantic region and apply the proper amount. Do not overapply.

Recycle Regularly

- Recycle used oil, oil filters, and antifreeze.
- Bring used solvents and waste gasoline to collection points on local hazardous-waste collection days.
- Ask your marina manager for locations of recycling centers and information about hazardous waste collection days.

Be a Conscientious Consumer

- Read product labels. Labels provide information about the degree of hazard associated with a particular product.
- Be wary of unqualified general claims of environmental benefit, as, for example, “ozone friendly.” A more meaningful label would read, “This product is 95 percent less damaging to the ozone layer than past formulations that contained chlorofluorocarbons (CFCs).”

Vessel Cleaning and Maintenance



Tip Sheet for Marina Users

- For more information about environmentally responsible products, contact Green Seal. Green Seal is an independent, nonprofit organization that sets environmental standards for consumer goods. To learn more: www.greenseal.org or call (202) 872-6400.

Alternatives to Toxic Products

While baking soda, vinegar, lemon juice, and vegetable oils are far less harmful than bleaches, scouring powders, or detergents, they are still toxic to marine life. Use cleaning products sparingly, and minimize the amount discharged into the water. Never dispose of any cleaning products down the thru-hull drain; dispose of them on shore.

Product	Alternative
Bleach	Borax
Detergent & soap	Elbow grease
Scouring powders	Baking soda. Or rub area with one-half lemon dipped in borax, then rinse.
General cleaner	Baking soda and vinegar. Or lemon juice combined with borax paste
Floor cleaner	One cup vinegar in 2 gallons of water
Window cleaner	One cup vinegar + 1 quart warm water. Rinse and squeegee
Aluminum cleaner	2 tbsp. cream of tartar + 1 quart of hot water
Brass cleaner	Worcestershire sauce. Or paste made of equal parts salt, vinegar, and water
Copper cleaner	Lemon juice and water. Or paste of lemon juice, salt, and flour
Chrome cleaner/polish	Apple cider vinegar to clean; baby oil to polish
Stainless steel cleaner	Baking soda or mineral oil for polishing, vinegar to remove spots.
Fiberglass stain remover	Baking soda paste
Mildew remover	Paste with equal parts lemon juice and salt, or white vinegar and salt
Drain opener	Disassemble or use plumber's snake. Or flush with boiling water + one cup baking soda + one-quarter cup vinegar
Wood polish	Oil or almond oil (interior walls only)
Hand cleaner	Baby oil or margarine
Head and shower	Baking soda; brush thoroughly
Rug/Upholstery cleaner	Dry corn starch sprinkled on; vacuum

Adapted from Buller, Pat. 1995. *Clean Marina+Clean Boating+Clean Water Partnership*. Seattle, WA: Puget Soundkeeper Alliance.

Green Cleaners

The Boat US Foundation for Boating Safety and Clean Water tested and ranked 20 boat cleaner's toxicity, biodegradability, cleaning performance, and cost per gallon. The Foundation concluded that the three boat cleaners below were the best overall choice for environmentally friendly cleaning. The Foundation's complete findings are available at: http://www.boatus.com/foundation/Findings/47/FF47_Mag.pdf.

Name	Toxicity	Biodegradability	Cleaning Performance	Cost
Thetford Marine Boat Wash	Excellent	Excellent	Good	\$0.75-\$1.50/ Gallon
Meguiar's Gel Wash	Excellent	Excellent	Poor	\$.22/ Gallon
Concrobium EcoWash	Good	Excellent	Good	\$7.50/ Gallon

Adapted from Shingledecker, Susan 2009. *Does Green Equal Clean*. Annapolis, MD: Boat US Foundation for Boating Safety and Clean Water.

Tips for divers, marina operators, and boaters

In order to maintain maximum performance and stretch the time between haul-outs, some boaters hire professional divers (or dive themselves) to clean their hulls while their boats are in the water. If done properly, underwater hull cleaning removes marine growth and only a small amount of anti-fouling paint. When done too vigorously, however, or when it is ablative paint that's being scrubbed, high levels of paint-related toxins may be released into the water.

The following tips for divers, boatyard and marina operators, and boaters are intended to guide decisions about hull treatment and maintenance. By working together, we can minimize the pollution problems associated with underwater hull cleaning.

Best Management Practice for Divers

- Clean gently to avoid creating a plume or cloud of paint in the water
- On boats painted with ablative paints, clean only running gear and zinc anodes.

- Refrain from hull cleaning for 90 days after a coat of anti-fouling paint has been applied.
- Always use the least abrasive material that will effectively clean the painted surfaces:
 - Use a soft sponge or piece of carpet to clean marine growth.
 - Use pads of soft nylon or similar material on rotary brush machines.
 - Use more rigorous cleaning pads only as needed to remove hard growth.
 - Use stainless-steel pads or brushes only on unpainted metal areas.
- Do not clean the entire hull if it is not dirty. Clean only the waterline, running gear, and propeller.
- Never sand, strip or chip hull paint underwater.
- If you have been hired to replace zinc anodes, bring the old ones ashore for recycling. Look in the phone book under "scrap" for dealers.
- Provide customers with copy of your standard pollution prevention procedures.

Best Management Practices for Boatyard and Marina Operators

Operators

- Provide an alternative to underwater hull cleaning by offering mid-season pressure wash specials.
- Allow only divers who follow the Best Management Practices outlined above to clean hulls in your marina.
- Ask all subcontractors to sign in. Also, ask to see a current business license and proof of liability insurance.
- Keep a referral list of reputable divers to pass along to boaters seeking underwater hull services.
- Encourage boaters who typically hire divers to use hard bottom-paints.
- After painting a boat's hull, provide the boat owner with a simple description of the paint used and the maintenance requirements. For example, "Your boat was painted on April 27, 2000, with Barnacle B-Gone. Barnacle B-Gone is an ablative paint. It should not be scrubbed while in the water. The active ingredient is cuprous oxide, a potent biocide. A copy of the Material Safety Data Sheet is attached for your information. Barnacle B-Gone retains its anti-fouling effectiveness when hauled and can be re-launched without repainting. The hull will need to be repainted in approximately 2 years."
- Ask customers who have had their hulls coated with ablative paints to read and sign a notice that states, "I understand that my boat has been painted with an ablative paint. If the hull is scrubbed while in the water, environmentally harmful concentrations of paint and the pesticide cuprous oxide will be released."
- Earn cash by collecting and recycling used zinc anodes. Look in the phone book under "scrap" for dealers.

Best Management Practices for Boaters

- Take advantage of "quick haul-out specials" offered by your marina.
- Where practical, store your boat out of the water.
- Be aware that colored plumes should NOT be visible in the water near underwater cleaning activities. They indicate that paint, rather than just marine growth, is being rubbed off your boat.
- Let divers know you expect them to keep pollution to a minimum while working on your boat. Ask them to follow the Best Management Practices for divers, listed above.
- Never hire a diver to clean a hull painted with ablative (i.e., sloughing) paint.
- Be knowledgeable about your anti-fouling paint. Ask your yard manager to provide a written statement describing the name and type of paint used, health and safety warnings, maintenance requirements, and date applied. Keep a record of this same information if you paint your own hull.
- If you know you will want a diver to clean your hull in the future, select a hard or slick paint now.
- If you have applied fresh, hard bottom-paint, wait 90 days before having the hull cleaned under water.
- Consider low-copper hard paints or nontoxic slick paints and regular underwater hull cleaning instead of high-copper-content paints.
- Before hiring a diver, get three local references from a marina operator or other boater who know the diver's work.

Selecting a Bottom Paint



Tip Sheet for Marina Users

The Issue

Marine growth, such as barnacles and slime, impairs vessel performance. To prevent such growth and to maintain top performance, boats are often painted with anti-fouling paints. Unfortunately, the biocides found in these paints are harmful not only to the organisms that make their homes on our boat hulls, but to others as well.

Selecting a bottom paint is not an easy job. The challenge is to select the least toxic paint that will effectively prevent fouling. The effectiveness of a particular paint will depend on water temperature and salinity, how frequently the vessel is operated, and how fast it is customarily run.

The Paints

Bottom paints may be categorized as hard, anti-fouling ablative, or non-toxic. The two most commonly used bottom paints are hard and ablative.

- When hard or “contact leaching” paints dry, they create a porous film on the hull. Biocides are held in the pores. The toxins dissolve when they

come in contact with water.

- Ablative or “sloughing” paints are partially soluble. The active ingredient is continually leached out. The underlying film then weakens and is polished off as the boat moves through the water, exposing a fresh layer of anti-fouling paint.
- Non-toxic coatings are the most environmentally-friendly option. Containing Teflon or silicone, they produce a hard, slick surface to which fouling growth cannot firmly attach. Although paint companies are moving toward the introduction of non-toxic slick paints, they are not widely available at present.

Hard paints contain varying levels of biocides that are released slowly. Ablative paints generally contain lower levels of toxins, yet they are released more readily. The impact upon the aquatic environment over time is about the same between the two types.

Which bottom paint is right for you?

There is no easy answer to this question (at least until affordable biocide-free coatings are available). Weigh the pros and cons presented in the following table. As you do so, consider the type of boat you have, and where and how you use it. Ask yourself the following questions:

- How frequently do I use my boat?** A boat must be used regularly for ablative paint to work effectively.
- How fast do I typically travel?** Speedboats are generally painted with hard paints.
- Will I want the hull scrubbed while the boat is in the water?** If you anticipate underwater hull cleaning, DO NOT USE ablative paint.
- Will I have the boat hauled annually?** Hard paint is applied annually. Some ablative paints are designed to last for more than one season.
- What type of coating is presently on the hull?** Select a new coating that is compatible.

Selecting a Bottom Paint



Tip Sheet for Marina Users

Comparison of Maintenance Requirements

Maintenance Need	Ablative Paint	Hard Paint	Environmental Issue
Frequency of repainting	Every 1 to 3 years depending on the thickness of the original application and use of boat.	Every year.	AIR QUALITY: Fumes (volatile organic compounds) that are harmful to human health and air emissions are released whenever solvent-based paints are used. Use water-based paints whenever practicable.
Hull preparation	Light sanding is generally all that is needed prior to application of new paint.	Annual heavy sanding is suggested to improve adhesion and prevent paint buildup. If you choose light sanding instead, the resulting buildup will necessitate periodic blasting or stripping.	DEBRIS: Use the following techniques to keep debris out of the water: <ul style="list-style-type: none"> • Use a vacuum sander or tarps to collect dust created by sanding. • Blast or strip in an enclosed area where debris may be easily captured. • Send collected debris out with your regular trash. • Encourage your marina, boatyard, or yacht club to follow these pollution prevention practices.
Pressure-washing	Pressure-washing will remove some ablative paint	Pressure-washing will remove growth and possible paint chips. Very little pigment should be released.	RELEASE OF BIOCIDES: Marinas are required by law to remove visible solids from pressure-wash water before it is returned to the local waterways. <ul style="list-style-type: none"> • Solids from pressure-washing of hulls painted with hard paints are easily collected in filter cloth, settling basins, or hay bales • Inform your marina manager if you have ablative paint. S/he should use minimal water pressure so that, to the greatest extent possible, only slime is removed. You will be protecting both the environment and your investment in the paint. <p>Look for marinas with recycling pressure-wash systems that protect water quality by filtering and reusing washwater.</p>
Underwater hull cleaning	Ablative paint should never be cleaned in the water.	Hard paints may be cleaned by divers if done carefully.	RELEASE OF BIOCIDES: Be aware that colored plumes should not be visible in the water when a hull is being cleaned. A colored plume indicates that paint is being removed. <ul style="list-style-type: none"> • Hard or slick paints may be cleaned while a vessel is in the water as long as care is taken to use the least abrasive material practicable (see Clean Boating Tip Sheet <i>Underwater Hull Cleaning</i>) • Ablative paints should not be cleaned in the water, as the scrubbing action will release paint and its associated biocide.

7

Petroleum Control

7.1 Environmental Concerns

Petroleum and fuel in or on the water is harmful and, in some cases, can be fatal to aquatic or bird life. Benzene, xylene, and toluene are carcinogens found in gasoline. Oil contains zinc, sulfur, phosphorus, and a range of hydrocarbons.

Once a petroleum product is introduced into the water, it may float, evaporate, become suspended in the water column, or settle to the bottom. Floating oil or fuel is particularly noxious because it reduces light penetration and the exchange of oxygen at the water's surface. Floating oil also contaminates the uppermost portion of the water column that is home to many species of plants, animals, and microbes. Ninety-nine percent of the Chesapeake Bay's blue crab larvae feed in the microlayer, which also serves as a nursery area for rockfish (Hardy 1991). The abundance of life in the microlayer attracts predators: seabirds from above and fish from below.

The party responsible for any vessel or facility that discharges oil, fuel or other hazardous substance is liable for the costs of oil removal and for any damage to natural resources, real or personal property, subsistence uses, revenues, profits, earning capacity, and for increased public services made necessary by the discharge. It is wise to take any steps necessary to prevent spills.

All marinas must have environmental controls at fueling pumps, and proper storage of petroleum in aboveground storage tanks (ASTs) and underground storage tanks (USTs). USTs must have corrosion protection, spill and overfill control, and a leak detection system.

This chapter discusses ways to control petroleum pollution so as to prevent degradation of water and aquatic life.



7.2 Coming into Compliance

7.2.1 Federal Clean Water Act

Because of the harmful effects of petroleum, the discharge of oil is strictly prohibited. The Clean Water Act (CWA) prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon, or discoloration of, the surface of the water, or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a penalty of \$5,000 per violation per day and up to \$50,000 and three years imprisonment for knowing violations.

Failure to report a spill may result in fines.

The United States Coast Guard (USCG) must be notified anytime an accidental spill produces a sheen on the surface of water (i.e., any spill of oil, no matter how small). In the event of such a spill, call the USCG National Response Center at (800) 424-8802, or submit the report online at <http://www.nrc.uscg.mil/nrchp.html>. Report the location, source, size, color, substance, and time of the spill.

All boats 26 feet or longer traveling on federally controlled waters must display an oily waste discharge placard in the engine compartment or at the bilge pump control station (33 Code of Federal Regulations (CFR) 155.450).

The CWA (33 CFR 153.305) also prohibits the use of soaps or other dispersing agents to dissipate oil on water or in bilges without the permission of the USCG. Soaps, emulsifiers and dispersants cause the oil to sink in the water column and mix with sediments, where they will remain for years. These materials themselves are pollutants. You may be fined up to \$32,500 per incident for the unauthorized use of soap or other dispersing agents on water or in bilge.

Develop a Spill Prevention Control and Countermeasure Plan

If your marina stores oil in volumes above certain regulatory limits, you must develop a certified Spill Prevention, Control and Countermeasure (SPCC) Plan as well as an Emergency Response Plan (ERP) for threats such as oil spills and fire hazards (See Section 1 about regulatory requirements).

SPCC Plan

Spill Prevention, Control and Countermeasure Plan

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☀) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



For information concerning SPCC Plans, contact the DC Emergency Management Administration Emergency Response Mayor's Command Center **202-727-6161**

EPA SPCC Updates

SPCC regulations were updated and amended in December 2008.

Amendments include a revised requirement for facility diagrams, modified secondary containment requirements, and an updated definition of "facility."

For more information on rule updates visit the EPA's SPCC website:

<http://www.epa.gov/oilspill/spcc.htm>.

A self-certification template is available in Appendix G to the SPCC Rule and at this link: <http://www.epa.gov/oswer/oel/docs/oil/spcc/tier1template.doc>

- ◆ The Environmental Protection Agency's (EPA) Oil Pollution Prevention regulations require that marinas prepare and implement a plan to prevent discharge of oil into navigable waters or adjoining shorelines, if the facility has:
 - An aggregate aboveground storage capacity greater than 1,320 gallons in containers of 55-gallons or greater in size; or
 - A total underground storage capacity greater than 42,000 gallons in tanks that are not regulated under federal UST regulations (40 CFR 280).

Oil is defined in the SPCC regulations at 40 CFR 112 as "oil of any kind or in any form, including but not limited to petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes other than dredged spoil and oily mixtures."

- ◆ The SPCC Plan must address:
 - Operating procedures implemented by the facility to *prevent* oil spills;
 - *Control* measures installed to prevent a spill from entering navigable waters or adjoining shorelines; and
 - *Countermeasures* to contain, clean up, and mitigate the effects of an oil spill that impacts navigable waters or adjoining shorelines.
- ◆ The SPCC Plan must be certified by a licensed Professional Engineer (PE) and be kept on site for EPA review. Note: Self-certification is allowed for certain qualified facilities with storage of less than 10,000 gallons of oil if, within three years prior to or since plan certification, the facility has not had one discharge of oil exceeding 1,000 gallons or two discharges exceeding 42 gallons within any 12 month period.
- ◆ As required by the SPCC, marina managers should:

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If the facility has a discharge of 1,000 gallons or more of oil, or has two spill events within a 12-month period, a report must be sent to the EPA Regional Administrator within 60 days.

The report should include a description of the spill, corrective actions taken, preventive measures taken to prevent a recurrence of the incident, and additional pertinent information.

Careless engine maintenance, refueling habits, and improper disposal of oil and contaminated bilge water release more oil into marine water each year than did the Exxon Valdez spill (Clifton et al. 1995a)

- Provide controls, such as secondary containment, to prevent releases.
 - Provide employees with a written, accessible copy of the SPCC Plan, and train them in the use of containment measures.
 - Store oil-spill response equipment in a convenient, readily accessible location at fuel docks.
 - Regularly inspect fuel tanks and fuel transfer equipment.
- ◆ If a single spill of greater than 1,000 gallons occurs, or two discharges of “harmful quantity” occur within one year, a copy of the SPCC Plan must be submitted to EPA Region III.
- ◆ The SPCC Plan must be reviewed and revised, if necessary, every five years; the plan must be amended within six months of the review to include more effective prevention and control technology if the technology has been field proven and will significantly reduce the likelihood of a discharge. The SPCC Plan must be recertified by a PE if there are any technical changes unless the facility meets the PE certification exceptions outlined above. In addition, the Plan must be revised whenever:
- Applicable regulations are revised;
 - It fails in an emergency; or
 - There are changes in the facility design, construction, operation or maintenance that materially affect its potential for a discharge such as; tanks or containers are added, removed or relocated, the list of SPCC Plan Emergency Response Contacts (ERC) and/or ERC Alternates change or the list of emergency equipment changes.
- ◆ Copies of the SPCC Plan:
- Must be maintained at the facility and park dispatch (if applicable),
 - May be submitted to the EPA; and

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- May be submitted to the local fire department and other agencies as appropriate.
- ◆ Any records of inspections or tests conducted relating to the plan must be maintained with the plan for at least three years.
- ◆ Training and briefings on the SPCC plan must be provided each year to appropriate staff. Although not required, it is a good idea to keep records of training with the SPCC plan.

Develop a Spill Prevention and Cleanup Plan

The District of Columbia Clean Water Act requires any facility that stores pollutants or hazardous substances (petroleum, hazardous waste, sewage, paint) at an onshore or offshore facility to develop and implement a Spill Prevention and Cleanup Plan (SPCP). The District of Columbia SPCC must include the procedures and the equipment, as well as the personnel preparations, for preventing and cleaning up a spill of the pollutant into District of Columbia waters. An SPCC plan may substitute for an SPCC provided it covers storage of pollutants and hazardous substances, not just petroleum storage.

Accidental Discharge of Oil or Hazardous Substances

In the event of an oil spill, the discharger must notify:

- DC Harbor Patrol at (202) 272-4582
- The USCG National Response Center at (800) 424-8802 or (202) 267-2675 in the Washington, DC, metro area;
- DC Fire Department at (202) 673-3200;
- U.S. Park Police at (202) 619-7300; and
- DC Emergency Management Agency at 202-727-6161.

Within 10 days of becoming aware of a release, the marina manager or SPCC permittee must submit a written description of the release.

After a spill, the SPCC should be reviewed and amended to prevent further pollutant discharges.

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As mentioned above, any oil release should be reported immediately to the USCG National Response Center. Tell your boaters not to disperse fuel, oil, or other chemicals with agents like soaps, detergents, surfactants or emulsifiers, because they worsen the effect on the environment.

An **incidental spill** is the volume (defined by each individual facility) of oil that employees are allowed to clean up. Many facilities use five gallons as their threshold volume.

OSHA Plan Guidance

EAP guidance is available at <http://www.osha.gov/SLTC/etools/evacuation/eap.html>.

OSHA electronic tool for EAP development: <http://www.osha.gov/SLTC/etools/evacuation/index.html>.

OSHA ERP Guidance: <http://www.osha.gov/SLTC/emergencypreparedness/index.html>

7.2.2 Occupational Safety and Health Administration Emergency Plans

Additional Occupational Safety and Health Administration (OSHA) planning may also be required to address emergency repose activities for petroleum releases. These include Emergency Action Plans (EAPs) and Emergency Response Plans (ERPs).

Documented EAPs are required for facilities with more than ten employees and should address actions that would be taken for oil spill emergencies as an “other emergency” under the OSHA standard. Topics, including the shutdown of equipment, evacuation procedures, rescue and medical duties of personnel, emergency reporting and alarms, must be covered in the plan. The plan may refer to more detailed plans such as the SPCC or ERP for detailed response procedures.

An ERP is required for those who will respond to a hazardous substance release, even if it is to stop the release from a distance, if the release is greater than an incidental amount and constitutes an emergency situation. The ERP contains much of the same elements as the contingency plan portion of an SPCC plan but has some additional elements that must be addressed which are specified in the OSHA standard.

If the marina includes employees that will respond to a hazardous substance release, as well as employees that will NOT respond to a release, then the facility will need to develop both an EAP and an ERP (they may be combined into one document). Keep a copy of the plan(s) in a location that is readily accessible to all employees, and update the plan(s) annually to include any new technology or equipment and to confirm phone numbers. Ensure all employees (including seasonals and volunteers) are trained on the appropriate plan(s), preferably on an annual basis.

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**UST**

Underground (Oil, Fuel)
Storage Tank

*Information on the
District of Columbia UST
Management Program
can be found at:*

<http://www.ddoe.dc.gov/doctype/cwp>.

*They can be contacted at
202 535-1333.*

*A single pint of oil
released onto the water
can cover **one acre** of
water surface area.
(Buller 1995)*

*For more information on
preventing releases from
USTS, check out the
following EPA website:
<http://www.epa.gov/oust/prevleak.htm>.*

7.2.3 Petroleum Storage Tank Requirements

Fuel storage tanks at marinas include USTs and aboveground storage tanks (ASTs) and typically hold from 250 to 10,000 gallons of fuel or oil products. If a tank were to rupture or develop a leak, the consequences could be devastating.

Underground Storage Tanks (USTs)

Federal UST regulations were promulgated in the late 1980s. These were followed by the District of Columbia Underground Storage Tank Management Act of 1990 (DC Code 8-113.01). In addition, the District of Columbia has adopted the International Fire Code (IFC) and National Fire Protection Association (NFPA) codes 30 and 30A, which have various requirements that apply to petroleum-containing USTs. Key requirements include:

- ◆ USTs must be registered with the DC UST Division.
- ◆ All new and existing USTs must include leak detection, corrosion protection, and spill and overfill prevention equipment, (e.g., double-walled tanks, hoses, and piping).
- ◆ Monthly leak detection testing/monitoring is required for USTs and may include automatic tank gauging; vapor monitoring; groundwater monitoring; interstitial monitoring; or other approved methods.
- ◆ *Pressurized piping systems*, which have a pump in the tank that “pushes” the fuel to the dispenser, must have an automatic line leak detector and annual tightness testing or monthly monitoring. These systems require annual performance testing. *Suction-controlled piping systems*, which have the pump at the dispenser or oil burner, may also have to have testing unless they are designed so that the fuel can drain back to the tank. These systems require performance testing every three years.
- ◆ Corrosion protection systems must be tested once every three years.

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- ◆ All USTs containing motor fuel must meet federal financial responsibility requirements (i.e., insurance) for environmental pollution liability.
- ◆ USTs that are no longer in service must be properly removed or abandoned in place, and must undergo an investigation for contamination. Cleanup must occur if contamination is discovered.
- ◆ UST closure reports must be filed with the District Department of Environment (DDOE).
- ◆ UST operators are required to complete state-specific training by August 8, 2012.

Aboveground Storage Tanks (ASTs)

There are no specific federal AST regulations. However, SPCC regulations, if applicable, may dictate certain equipment and operational requirements. In addition, the IFC and NFPA 30 and 30A codes have requirements that apply to petroleum-containing ASTs in DC. Key requirements include:

- ◆ Piping systems must contain a sufficient number of valves to operate the system properly and to protect the facility from unwanted release.
- ◆ Tanks must be provided with secondary containment, drainage control, or diking.
- ◆ Except for double-walled tanks, the area surrounding the tank (or group of tanks) must be provided with drainage controls to prevent accidental discharge of liquid (e.g. a dike).
- ◆ The capacity of the diked area must be greater than the maximum amount of liquid that can be released from the largest tank in the diked area. (110 percent).

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NFPA Sign at Fuel Dock

BEFORE FUELING:

- (a) Stop all engines and auxiliaries.
- (b) Shut off all electricity, open flames, and heat sources.
- (c) Check all bilges for fuel vapors.
- (d) Extinguish all smoking materials.
- (e) Close access fittings and openings that could allow fuel vapors to enter enclosed spaces of the vessel.

DURING FUELING:

- (f) Maintain nozzle contact with fill pipe.
- (g) Wipe up spills immediately.
- (h) Avoid overfilling.
- (i) Fuel filling nozzle must be attended at all times.

AFTER FUELING:

- (j) Inspect bilges for leakage and fuel odors.
- (k) Ventilate until odors are removed.

- ◆ A permanent sign must be posted at the fill point of the tank documenting the filling procedures and tank calibration.
- ◆ A method must be provided for determining the level of the liquid in the tank. The chosen method will be accessible to the delivery operator.
- ◆ The tank must have an overfill protection system that ensures that the tank is not filled in excess of 95 percent of the liquid capacity.
- ◆ Spacing between adjacent tanks must not be less than three feet (0.9 m).
- ◆ The tank must be capable of resisting damage from the impact of a motor vehicle, or suitable collision barriers must be provided.
- ◆ Tanks not used for a period of one year must be removed from service and disposed of in accordance with District of Columbia regulations.

Other Requirements

Several other operational and equipment requirements for petroleum control are applicable to marina operations under the IFC and NFPA, including:

- ◆ Tanks should be located on shore or on a pier of solid-fill type. Pumps not integral with the dispensing device should also be on shore.
- ◆ Piping systems must be supported and protected against physical damage and stress and shall ensure flexibility in the event of pier motion.
- ◆ Marine fuel dispensing nozzles must be the automatic-closing type without a latch-open device (i.e., no holding clips, no automatic back-pressure shut-off devices).

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- ◆ Dispensing hoses that are longer than 18 feet must be secured (i.e., rolled up) to prevent damage.
- ◆ Specified fuel instruction and safety signage must be provided at fuel docks.
- ◆ Dock attendants must be on duty during fueling and must communicate with the person in charge of the vessel receiving fuel to determine the vessel's fuel capacity, the amount of fuel on board, and the amount of fuel to be taken on board.
- ◆ Portable containers of 12-gallons capacity or less (e.g., outboard engine fuel tanks) must not be filled while they are in a marine craft.

7.2.4 Clean Air Act Requirements

In order to reduce air pollution in the District of Columbia, certain types of gasoline and diesel fuel are prohibited, harmful air pollutants are prohibited and certain emission controls are mandated.

- ◆ The sale and use of diesel fuel containing greater than one percent sulfur by weight, and the sale of gasoline fuel containing greater than one gram of lead per gallon in the District is prohibited.
- ◆ “The emission into the atmosphere of certain odorous or other air pollutants from any source in any quantity and of any characteristic, and duration which is, or which is likely to be injurious to the public health or welfare, or which interferes with the reasonable enjoyment of life and property is prohibited” in the District of Columbia.
- ◆ Vapor-loss control devices are required on any containers with a capacity to store more than 40,000 gallons of any gasoline or petroleum distillate having a vapor pressure of 1.5 pounds per square inch (lb/in²).

Special Requirements

Some District of Columbia marinas, yacht clubs, or boatyards may be subject to unique requirements under a permit such as the multi-sector general permit (MSGP), if they are on federal property, if they are an NPS concessioner or for other reasons. As such, some of the BMPs identified in this section may be legal requirements for some marinas. Operators are reminded that they need to understand all the legal obligations before they can start to implement BMPs.

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- ◆ Stage I vapor controls are required for fuel delivery trucks. (Stage II controls are not required for marine fuel dispensers).

7.2.5 Other Requirements

Failure to report spills to the USCG may result in civil penalties.

If less than a gallon is spilled and you clean it up immediately, the USCG is not likely to send a representative to your facility.

You will not be held liable for a slick that did not originate at your facility.

Respond Quickly to Fuel Spills

- ◆ Follow your plans. If you have decided to respond only to incidental spills, not larger spills, ensure that staff follow guidelines and procedures.
- ◆ Check with the local authorities on what is considered an incidental spill and a reportable spill.
- ◆ If a spill is reportable, make sure to call all the affected parties: Call the USCG National Response Center (800) 424-8802, the USPP (202) 619-7300, and the District Emergency Management Administration, Emergency Response Mayor's Command Center (202) 727-6161.
- ◆ Call the USCG if a slick floats into your marina from an unknown source. The USCG will clean up the spill using its own resources. They will also investigate and try to eliminate the source of the spill.

Be Prepared for a Fire

- ☼ Meet all applicable NFPA standards for marinas, including those adopted by DC: NFPA 303, Fire Protection Standards for Marinas and Boatyards; NFPA 302, Fire Protection Standards for Pleasure and Commercial Motor Craft; NFPA 307, Fire Protection Standards for Marine Terminals, Piers, and Wharves; NFPA 230 Standards for Fire Protection of Storage; and NFPA 33, Standard for Spray Application Using Flammable and Combustible Materials. (Remember: if your marina is on NPS property, all NFPA standards have been adopted as requirements).
- ☼ See that hydrants are available to allow for fighting fires throughout your facility.
- ☼ Install smoke detectors.

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- ☼ Provide and maintain adequate, readily accessible, and clearly marked fire extinguishers throughout the marina, especially near fueling stations. (Applicable laws and standards may already require some.)
- ☼ Develop a schedule to inspect and test all firefighting equipment and systems, and document these inspections in a log to help ensure you meet regulatory requirements such as annual inspection for fire extinguishers.
- ☼ Even when not required, train personnel in fire safety and response: who to call, location of hydrants, and the use of portable extinguishers.
- ☼ Provide ready access to all piers, floats, and wharves for municipal firefighting equipment.
- ☼ Invite the local fire marshal to visit your marina annually to train employees. These annual visits will also help the fire department to become familiar with your facility.

7.3 Best Management Practices for Preventing Spills at the Source

7.3.1 Protect Petroleum and Fuel Storage Tanks

In addition to the requirements of the District of Columbia UST Division, marinas with petroleum or fuel storage tanks may implement the following BMPs:

- ☼ Install a readily accessible shutoff valve on shore to halt, when necessary, the flow of fuel through a pipeline from the oil storage facility to the dock.
- ☼ Install double-walled USTs and piping with leak detection sensors as the means of leak detection. Double-walled systems provide notice of potential leaks BEFORE they enter the environment unlike some other approved methods.
- ☼ Install double-walled aboveground piping including dock piping and dispenser pump sumps; provide leak detection

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sensors in all double-walled system components. (Remember that in DC, ASTs are required to be double-walled or have other secondary containment).

- ☀ Provide secondary containment for the tanker unloading area for the fuel tanks. One option is an inflatable secondary containment structure.

7.3.2 Avoid Waves and Wakes

For safety reasons, all fueling stations should be accessible by boat without entering or passing through the main berthing area.

- ☀ Locate fuel docks in areas protected from wave action and boat wakes when constructing new or upgrading existing facilities.
- ◇ Provide a stable platform for fueling personal watercraft (PWC). You may purchase prefabricated drive-on docks or modify an existing dock by cutting a V-shaped berth and covering the edges with outdoor carpeting. Consider placing the PWC fueling area at the end of the fuel pier to reduce conflict with larger boats.

7.3.3 Maintain Fuel Transfer Equipment

- ☀ Inspect transfer equipment regularly and fix all leaks immediately.
- ☀ Maintain transfer equipment and hoses in good working order. Replace hoses, pipes, and tanks before they leak.
- ☀ Hang nozzles delivery-end upward when not in use so that fuel remaining in hoses does not drain out.

7.3.4 Install Environmental Controls at the Pumps

- ◆ Provide breakaway devices on dispenser hoses for both gasoline and diesel fuel.
- ☀ Consider installing fuel nozzles that redirect blow-back into vessels' fuel tanks, or vapor-control nozzles to capture fumes.

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- ☼ Maintain a supply of oil-absorbent pads and pillows at the fuel dock to mop up spills on the dock or in the water.
- ☼ Place plastic or nonferrous drip trays lined with oil-absorbent material beneath fuel connections at the dock to prevent fuel leakage from reaching the water.
- ☼ Post instructions at the fuel dock directing staff and patrons to immediately remove spilled fuel from the dock and water with oil-absorbent material. Indicate the location of the absorbents.
- ☼ Install fuel collars for dispenser nozzles.
- ☼ Place small gas cans in oil-absorbent-lined drip pans when filling them on the dock.
 - ◇ Secure oil-absorbent material at the waterline of fuel docks to quickly capture small spills. Use oil-absorbent booms that are sturdy enough to stand up to regular contact with dock and boats.
 - ◇ Offer your services to install fuel/air separators on boats.

The person fueling the vessel is liable for all penalties associated with spilled fuel. Generally, marinas require boaters to fuel their own boats.

7.3.5 Supervise Fueling: Environmental and Safety Recommendations

- ☼ Develop a formal fueling standard operating procedure (SOP) that outlines the marina fueling procedures for dock fuel attendants, fuel system managers and customers. Train fuel system managers and dock attendants on the SOP.
- ☼ Train employees on NFPA 30A requirements outlining what to ask customers. For example, train employees to clarify what the boater requested. For example, as your employee passes the fuel nozzle to the boater, have him or her say, “This is gasoline. You asked for gasoline.”

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- ☼ Train dock staff to carefully observe fueling practices, making sure that fuel is not accidentally put into the holding or water tank.
- ☼ Train employees to hand oil-absorbent pads and/or nozzle bibs to boaters with the fuel nozzle. Request that the boaters use them to capture backsplash and vent-line overflow.
- ☼ Remind fuel dock attendants/boaters that gasoline vapors are heavier than air; gas vapors will settle in a boat's lower areas.
- ☼ Consider a requirement that only marina fuel attendants can fuel vessels, not customers.
- ☼ Require the boat operator to stay with their craft during fueling.
- ☼ Require all passengers to get off gasoline-powered vessels before fueling.
- ☼ Prohibit dispensing fuel across the bulkhead, in order to meet D.C. fire code requirements, even if the Marine police have provided an unconditional permit to fuel in this manner.
- ◇ Attach a container to the external vent fitting to collect overflow. A rubber seal fits over the fuel vent, allowing the overflow to enter the container, which may be attached to the hull by suction cups. Fuel captured in this manner can be added to the next boat to fuel.
- ☼ Instruct fuel dock attendants/boaters to slow down at the beginning and end of fueling. Also, instruct fuel dock personnel and boaters to listen to the sound of filling to anticipate when tanks are nearly full.
- ☼ Encourage boaters to fill their fuel tanks just before leaving on a trip to reduce spillage due to thermal expansion and rocking.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



- ☀ If boaters prefer to refuel upon their return to port, encourage them to fill their tanks to no more than 90 percent of capacity.

7.3.6 Turn Down the Pressure

Problems with backsplash and vent-line overflow are often due to the high pressure of fuel flow from the pump.

- ☀ Ask your fuel company representative to reduce the pumping pressure.

7.3.7 Advocate the Use of Oil-Absorbent Materials

- ☀ Distribute pads, pillows, or booms to your tenants.
 - ◇ Require tenants to use oil-absorbent materials as part of your lease agreement.
 - ◇ Distribute flyers and offer other educational materials that provide information on spill prevention technologies and good management practices.
 - ◇ Arrange a spill prevention section in the marina store. Highlight the types of spill prevention materials for sale.

7.3.8 Provide an Oil/Water Separator

- ◇ Invest in a portable or stationary oil/water separator to draw contaminated water from bilges, capture hydrocarbons in a filter, and discharge clean water.

7.3.9 Offer Spill-proof Oil Changes

- ☀ Purchase a non-spill pump system to draw crankcase oils out through the dipstick tube. Use the system in the boat shop and rent it to boaters who perform their own oil changes.

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- ☀ Slip a plastic bag over used oil filters prior to their removal to capture any drips. Recycle the collected oil and metal canister.
- ◇ Encourage the use of spill-proof oil-change equipment as a condition of your slip rental agreement.

7.3.10 Minimize Spills and Leaks from Machinery

- ☀ Use non-water-soluble grease on Travelifts, forklifts, cranes, and winches.
- ◇ Use bio-based lubricants which have a reduced impact to the environment if spilled or leaked.
- ◇ Place berms around fixed pieces of machinery that use oil and gas to create containment volumes equal to 1.1 times the capacity of the fuel tank. The machinery should be placed on an impervious pad. Design containment areas with spigots to drain collected materials. Dispose of all collected material appropriately. Refer to Chapter 10, *Waste Containment and Disposal*.
- ◇ Place leak proof drip pans beneath machinery. Empty the pans regularly, disposing of the material properly (uncontaminated oil and antifreeze may be recycled). Place oil-absorbent pads under machinery.

If possible, shelter the machinery (e.g., roof, tarp) to prevent rainwater from filling the secondary containment area.

7.3.11 Educate Boaters

- ☀ Photocopy the Clean Boating Tip Sheets included at the end of this chapter and distribute to your tenants. There is room to add your marina's name and logo.

7.4 BMPs related to Emergency Planning

7.4.1 Develop Effective Emergency Plans

- ☀ While meeting the regulatory requirements, develop written procedures that are clear, concise, and easy to use during an

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emergency. Use a large type size. Organize the way that makes the most sense for the marina and provide a comparison chart or table to show how the plan addresses the content specified by the regulation. Prepare appendices with quick-reference guides or laminated posters that highlight the most important information for employees. For example, laminated posters might include:

- Map of marina covering sources of oil, likely flow patterns, and location of spill kits and shutoff valves;
- List of who to contact in case of spill; and
- Response team members and their stations.

When preparing these plans consider the following contents:

- ☀ Explain how the equipment should be used and disposed.
- ◇ At the front of the plan, insert a laminated facility site plan showing valves, pipes, tanks, structures, roads, hydrants, docks, power and fuel shutoffs, hazardous material storage locations, and telephones.
- ◇ Include a list of neighboring marinas that have emergency response equipment, and spill response contractors.
- ◇ Include a brief description of each agency's jurisdiction and information about what type of equipment and services are available from neighboring marinas and spill response firms.
- ◇ Indicate when additional resources should be called upon for assistance.

7.4.2 Make Plans Accessible

- ☀ Place a second copy of the SPCC Plan or SPCP in the oil spill response kit.

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- ☀ Provide quick reference materials such as compliance packets and laminated posters in strategic locations such as break rooms or the fuel dock office.

7.4.4 Train Employees

- ☀ Run emergency response drills at least twice a year.
- ◇ Invite the USCG and local fire department to demonstrate emergency response procedures at your marina.

7.4.5 Share Your Emergency Plans

- ◇ Inform your local fire department and Harbormaster, if applicable, about your emergency plans and equipment.
- ◇ If located in a park, share your plans with the NPS.
- ◇ Let neighboring marinas know what resources are available at your marina.

7.4.6 Maintain Oil-Spill Response Equipment

- ☀ Maintain enough oil-spill response equipment to contain the greatest potential spill at your facility.
- ☀ Store enough booms to encircle the largest vessel in your facility. $\text{Vessel length} \times \text{three} = \text{Length of boom}$.

7.4.7 Store Oil Spill Response Equipment Smartly

- ☀ Store the equipment where the greatest threat of an oil spill exists, namely, in fuel receiving and dispensing areas.
- ☀ Store materials in an enclosed container or bin that is accessible to all staff—especially those who handle fueling operations.
- ☀ Mark the storage site with a sign reading “Spill Response Kit.” Include instructions for deploying pads and booms, and notification that all spills must be reported to the

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USCG at (800) 424-8802 and U.S. Park Police (USPP) at (202) 619-7300. Spills should also be reported to the District Emergency Management Administration, Emergency Response Mayor's Command Center (202-727-6161), particularly if your marina is not on NPS property.

☼ Consider leaving the storage container unlocked so that it is available to patrons as well as staff to clean up small spills. If you prefer not leaving the bin unlocked all the time, leave it unlocked on weekends and holidays, when both activity and risk are greatest.

☼ If the bin is left unlocked, check the inventory regularly.

Box 7-1 Use Oil-Absorbent Material

Oil-absorbent pads, booms, and pillows absorb hydrocarbons and repel water. Depending upon the type, they may hold up to 25 times their weight in oil. These products are useful for capturing spills at the fuel dock and in engine maintenance areas and for removing oil from bilge water.

There are a number of new twists on basic oil-absorbent materials. One new variety of oil-absorbent boom captures oil from the bilge and solidifies it into a hard rubber bumper. Other types contain microbes that digest the petroleum. The oil is converted to carbon dioxide and water. Because the microbes take 2 to 3 weeks to digest a given input of oil, it is not appropriate to use these types of products for a spill of any significant size. Rather, they are designed to control the minor drips associated with routine operations. Care must still be taken that free-floating oil is not discharged overboard.

Another type of oil-absorbent product is a boom constructed of oil-absorbent polypropylene fabric and filled with dehydrated microbes. These booms hold the petroleum in the fabric until it is digested by microbes. Threats associated with free-floating petroleum are thereby minimized.

Used absorbent materials are rarely saturated with only one substance. For example, absorbent materials may be contaminated with dirt and scum from the hull or metal shavings from the engine, depending on where a spill occurs. Once these substances are combined, the contaminated absorbent material must be disposed of as hazardous waste unless it is tested and confirmed to be saturated with only one recyclable substance. Inform boaters that contaminated absorbent materials should not be disposed of with regular trash.

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Box 7-2

IMPORTANT SPCC DEFINITIONS:

Oil is defined as oil of any kind or in any form, including but not limited to petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, and oil mixed with wastes other than dredge spoil. Non-petroleum oils such as vegetable and animal oils are also considered under the SPCC Rule.

Discharge involves but is not limited to, any intentional or unintentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of a material. However, some “discharges” are authorized by a permit issued under Section 402 of the Clean Water Act.

Facility means any mobile or fixed, onshore or offshore building, property, parcel, lease, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and oil waste treatment, or in which oil is used, as described in Appendix A to this part. The boundaries of a facility depend on several site-specific factors, including but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and types of activity at the site. Contiguous or non-contiguous buildings, properties, parcels, leases, structures, installations, pipes, or pipelines under the ownership or operation of the same person may be considered separate facilities.

Navigable waters are defined in section 502(7) of the FWPCA as:

- (1) All navigable waters of the U.S., as defined in judicial decisions prior to passage of the 1972 Amendments to the FWPCA, and tributaries of such waters;
- (2) Interstate waters;
- (3) Intrastate lakes, rivers, and streams utilized by interstate travelers for recreational or other purposes; and
- (4) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce.

Owner or operator means any person owning or operating an onshore or offshore facility, and, in the case of an abandoned offshore facility, the person who owned, operated, or maintained the facility immediately prior to abandonment.

Onshore facility means any facility of any kind located in, on, or under any land within the U.S, other than submerged lands.

Offshore facility is defined as any facility of any kind (other than a vessel or public vessel) located in, on, or under any of the navigable waters of the U.S., which is not a transportation-related facility.

Transportation-related and non-transportation-related, as applied to an onshore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, (appendix A of this part).

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel.

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Petroleum in or on the water is harmful and may be fatal to aquatic life. Floating petroleum is particularly bad because it reduces light penetration and the exchange of oxygen at the water's surface, which can negatively impact aquatic life. Floating oil also contaminates the microlayer. The microlayer refers to the uppermost portion of the water column. It is home to thousands of species of plants, animals, and microbes. Ninety-nine percent of the Chesapeake Bay's blue crab larvae feed in the microlayer which also serves as a nursery ground for rockfish. The abundance of life in the microlayer attracts predators: seabirds from above and fish from below. Pollution in the microlayer, thus, has the potential to poison much of the aquatic food web.

The Law

The Federal Water Pollution Control Act (also called the Clean Water Act) prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon, or discoloration of, the surface of the water, or causes formation of a sludge or emulsion beneath the water surface. Violators are subject to a penalty of \$5,000 from the U.S. Coast Guard. The District of Columbia Water Pollution Control Act also prohibits the discharge of oil into District waterways. The DC Department of the Environment may impose additional fines.

Fueling Practices

Gasoline or diesel fuel is occasionally spilled during fueling. This may take the form of back-splash out the fuel intake, or overflow out the vent fitting. Spills of this sort harm aquatic life, waste money, and can result in stained hulls and damage to the gel coat and striping. To avoid such problems, follow these tips:

- Fill tanks to no more than 90 percent capacity—gas that is drawn from cool storage tanks will expand as it warms up aboard your vessel. Consider retrofitting boat fuel tanks with a whistle that sounds when the tank is almost full.
- To determine when the tank is 90 percent full, listen to the filler pipe, use a sounding stick, and be aware of your tank's volume.
- Rather than filling your tank upon your return to port, wait and fill it just before leaving on your next trip. This practice will reduce spills caused by thermal expansion, because the fuel will be used before it has a chance to warm and expand.
- Fill portable tanks on shore, where spills are less likely to occur and are easier to clean up.
- Use oil-absorbent pads to catch drips.
- Slow down pumping at the beginning and end of fueling.

Bilge Maintenance

Engine oil tends to accumulate in bilges. If no precautions are taken when bilge water is pumped, oil may be pumped overboard with it. Discharging oily water is illegal. To avoid fines and to protect water quality, follow these tips:

- Keep your engine well tuned to minimize the amount of oil that is released. Be sure there are no leaking seals, gaskets, or hoses.

- Place oil-absorbent materials or a bioremediating bilge boom in the bilge.
- Place an oil-absorbent pad under the engine.
- Replace oil-absorbent materials regularly.
- Look for contractors or marinas that offer a bilge pumpout service.
- Do not treat oily water with detergents, which pollute and make cleanup impossible. You may be fined up to \$25,000 for using soaps or detergents to dissipate oil.

Emissions Control

Marine engines—especially 2-stroke outboard motors—produce the highest average level of hydrocarbon exhaust emissions after lawn and garden equipment. Hydrocarbon emissions contribute to ground level ozone, a known health risk. Follow these tips to help your engine operate as efficiently as possible:

- Use the gas to oil ratio recommended by the engine manufacturer. Too much oil can foul spark plugs and too little can lead to increased engine wear or even failure.
- Use premium two-cycle engine oil. Premium oils improve engine performance and reduce pollution because they burn cleaner, contain more detergents, and prevent formation of carbon deposits.
- Use gasoline with the octane level recommended by the engine manufacturer

Preventive Equipment

Products are available commercially which can help you prevent spills and reduce emissions:

- Install a fuel/air separator along your vent line. These devices allow air, but not fuel, to escape through a vent opening.
- Attach a safety nozzle to portable gas cans used to fill outboard engines. These nozzles automatically stop the flow of fuel when the receiving tank is full
- To prevent oily bilge water from being discharged, install a bilge pump switch that leaves an inch or two of water in the bilge. Alternatively, connect a bilge water filter to your vessel's bilge pump. Filters will remove oil, fuel, and other petroleum hydrocarbons from the water.
- When it is time to buy a new engine, select a fuel efficient, low emission model.

In Case of a Spill

- Stop the flow.
- Contain the spill.
- Call the U.S. Coast Guard National Response Center at (800) 424-8802.
- Call the Maryland Department of the Environment's Emergency Response Division at 866- 633-4686.

Emergency Response Plan



Tip Sheet for Marina Staff

Draw up plans for likely threats, such as fuel spills, health emergencies, fire, and hurricanes. Include the following information in each:

- Site Plan:** Show valves, pipes, tanks, structures, roads, hydrants, docks, power and fuel shutoffs, hazardous material storage locations, location of response materials, and telephones.
- Personnel:** Identify who is responsible for taking what action, e.g., deploying equipment or contacting emergency agencies. Designate one person on the marina staff as the official spokesperson for the facility.
- Phone Numbers:** Include the following in plans, as appropriate:
 - U.S. Coast Guard National Response Center (fuel/chemical spills) – (800) 424-8802
 - DC Emergency Response Mayor’s Command Center (fuel or hazmat spill) (202) 727-6161
 - NPS-United States Park Police - (202) 619-7300
 - DC Office of Enforcement and Regulatory Compliance (202) 535-2305
 - Fire Department
 - Police Department
 - Facility Owner
 - Spill Response Contractors
 - Neighboring marinas that have emergency response equipment
- Action:** State what action should be taken during an emergency and, based on likely threats, what equipment should be deployed. Include information about type of equipment available on site as well as its characteristics and capabilities. Explain how the equipment should be used and what disposal methods should be followed.
- Site Characterization:** Describe the facility’s waterfront and vessels. Also, describe the type, amount, and location of materials stored on site, e.g., petroleum and hazardous materials.

8

Sewage Handling

8.1 Environmental Concerns

Raw or poorly treated sewage is harmful to human health and water quality. Typhoid, hepatitis, cholera, gastroenteritis, *E. coli* and other waterborne diseases or disease organisms may be passed directly to people who contact contaminated waters. People may also become infected by eating raw or undercooked shellfish contaminated with viruses or other microorganisms found in sewage discharge.

Sewage is also harmful to water quality. Because the decomposing microorganisms within sewage need oxygen to break down organic material, any effluent discharged to waterways reduces the amount of oxygen available to fish and other forms of aquatic life. Furthermore, the heavy nutrient load in sewage promotes excessive algal growth. As algae multiply, they prevent sunlight from reaching subsurface vegetation. When they die, their decomposition further reduces levels of dissolved oxygen.

8.2 Coming into Compliance

8.2.1 Marine Sanitation Devices

It is illegal to discharge raw sewage from a vessel within U.S. territorial waters, i.e., anywhere within three miles of the coast. Because permits are required to discharge any pollutants to DC waterways, boats operating in DC waterways are all prohibited from discharging sewage, whether treated or untreated.

The Clean Water Act requires that vessels with an installed toilet be equipped with a Type I, II, or III USCG-certified marine sanitation device (MSD). The following is a description of the three available systems:

- *Type I* systems mechanically cut solids, disinfect the waste with a chemical additive (or with chlorine electrolytically

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MSD

Marine Sanitation Device

Remember!

It is illegal to discharge raw sewage into U.S. territorial waters *and* it is illegal to discharge treated sewage into navigable waters of the District of Columbia.



dissociated from salt water), and discharge the disinfected sewage overboard. The fecal coliform bacteria count (“fecal coliform count”) of the effluent may not be greater than 1,000 organisms per 100 milliliters water, and may not contain floating solids.

- *Type II* systems are similar to Type I systems except that Type II systems treat sewage to a higher standard. The fecal coliform count from a Type II system may not exceed 200 organisms per 100 milliliters, and total suspended solids may be no greater than 150 milligrams per liter. Type II systems also require more space and have greater energy requirements.
- *Type III* systems do not necessarily disinfect sewage or otherwise treat it, but they allow no sewage to be discharged. The most common form of a Type III system is a holding tank. Other forms of Type III systems include recirculating and incinerating systems.

Vessels 65 feet and under may use a Type I, II, or III MSD depending on when the MSD was installed. Vessels over 65 feet must install a Type II or III MSD [33 C.F.R. § 159.5(a) & (b)]. Even if equipped with a USCG-certified MSD, while in District waters, “the discharge of sanitary sewage, wash or process water, oil laden bilge water, refuse, or litter from watercraft is prohibited (D.C. Law 5-188 7,32 DCR 919).” Boats that normally operate in DC waters and that have an installed toilet should be equipped with a Type III MSD, which does not allow the discharge of sewage, when used properly. If a boat entering navigable waters within the District of Columbia is equipped with a Type I or II system, the marine sanitation device should be secured to prevent discharge. It is a good idea to conduct annual vessel MSD inspections to verify that each boat in the marina complies with District “No-discharge” regulations.

Portable toilets should be properly emptied, on shore.

For more information on the Clean Vessel Act Pumpout Program, call the D.C. Fisheries and Wildlife Division: (202) 535-2260, or visit the website:
<http://fa.r9.fws.gov/cva/cva.html>.

MSD requirements do not apply to vessels with portable toilets, which are not considered installed toilets. However, direct overboard discharge of portable-toilet wastes (whether treated or untreated) is a violation of water quality standards in the navigable waters of the District of Columbia. Portable toilets should be properly emptied on shore. Marinas should have a convenient, well-marked disposal for portable boat toilets and a method to transfer waste directly to sewer system. Most pumpout facilities

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have wand attachments to empty portable toilets. Some marinas have portable-toilet dump stations.

8.2.2 Pumpout Stations

In 1992, a competitive grant program was authorized under the Clean Vessel Act for states to construct pumpout and dump stations for the disposal of human waste from boats in an environmentally safe manner.

Under the Clean Vessel Act Pumpout Program, the District of Columbia Fisheries and Wildlife Division has obtained funds to provide pumpout facilities to marinas, yacht clubs, and boatyards along the Anacostia River. The Clean Vessel Act Grant Program is provides funding for:

- Construction, renovation, operation, and maintenance of pumpout stations;
- Waste reception facilities for recreational boaters; and
- Educational programs that inform boaters of the importance of proper disposal of their sewage.

In exchange for grant funding, marina owners agree to maintain pumpout systems in operating condition for either ten years or for the natural life of the unit. A fee of no more than five dollars per pumpout is allowed. The pumpout system must be capable of accepting waste from portable toilets as well as from holding tanks, and must be available to the general public during business hours.

Look into installing a grant-eligible pumpout station to pump waste out of recreational-boat holding tanks at your marina.

8.2.3 No Discharge Areas

The Environmental Protection Agency (EPA) has designated the District of Columbia waters as a No Discharge Zone, or Area. According to the District of Columbia Water Pollution Control Act, with respect to all waters within the District of Columbia:

- ◆ No person shall discharge a pollutant to the waters of the District unless permitted by the District of Columbia government (Section 3); and

To find the **locations of nearby pumpout stations** that your boaters may be able to use until your marina has installed a pumpout station, call **1-800-ASK-FISH**.

All freshwater lakes, reservoirs, and rivers not capable of bearing interstate vessel traffic are defined by the federal Clean Water Act as No Discharge Areas. With the approval of EPA, No Discharge Areas may be established in other state waters.

More information on No Discharge Zones is available at: <http://water.epa.gov/pollution/waste/vwd/>
To see a list of No Discharge Zones by state, visit: <http://water.epa.gov/pollution/waste/vwd/vsdnozone.cfm>



- ◆ The discharge of sanitary sewage, wash or process water, oil-laden bilge water, refuse, or litter from a watercraft is prohibited (Section 7(m)).

Additionally, if a marina is located in a No Discharge Zone (e.g., freshwater lake, reservoir, or river in which interstate vessel traffic is not possible), no discharge of sewage, even if it is treated, is allowed.

Be careful how you word your signs!

Shortly after installing one of the first pumpout systems in Annapolis, a marina owner hung a large sign declaring the availability of his new facility. Over the course of the next week, he noticed a significant drop in fuel sales. One evening he watched one of his regular customers head across Spa Creek to a competitor's fuel dock. The marina manager called out to ask why the boater was bypassing his marina. The boater gestured toward the sign hung over the dock shared by the pumpout system and the fuel pumps. It read, "Pump Out." The boaters thought "pump out" meant that the fuel pumps were out of order! A better choice for signs might be "Pumpout Station," "Sewage Pumpout," or simply show the national pumpout symbol.

8.3 Best Management Practices to Control Sewage

8.3.1 Install a Pumpout System

Help boaters to meet the requirements of the law by providing a convenient, reliable marine sewage disposal facility, i.e., a pumpout station. You, as a marina operator, may benefit in several ways. The presence of the pumpout facility promotes a public perception that you are environmentally responsible. More tangibly, the need for holding tanks to be pumped out regularly will draw a steady stream of customers to your dock. Each arriving vessel represents an opportunity to sell fuel, hardware, repair services, etc.

Once you have decided to invest in a pumpout system, consider the following recommendations:

- ☀ **Select an Appropriate System.** Select a system that best meets the needs of your clients and that can move the expected volume of sewage over the required distance:
 - Permanently fixed to a dock; or
 - Mobile, hand truck, or pumpout boat.

Ask the manufacturer for written assurance that their system will operate effectively given the specific conditions at your marina.

Please note that (1) grant funding is not available for direct slip-side connections, since these types of systems are generally not available for public use, and (2) grant funding for pumpout boats is available only to government agencies.



- ☀ **Choose an Accessible Location.** Consider where the pumpout station will be placed (if you select a fixed system). It should easily accommodate the types of boats that frequent your marina. Fuel docks are often good locations. Try to locate the pumpout system in such a way that a vessel being pumped out does not interfere with fueling operations.
- ☀ **Dispose of Collected Waste.** The best option for disposing of collected waste is a direct connection to a municipal sewer line. If sewers are not available in your area, you will need a holding tank. The contents of the tank must be pumped periodically and trucked to a treatment plant.
- ☀ **Provide Portable Dump Stations.** Provide portable toilet dump stations near small boat slips and boat ramps.
- ☀ **Decide if the Pumpout will be Staffed.** It is a good idea to have an attendant operate the pumpout. Consider installing a buzzer or page system so that boaters at the pumpout station can easily locate the attendant. If the station is unattended, be sure that clear instructions for use are posted.
- ☀ **Decide Whether a Fee Will be Charged.** If a fee is charged, how much will it be? Will tenants and liveaboards be charged, or just transients? Remember, the Clean Vessel Act Pumpout Grant Program requires a charge of no more than five dollars per pumpout. If the pumpout system is not regularly staffed, you will have to make arrangements to collect the fee. Systems that employ tokens have been used with success in many locations.
- ☀ **Post Signs.** Provide information about use and cost of the pumpout station, hours of operation, and where to call for service if the system is out of order. Also, post signs that are visible from the channel so that passing boaters are aware of the facility. If you do not have a pumpout system, post directions to the closest public pumpout.
- ☀ **Maintain the Pumpout System.** You should inspect the system regularly and keep a log of your observations. Contact the pumpout manufacturer for specific maintenance and winterization recommendations. During the boating

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season, test the efficiency of the pump weekly by measuring the length of time required for the system to empty a 5-gallon bucket of water. In order to quickly address any malfunctions, establish a maintenance agreement with a contractor qualified to service and repair pumpout facilities. Test the sewage lines by conducting a dye test. This can occur on a weekly or monthly basis.

- ☀ ***Do Not Allow Waste to Drain into Receiving Waters.*** Do not allow rinse water or residual waste in the hoses to drain into the water body. Keep the pump running until it has been re-primed with clean water.
- ☀ ***Educate Staff.*** If boaters are going to use the pumpout systems, the experience must be as pleasant and convenient as possible. Train your staff accordingly.

8.3.2 Prohibit Discharge from Type I and Type II MSDs at the Slip or Mooring

The Anacostia River has coliform levels well above the limits that would permit swimming. Discharges from Type I and II systems therefore only worsen the condition of the Anacostia River.

- ☀ Make the prohibition of sewage discharge within the marina itself a condition of your standard lease.
- ☀ Post signs regarding the prohibition of sewage discharge and directing people to use shoreside restrooms.
- ☀ Offer winterization services to retrofit MSDs with holding tanks, and inspect MSD systems to ensure their proper operation.

8.3.3 Provide Shoreside Restrooms.

- ☀ Provide clean, well-lit, comfortable restrooms to encourage people not to use their onboard facilities while in port. Make restrooms available 24 hours a day.
- ☀ Install a security system on restroom doors so that people will feel safe using them, particularly late at night.
- ◇ Provide air conditioning and heating.

As mentioned above, the DC Water Pollution Control Act prohibits the discharge of any pollutants into the waters of the District, including discharge from Type I and II MSDs.

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Sewer overflows can contaminate drinking water and shellfish.

8.3.4 Design and Maintain Sewer Systems to Protect Water Quality and Public Health

If you have a sewer system, be alert for signs of trouble: wet areas or standing water above the absorption field, toilets that run slowly or back up, and odor. The following tips will help you to avoid the health risks and nuisance associated with an overburdened system:

- ☀ Post signs in restrooms asking patrons not to place paper towels, tissues, cigarette butts, disposable diapers, sanitary napkins, or tampons in toilets. These items can clog the sewer system.
- ☀ Post signs in the laundry room encouraging patrons to use minimal amounts of detergents and bleaches. Recommend they use biodegradable laundry soaps and avoid using bleach.
- ☀ Use small amounts of drain cleaners, household cleaners, and other similar products. Recommend biodegradable products to minimize the use of hazardous chemicals overall.

8.3.5 Provide Facilities for Liveaboards

It is not reasonable to expect that boaters who legally make their homes aboard vessels will regularly untie in order to use a fixed pumpout facility. It is also unwise to assume that people living on their boats will always use shoreside restrooms. Furthermore, it is undesirable to allow a resident population to discharge Type I or II systems. Consider the following options to meet this challenge. (keep in mind that most liveaboards expect and are willing to pay a premium for extra service and convenience):

- ☀ Have a clear definition of “liveaboards,” and specify what is and is not acceptable from individuals living legally on their vessels.
- ☀ Ensure liveaboards have access to and use pumpouts.
- ☀ Provide a portable pumpout system, or require that liveaboards contract with a mobile pumpout service.
- ☀ Reserve slips closest to shoreside restrooms for liveaboards. Be sure the dock route to the bath house is well lit at night.

Your obligation as marina owner/manager is to provide a convenient sewage disposal system for liveaboards while maintaining good water quality.

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☀) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.



- ☀ Stipulate in the lease agreement that vessels used as homes may not discharge any sewage.
- ☀ Offer to board their vessels and demonstrate the proper way to secure the “Y-shaped” valve.
 - ◇ As a condition of the lease agreement, require that liveaboards place dye tablets in holding tanks to make any discharge clearly visible.
 - ◇ Install direct sewer hookups for liveaboards.

8.3.6 Properly Manage Greywater.

Greywater is wastewater generated from domestic activities such as laundry, dishwashing, and bathing, which can be recycled on-site for use in landscape irrigation or constructed wetlands.

- ☀ Discourage patrons from using dish soaps to clean dishes onboard. Consider providing shoreside dishwashing facilities for boaters and encouraging their use.
- ☀ Explore the potential of offering coin-operated laundry facilities.
- ☀ Encourage patrons to use the showers and restrooms provided by the marina when at the docks.
- ☀ Provide and promote low/non-phosphorus, biodegradable soaps and shampoos.

8.3.7 Encourage Compliance.

If non-compliance with MSD laws and marina policies continues, consider evicting the boater.

- ☀ Include information about MSD requirements and sewage laws in contracts for slips rentals, transients, and liveaboards.
- ☀ State that failure to comply with the MSD laws and marina policy will result in expulsion from the marina and forfeiture of fees.
- ☀ If a boater fails to observe the law or to honor your contract, discuss the matter with the boater. If the practice continues, mail a written notice asking that the offending



practice stop immediately, and keep a copy of the notice for your records.

- ☀ If a tenant is discharging raw sewage, report him or her to the NPS police or to the EPA Water Program Enforcement Division. Provide as much information as possible: name of owner, vessel, location, etc. See Appendix B for contacts.

8.3.8 Educate Boaters

As the generators and conveyors of sewage, boaters must be educated about the impacts of sewage and about its proper disposal. They must also be encouraged to properly maintain their MSDs and to purchase environmentally-friendly treatment products for their heads and holding tanks.

- ☀ Photocopy the following Clean Boating Tip Sheets and distribute to your tenants. There is room to add your marina, yacht club, or boatyard's name and logo.
- ☀ Post signs in the laundry room encouraging patrons to use minimal amounts of detergents and bleaches. Recommend they use biodegradable laundry soaps and avoid using bleach.
- ☀ Post signs in restrooms asking patrons not to place paper towels, tissues, cigarette butts, disposable diapers, sanitary napkins or tampons in toilets. These items can clog the sewer system.

Is Sewage a Problem?

Raw or poorly treated boat sewage is harmful to human health and water quality. Typhoid, hepatitis, cholera, gastroenteritis, and other waterborne diseases may be passed directly to people who contact contaminated waters. People may also become infected by eating shellfish contaminated with viruses or other microorganisms contained in sewage discharge.

Sewage is also harmful to water quality. Because the microorganisms in sewage require oxygen, any effluent discharged to waterways reduces the amount of oxygen available to fish and other aquatic life. Furthermore, the heavy nutrient load in sewage promotes excessive algal growth. As the algae multiply, they prevent sunlight from reaching subsurface vegetation. When the algae die they create another problem, their decomposition by bacteria reduces levels of dissolved oxygen still further.

What Does the Law Say?

According to Federal law, it is illegal to discharge raw sewage into United States territorial waters. According to District of Columbia law, it is illegal to discharge even treated sewage into any District waters because the District has been designated a No Discharge Zone.

All vessels with installed toilets must have a Marine Sanitation Device (MSD):

- Type I** systems mechanically cut solids and disinfect waste prior to discharge. They must bear a U.S. Coast Guard certification label.
- Type II** systems are similar to Type I systems except that they treat sewage to a higher standard and generally require more space and energy. Type II systems must also have a Coast Guard certification label.
- Type III** systems may not discharge sewage. Holding tanks are the most common Type III system. Incinerating systems are another example of a Type III system. A Coast Guard label is not required.

Vessels 65 feet in length and under may have any of these MSD types. Vessels over 65 feet must have a Type II or III system. Remember, though, that Type I and II systems may not be used in District waters.

What Can You Do?

Install a Holding Tank

- Use good plumbing to control holding tank odor. Fiberglass and metal tanks are highly resistant to permeation. Specially labeled flexible “sanitation hoses” and PVC piping are also highly impermeable. Hose runs should be short and as straight as possible. Whenever practicable, use rigid pipe below the level of the holding tank and in other areas where sewage will accumulate. Keep the number of connections to a minimum and ensure that seals are tight.
- Use enzyme-based products in your holding tank to further control odor. Enzyme products use biological processes, rather than harsh chemicals, to break down sewage. Be sure to pump and rinse your holding tank prior to initial use of an enzyme product if you have used chemical-based odor control additives in the past. Chemical residues may interfere with the effectiveness of enzyme-based products.
- Avoid holding-tank products that contain quaternary ammonium compounds (QAC) and formaldehyde. These products may disrupt sewage treatment plants.

Type I and II Marine Sanitation Devices (MSDs)

- These are not suited to vessels in DC waters. If you are visiting DC waters:
 - Maintain your Type I or II MSD, and turn them off so they cannot discharge.
- In general, if you have either Type I or II and are not in DC waters:
 - Establish a regular maintenance schedule based on your owner’s manual to remind yourself when chemicals should be added, when electrodes need to be cleaned, etc.
 - Do not discharge your Type I or II MSD while in a marina, in a swimming area, over an oyster bed, in a poorly flushed area, within DC waters, or in other shallow or ecologically-sensitive waters. Effluent from legal Type I and Type II systems contains nutrients and possibly toxic chemicals. It may contain pathogens as well.
- Use shoreside restrooms when in port.

9

Waste Containment and Disposal

River-flow carries plastic debris to the ocean, where it can entangle, choke or strangle seabirds, turtles, fish, and marine mammals.

9.1 Environmental Concerns

A variety of wastes are generated from marina operations. These wastes could threaten human health, be hazardous to wildlife, or be costly to coastal communities.

Solid wastes, particularly plastics, must be controlled and sent for proper land-based disposal. Plastic represents a hazard to navigation as it can be caught in propellers or taken up by engine intakes. Divers, fish, and animals are likewise susceptible to entanglement. Furthermore, solid waste that washes up on riverbanks is unattractive, can provide a home to disease vectors, and may be costly to remove.

In addition to nonhazardous solid wastes such as trash, garbage, construction debris, old equipment, and appliances, marina operators must be concerned about the proper collection and disposal of wastes that may be corrosive, reactive, toxic, or ignitable and which may have to be managed as hazardous waste. Compliance and best management practices (BMPs) apply to each of these waste types.

9.2 Coming into Compliance

As noted in District of Columbia (District or DC) Water Pollution Control Act, “the discharge of sanitary sewage, wash or process water, oil-laden bilge water, refuse, or litter from a watercraft is prohibited” in District waters. In addition, the Environmental Protection Agency (EPA) has designated DC waters as a No Discharge Zone (See Chapter 8 for details).

The DC Water Pollution Control Act requirements apply to all types of watercraft, including liveaboard boats. Because the volume of water used and discharged on live-aboard boats is much greater than that of pleasure or work boats, it is even more important that live-aboards are in compliance with no discharge

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rules and regulations. All marinas, yacht clubs, and boatyards, whether part of the Clean Marina program or not, should ensure that the live-aboards on their docks not discharge any prohibited materials.

Discharge of any pollutants into District waters is strictly prohibited, including discharge of oil, gasoline, antifreeze, acid, or other hazardous substance, pollutant, medical waste, or nuisance material to any street, lot, park, alley, sidewalk, or other public space in quantities sufficient to constitute a hazard or nuisance.

Along rivers, the discharge of any garbage into the water is illegal. The discharge of fish as a solid waste into District waters is not permitted.

Liveaboard boats may be considered residential property under the Source Separation Program.

9.2.1 Local Regulations

DC Water Pollution Control Act

The DC Water Pollution Control Act as amended in 1992 requires that all marinas that store pollutants or hazardous substances prepare a Spill Prevention and Cleanup Plan (SPCP) specific to the pollutant or hazardous substance (DC Code 8-103.01, Section 10 A). Pollutants (defined DC Code 8-103.01, Section 19) include dredge spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemicals, chemical wastes, hazardous wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, oil, gasoline and related petroleum products, and industrial, municipal, and agricultural wastes. The SPCP is subject to review by the DC government. Although marina, yacht club, and boatyard plans often focus on petroleum control, they should also address the other wastes listed above.

DC Illegal Dumping Enforcement Act

Signed into law in 1994 DC Code 8-902, and amended in 1998, the Illegal Dumping Act prohibits anyone from disposing of solid waste, hazardous waste, or medical waste in or upon any street, lot, park, public space, or any other public or private area unless the site is authorized for that disposal. This would include any wastes generated by the operation and maintenance of recreational boats.

DC Mandatory Source Separation Program

The Mandatory Source Separation Program, authorized by DC Code 8-1007 requires owners and occupants of commercial property to separate newspaper, office paper, glass, and metal from their solid waste and to provide for recycling of these materials at their facilities. In addition, commercial facilities to provide an adequate number of clean and functioning solid waste and recycling receptacles to ensure maintenance of their property and immediate surroundings. Each boater and marina owner/operator is responsible for making arrangements for the proper disposal of solid waste and recyclables from their premises.

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These regulations also include the need to:

- ◆ Use solid waste containers of a design and maintenance-level (i.e., construction) approved by the Mayor (21 DCMR 707.1).
- ◆ Maintain solid waste storage areas in a location that is neither unsightly nor a nuisance to local residents (21DCMR 806.10).
- ◆ Provide a sufficient number of solid waste containers to store rubbish and garbage that might accumulate during the usual interval between collections (21 DCMR 707.3).
- ◆ Store all solid wastes in containers for collection in a manner that will not provide food, harborage, or breeding places for insects or rodents, or create a nuisance or fire hazard (21 DCMR 700.3).
- ◆ Keep all containers and waste-storage equipment in safe, clean, odor-free, and properly operating condition (21 DCMR 806.1 and 21 DCMR 707.4).
- ◆ Clean all trash and recycling receptacles away from the storm sewer. No debris from cleaned containers may drain into the storm sewer (21 DCMR 806.5).

District of Columbia Hazardous Waste Management Act

The Hazardous Waste Management Act is incorporated into DC Code 8-1304, and is the authority for the DC Municipal Regulations to manage hazardous waste. In 2005, the District of Columbia fundamentally redesigned its hazardous waste regulations. The new hazardous waste Management Regulations became effective October 28, 2005 and are published at 52 D.C. Register 9653 (2005). The changes align the DC Program more completely with the federal hazardous waste requirements and establish a DC “Self-Certification Program”.

All waste generators must determine whether or not their refuse is hazardous. Use the following steps to determine whether you have hazardous waste:

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9. Waste Containment and Disposal



1. It is listed as a hazardous waste in 20 DCMR 4261; or
2. The waste exhibits one or more of the following characteristics: ignitability, corrosivity, reactivity, or toxicity, as determined by standard testing methods carried out by an approved laboratory.

To protect against the risks to life and property inherent in the transportation of hazardous materials, containers must be labeled and marked according to U.S. Department of Transportation standards.

If your waste is characterized as hazardous, then you must comply with all standards and requirements contained in 20 DCMR 4262, which are based on the amount of waste that you generate.

Generator categories include: conditionally exempt small quantity generators (CESQGs), small quantity generators (SQGs) and full quantity or “large” quantity generators (LQGs). Most marina operations are likely to be CESQGs. These facilities:

- Generate no more than 100 kilograms (220 pounds) of hazardous waste per calendar month;
- Generate no more than 1 kilogram (2.2 pounds) of acutely hazardous waste per calendar month; and
- Accumulate no more than 1000 kilograms (2,200 pounds) of hazardous waste), no more than 1 kilogram (2.2 pounds) of acutely hazardous waste and no more than 100 kilograms (220 pounds) of any residue from the cleanup of a spill of acutely hazardous waste at any time.

Depending on generator status, requirements may include:

- ◆ Applying for an EPA identification number from EPA Region III for the hazardous wastes kept on site. Use EPA Form 8700-12.
- ◆ Accumulating wastes in accordance with threshold time and quantity limits.
- ◆ Properly storing your hazardous waste.
 - Storing solvents and other hazardous materials in fire-safe containers that are Underwriters Laboratory (UL)-listed or Factory-Mutual (FM)-approved. Approved containers must carry specification markings (e.g., U.S. Department of Transportation 4B240ET) in an unobstructed area.
 - Meeting packaging requirements in 49 CFR 178.
 - Marking each container the date accumulation begins and ends.

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Never dispose of any hazardous substance by dumping it into a sink, floor drain, storm drain or onto the ground.

CESQGs are not required to register with the EPA under federal requirements, but **are required to register and obtain an EPA ID number under DC regulations.**

- To prevent corrosion, storing containers on pallets in an area capable of containing leaked material.
- Keeping containers closed unless waste is being added or removed.
- Inspecting containers and container storage areas weekly.
- Plainly labeling all stored and containerized material.
- Storing containers on pallets in a protected, secure location away from drains and sources of ignition.
- Routinely inspecting the storage area for leaks.
- To minimize air pollution, capping solvents and paint thinners whenever not in use, and storing rags or paper saturated with solvents in tightly closed, clearly labeled containers.
- Separating hazardous chemicals by hazardous class. Call the DC Division of Hazardous Waste to determine the classes of chemicals on your premises.
- Property transporting of hazardous waste utilizing an authorized transporter and manifesting the waste shipment.
- Ensuring that the waste is disposed of at an authorized hazardous waste disposal facility.

Table 9-1, at the end of this chapter, contains information and recommendations for the proper disposal of wastes typically found at marinas.

9.2.2 Federal Regulations

The Refuse Act

The Refuse Act of 1899 prohibits throwing, discharging, or depositing any refuse matter of any kind (including trash, garbage, oil, or other liquid pollutants) into waters of the United States.

Marine Plastic Pollution Research and Control Act

The Marine Plastic Pollution Research and Control Act of 1987 (MPPRCA) is the U.S. law that implements an international pollution prevention treaty known as MARPOL. The MPPRCA of 1987 (Title II of Public Law 100-220) restricts the overboard discharge of garbage. Its primary emphasis is on plastics; it is illegal to discharge plastic materials into any water body. The law also requires that marinas be able to accept garbage from vessels that normally do business with them.

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MSDS

Material Safety Data Sheet

It is unlawful for any person to dispose of dead animals, or putrescible matter of any sort, in or upon any public space in the District, including alleys, streets, and sidewalks, unless authorized by the Mayor (24 DCMR 1000.1).

The Resource Conservation and Recovery Act (1976)

The federal Resource Conservation and Recovery Act (RCRA) of 1976 was established to address hazardous (Subtitle C) and non-hazardous (Subtitle D) waste collection, transportation, separation, recovery, and disposal of wastes. Requirements under RCRA and associated regulations have been adopted within DC and are incorporated into their regulatory program.

Occupational Safety and Health Standards

According to the Occupational Safety and Health Administration (OSHA) standards (29 CFR 1910.1200), hazardous materials must be accompanied by material safety data sheets (MSDSs). These describe the material, its hazardous properties, how to safely handle it, how to protect oneself and others from exposure, what actions to take in case of exposure, what it must not be stored near or mixed with, and what to do in case of an accident involving the material.

- ◆ Keep a file of MSDSs for all products used at your facility. Store the file in an office away from material storage areas. Keep in mind during an emergency that this file will not tell you what quantity is on site or whether all the materials listed are present.

9.3 Best Management Practices to Properly Contain and Dispose of Waste

9.3.1 Reduce Waste

In addition to the suggestions offered in other sections of this *Guidebook*, consider the following recommendations to further reduce waste generation. Keep in mind that less waste means lower disposal costs.

- ☼ Develop an integrated solid waste management plan (ISWAP) by evaluating waste management needs and conditions. Create waste management activities that include waste prevention, recycling, composting, combustions and disposal. Establish goals and targets to measure solid waste disposal and recycling performance.

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9. Waste Containment and Disposal



- ☼ Consider your needs, and institute a “buy as needed” policy to avoid unused materials.
- ☼ Avoid having leftover materials by sizing up jobs, evaluating your actual needs, and buying just enough products for the job. Encourage boaters to do the same.
- ☼ Minimize office waste: make double-sided copies, use scrap paper for notes and messages, purchase recycled-content office paper (requires fewer raw natural resources in production), and reuse polystyrene peanuts or give them to others (e.g., small scale packing and shipping companies) who will reuse them.
- ☼ Request alternative packing material from vendors, e.g., paper, potato starch peanuts, popcorn.
- ☼ Discourage the use of plastic and Styrofoam cups, food containers, utensils, and other non-biodegradable products.
- ◇ Encourage boaters to exchange excess paints, thinners, and varnishes. To facilitate this type of activity, provide a bulletin board where boaters can post notices that they are seeking particular materials or have excess quantities.
- ◇ Inform boaters that cigarette butts should be thrown away in the trash rather than overboard or on the ground. Cigarettes are made of plastic and contain cellulose acetate.
- ◇ Post the names of local schools or theater groups that are willing to accept excess, non-toxic paints.

For more information about preventing cigarette litter at your facility, visit:
http://preventcigarettelitter.org/venues/beaches_lakefront_waterways.html

Contact Minnesota Sea Grant for a copy of *Composting Fish Waste* by Thomas Halbach and Dale Baker. This booklet provides instructions for composting 25 five-gallon buckets of fish waste per week using sphagnum peat moss and wood chips.

Control the Disposal of Fish Waste

When large amounts of fish guts are deposited in an enclosed area, the resultant unsightly mess can produce foul odors and decreased dissolved-oxygen levels.

- ☼ Establish fish-cleaning areas. Adopt one of the following methods to dispose of the waste:
 - Provide a stainless-steel sink equipped with a garbage disposal that is connected to a sanitary sewer.
 - Offer composting to visitors. Proper composting will

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control the odor and, over time, will produce an excellent soil conditioner that can be used for your landscaping needs.

- Instruct boaters to place fish scraps in plastic bags and dispose in dumpster or at home.
 - Encourage boaters to freeze fish parts and reuse them as bait or chum.
- ☼ Prohibit fish cleaning outside of designated areas.
- ☼ Post signs directing people to clean their fish at a fish-cleaning station, at home, or off shore.

Manage Trash

- ☼ Develop your waste management strategy based on the number of patrons, the types of waste generated, the layout of your marina, and the amount of staff time you can devote.
- ☼ Promote your image as a responsible business by providing adequate and reasonably attractive trash receptacles, including cans, bins, and dumpsters.
- ☼ Locate trash receptacles in convenient locations. Select high-traffic areas such as near restrooms and showers, alongside vending machines, adjacent to the marina office or on the path to the parking lot.
- ☼ Do not place trash containers on docks, since waste may inadvertently be tossed into the water or be blown there.
- ☼ Select containers large enough to hold the expected volume of trash. On average, four to six gallons of capacity is needed per person per vessel per day.
- ☼ Provide lids or some other means of keeping the waste inside, and preventing animals and rainwater from getting in. Consider securing the lids to the trash cans with a line of some sort to keep the lids from blowing off the trash cans in windy conditions; alternatively, look for trash receptacles that do not require removable lids.

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- ☼ Post signs indicating what may *not* be placed in the receptacle: engine oil, antifreeze, paints, solvents, varnishes, pesticides, lead batteries, transmission fluid, distress flares, and polystyrene peanuts (loose peanuts tend to blow away).
- ☼ Require all employees to be involved in policing the facility for trash and vessel maintenance wastes. Do not allow litter to mar your grounds or nearshore areas.
- ☼ Use a pool skimmer or crab net to collect floating debris that gathers along bulkheads or elsewhere within your marina.
- ◇ Post signs directing people to trash receptacles if they are not in plain view.
- ◇ Provide lights around trash receptacles so that they are easy to find and safe to use.
- ◇ Plant or construct a windscreen around dumpsters to make the area more attractive and to prevent trash from blowing away.

Manage Pet Waste

- ☼ Prohibit the disposal of pet waste into the water.
- ☼ Provide a dog walking area that is identifiable by signs.
- ☼ Require customers to clean up after their pets. Provide bags for boaters to scoop up waste and dispose of in trash.
- ☼ Specify pet waste rules in marina slip contract.
- ☼ Encourage cat owners to maintain a litter box on their boat.

9.3.2 Recycle Whenever Possible

Divert reusable materials out of the waste stream. A recycling program is an easy, highly visible means to demonstrate environmental stewardship. Recycling programs are also a good

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The added cost of providing recycling facilities may be offset by income derived from the sale of high-quality recyclable items such as lead batteries, office paper, aluminum, and cardboard.

way to introduce patrons to pollution prevention practices. In fact, many of your patrons or tenants are likely to already be in the habit of recycling and may expect to see recycling bins. Also, you may realize cost savings due to less frequent pickups of your dumpster(s) because of the reduced volume of trash.

- ☼ Contact a waste hauler or your local solid waste recycling coordinator to learn what materials may be collected in your area. The following materials may be recycled: antifreeze, oil, metal fuel filter canisters, solvents, glass, shrink-wrap, type 1 and 2 plastics, aluminum, steel, tin, lead batteries, newspaper, corrugated cardboard, mixed paper, scrap metal, tires, and white goods (appliances).
- ◇ Post information about local recycling services if you are not able to provide all the desired services at your facility.

Recycle Solid Waste

- ☼ Provide containers to collect, at a minimum, plastic, glass, aluminum, and newspaper.
- ☼ Clearly mark each container so that people know what may and may not be put into it.
- ☼ Provide lids or some type of restricted opening to prevent the collected material from being lifted out by the wind and to prevent rainwater from collecting inside.
- ☼ Place the collection bins for solid recyclables in convenient locations. High-traffic areas near trash receptacles are best.
- ◇ Make the recycling bins look different from the standard trash cans, e.g., use a different color or material.
- ◇ Provide fishing line recycling containers to patrons that can be brought on the boat (e.g., cut an X into the lid of a potato chip tube or tennis ball canister).

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The use of non-hazardous or less hazardous materials is likely to generate hazardous waste.

9.3.3 Properly Manage Hazardous Materials

Minimize Your Use of Hazardous Materials

By minimizing your use of hazardous materials, you can reduce health and safety risks to your staff, tenants, and contractors; lower disposal costs; decrease liability; and limit chances that you will be responsible for a costly cleanup of materials inappropriately disposed.

- ☼ Avoid, to the greatest extent possible, using products that are corrosive, reactive, toxic, or ignitable.
- ☼ Adopt an inventory control plan to minimize the amount of hazardous material you purchase, store, and dispose of.
- ☼ Do not store large amounts of hazardous materials. Purchase hazardous materials in quantities that you will use up quickly.
- ☼ Establish a “first-in, first-out” policy to reduce storage time. Dispose of excess material every six months.

Recycle Hazardous Materials

- ☼ Maintain a monthly waste disposal log to document wastes that are collected and disposed, and document hazardous waste generator status.
- ☼ If hazardous materials are purchased, check whether or not they can be recycled at the end of use. Also, check with your recycler to learn what materials may be mixed. Generally speaking, engine oil, transmission fluid, hydraulic fluid, and gear oil may all be placed in a waste oil container. Some haulers will also take diesel and kerosene. Ethylene glycol and propylene glycol antifreeze are often collected in the same used antifreeze tank.
- ☼ Provide separate containers to collect oil, antifreeze, and solvents.

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Manifests are not required for used oil or antifreeze that is being recycled.

- ☼ Attach funnels to tanks to reduce chances of spills. Funnels should be large enough to drain portable containers and oil filters.
- ☼ Post signs indicating what may and may *not* be placed in each tank.
- ☼ Do not allow patrons to pour gasoline, solvents, paint, varnishes, or pesticides into the oil or antifreeze recycling containers. The introduction of these materials creates a “hazardous waste.” The whole tank must then be disposed of as hazardous waste – a very expensive undertaking.
- ☼ Investigate waste haulers to ensure that they do actually recycle the collected material.
- ◇ Shelter tanks from the elements.
- ◇ Consider locking the intake to oil and antifreeze recycling containers to prevent contamination. If you do lock the tanks, instruct your patrons to get the key from the appropriate staff person or to leave their oil or antifreeze next to the collection tank. If you select the second option, assign a member of your staff to inspect the collection site daily for any material that may have been dropped off.

Store Solvents and Hazardous Materials with Care

- ☼ Assign control over hazardous supplies to a limited number of people who have been trained to handle hazardous materials and who understand the first-in first-out policy.
- ☼ Routinely check the date of materials to prevent them from outlasting their shelf life.

Track Pollution Incidents

- ◇ Copy and use the *Pollution Report and Action Log* included at the end of this chapter to track pollution incidents and record actions taken.

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- ◇ Post the *Log* on a clipboard in the maintenance area or in another easily accessible location.
- ◇ Consult the *Pollution Report and Action Log* daily.

Two Key Benefits of Universal Waste

- 1) these wastes may be recycled and therefore, managed separately from hazardous wastes; and
- 2) facilities do not have to account for these waste quantities in calculations of their hazardous waste generator status.

9.3.4 Properly Manage Hazardous Wastes

Marinas, yacht clubs, and boatyards generate various other facility and vessel-related maintenance wastes that could be hazardous waste, but are provided special handling and disposal provisions. These include used oil, waste pesticides, fluorescent lamps, and nickel-cadmium (Ni-cad) and sealed lead-acid (SLA) batteries. Operators should take advantage of the opportunity to manage these wastes as universal wastes and comply with applicable container labeling, storage, and recycling requirements for these materials. Operators should:

- Dispose of lead-acid batteries by recycling them.
- Collect used oil separately from other liquid wastes, label used oil containers “used oil”, and recycle this material.
- Store fluorescent lamps and Ni-cad/SLA batteries to prevent breakage or spillage, properly label the collection containers and recycle them, particular if the facility is an SQG or LQG.

9.3.5 Encourage Environmental Behavior

- ◇ Distribute the *Clean Boating Tip Sheets* to your tenants.
- ◇ Contact the Center for Marine Conservation for marine debris educational materials at minimal charge.
- ◇ Post information about District Household Hazardous Waste Collection events and recycling centers.
- ◇ Provide recognition and incentives to those boaters who use proper waste management techniques.
- ◇ Organize a shoreline cleanup around your facility.
- ◇ Offer items made from recycled fishing products for sale in your marina store(s). Place a sign above these products to bring attention to them.

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9. Waste Containment and Disposal



Table 9-1 Recommendations for Proper Disposal of Wastes Typically Found at Marinas

Waste	Disposal Options (Checked Options are Preferred *)
Antifreeze <input type="checkbox"/> Propylene glycol <input type="checkbox"/> Ethylene glycol <i>Contact your waste hauler to confirm that they will accept mixed antifreeze</i>	* Recycle <ul style="list-style-type: none"> • Hire a waste hauler to collect and recycle. • Purchase an on-site recovery unit. Distillation systems are more expensive than filtration systems but are more efficient at renewing used antifreeze.
Used Oil <input type="checkbox"/> Engine oil <input type="checkbox"/> Transmission fluid <input type="checkbox"/> Hydraulic oil <input type="checkbox"/> Gear oil <input type="checkbox"/> #2 Diesel <input type="checkbox"/> Kerosene <i>Contact your waste hauler to confirm that they will accept mixed used oil. If not, segregate the used oil by type.</i>	* Recycle <ul style="list-style-type: none"> • Use waste oil for space heating (subject to regulations under 20 DCMR 4200). • Take small quantities to a household hazardous waste collection day.
Quart Oil Cans	* Drain completely and dispose of in regular trash. They cannot be recycled.
Oil Filters	* Puncture and completely hot drain for at least 24 hours. Recycle the oil and the metal canister. If you do not recycle the canister, double-bag it in plastic and place it in your regular trash.
Gas Filters	* Dispose of as hazardous waste (contain gasoline).
Stale Gasoline	* Add stabilizer in the winter to prevent it from becoming stale or an octane booster in the spring to rejuvenate it. Use the fuel. <ul style="list-style-type: none"> • Mix with fresh fuel and use. • Hire a hazardous waste hauler to collect and dispose of it. • Take small quantities to a household hazardous waste collection day.
Kerosene	* Filter and reuse for as long as possible, then recycle
Mineral Spirits	* Filter and reuse
Solvents <input type="checkbox"/> Paint and engine cleaners such as acetone and methylene chloride	* Reuse as long as possible and then recycle <ul style="list-style-type: none"> • Dispose of as hazardous waste

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.

9. Waste Containment and Disposal



Table 9-1 Recommendations for Proper Disposal of Wastes Typically Found at Marinas

Waste	Disposal Options (Checked Options are Preferred *)
Sludge recovered from listed solvent (listed as a hazardous waste under 20 DCMR 4200)	* Dispose of as hazardous waste
Sludge recovered from not-listed solvent	* Let sludge dry in a well-ventilated area, wrap in newspaper and dispose of in garbage
Paints and Varnishes: <input type="checkbox"/> Latex <input type="checkbox"/> Water-based <input type="checkbox"/> Oil-based	* Allow to dry completely. Dispose of in regular trash. <ul style="list-style-type: none"> • Use leftover material for other projects, e.g., as an undercoat for the next boat • Encourage tenants to swap unused material
Paint Brushes	* Allow to dry completely. Discard in regular trash.
Paint Filters	* Allow to dry completely prior to disposal. Treat as hazardous waste if paint contains metals above regulatory levels (depending metals, levels vary).
Rags Soaked with Hazardous Substances	* Keep in covered container until ready to be disposed. Dispose of the solvent that collects in the bottom of the container as hazardous waste * Wring rags out over a collection receptacle and have laundered by an industrial laundry <ul style="list-style-type: none"> • If rags fail the Toxic Characteristic Leaching Procedure (TCLP) test, dispose of as hazardous waste. TCLP is the standard test performed to test for hazardous characteristics.
Used Oil Absorbent Material	* If it is saturated with oil or diesel, double bag it in plastic and discard in trash (as long as no petroleum is leaking) * If it is saturated with gasoline, allow it to air dry and reuse
Used Bioremediating Bilge Booms	* Dispose in regular trash as long as no liquid is dripping. Because the microbes need oxygen to function, do not wrap in plastic.
Epoxy and polyester resins	* Catalyze and dispose of as solid waste
Glue and Liquid Adhesives	* Catalyze and dispose of as solid waste

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.

9. Waste Containment and Disposal



Table 9-1 Recommendations for Proper Disposal of Wastes Typically Found at Marinas

Waste	Disposal Options (Checked Options are Preferred *)
Containers <ul style="list-style-type: none"> • Paint cans • Buckets • Spent caulking tubes • Aerosol cans 	* May be put in trash can as long as: <ul style="list-style-type: none"> • All material that can be removed has been. Ensure there is less than one inch of residue on the bottom or inner liner • Containers that held compressed gas are at atmospheric pressure • Containers that held acute hazardous waste (refer to MSDS) have been triple rinsed with solvent. Properly dispose of the solvent.
Residue from Sanding, Scraping and Blasting	* Dispose of as solid waste
Residue from Pressure Washing	* Dispose of as solid waste
Lead Batteries	* Recycle or sell to scrap dealers. Store on an impervious surface, under cover. Protect from freezing. Check frequently for leakage. <ul style="list-style-type: none"> • Suggest that boaters find dealers willing to give them refunds on returned, old batteries.
Expired Distress Signal Flares	* Encourage boaters to keep onboard as extras <ul style="list-style-type: none"> • Store in well-marked, fire-safe container. Use expired flares to demonstrate to boaters how they are used. Be sure to notify the fire department and Coast Guard ahead of time—especially if using aerial flares. Conduct the demonstration over water. • Encourage boaters to bring to local fire department or household hazardous waste collection day
Scrap Metal	* Recycle
Light Bulbs <ul style="list-style-type: none"> • Fluorescent bulbs • Mercury vapor lamps • High-pressure sodium vapor lamps • Low-pressure sodium vapor lamps • Metal halide lamps 	* Recycle if there are more than ten to dispose

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.

9. Waste Containment and Disposal



Table 9-1 Recommendations for Proper Disposal of Wastes Typically Found at Marinas

Waste	Disposal Options (Checked Options are Preferred *)
Refrigerants	* Recycle. If you service air conditioners, you must be certified and use EPA-approved chlorofluorocarbon (CFC) recovery and recycling equipment. <ul style="list-style-type: none"> • Use alternative refrigerants: hydrochlorofluorocarbon (HCFC)-22 (for air conditioning systems and electric chillers); • HCFC-123 (replaces CFC-11); • HFH-134A (replaces CFC-12)
Monofilament Fishing Line	* Recycle through a manufacturer or tackle shop
Scrap Tires	* Recycle. Store in a way to avoid collection of rainwater in the belly of the tire (this can foster pest habitat).
Pesticides	* Dispose of as hazardous waste
Plastic Shrink-Wrap	* Recycle
Fish Waste	* Prohibit disposal of fish waste into DC waters. Select from among the following options: <ul style="list-style-type: none"> • Encourage tenants to clean fish before they return to dock. Discard waste over deep water or at home. • Install a fish cleaning station with garbage disposal connected to municipal sewer • Compost • Instruct boaters to bag fish offal in plastic and place in dumpster

Recommendations preceded by a solid diamond (◆) identify legal requirements; a sun (☼) denote highly recommended practices; and an empty diamond (◇) indicates desirable activities.

Waste Containment and Disposal



Tip Sheet for Marina Users

Trash is unsightly and may be dangerous to humans and to wildlife.

For example, plastic may get caught up in propellers or choke sea turtles. Congress passed a law in 1987 to protect our waterways from garbage: the Marine Plastic Pollution Research and Control Act (Title II of Public Law 100-220). This law regulates the disposal of garbage at sea according to how far a vessel is from shore:

- Within U.S. lakes, rivers, bays, and sounds, and within three nautical miles of the ocean shore, it is illegal to dump trash, plastic, or other refuse. In District waters, it is also illegal to dump fish waste.
- Between 3 and 12 nautical miles from shore, it is illegal to dump plastic or any other garbage items greater than one inch in diameter.
- Between 12 and 25 nautical miles from shore, it is illegal to dump plastic or dunnage, namely, lining and packing material, nets, lines, etc.
- Beyond 25 nautical miles from shore, it is illegal to dump plastic.

Contain Trash

- Don't let trash get thrown or blown overboard.
- If trash blows overboard, retrieve it. Consider it "crew-overboard" practice.
- Pack food in reusable containers.
- Buy products without plastic or excessive packaging.
- Don't toss cigarette butts overboard. They are made of plastic (cellulose acetate).
- Purchase refreshments in recyclable containers and recycle them.
- Properly dispose of all trash on shore, e.g., bring it home or leave it in a dumpster at the marina.

Recycle

- Recycle cans, glass, newspaper, metal, antifreeze, oil, and lead batteries.
- Bring used monofilament fishing line to recycling bins at your tackle shop or marina.

Fish Waste

- Remember that it is illegal to dump fish waste in District of Columbia waters. Fish waste is smelly and unsightly. Moreover, its decomposition removes dissolved oxygen from the water column. Avoid problems by following these tips:
 - Clean fish where you caught it.
 - Save waste in a sealed container and use as bait while fishing.
 - Discard waste at home.
 - Reuse fish scraps as bait.

Maintenance Waste

- Dispose of the following items according to the recommendations listed below. Ask Marina Management for the names and numbers of local recycling and hazardous waste coordinators.

Waste Product	Disposal Method
Oil	Recycle
Antifreeze	Recycle
Paint and Varnish	Allow to dry completely (i.e., solidify). Dispose in regular trash <i>*Oil-based paints are considered hazardous waste; therefore, for proper disposal, inquire at your county landfill about household hazardous waste disposal options.</i>
Solvents	Reuse as long as possible and then recycle
Pesticides	Bring to a household hazardous waste collection day
Expired Emergency Flares	Keep onboard as extras Store in well-marked, fire-safe container. Bring to local fire department or a household hazardous waste collection day

10

Enforcement and Compliance

10.1 Introduction

This *Guidebook* was developed to encourage and assist owners, operators, and concessionaires at marinas, yacht clubs, and boatyards to go beyond mere compliance with environmental regulations, and to take concrete steps toward environmental protection, achieving Clean Marina status in the process. However, as has been explained earlier, to reach Clean Marina status, basic compliance with regulations is presupposed.

This chapter provides a look at some of the environmental regulatory authorities and their enforcement mechanisms.

It is important to note that, since the Clean Marina Program is voluntary, no enforcement mechanisms are associated with it. Facilities that meet the requirements for Clean Marina certification will remain Clean Marinas until they (1) cease to follow the BMPs that helped them attain Clean Marina status, (2) no longer meet the requirements of the Checklist, or (3) ask for release from the program. Members of the Clean Marina Advisory Committee will visit a facility periodically to confirm that the checklist score is being maintained, but loss of Clean Marina status leads to no enforcement or compliance action.

In addition to federal agencies, the DC Mayor's Office, the Metropolitan Police and the District of Columbia Department of the Environment enforce laws related to environmental quality, including laws on litter control, dumping, and recycling.

10.2 Regulatory Authorities

10.2.1 District of Columbia Regulations

The primary enforcement agency for District environmental laws is the District Department of the Environment (DDOE). The Metropolitan Police Department, Environmental Crimes Unit, also has enforcement authority.

Illegal Dumping Enforcement Act

The Illegal Dumping Enforcement Act of 1994, as amended by D.C. Act 12-263 (January 26, 1998), makes the unlawful disposal of solid waste for commercial purposes, and the unlawful disposal



of medical wastes a felony. It increases the penalty for the unlawful disposal of hazardous wastes. Disposal in or upon any street, lot, park, or public place, or in any other public or private area is illegal unless the site is authorized for that type of disposal.

- Any person who disposes of solid waste without a permit will be guilty of a misdemeanor and subject to a fine not to exceed \$5,000 for the first offense and \$10,000 for each subsequent offense, or shall be imprisoned for 90 days, or both. Commercial violators will be guilty of a felony and shall be subject to a fine for each offense not to exceed \$40,000 and five years in federal prison.
- Persons who knowingly dispose of hazardous or medical waste are subject to penalties of up to \$40,000 and five years in a federal prison.
- Motor vehicles used in illegal dumping may be seized or forfeited to the District.

Violators of the Illegal Dumping Act are liable for three times the cost incurred by the District of Columbia (District or DC) government for cleaning and clearing the results of the illegal dumping, and for properly disposing of solid waste. Both the National Park Service (NPS) police and the District Department of Public Works have the authority to conduct inspections, enforce laws, and impose restrictions on violators.

The Mandatory Source Separation Program (DC Code 8-1007), also pertains to litter control and recycling. It requires commercial facilities to provide an adequate number of clean and functioning solid waste and recycling receptacles to ensure maintenance of their property and immediate surroundings.

Air Pollution Control Act

The DC Air Pollution Control Act has specific requirements for permits, and, under its authority, inspections, which are conducted for:

- Construction, modification, and operation of stationary emissions sources (20 DCMR 200);

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- Pollutants in ambient air and at sources (particulates [20 DCMR 600], volatile organic compounds [20 DCMR 700], asbestos [20 DCMR 800], incinerators);
- Motor vehicular pollutants (20 DCMR 900); and
- Odors and nuisance pollution (20 DCMR 903).

The Mayor's office has delegated enforcement authority for the Air Pollution Control Act to the Permitting and Enforcement Branch (PEB) which is one of the air quality division branches in the DDOE. PEB is responsible for regulatory conformance and permits. Failure to comply with the Air Pollution Control Act can result in a Notice of Violation (NOV), civil infraction ticket, or an administrative order.

Hazardous waste characteristics and

Industry/EPA hazardous waste numbers are listed in 40 CFR Parts 261.21 – 261.33 and can be found at the following website:

http://www.access.gpo.gov/nara/cfr/waisidx_00/40cfr261_00.html

Hazardous Waste Management Act

The Hazardous Waste Management Act has been incorporated into DC Code 8-1304, which is the authority governing DC Municipal Regulations for managing hazardous waste (i.e., Title 20 DCMR Chapter 42).

If the DC Hazardous Waste Management Act is violated, the Mayor or his designee may suspend or revoke a generator permit. They may also issue an NOV and order the offending party to take corrective measures.

*The **Environmental Health Administration (EHA)**, under the DC Department of Health, regulates pools, spas, and health clubs, and oversees vermin and rat control, lead monitoring, and other areas related to environmental health. Refer to Table B.1 for laws in this area that apply to marinas.*

Inspectors from the EHA have the authority to review marinas for general sanitation (to prevent vermin and rat infestation) and for general environmental health.

If corrective measures are not taken within the time stated in the NOV, the Mayor or his designee may take action to put an end to the violation. The Mayor may also request the Corporation Counsel to institute a civil action for a temporary restraining order, preliminary injunction, permanent injunction, or other appropriate relief.

The Mayor may also impose civil penalties in an amount not to exceed \$25,000 for each violation. A civil-infraction summons may be issued as an alternative for violations of the Act or associated regulations. A knowing violation is punishable by a fine of up to \$25,000 or imprisonment up to one year.

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Water Pollution Control Act Amendments of 1992

The DC Water Pollution Control Act as amended in 1992 prohibits the discharge of any pollutant into District of Columbia waters without a discharge permit.

Penalties for willful or negligent violations of this Act or the regulations promulgated pursuant to the Act may reach \$25,000 for each day of violation and up to one year imprisonment. Repeat offenders are subject to \$50,000 for each day of the violation, and up to two years imprisonment.

The Mayor may issue an order directing the violator to comply with the Act and to eliminate the violation. The violator has the right to an administrative hearing. A civil penalty may be assessed after the person charged with the violation has had an opportunity for such a hearing. The Mayor may institute a civil action for a temporary restraining order, or preliminary or permanent injunction.

The Underground Storage Tank Management Act is also discussed in Chapter 8, Petroleum Control.

Underground Storage Tank Management Act

The Underground Storage Tank Management Act of 1990 establishes environmental regulations for tank performance standards, upgrades, testing, release detection, release reporting, and corrective action.

Enforcement of this law has been delegated to the EHA by the Office of the Mayor. The District may issue:

- An NOV or Notice of Intent (NOI) with reasonable time to comply;
- A compliance order or a Consent Decree;
- An immediate compliance order or a cease-and-desist order (with the right to request a hearing after the order is in force) to correct a situation that presents an immediate threat to public health or the environment; or
- A temporary restraining order, where there is an immediate threat to public health or the environment.

Persons not meeting the terms of a final compliance order or a consent order may be required to pay civil penalties of up to \$25,000 per each day of noncompliance. A person who knowingly fails to notify or who submits false information is subject to a civil

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penalty of \$10,000 for each violation. A person who fails to comply with the rules will be subject to a civil penalty of up to \$10,000 per tank per day.

For violators who are party to an NPS contract or who hold a special-use permit, noncompliance with District underground storage tank (UST) standards also merits review of contract or permit by the NPS Superintendent.

10.2.2 Federal Regulations

EPA Region III oversees enforcement of federal regulations that are not enforced by the NPS (including the U.S. Park Police (USPP)) or the District.

The EPA, in consultation with the District government, may implement its own inspection and enforcement activities in any of the program areas it has authority even when the District may have received delegated authority to manage the program. These include programs under the Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, Toxic Substance Control Act, and others.

In addition to these general considerations, certain federal requirements are specifically implemented and enforced by federal agencies. Several key requirements of this type are identified below.

Chapter 3, Compliance Requirements, describes the process of obtaining an MSGP and the requirements for a Stormwater Pollution Prevention Plan.

Clean Water Act of 1977 - Stormwater Management

According to Section 402 of the Clean Water Act of 1977, marinas and boating facilities conducting certain maintenance activities such as boat repair, painting, or maintenance (including washing) are required to obtain a National Pollutant Discharge Elimination System (NPDES) General Permit for construction or discharge from marinas. This is the Multi-Sector General Permit (MSGP), described in Chapter 3.

As part of this permit, marina and boat club owners and operators must have in place an approved Stormwater Pollution Prevention Plan (SWPPP) specific to their boating facility.

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Noncompliance with NPDES regulations is a criminal offense, subject to \$100,000 per day of violation for second-time offenders. EPA's Water Enforcement Division and its Region III counterpart inspect marinas periodically for compliance with these federal regulations.

Inspectors evaluate a marina for possession of and compliance with the standard operating procedures (SOPs) defined in their facility-specific SWPPP.

Boating facilities that do not have a MSGP or other NPDES permit or that do not have or follow an approved SWPPP are subject to large monetary penalties. The fine for operating without an MSGP or other NPDES permit is up to \$25,000 per day of violation. Violations committed knowingly are also subject to a penalty of up to three years in a federal prison.

In addition to issuing fines, EPA can require immediate improvements in equipment, or best management practices (BMPs).

In addition to stormwater regulations, the District has not been delegated authority relative to spill prevention, control and countermeasures (SPCC) planning under 40 CFR 112. EPA Region III is responsible for implementing these requirements and may conduct inspections, and issue fines and NOVs under this program to marinas, yacht clubs, and boatyards in the District that are subject to these requirements.

More information about the Clean Boating Act:
<http://water.epa.gov/lawsregs/lawguidance/cwa/vessel/CBA/about.cfm>

Clean Boating Act

In March 2011, EPA requested feedback from boaters and stakeholders to develop regulations in accordance with the 2008 Clean Boating Act. The regulations will set management practices for recreational vessels to limit the impact of water pollution and the spread of invasive species.

Occupational Health and Safety Act

The District does not have delegated authority to implement regulations under the Occupational Safety and Health Act. As noted in this Guidebook, some of these regulations have environmental aspects to them including:

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- ◆ Hazard communication;
- ◆ Hazardous materials management;
- ◆ Emergency action and emergency response planning; and
- ◆ Respiratory protection.

The Occupational Safety and Health Association (OSHA) office, located in Baltimore, MD, has responsibility for managing compliance under the OSHA in the District. OSHA may conduct inspections and issue notices of violation for noncompliance for marinas located in the District.

National Park Service

Implicit in all boating facility contracts, permits, and agreements with the NPS is an agreement to comply with all federal, state, and local regulations. As stated in 36 CFR Section 3.1, regarding Boating and Water Use Activities on National Park Service Property, marinas and boat clubs on NPS property must comply with all federal and state laws and regulations relating to boating activities for the area in which the facility is located. The NPS has the authority to revoke operating permits and contracts if the marina or boating facility is found to violate contract agreements or federal laws.

The USPP have enforcement authority under their environmental crimes unit and can work cooperatively with other agencies such as the U.S. Coast Guard (USCG), U.S. Army Corps of Engineers (USACE), and the Federal Bureau of Investigations (FBI).

In addition to the requirement under 36 CFR Section 3.1 to generally comply with federal, state and local regulations, marina operators in parks may be subject to additional requirements under the terms of their contract, lease or other agreement with the NPS. Failure to comply with these requirements could result in the termination of the agreement with the NPS and loss of the operation for the business or organization.

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11

River Restoration Programs Affecting District Waters

Increasing public focus on the District of Columbia's (District or DC) waterways and the Chesapeake Bay has led to various environmental programs and river initiatives, including the Chesapeake Bay Program, the Potomac American Heritage River Initiative, and the Anacostia Ecosystem Initiative. Both public and private organizations have made commitments to these programs, seeking to reduce nutrient runoff and other pollution and to restore the health and natural resources of the rivers within and around our nation's capital. The Clean Marina Program helps meet the goals of these various initiatives through the actions of the marina and boating community.

11.1 Chesapeake Bay

11.1.1 Chesapeake Bay Agreement

The Chesapeake Bay is the nation's largest and most productive estuary. The ecosystem consists of the Bay itself and all or portions of 150 tributary rivers, creeks, and streams, including the Anacostia and Potomac Rivers. In addition to providing millions of pounds of seafood per year, and ports for shipping and commerce, the Bay provides a vast natural habitat for wildlife and offers extensive recreational opportunities to residents and visitors. In the 1960s, however, people began to notice a decline in the overall health of the Chesapeake Bay.

In 1975 Congress directed the Environmental Protection Agency (EPA) to undertake a comprehensive investigation into the causes of the Bay's decline. Major environmental problems identified by EPA included nutrient enrichment, dwindling underwater grasses, and toxic pollution. As a result of these findings, and with the involvement of state governments, federal agencies, and the general public, Congress signed the Chesapeake Bay Agreement in 1983. Four years later an Executive Council made up of representatives from Pennsylvania, Maryland, Virginia, the District, EPA, and the Chesapeake Bay Commission signed the 1987 Chesapeake Bay Agreement, setting the restoration effort in motion.





For more information on the **Chesapeake Bay Program**, visit:
<http://www.chesapeakebay.net>

The Chesapeake Bay Foundation, a large conservation organization, has similar goals to the Chesapeake Bay Program. They are dedicated solely to saving the Chesapeake watershed. Visit their website at:
<http://www.cbf.org/>

On June 28, 2000, the Chesapeake Bay Program adopted a Renewed Bay Agreement called *Chesapeake 2000: A Watershed Partnership*, a program intended to guide Bay watershed restoration efforts over the next decade. The Renewed Agreement was signed by the members of the program's Executive Council: the Governors of Maryland, Pennsylvania, and Virginia, the Mayor of the District, the Administrator of EPA, and the President of the Chesapeake Bay Commission.

The Renewed Agreement is designed to renew the historically significant 1987 Chesapeake Bay Agreement and to guide the Bay Program partnership from 2000 to 2010. In 2009, Congress proposed a bill to amend the Clean Water Act to improve and reauthorize the Chesapeake Bay Program. This bill has not become law; however, many of the changes proposed in the bill have been incorporated into Executive Order (EO) 13508 (see Section 11.1.3).

11.1.2 Chesapeake Bay Program Goals

The Bay Program's highest priority has been restoration of the Bay's living resources—its shellfish, finfish, grasses, and other components of the ecosystem. Successes have included fishery and habitat restoration, recovery of Bay grasses, and reduction in nutrient and toxic loadings to the Bay. Actions taken or proposed by the Bay Program that impact recreational boating in the Anacostia and Potomac rivers include:

- ⇒ Nutrient Reduction: In 2003 the Chesapeake Bay Program partners agreed on the goal of reducing nitrogen entering the Bay to no more than 175 million pounds per year. The Anacostia River is a primary source of nutrient loading, and the implementation of effective Stormwater Pollution Prevention Plans (SWPPPs) by marinas, yacht clubs, and boatyards can contribute significantly to this effort.

- ⇒ Discharge from Boats: In the area of pollutant discharge, the 2000 Chesapeake Bay Agreement goals are directly relevant to marinas, yacht clubs, and boatyards along the Bay and its tributaries. One Agreement goal was to establish more “no discharge zones” for human waste from boats, accomplished in 2003. Additionally, the 2000 Agreement set 2010 as a target year for expanding by 50



percent the number of waste pumpout facilities. Progress toward this goal has not yet been made.

- ⇒ Toxics Management: One of the Chesapeake Bay Program's goals is to reduce and prevent toxic problems in areas of concern, such as the Anacostia River.
- ⇒ Habitat Restoration: Cooperative fisheries management among Bay-watershed states has led to the widespread recovery of shellfish and finfish. An outstanding example of success has been the reversal of the decline in oyster production, achieved mainly through the creation of oyster reefs. Nutrient reduction and overall water quality improvement in navigable waters of the District of Columbia has led to the return of submerged aquatic vegetation there.
- ⇒ Federal Ecosystem Management: In response to the National Performance Review and Chesapeake Bay Program goals, 23 federal agencies have agreed to work together to promote restoration of the nation's ecosystems and to prevent their degradation.

Bay Program's Business for the Bay is a voluntary pollution prevention program that provides assistance and public recognition, and facilitates implementing pollution prevention practices.
<http://www.chesapeakebay.net/b4bay.htm>

Efforts to restore the Chesapeake Bay have led naturally to a focus on its two major tributaries, both of which are in the District: the Anacostia and the Potomac Rivers.

In 1994 EPA Region III awarded the District \$250,000 to conduct human health and ecological risk assessments with the purpose of implementing risk reduction, pollution prevention, and public education and outreach as part of the Anacostia River Initiative. In 1995, a Chesapeake Bay Regional Action Plan for the Anacostia was developed, defining goals and strategies for prevention of toxic pollution there, and mitigation of existing pollution.

Since the mid-1990s, the Mayor of the District, having signed the Anacostia River Restoration Strategy, has allocated funds for Anacostia River water quality improvements. Currently, the District is supporting the Clean Marina Initiative, which has led to the formation of this *Clean Marina Guidebook*.

In the 2000 Bay Agreement, the District agreed to reduce pollution loads to the Anacostia River in order to eliminate public health



concerns and to achieve the goals of the 1983, 1987, and 2000 Agreements.

11.1.3 Executive Order 13508 - Chesapeake Bay Protection and Restoration

Despite significant efforts by federal, state, and local governments and other interested parties, water pollution in the Chesapeake Bay prevents the attainment of existing state water quality standards and the “fishable and swimmable” goals of the Clean Water Act. If the current level and scope of pollution control activities within the Chesapeake Bay’s watershed remains the same, restoration of the Chesapeake Bay is not expected for many years.

Nutrients, in the form of nitrogen and phosphorus, and sediment are largely responsible for pollution of the Chesapeake Bay. These pollutants come from many sources, including sewage treatment plants, city streets, development sites, agricultural operations, and deposition from the air onto the Chesapeake Bay waters and the watershed lands.

Restoring the Chesapeake Bay to a healthy state will require a renewed commitment to controlling pollution from all sources. It will also require the protection and restoration of habitat and living resources, the conservation of land, and improved management of natural resources, all of which contribute to improved water quality and ecosystem health. Executive departments and agencies of the federal government are tasked with collaborating and leading this effort. Progress toward restoring the Chesapeake Bay also depends on the support of state and local governments, the private sector, and the stewardship efforts of the region’s residents.

Executive Order (EO) 13508 mandated that the EPA identify pollution control strategies to help restore water quality in the Chesapeake Bay. As a result, EPA developed a total maximum daily load (TMDL) or “pollution diet” that limits the amount of nitrogen, phosphorus, and sediment allowed to enter the bay. While the EO acknowledges that the federal government should assume a strong leadership role, it equally emphasizes the importance of a collaborative effort involving state and local governments, nongovernmental partners, the private sector, and citizens of the Chesapeake watershed. To support this effort, the District of Columbia developed a Watershed Implementation Plan (WIP) that outlines how the District will accomplish the load



reductions necessary to achieve the EPA-assigned TMDL allocations.

WIP Milestone 14 is most relevant to marinas in the District. The WIP requires all new and redeveloped marinas in the Anacostia Waterfront area to have pumpout stations and to be certified as Clean Marinas. New or existing marinas within the Anacostia Waterfront Development Zone shall comply with the program elements outlined in the Clean Marina Guidebook issued by the National Park Service. Owners or applicants for a marina must submit a copy of their Clean Marina Checklist and any supporting documentation to Joanne Goodwin, DDOE at joanne.goodwin@dc.gov.

Beyond these requirements set in the WIP, District marinas can contribute to load reductions by implementing best management practices identified throughout this *Guidebook*.



11.2 Potomac American Heritage River Initiative

The Potomac watershed extends into four states (Virginia, West Virginia, Maryland, and Pennsylvania) and the District. Some five million people live in the basin, with more than three and one-half million of them in the Washington, DC metropolitan area. Due to agricultural, urban, and suburban development, the Potomac River has been highly vulnerable to pollutant loading.

For more information on the *Friends of the Potomac*, visit

<http://www.potomacfriends.org/>

For more information on the *Potomac River American Heritage River Initiative*, visit

<http://owpubauthor.epa.gov/type/watersheds/named/heritage/fspotoma.cfm>

In an effort to protect the quality of the Potomac River and to promote enjoyment of its natural, recreational, and heritage aspects, the Friends of the Potomac, a nonprofit organization, submitted the Potomac for designation as an American Heritage River. Having received the designation, the Potomac River watershed and its tributaries are now the focus of the Potomac American Heritage River Initiative. Objectives of the initiative include:

- Protecting and restoring water quality and living resources;
- Promoting enjoyment of our natural, recreational, and heritage assets;
- Encouraging more citizen involvement in community decision-making; and
- Fostering sustainable economic development.



The National Park Service National Capital Region (NPS NCR) serves as the Potomac American Heritage River's lead federal agency. As the lead federal agency, the NPS NCR cooperates with the Friends of the Potomac to develop strategies for achieving the goals of the Potomac River Initiative.

The Potomac Conservancy, another nonprofit organization dedicated to the protection of the Potomac River, focuses on riparian habitat along the Potomac and its tributaries. Watershed programs include the Potomac Conservancy's Riparian Restoration Project—an effort to restore degraded land along the Potomac and its tributaries by planting native trees, shrubs, and grasses. Volunteers map the restoration sites, plant trees, install erosion control devices, monitor plant growth, and carry out water quality monitoring projects, both short-term and long-term. Restoration partners include the Chesapeake Bay Trust, NPS, Montgomery County Department of Parks and Planning, and Maryland Department of Natural Resource and Forestry Service.

To find out more about the Potomac Conservancy or to volunteer for one of their restoration programs, visit <http://www.potomac.org/site/>

Friends of the Potomac and the Potomac Conservancy are just two of the many community-based organizations that have become part of the city-wide effort to restore the health of District waterways.

11.3 Anacostia River: Focus of Concern

While the larger Potomac River has received most of the water quality attention over the years, the Anacostia, which does not meet many federal requirements and DC Clean Water Act goals even today, has been largely ignored.

The Anacostia Watershed Society was formed to make the Anacostia River and its tributaries swimmable and fishable and protect the local environment for the health and enjoyment of everyone in our community. For more information, visit <http://www.anacostiaws.org/>

The Anacostia River is now a priority for several organizations. As mentioned above, the Chesapeake Bay Program has set the Anacostia River as one of its areas of concern; both the White House Task Force on Ecosystem Management and the EPA have designated the Anacostia ecosystem a priority for funding and study. American Rivers has also made the Anacostia River one of its top priorities.

As a result of increased nonpoint source pollution, discharge from sewers (including combined sanitary/storm sewers), and poor land use both within the District and upstream in Maryland, the Anacostia River has become highly degraded. Pollutant releases to the Anacostia have resulted in low dissolved oxygen, high bacterial counts, high sediment loads, and contamination of sediment and fish tissue with toxic chemicals. These water quality problems can



impair growth of aquatic plants, poison wildlife, and render fish unsuitable for human consumption.

The Anacostia clearly shows the effect of urbanization. Marinas, yacht clubs, and/or boatyards may make matters worse by discharge of raw sewage, petroleum products, solids wastes such as paint chips, and other pollutants. Poor marina, yacht club, and boatyard management can have a significantly adverse impact on the Anacostia River.

As part of the Anacostia River Cleanup and Protection Act of 2009, District stores that sell food must charge customers five cents for each plastic bag or paper bag distributed. Proceeds from the fee are set aside in the Anacostia River Cleanup Fund to educate the public about the impact of trash, to provide reusable bags to District residents, and to remove trash from the river.

As part of the Anacostia River Initiative, EPA also publishes a newsletter for the Anacostia community covering the progress of the Initiative, water monitoring, and environmental justice grants.

11.3.1 Anacostia Ecosystem Initiative

EPA has created the community-based Anacostia Ecosystem Initiative to reduce environmental health risks to surrounding communities. The Anacostia River Initiative involves cleanup of several sites along the river in the District, including the Anacostia Marina, Barney Circle, Bolling Air Force Base, Camp Simms, Kenilworth Park, the Navy Yard, St. Elizabeth's Hospital, the Southeast Federal Center, and Washington Gas and Light. EPA is participating in cleanup of these sites. The new Nationals Stadium along the river project will also be part of this rehabilitation project.

11.3.2 Anacostia River Restoration Strategy

In January 1999, District Mayor Anthony Williams and the Interim Director of the District's Department of Health, Marlene Kelley, published the *District of Columbia Anacostia River Restoration Strategy*, outlining five goals for the restoration of the Anacostia River. These goals include:

- Reducing pollutants and enforcing environmental regulations;
- Preventing further pollution through education and local cleanups;
- Protecting and restoring stream, riparian, and wetland habitats;
- Building coalitions between jurisdictions; and

Activities and reports on Anacostia River Watershed restoration progress can be found through the Anacostia Watershed network web site at <http://www.anacostia.net/restoration.html>.



- Supporting recreation and environmentally friendly development.

The first goal clearly affects marinas, yacht clubs, boatyards, boat stores, and boat owners. Pollution reduction will be accomplished by enforcing District and federal environmental laws, carrying out effective regulatory programs, and encouraging the use of innovative technologies to control pollution in urban settings.

Several groups have been formed to help coordinate and bring various partners together to help achieve the restoration of the Anacostia River Watershed. The Anacostia Watershed Partnership, which consists of a large number of federal, state and local government, and citizen and private organizations began preparing an annual report on restoration activities in the river watershed in 2001. Restoration activities were ranked in the categories of reduced pollutant loading, restoration of ecological integrity, improved fish passage, increased wetland acreage, expanded forest cover, and increased public and private participation. The Anacostia Watershed Initiative Act established the “Anacostia Watershed Council,” to be composed of federal, state, District and local county governments, who would create a multi-jurisdictional action plan to address the restoration and protection of the Anacostia watershed, for environmental, social, and economic benefits. Other parts of the bill would authorize money to upgrade and repair the District’s combined sewer, and direct the U.S. Army Corps of Engineers (USACE) to assistance to county and local governments and organizations. In 2006, The Anacostia Restoration Partnership was established which represented a renewed commitment to restoration activities.

This *Guidebook*, which is part of the Anacostia Restoration Strategy Program, may be used as a tool to establish clean boating practices and an awareness of environmental stewardship at marinas, yacht clubs, and boatyards in the District.

11.4 Environmental Justice

Problems affecting the Anacostia River ecosystem also affect local schools, neighborhoods, and businesses.

In 1994, President Clinton issued an Executive Order that established “environmental justice” as a national priority. The Order, entitled *Federal Actions to Address Environmental Justice*



For more information about the **National Environmental Justice Advisory Council**, visit <http://www.epa.gov/compliance/environmentaljustice/nejac/index.html>

in Minority Populations and Low-Income Populations, focuses federal attention on the environmental and human health conditions of minority populations and low-income populations with the goal of achieving environmental protection for all communities. The National Environmental Justice Advisory Council (NEJAC) involves community, industry, and state/local government groups in the formation of solutions to environmental justice problems. The EPA Office of Environmental Justice created a Small Community Grants Program to provide financial assistance to eligible community groups that are working on or that plan to carry out projects to address environmental justice issues.

Three District of Columbia election wards (6, 7, and 8), containing some of the most economically stressed neighborhoods of the metropolitan region, are located along the Anacostia River. African-Americans account for 96 to 98 percent of the population in these wards. According to the President's Executive Order on Environmental Justice, this area of the Anacostia River basin would be a prime location for environmental justice efforts.

As a handbook for compliance with environmental regulations and for creating a better environment, the *Clean Marina Guidebook* should prove to be a useful tool for the improvement of the once-neglected Anacostia River and its communities. By using the *Guidebook*, marinas, yacht clubs, and boatyards in the Anacostia basin can help establish a safe and healthful environment for boaters and the local community. Steps taken by marina, yacht club, and boatyard operators to prevent pollution to the river can foster positive neighborhood relations, even to the point of gaining community involvement in marina, yacht club, and boatyard improvements.

A Pledges and Checklists

CLEAN MARINA PLEDGE

The Clean Marina Initiative promotes and celebrates voluntary adoption of measures to reduce waste and prevent pollution from marinas, boatyards, and recreational boats. Designated “Clean Marinas” are recognized as environmentally-responsible businesses.

As the first step toward achieving Clean Marina Partner status and on behalf of _____ (name of marina, boatyard, or yacht club), we pledge to do our part to keep District of Columbia and local waterways free of harmful chemicals, excess nutrients, and debris.

We will identify opportunities and implement practices to control pollution associated with:

- Vessel maintenance and repair
- Abandoned boats
- Petroleum storage and transfer
- Sewage disposal
- Hazardous and non-hazardous wastes
- Stormwater runoff
- Facilities management

We commit to actively pursue full standing as a Clean Marina. Within one year of the date below, we will implement appropriate pollution prevention practices and will apply to the National Park Service or District of Columbia for recognition as a Clean Marina.

Name of Marina Partner Owner

Date

Name of Marina Partner Manager

Date

CLEAN MARINA CHECKLIST

Date: _____ Marina Name: _____ Owner/Manager: _____ Address: _____ _____ Phone: _____	Marina Type: <input type="checkbox"/> Marina, no work area <input type="checkbox"/> Marina with work area <input type="checkbox"/> Boatyard/boat builder, no slips <input type="checkbox"/> Other:
--	--

This form is intended to be used by marina, boat club, and boatyard operators to conduct a self-assessment of their facilities. For each question, a reference to the section and page number in the *Clean Marina Guidebook* is provided (e.g., p. 3-6 refers to Page 6 of Section 3 in the *Guidebook*). For each question, there are three possible responses – Yes, No, or Not Applicable (“N/A”). The Not Applicable (N/A) option is offered so that items that are beyond your control or that do not apply to your operations will not be counted in the scoring process. For example, if you do not have a septic system, check N/A for Area 7 number 4. There is space at the end of this form to clarify any of your answers or to tell us about other items you would like the reviewers to take into consideration.

The results of this self-assessment checklist will be used by representatives of the Clean Marina Initiative to verify these self-assessments and to determine your eligibility for certification as a Clean Marina. Clean Marina certifications will be awarded to those marinas, boat clubs, and boatyards that score a minimum score per subject area. Scoring is based on applicable items only. **It is necessary to be in compliance with all applicable laws and regulations. Where applicable, these are marked with a diamond (♦) at the top of the area checklists.** However, it is not necessary to implement all of the best management practices to be certified as a Clean Marina.

Copies of the *Clean Marina Guidebook* are available through the National Park Service Clean Marina Advisory Committee or the Washington, DC Clean Marina Advisory Committee. To request a copy, call the Clean Marina Advisory Committee National Park Service Environmental Specialist at 202-619-7083 or the Clean Marina Advisory Committee Washington, D.C. contact at 202-535-2240.

Area 1: OVERALL COMPLIANCE

Chapter 3 – Compliance Requirements

<i>(100% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
1. Have a record devoid of Notice of Violations (NOVs), criminal or civil Investigations* outstanding or ongoing? p. 3-2 (◆)			
2. Have a Multi-Sector General Permit (MSGP) for Discharges if the facility determined that a permit is required? p. 3-2, 5-5 (◆)			
3. Have applicable emergency plans (e.g., Emergency Action Plan (EAP) and/or Emergency Response Plan (ERP)) for likely threats? p. 3-3, 7-6 (◆)			
4. Provide emergency response and/or spill response training to employees (e.g., EAP, ERP)? (◆) p. 3-6			
5. Maintain a current, documented Hazard Communication (HAZCOM) Program (i.e., HAZCOM Plan, lists of chemicals, files of Material Safety Data Sheets (MSDSs))? p. 3-4, 9-6 (◆)			
6. Have all the necessary permits and agency approvals for marina construction or expansion? p. 4-2 (◆)			
7. Have up-to-date registration for all underground storage tanks (USTs) and aboveground storage tanks (ASTs) with the appropriate state or district? p. 7-7 (◆)			
8. Perform required tank system monitoring and maintain documentation (e.g., monthly tank and fuel line leak detection)? P. 7-7 (◆)			
9. Educate slipholders about prohibiting discharge from Type I and Type II Marine Sanitation Devices (MSDs)? p. 8-1			
10. Properly store and label hazardous materials (e.g., segregate incompatibles, containers are closed and in good condition)? p. 3-4, 9-3 (◆)			
11. Provide a sufficient number of trash and recycling containers that are clean, covered, well-marked, and convenient? p. 3-5, 9-3, 9-10 (◆)			
12. Properly dispose of hazardous wastes generated at the marina? p. 3-4, 9-11 (◆)			
* If a certified facility receives a notice, certification is suspended and the facility must recertify.			
AREA 1 SCORE: [_____ "Yes" responses / _____ Number of applicable items] x 100 = _____%			

Area 2: MARINA MANAGEMENT

Chapter 2 – The Clean Marina Initiative: Managing the Process

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
1. Prevent discharge of oil, gasoline, antifreeze, acid, or other hazardous material to any public land or water? p. 7-2 (◆)			
2. Promote use of environmentally preferable boat engines (e.g., 4-stroke)?			
3. Regularly review applicable marina management procedures with staff (or, in the case of a club, board members)? p. 2-4			

Area 2: MARINA MANAGEMENT

Chapter 2 – The Clean Marina Initiative: Managing the Process

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
4. Maintain current and complete training records? p. 2-5			
5. Train employees to watch for inappropriate discharges? p. 2-5			
6. Do you have procedures in place for dealing with polluters? p. 2-5			
7. Incorporate best management practices (BMPs) into all boater contracts and membership agreements? p. 2-7			
8. Include language in contracts signed by outside contractors (e.g., boat repair/ maintenance) operating in the marina/club that contains the same environmental requirements used by the marina? p. 2-7			
9. Post signs (or use bulletin boards) in appropriate and conspicuous locations (i.e., near ramps and/or boat docks) detailing BMPs to educate patrons? Distribute and/or post (on a bulletin board) environmental education materials for patrons? p. 2-7			
10. Host workshops on environmental issues and educate on BMPs? p. 2-8			
11. Recognize boaters who implement pollution prevention practices? p. 2-9			
12. Publicize your environmentally responsible actions? p. 2-9			
AREA 2 SCORE: [_____ "Yes" responses / _____ Number of applicable items] x 100 = _____ %			

Area 3: MARINA CONSTRUCTION, MAINTENANCE, AND LANDSCAPING

Chapter 4 – Designing and Expanding a Marina, Yacht Club, or Boatyard

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
1. Minimize impervious areas and site buildings, workshops, and storage areas? p. 4-8			
2. Keep maintenance operations away from the shoreline?			
3. Minimize the need for and impact of dredging? p. 4-10			
4. Employ nonstructural shore erosion control measures? p. 4-11			
5. Avoid use of toxic lawn and garden chemicals to the greatest extent possible? p. 4-11			
6. Use environmentally preferable materials in marina construction (e.g., encapsulated foam flotation, recycled content dock decking)? p. 4-13			
7. Use environmentally preferable materials for facility maintenance and cleaning (e.g., less or non-toxic, biodegradable)? p. 4-13			
8. Institute water conservation practices (e.g., nozzles on hoses, low-flow faucets, collection of rainwater for reuse)? p. 4-13			
9. Cultivate and maintain vegetated areas? Maintain vegetation buffer between paved areas and water? p. 4-15			
10. Maintain maintenance and storage areas in good and orderly condition?			
11. Use energy conservation equipment and practices (e.g., energy efficient lamps/ bulbs and			

Area 3: MARINA CONSTRUCTION, MAINTENANCE, AND LANDSCAPING
 Chapter 4 – Designing and Expanding a Marina, Yacht Club, or Boatyard

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
fixtures, motion and photo-sensors)?			
AREA 3 SCORE: [_____ "Yes" responses / _____ Number of applicable items] x 100 = _____%			

Area 4: STORMWATER MANAGEMENT
 Chapter 5 – Stormwater Management

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
1. Prevent discharge of untreated wash or process water onto land or into waterways? p. 5-2 (◆)			
2. Have an up to date and accurate Stormwater Pollution Prevention Plan (SWPPP)? p. 3-2, 5-2 (◆)			
3. Implement all specified SWPPP BMPs (e.g. minimize and contain vessel maintenance debris). p. 5-2 (◆)			
4. Train your employees annually about the components of your SWPPP? p. 5-3 (◆)			
5. Conduct stormwater monitoring in accordance with the SWPPP? p. 5-4 (◆)			
6. If not subject to permitting and SWPPP requirements, have written plans or standard operating procedures to prevent stormwater runoff?			
7. Cover and protect equipment containing oils or products that could cause stormwater pollution if otherwise exposed to the elements?			
8. Institute BMP for capturing stormwater by using rain barrels or filtering where appropriate? p. 5-7			
9. Stencil warnings on storm drains? p. 5-10			
10. Maintain parking areas and walkways free of oil and sources of stormwater pollution?			
AREA 4 SCORE: [_____ "Yes" responses / _____ Number of applicable items] x 100 = _____%			

Area 5: VESSEL REPAIR AND MAINTENANCE
 Chapter 6 – Facility Management: Vessel Maintenance and Repair

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
1. Prohibit the discharge of oil-laden bilge water? p. 6-2 (◆)			
2. Minimize impacts from pressure washing? p. 6-7			
3. Use environmentally preferable materials for vessel maintenance (e.g., less or non-toxic, biodegradable)? p. 6-10			
4. Restrict maintenance activities to designated work area? p. 6-4			

Area 5: VESSEL REPAIR AND MAINTENANCE

Chapter 6 – Facility Management: Vessel Maintenance and Repair

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
5. Contain dust from sanding? p. 6-5			
6. Contain debris from blasting practices? p. 6-6			
7. Recommend bottom coatings with minimal environmental impact? p. 6-9			
8. Minimize impacts of painting operations? p. 6-8			
9. Ensure solvent containers and solvent contaminated materials are properly managed (e.g., containers/parts cleaners are closed when not in use and solvent soaked rags are placed in closed containers and properly disposed)? p. 6-10			
10. Repair and maintain engines using pollution prevention practices? p. 6-11			
11. Winterize using environmentally preferable products and practices? p. 6-12			
12. Limit in-water maintenance to minimize potential environmental impacts (e.g., limit to oil and antifreeze changes, battery maintenance, limited sanding and painting of topsides and interior)? p. 6-13			
AREA 5 SCORE: [_____ "Yes" responses / _____ Number of applicable items] x 100 = _____%			

Area 6: PETROLUUM CONTROL (Commercial and Non-Public Use)

Chapter 7 – Petroleum Control

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
1. Maintain all required documentation (e.g., release detection records, required tightness testing certification) for fuel storage tanks? p. 3-7, 7-2 (◆)			
2. Have appropriate leak detection for USTs? p. 3-7, 7-7 (◆)			
3. Have appropriate corrosion protection for all USTs? p. 3-7, 7-7 (◆)			
4. Have appropriate spill and overfill equipment for fuel storage tanks? p. 7-7, 7-9 (◆)			
5. Have marine fuel dispensing nozzles of the automatic-closing type without a latch-open device (i.e., no holding clips, no automatic back-pressure shut-off devices)? (◆) p. 7-9			
6. Have required fueling procedure signs clearly posted for customers on the fuel dock? p. 7-10 (◆)			
7. Have secondary containment for ASTs (where applicable)? p. 7-4 (◆, if required per SPCC)			
8. Have a Spill Prevention, Control and Countermeasure (SPCC) Plan [‡] for oil/fuel storage that exceeds EPA threshold storage levels? p. 3-7, 7-2 (◆)			
9. Have a Spill Prevention and Cleanup Plan (SPCP) for storage of hazardous substances? p. 7-5 (◆)			
10. Have regular emergency training and drills for staff? p. 7-19 (◆ if SPCC-specified)			
11. Store oil spill response equipment in a convenient, readily accessible location? p. 7-19			

Area 6: PETROLUEM CONTROL (Commercial and Non-Public Use)

Chapter 7 – Petroleum Control

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
12. Place copies of spill plan (SPCC or SPCP) inside spill kits as well as at appropriate locations within marina/club? Label all spill kits? p. 7-4			
13. Regularly inspect/repair fuel storage and transfer equipment? p. 7-13			
14. Train staff (or, in the case of a club, board members) to promote environmental and safety precautions while fueling? p. 7-14			
15. Train members, slip holders, or customers about safe fueling practices to avoid spills? p. 7-14			
16. Take precautions to minimize spills and leaks from machinery? p. 7-17			
17. Have secondary containment for fuel lines?			
‡ An SPCC plan is required when a facility stores more than 1,320 gallons of oil or oil products (including fuel) in aboveground storage containers and/or 42,000 gallons in underground storage containers. The container capacity must be 55 gallons or larger.			
AREA 6 SCORE: [_____ "Yes" responses / _____ Number of applicable items] x 100 = _____ %			

Area 7: SEWAGE HANDLING

Chapter 8 – Sewage Handling

<i>(at least 75% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
1. Have pumpout service available in slips or fuel docks? p. 8-3			
2. Have a convenient, well-marked disposal for portable boat toilets? p. 8-4			
3. Have a pumpout service sign that is easily seen by passing boats? p. 8-5			
4. Regularly inspect/test dock sewage pump-out lines (e.g., visual inspection, pressure testing)?			
5. Annually conduct vessel MSD inspections to verify that each boat in the marina complies with no-discharge regulations? p. 8-2			
6. Have clean, functional restrooms available 24 hours a day during the boating season or year-round if liveboards are present or boats are used in winter months? p. 8-6			
7. Regularly maintain connection to municipal sewer system in functioning order? p. 8-7			
8. Address the special sewage handling needs of liveboards? p. 8-7			
9. Encourage compliance with DC Clean Water Act and MSD requirements by adding language to all slip contracts, member dock agreements and visiting patrons? p. 8-8			
AREA 7 SCORE: [_____ "Yes" responses / _____ Number of applicable items] x 100 = _____ %			

Area 8: WASTE MANAGEMENT AND RECYCLING

Chapter 9 – Waste Containment and Disposal

<i>(at least 80% compliance is required with this area)</i> DO YOU:	Yes	No	N/A
1. Recycle solid waste from the marina (e.g., aluminum, glass, plastic, paper, cardboard, scrap metal)? p. 9-2 (◆)			
2. Provide public facilities for recycling (e.g., aluminum, glass, plastic)? p. 9-10 (◆)			
3. Conduct periodic inspections of waste collection facilities to ensure that solid waste containers are kept closed to minimize attraction of pests? p. 9-3 (◆)			
4. Collect and properly dispose unused/expired hazardous materials? p. 9-4 (◆)			
5. Properly store, label, and recycle used oil? p. 9-13 (◆)			
6. Properly hot drain, store, label, and dispose of used oil filters? p. 9-14 (◆)			
7. Properly store, label, and dispose of waste fuel (i.e., as hazardous waste)? p. 9-14 (◆)			
8. Maintain a monthly waste disposal log to document wastes that are collected and disposed, and document hazardous waste generator status? p. 9-11			
9. Properly store and recycle used antifreeze? p. 9-10			
10. Properly store used lead-acid batteries and recycle/return for core-charge? p. 9-13			
11. Collect and recycle universal wastes (i.e., fluorescent lamps, nickel-cadmium batteries)? p. 9-13			
12. Minimize waste in your daily operations? p. 9-11			
13. Offer slip holders, members, or patrons waste collection facilities for boat maintenance wastes (e.g., used oil, batteries, used oil filters, waste gasoline)? If not, do you provide patrons a list of places where they may take their wastes for proper disposal or recycling?			
14. Store hazardous materials with secondary containment, particularly in areas of higher risk (e.g., over-water storage)?			
AREA 8 SCORE: [_____ "Yes" responses / _____ Number of applicable items] x 100 = _____ %			

SCORING

1. Enter your scores for each section on the lines below and compare your score to the minimum required scores.

Your Scores				Minimum Required Scores	
Area 1	Overall Compliance		%	100	%
Area 2	Marina Management		%	75	%
Area 3	Marina Construction, Maintenance, and Landscaping		%	75	%
Area 4	Stormwater Management		%	75	%
Area 5	Vessel Repair & Maintenance		%	75	%
Area 6	Petroleum Control		%	75	%
Area 7	Sewage Handling		%	75	%
Area 8	Waste Management & Recycling		%	80	%

2. If your score for each area is equal to or greater than the minimum required for each applicable section, call the Environmental Specialist at the National Park Service at 202-619-7083 or the Clean Marina Advisory Committee Washington D.C contact at 202-535-2240 to schedule a confirmation visit.

Please use this space for any additional comments or explanations you would like us to consider.

Verified by the Clean Marina Initiative Representatives

Signature

Date

Signature

Date

CLEAN MARINA PARTER PLEDGE

The Clean Marina Initiative promotes and celebrates voluntary adoption of measures to reduce waste and prevent pollution from marinas, boatyards, and recreational boats. Designated “Clean Marinas” are recognized as environmentally-responsible businesses. Clean Marina partners are those who have water based activities but are not recognized as a marina or boat yard, but are committed to protecting our water ways and promoting pollution prevention.

As the first step toward achieving Clean Marina Partner status and on behalf of _____ (name of partner), we pledge to do our part to properly manage our facilities and to keep District of Columbia and local waterways free of:

- Harmful chemicals and trash
- Excess Nutrients
- Petroleum storage and transfer
- Sewage disposal

We commit to actively pursue full standing as a Clean Marina Partner. Within one year of the date below, we will implement appropriate pollution prevention practices and will apply to the National Park Service or District of Columbia for recognition as a Clean Marina Partner.

Name of Marina Partner Owner

Date

Name of Marina Partner Manager

Date

CLEAN MARINA PARTNER CHECKLIST

	Yes	No	N/A
1. Have a record devoid of Notice of Violations (NOVs), criminal or civil investigations outstanding or ongoing? p. 3-2 (◆) Note: If a certified facility receives a notice, certification is suspended and the facility must recertify.			
2. Have emergency procedures in place (e.g., Emergency Action Plan (EAP), Emergency Response Plan (ERP), Spill Prevention, Control and Countermeasure (SPCC) and/or (Spill Prevention and Cleanup Plan (SPCP)))? p. 3-3, 7-6 (◆)			
3. Provide a sufficient number of trash and recycling containers? p. 3-5, 9-3, 9-10 (◆)			
4. Train employees to watch for inappropriate discharges? p. 2-5			
5. Post signs (or use bulletin boards) in appropriate and conspicuous locations (i.e., near ramps and/or boat docks) detailing best management practices (BMPs) to educate patrons? p. 2-7			
6. Have spill cleanup kits and label all spill kits. p. 7-4			
7. Use environmentally preferable materials for cleaning (e.g., less or non-toxic, biodegradable)? p. 4-13			
8. Institute water conservation practices (e.g., nozzles on hoses, low-flow faucets, collection of rainwater for reuse)? p. 4-13			
9. Maintain parking areas and walkways free of oil, chemicals and sources of stormwater pollution?			
10. Limit in-water maintenance to minimize potential environmental impacts (e.g., limit to oil and antifreeze changes, battery maintenance, limited sanding and painting of topsides and interior)? p. 6-13			
11. Have pumpout service available or educate boaters on where to obtain pump out services. p. 8-3			
12. Collect and properly store and dispose of unused/expired hazardous materials, recycle used oil, and universal waste? p. 9-4, 9-13			
13. Minimize waste in your daily operations? p. 9-11			
YOUR SCORE: [____ "Yes" responses / ____ Number of applicable items] x 100 = ____ %			

Note: If your score is equal to or greater than 75%, call the Environmental Specialist at the National Park Service at 202-619-7083 or the Clean Marina Advisory Committee Washington D.C contact at 202-535-2240 to schedule a confirmation visit.

Verified by the Clean Marina Initiative Representatives

Signature

Date

Signature

Date

B **Informational Sources**

B. Informational Sources

Alliance for the Chesapeake Bay

501 Sixth Street
Annapolis, MD 21403
Tel (443) 949-0575

<http://www.acb-online.org/>

American Boat and Yacht Council

613 Third Street, Suite 10
Annapolis, MD 21403
Tel (410) 990-4460
Fax (410) 990-4466

- Information about holding tank retrofits and vessel standards

<http://www.abycinc.org/index.cfm>

BayScapes information

U.S. Fish & Wildlife Service
177 Admiral Cochrane Drive
Annapolis, MD 21401
Tel (410) 573-4599

- Information including a list of beneficial plants

<http://www.fws.gov/chesapeakebay/bayscapes.htm>

BoatU.S. Foundation for Boating Safety & Clean Water

880 South Picket Street
Alexandria, VA 22304
Tel (703) 823-9550 ext. 3200

- Clean boating educational materials

<http://www.boatus.com/foundation/>

Chesapeake Bay Foundation

Philip Merrill Environmental Center
6 Herndon Avenue
Annapolis, MD 21403
Tel (301) 261-2350
Fax (410) 268-6687

<http://www.cbf.org/>

Clean Marina Advisory Committee

NPS Environmental Specialist
Tel (202) 619-7083

Clean Marina Advisory Committee
Washington, DC
(202) 535-2240

Clean Vessel Act Pumpout Program

U.S. Fish and Wildlife Service
Division of Federal Aid
Arlington Square, Room 140
4401 N. Fairfax Drive
Arlington, VA 22203
Tel (703) 358-2156
Fax (703) 358-1837

- Clean Vessel Act Information
- Explanation of grant programs

<http://www.grants.gov/search/search.do?mode=VIEW&oppId=56575>

Cooperative Extension Service

University of Maryland
Home and Garden Information Center
12005 Homewood Road
Ellicott City, MD 21042
Tel (410) 531-1757

- Soil test kits
- Information and advice about environmentally responsible landscaping, composting, and Integrated Pest Management

<http://www.hgic.umd.edu/>

B. Informational Sources

District of Columbia Department of the Environment (DDOE)

1200 First Street, NE 5th Floor
Washington, DC 2002
Tel (202) 535-2600
<http://ddoe.dc.gov/ddoe/site/default.asp>

Earth 911

Tel (800) 253-2687
<http://earth911.com/>

Environmental Management Systems

Jim Horne, U.S. EPA
Tel (202) 564-0571
Faith Leavitt, Global Environment and
Technology Foundation
Tel (703) 750-6401
<http://water.epa.gov/polwaste/wastewater/Voluntary-EMS-ISO-14001.cfm>

U.S. Green Building Council

2101 L Street, NW, Suite 500
Washington, DC 20037
Tel (800) 795-1747
Fax (202) 828-5110
Email info@usgbc.org

- Products and materials, policy guidance, and educational and marketing tools for sustainable buildings

<http://www.usgbc.org/default.asp>

Gray Water Irrigation Guide

New Mexico Environment Department
Surface Water Quality Bureau
1190 S. St. Francis Drive,
Santa Fe, New Mexico 87505
Tel (505) 827-0187
Fax (505) 827-0160

- Definitions and links about Gray Water

<http://www.nmenv.state.nm.us/OOTS/GRAY%20WATER%20IRRIGATION%20GUIDE1.pdf>

Humane Society of the United States

2100 L Street, NW

Washington, DC 20037

Tel (202) 452-1100

- Animal Information Center provides information about wildlife and marine animals near your marina
- <http://www.humanesociety.org/>

International Marina Institute (IMI)

P.O. Box 1202
Nokomis, FL 34274

- Copies of *Practices and Products for Clean Marinas*
- <
- <http://www.imimarina.org/>
- >

Interstate Commission on the Potomac River Basin

51 Monroe Street, Suite PE-08
Rockville, Maryland 20850

- Information on water quality and living resources of the Potomac River

<http://www.potomacriver.org/index.htm>

Minnesota Sea Grant College Program

University of Minnesota
144 Chester Park
31 West College Street
Duluth, Minnesota 55812
Tel (218) 726-8106
Fax (218) 726-6556
Email seagr@d.umn.edu

- Copy of *Composting Fish Waste* by Thomas Halbach and Dale Baker (\$1)

<http://www.seagrant.umn.edu/>

National Arboretum

Education Department
3501 New York Ave., NE
Washington, DC 20002
Tel (202) 245-2726
Fax (202) 245-4575
<http://www.ars-grin.gov/ars/Beltsville/na/>

National Fire Protection Association

1 Batterymarch Park
Quincy, MA 02169-7471

B. Informational Sources

Toll-free (800) 344-3555

- Copies of NFPA standards
- Copies may be available from your local fire marshal

<http://www.nfpa.org/>

National Park Service

<http://www.nature.nps.gov/water/>

National Park Service, Commercial Services Program

12795 W. Alameda Parkway

P.O. Box 25287

Denver, CO 80225-0287

GreenLine Tel (303) 987-6820

GreenLine Email NPS_GreenLine@nps.gov

www.concessions.nps.gov

National Pollution Discharge Elimination System

Contact Information

http://cfpub.epa.gov/npdes/contacts.cfm?program_id=6&type=ALL

Permanent International Association of Navigation Congresses (PIANC)

Graaf de Ferraris Building, 11th Floor

Boulevard du Roi Albert II, 20 - Box 3

B-1000 Brussels, BELGIUM

<http://www.pianc-aipcn.org/>

Save Our Shores

345 Lake Avenue, Suite A

Santa Cruz, CA 95062

Tel (831) 462-5660

Fax (831) 462-6070

Email info@saveourshores.org

- Marine conservation and activities

<http://www.saveourshores.org/>

States Organization for Boating Access

231 S. LaSalle Street, Suite 2050

Chicago, IL 60604

Tel (312) 946-6283

Fax (312) 946-0388

Email info@sobaus.org

- *Design Handbook for Recreational Boating and Fishing Facilities*
- *Operations and Maintenance Program Guidelines for Recreational Boating Facilities*

<http://www.sobaus.org/>

United States Army Corps of Engineers

Headquarters ATTN: CECG

441 G Street, NW

Washington, DC 20314-1000

Tel (202) 761-0011

<http://www.usace.army.mil/>

United States Coast Guard Headquarters

Commandant, U.S. Coast Guard

2100 Second Street, SW

Washington, DC 20593-7000

General Information

Tel (202) 372-4411

- Copies of *Federal Requirements and Safety Tips for Recreational Boats* brochure

<http://www.uscg.mil/>

United States Coast Guard

National Response Center

Toll-free (800) 424-8802

- Oil spill response

<http://www.nrc.uscg.mil/index.htm>

United States Department of the Interior

<http://www.doi.gov/whatwedo/water/index.cfm>

United States Department of Commerce

National Technical Information Service

Toll-free (800) 553-6847

- *Stream Restoration Design Handbook (NEH-654) and Stream Corridor Restoration - Principles, Processes, Practices*
- EPA-published summary document on the same subject

<http://www.ntis.gov/>

B. Informational Sources

United States Environmental Protection Agency (EPA)

- Information about federal environmental laws and regulations and EPA programs www.epa.gov

Design for the Environment

- Green Chemistry Building Program
 - Green Engineering Program
- <http://www.epa.gov/dfef/>

EPA Hotlines

- An extensive listing of all EPA hotlines <http://www.epa.gov/epahome/hotline.htm>

EPA Regional Offices

- Determine your Region <http://www.epa.gov/epahome/whereyoulive.htm#regiontext>

EPA RCRA Information

<http://www.epa.gov/osw/inforesources/online/index.htm>

Superfund & EPCRA Call Center

Toll-free (800) 424-9346
<http://www.epa.gov/superfund/>
<http://www.epa.gov/osweroe1/content/epcra/>

Green Procurement

- Environmentally Preferable Purchasing www.epa.gov/opptintr/epp/

National Environmental Justice Advisory Council

- Information about environmental justice and grants <http://www.epa.gov/compliance/environmentaljustice/nejac/index.html>

WasteWise Program

- Waste reduction activities
- Toll-free (800) EPA-WISE (372-9473)

Email oswwastewise@epa.gov
<http://www.epa.gov/wastewise/>

Mold Resources

<http://www.epa.gov/mold/moldresources.html>

Office of Wastewater Management

- Multi-Sector General Permit for Discharges from Marinas <http://www.epa.gov/owm/index.htm>

Oil Spill Program

- Oil control laws and regulations <http://www.epa.gov/oilspill/>
- When to report oil spills <http://www.epa.gov/osweroe1/content/reporting/>

Office of Wetlands, Oceans, and Watersheds

www.epa.gov/owow

United States Fish and Wildlife Service

Administrative Office
1849 C Street, NW
Washington, DC 20240
Tel (202) 208-4131
Fax (202) 208-7407

- Endangered/Threatened Species
- Submit a USGS topographic quad with the proposed project site marked and a brief project description

<http://www.fws.gov/>

National Sea Grant Program

National Oceanic and Atmospheric Administration
Tel (301) 734-1066
Email Amy.Painter@noaa.gov

- Marine topics <http://www.seagrant.noaa.gov/>

B. Informational Sources

National Pollution Prevention Roundtable

50 F Street, NW Suite 350

Washington, DC 20001

Tel (202) 299-9701

<http://www.p2.org/>

University of California Coastal Resources

5555 Overland Avenue

Bldg. 4, Suite 4101

San Diego, California 92123

- Boating Pollution Prevention Tips

[http://ucanr.org/sites/coast/Boating -
_Marina_Pollution_Prevention/](http://ucanr.org/sites/coast/Boating_-_Marina_Pollution_Prevention/)

The Stormwater Manager's Resource Center

- Stormwater and urban watershed management database

<http://www.stormwatercenter.net/>

C State Programs

C. State Programs

National Park Service

Facility Management Division

Julia Hewitt
Environmental Protection Specialist
Tel (202) 619-7083
Email Julia_hewitt@nps.gov

District of Columbia

Department of Health

<http://dchealth.dc.gov/index.asp>

Environmental Health Administration

Watershed Protection Division

Joanne Goodwin
Tel (202) 724-5349
Email joanne.goodwin@dc.gov

Maryland

Department of Natural Resources

<http://www.dnr.state.md.us>

Maryland Clean Marina Initiative

Donna Morrow
Tel (410) 260-8773
Fax (410) 260-8779
Email dmorrow@dnr.state.md.us
<http://www.dnr.state.md.us/boating/cleanmarina/>

Virginia

Department of Environmental Quality

<http://www.deq.state.va.us/>

Virginia Clean Marina Program

Anne Smith
Tel (804) 684-7768
Fax (804) 684-7161
Email annesmith@vims.edu
<http://www.virginiacleanmarina.com/>

D **Signs and Labels**

D. Signs and Labels

Keep Fuel Out of the Water

Do Not Top Off Tank

Listen! Anticipate when Tank will be Full

Wipe up Spills Immediately

Notice

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon, or discoloration of, the surface water. Violators are subject to a penalty of \$5,000.

The use of soaps to disperse oil is illegal. Violators may be fined up to \$25,000 per incident.

Report Oil Spills to
NRC/USCG at (800) 424-8802
DC at (202) 727-6161

Oil Spill Response Kit Location



Include name and number of person to contact at the marina in case of a spill

Be sure that a copy of the Oil Spill Response Plan is clearly visible inside the Spill Response Kit

Do Not Discharge Sewage

Please use our clean, comfortable restrooms while you are in port -

Nutrients and pathogens in sewage impair water quality.

D. Signs and Labels

Think Before You Throw

The following items may not be placed in this dumpster:

Oil
Antifreeze
Paint or Varnish
Solvents
Pesticides
Lead Batteries
Transmission Fluid
Distress Flares
Loose Polystyrene Peanuts
Hazardous Waste

Recycle Antifreeze

This container is for:

Ethylene glycol antifreeze
Propylene glycol antifreeze

Gasoline, diesel, kerosene
and all other materials are
STRICTLY PROHIBITED

Vessel Maintenance Area

All major repairs (e.g., stripping, fiberglassing) must be performed in the Vessel Maintenance Area

All blasting and spray painting to be performed within the enclosed booth or under tarps

Use tarps or filter fabric to collect paint chips and other debris

Use vacuum sander (include rental information if appropriate)

Use high-volume low-pressure spray guns (include rental information if appropriate)

Use drip pans with all liquids

Reuse solvents

Store waste solvents, rags and paints in covered containers

Recycle Oil

This container is for:

Engine oil
Transmission fluid
Hydraulic fluid
Gear oil
#2 Diesel
Kerosene

D. Signs and Labels

Pumpout Station

Instructions for use:

Hours of operation:

Fee:

Name and number of person to call in case of malfunction:

BEFORE FUELING:

- (1) Stop all engines and auxiliaries.
- (2) Shut off all electricity, open flames, and heat sources.
- (3) Check all bilges for fuel vapors.
- (4) Extinguish all smoking materials.
- (5) Close access fittings and openings that could allow fuel vapors to enter enclosed spaces of the vessel.

DURING FUELING:

- (1) Maintain nozzle contact with fill pipe.
- (2) Wipe up spills immediately.
- (3) Avoid overfilling.
- (4) Fuel filling nozzle must be attended at all times.

AFTER FUELING:

- (1) Inspect bilges for leakage and fuel odors.
- (2) Ventilate until odors are removed.

Recycle

Oil	Mixed paper
Antifreeze	Newspaper
Lead batteries	Solvents
Glass	Steel
Plastic	Scrap metal
Aluminum	Tin
Corrugated cardboard	Tires
Metal fuel filter canisters	

D. Signs and Labels

Environmental Policy

It is the policy of this marina to protect the health of our patrons, staff, and the environment by minimizing the discharge of pollutants to the water and air.

Marine Sanctuary

This Marina Provides Food and Shelter for Young Fish

Prevent Oil Spills!

Keep Bilge Clean!

Use Oil Absorbent Pads!

Help by Recycling or Properly Disposing of Used Oil, Antifreeze, Solvents, Cleaners, Plastics, and Other Wastes

No Fish Scraps

Please do not discard fish scraps into the water

Use our fish cleaning station
Save scraps for chum