National Park Service
Commercial Services

CLEAN MARINA GUIDEBOOK
MARCH 2012

In October of 2007, the National Park Service (NPS) launched the Clean Marina Initiative to continue its effort to preserve NPS resources and encourage the enjoyment and responsible use of park facilities. This Clean Marina Guidebook (Guidebook) will help marinas develop practices that go beyond required regulatory and contractual compliance and implement best management practices (BMPs). The Guidebook is a helpful reference tool with a broad range of resources.

NATIONAL PARK SERVICE

CLEAN MARINA GUIDEBOOK

As every NPS employee and concessioner is well aware, the NPS has a great responsibility to the lands and people of America. The mission of the NPS was officially stated in the Organic Act signed by Woodrow Wilson on August 25, 1916. Since then, the NPS has endeavored "to promote and regulate the use of the…national parks…which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

This Guidebook is provided as a resource to help park and concessions staff establish their marina as a "Clean Marina," the ultimate goal of which is to create greener and more environmentally friendly facilities. Being that the Clean Marina Initiative is a completely voluntary program, there are several options for incorporating 'Clean Marina' practices into park and concessions operations. For example, facilities can take the pledge, found at the front of this document, and/or conduct self-evaluations using the checklists and other information provided throughout the Guidebook. To promote a healthier aquatic ecosystem for park staff, visitors, and marine wildlife, marina facilities are encouraged to work toward meeting the goals set out in the following pages and implementing sustainable Clean Marina practices.

Although there is not currently a formal NPS process to officially designate or certify marinas that are implementing 'Clean Marina' practices, it is the way of the future. In preparation, marina managers should be ready to demonstrate how they are meeting high environmental standards, complete with facility documentation, employee awareness and training programs, and visible operational practices that show the marina's high level of environmental performance.

Many states in which park units are located already have state-certified Clean Marina Programs or similar initiatives (see Appendix C). The NPS encourages park unit marina operations and concessioners to seek Clean Marina certification through these state programs if they exist. However, NPS parks and concessioners are subject to some unique requirements that many other marinas are not. It is recommended that park unit managers and concessioners complete the included "Clean Marina Checklist" and use the Guidebook for additional understanding of the BMPs suggested to ensure that marinas in NPS units are meeting the highest standards consistent with the NPS mission to preserve, conserve, and protect the environment for the enjoyment of future generations.

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Suggestions on how to improve this resource are welcome.

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CLEAN MARINA PLEDGE

The NPS Clean Marina Initiative promotes and celebrates voluntary adoption of measures to reduce waste and prevent pollution of NPS park- and concessioner-operated marina and boating facilities. Clean Marinas are considered environmentally responsible businesses.

As the first step toward achieving Clean Marina status and on behalf of _____ (name of park/concession marina), we pledge to do our part to keep _____ (name of city or state) waterways free of harmful chemicals, excess nutrients, and debris.

We will comply with all applicable laws, regulations, and other requirements. In addition, we will go beyond compliance to identify opportunities and implement practices to address:

- ☐ Air Quality
- ☐ Education and Training
- ☐ Energy Use
- ☐ Environmentally Preferable Materials and Products
- ☐ Hazardous Materials and Wastes
- ☐ Sensitive Area Protection
- ☐ Wastewater Management Control
- ☐ Solid Waste Management and Recycling
- ☐ Spill Prevention
- ☐ Stormwater Management
- ☐ Vessel Maintenance/Repair Activities
- ☐ Water Conservation

We commit to actively pursuing Clean Marina practices. Within one year of the date below, we pledge to implement appropriate pollution prevention as an active participant in the NPS Clean Marina Initiative.

_____ _____

Name of Park Superintendent /Marina Owner (As applicable) Date

_____ _____

Name of Marina Manager Date

CLEAN MARINA CHECKLIST

Marina Name: _____ Park Superintendent/Owner/Manager: _____

Address: _____ Phone: _____

Park: _____

This checklist is for use by park and concession marina operators to conduct a self-assessment of their facilities and to verify that their marina is working to achieve an optimal performance level; it is designed to assist marina operators in identifying and implementing practices that are consistent with the NPS Clean Marina Initiative. This checklist is but one of many resources provided in this Clean Marina Guidebook.

To be considered a Clean Marina, it is necessary to have developed and implemented Clean Marina practices and to be in compliance with all applicable laws, regulations, policies, and contract requirements. This means that operators must adhere to the 'Overall Compliance' section below as well as all items in other sections denoted with an asterisk as compliance requirements. The questions without an asterisk are suggested best management practices (BMPs). While it is encouraged, it is not required to implement BMPs. Some BMP items are repeated under different areas because they serve multiple functions. It should be noted that some BMPs that are not designated with an asterisk may be concession contract requirements, or required practices based on certain plans approved by a regulatory agency, such as a Spill Prevention, Control and Countermeasure (SPCC) Plan or a Stormwater Pollution Prevention Plan (SWPPP). The park/concession manager should identify these requirements in advance and ensure that these BMPs are identified as compliance requirements.

The "not applicable" (N/A) option is offered so that items that are beyond the marina operator's control or that simply do not apply to the operation will not apply. For example, if you do not have a septic system, check N/A for Area 7, number 4. The N/A option should also be used by parks if the item in question does not apply because it relates specifically to a concession operation.

AREA 1: OVERALL COMPLIANCE

	YES	NO	N/A
1. Have you complied with all applicable federal, state, regional, and local laws (i.e., regulatory laws and other requirements)?	_____	_____	_____
2. If you are a concessioner, has your facility implemented all environmental requirements identified in the concession contract (e.g., Section 6) and Operating and Maintenance Plan?	_____	_____	_____
3. If the facility has undergone an NPS Commercial Services Program audit (for concessioners) or NPS regional environmental audit (for parks), have all regulatory-based environmental findings been corrected?	_____	_____	_____
4. If you are a concessioner, has your facility corrected all concession evaluation deficiencies related to environmental management?	_____	_____	_____
5. If the facility has previously received a notice of violation (NOV) or been subject to criminal or civil investigations, have these been resolved?	_____	_____	_____

AREA 2:
MARINA MANAGEMENT

	YES	NO	N/A
1. *If required, has an Environmental Management System (EMS) been implemented for the facility?	_____	_____	_____
2. Does the facility promote staff awareness of and provide staff training on its Clean Marina Program?	_____	_____	_____
3. Does the facility maintain complete training records?	_____	_____	_____
4. Does the facility train employees to watch for inappropriate discharges?	_____	_____	_____
5. Does the facility have a predetermined procedure for approaching polluters?	_____	_____	_____
6. Does the facility incorporate environmental requirements into slip holder agreements?	_____	_____	_____
7. Does the facility address environmental practices in rental boat materials and check-out briefings?	_____	_____	_____
8. Does the facility post signs (or use bulletin boards) to educate patrons on BMPs?	_____	_____	_____
9. Does the facility distribute and/or post environmental education materials for patrons?	_____	_____	_____
10. Does the facility host workshops to highlight and demonstrate BMPs?	_____	_____	_____
11. Does the facility recognize boaters who try to prevent pollution?	_____	_____	_____
12. Does the facility publicize its environmentally responsible actions?	_____	_____	_____
13. If you are a concessioner, does your facility provide environmentally preferable merchandise and provide environmental messaging in retail stores?	_____	_____	_____

AREA 3:
MARINA DESIGN AND MAINTENANCE

	YES	NO	N/A
1. *Does the facility have all the necessary environmental reviews (e.g., the National Environmental Protection Act (NEPA)), permits, and agency approvals for marina construction or expansion?	_____	_____	_____
2. *Does the facility meet NPS Integrated Pest Management (IPM) program requirements (e.g., use of pre-approved pesticides, annual pesticide-use reporting)?	_____	_____	_____
3. In contracts signed by outside contractors and businesses operating in the marina, does the facility include language that contains the same environmental requirements used by the marina?	_____	_____	_____
4. Does the facility minimize impervious areas and site buildings, workshops, and storage areas away from the shoreline?	_____	_____	_____
5. Does the facility location minimize the need for and impact of dredging?	_____	_____	_____
6. Does the facility use environmentally preferable materials in its marina construction and maintenance?	_____	_____	_____
7. Does the facility avoid the use of non-encapsulated foam floatation?	_____	_____	_____
8. Does the facility employ non-structural shore erosion control measures?	_____	_____	_____
9. Does the facility implement energy conservation practices?	_____	_____	_____
10. Does the facility implement water conservation practices?	_____	_____	_____
11. Does the facility minimize pesticide and fertilizer use?	_____	_____	_____
12. Does the facility maintain vegetated areas around water bodies?	_____	_____	_____

AREA 4:
STORMWATER MANAGEMENT

	YES	NO	N/A
1. *Is the facility covered under an individual stormwater permit, a general stormwater permit, or a "No Exposure" certification?	_____	_____	_____
2. *Does the facility have an up-to-date, accurate, and fully implemented SWPPP (e.g., documented plan, BMPs in place, monitoring, and training)?	_____	_____	_____
3. Does the facility prevent the discharge of wash or process water or oil-laden bilge water?	_____	_____	_____
4. Does the facility capture and treat stormwater on-site?	_____	_____	_____

AREA 4:
STORMWATER MANAGEMENT

	YES	NO	N/A
5. Does the facility cultivate vegetated areas?	_____	_____	_____
6. Does the facility minimize paved areas?	_____	_____	_____
7. Does the facility stencil warnings on storm drains?	_____	_____	_____

AREA 5:
FACILITY MANAGEMENT: VESSEL MAINTENANCE AND REPAIR

	YES	NO	N/A
1. *Is the facility covered under an individual stormwater permit, a general stormwater permit, or a "No Exposure" certification?	_____	_____	_____
2. *Does the facility have an up-to-date, accurate, and fully implemented SWPPP (e.g., documented plan, BMPs in place, monitoring, and training)?	_____	_____	_____
3. Does the facility prevent the discharge of wash or process water or oil-laden bilge water?	_____	_____	_____
4. Does the facility capture and treat stormwater on-site?	_____	_____	_____
5. Does the facility cultivate vegetated areas?	_____	_____	_____
6. Does the facility minimize paved areas?	_____	_____	_____
7. Does the facility stencil warnings on storm drains?	_____	_____	_____
8. Does the facility minimize impacts from pressure washing?	_____	_____	_____
9. Does the facility recommend bottom coatings with minimal environmental impacts to patrons?	_____	_____	_____
10. Does the facility minimize impacts of painting operations?	_____	_____	_____
11. Does the facility handle solvents appropriately?	_____	_____	_____
12. Does the facility repair and maintain engines in accordance with manufacturer recommendations?	_____	_____	_____
13. Does the facility conduct in-water maintenance?	_____	_____	_____
14. Does the facility use environmentally preferable materials in vessel maintenance and repair activities?	_____	_____	_____

AREA 6:
PETROLEUM CONTROL (BOTH COMMERCIAL AND NON-PUBLIC USE)

	YES	NO	N/A
1. *Do all fuel underground storage tanks (USTs) meet regulatory requirements (e.g., facility design, leak detection, corrosion protection, spill and overfill protection)?	_____	_____	_____
2. *Are fuel tanks properly registered with state and local authorities?	_____	_____	_____
3. *Are all UST operators properly trained in accordance with federal and state guidelines?	_____	_____	_____
4. *Do petroleum storage and fueling facilities and operations comply with National Fire Protection Association (NFPA) requirements (e.g., signage, procedures for fuel attendants)?	_____	_____	_____
5. Does the facility regularly inspect/repair fuel transfer equipment?	_____	_____	_____
6. Does the facility have environmental controls such as secondary containment for tanks and piping?	_____	_____	_____
7. *Does the facility have environmental controls such as leak detection systems for aboveground and dock fuel lines?	_____	_____	_____
8. Does the facility have environmental controls for fuel lines and pumps?	_____	_____	_____
9. Does the facility train staff to follow and promote environmental and safety precautions while fueling?	_____	_____	_____
10. Does the facility use oil absorbent materials at the fuel dock (e.g., for vessel fuel vents and nozzles, and to absorb incidental drips on the water)?	_____	_____	_____
11. Does the facility take precautions to minimize oil spills and leaks from machinery?	_____	_____	_____

AREA 7:
SEWAGE HANDLING

	YES	NO	N/A
1. *Does the facility prohibit discharge from Type I and Type II marine sanitation devices (MSDs)?	_____	_____	_____
2. Does the facility conduct periodic inspection and dye testing of the sewage system to check for leaks?	_____	_____	_____
3. Does the facility have a well-maintained pumpout system in place that is easy and convenient to use?	_____	_____	_____
4. Does the facility have pumpout service available on fuel docks?	_____	_____	_____
5. Does the facility have pumpout service available in slips for large boats?	_____	_____	_____
6. Does the facility have a convenient, well-marked disposal for portable boat toilets and a method to transfer waste directly to the sewer system?	_____	_____	_____
7. Does the facility have a pumpout service sign that is easily seen by passing boats?	_____	_____	_____
8. Does the facility maintain a pumpout log to help quantify the volume collected from each boat?	_____	_____	_____
9. Does the facility conduct annual vessel MSD inspections to verify that each boat in the marina complies with applicable no-discharge regulations?	_____	_____	_____
10. Does the facility have clean, functional restrooms available 24 hours a day during the boating season or year-round if live-aboards are present or boats are used in winter months?	_____	_____	_____
11. Does the facility regularly maintain connection to the municipal sewer system to ensure it is functioning?	_____	_____	_____
12. Does the facility address the special sewage handling needs of live-aboards?	_____	_____	_____

AREA 8:
EMERGENCY PLANNING

	YES	NO	N/A
1. *Has the facility developed and implemented an Emergency Action Plan (EAP) and/or an Emergency Response Plan (ERP) for responding to larger non-incidental spills (e.g., current documented plans, equipment, training, and drills)?	_____	_____	_____
2. *Does the facility have an up-to-date, accurate, and fully implemented SPCC Plan (if applicable)?	_____	_____	_____
3. Does the facility have documented and readily available emergency response procedures that address particular requirements for petroleum-handling facilities and dock fueling facilities, if applicable? (Note: This may be part of SPCC, EAP, or ERP training or specialized stand-alone procedures that support these plans.)	_____	_____	_____

AREA 8:
EMERGENCY PLANNING

	YES	NO	N/A
4. Does the facility have regular emergency training and drills for staff? (Note: This may be part of SPCC or ERP implementation, if applicable.)	_____	_____	_____
5. Does the facility store spill response equipment in a convenient, readily accessible location?	_____	_____	_____

AREA 9:
HAZARDOUS MATERIALS MANAGEMENT

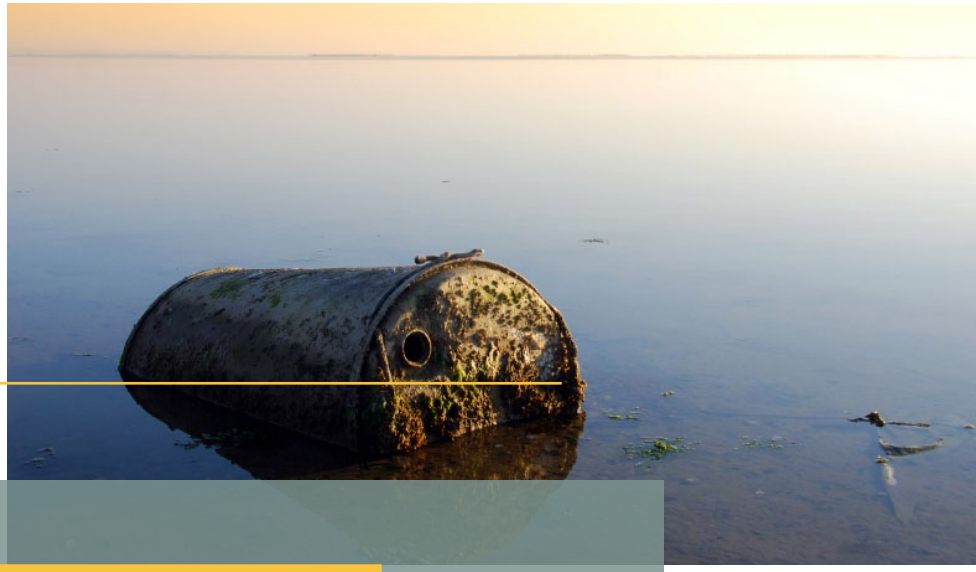
	YES	NO	N/A
1. *Has the facility developed and fully implemented a Hazard Communication (HAZCOM) Program (e.g., developed written plan, maintains Material Safety Data Sheets (MSDSs), trains employees, labels containers)?	_____	_____	_____
2. *Does the facility have proof of generator status and/or an EPA identification number (if applicable)?	_____	_____	_____
3. *Does the facility properly handle and store hazardous materials in accordance with Occupational Safety and Health Administration (OSHA) and NFPA requirements (e.g., incompatibles stored separately, appropriate containers, storage facilities)?	_____	_____	_____
4. *Does the facility properly collect, store, and dispose of hazardous waste in accordance with regulations?	_____	_____	_____
5. Does the facility minimize the use of hazardous materials?	_____	_____	_____
6. Does the facility use environmentally preferable alternatives to hazardous materials?	_____	_____	_____
7. Does the facility provide secondary containment for the storage of hazardous materials and hazardous wastes in locations in which there is the potential for release to the environment?	_____	_____	_____
8. Does the facility reduce hazardous waste in daily operations?	_____	_____	_____

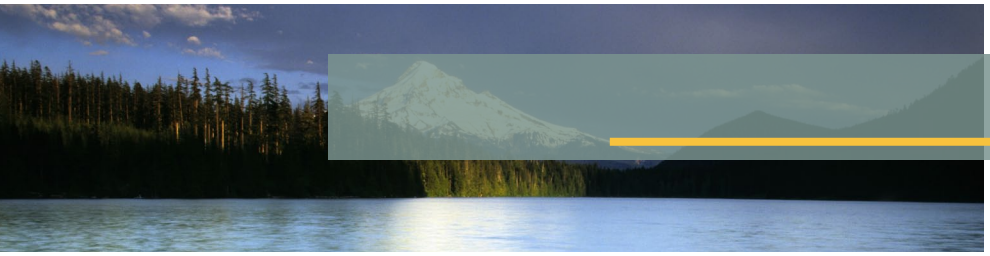
AREA 10:
WASTE MANAGEMENT

	YES	NO	N/A
1. *Has the facility developed and fully implemented a Hazard Communication (HAZCOM) Program (e.g., developed written plan, maintains Material Safety Data Sheets (MSDSs), trains employees,labels containers)?	_____	_____	_____
2. *Does the facility have proof of generator status and/or an EPA identification number (if applicable)?	_____	_____	_____
3. *Does the facility properly handle and store hazardous materials in accordance with Occupational Safety and Health Administration (OSHA) and NFPA requirements (e.g., incompatibles stored separately, appropriate containers, storage facilities)?	_____	_____	_____

AREA 10:
WASTE MANAGEMENT

	YES	NO	N/A
4. *Does the facility properly collect, store, and dispose of hazardous waste in accordance with regulations?	_____	_____	_____
5. Does the facility minimize the use of hazardous materials?	_____	_____	_____
6. Does the facility use environmentally preferable alternatives to hazardous materials?	_____	_____	_____
7. Does the facility provide secondary containment for the storage of hazardous materials and hazardous wastes in locations in which there is the potential for release to the environment?	_____	_____	_____
8. Does the facility reduce hazardous waste in daily operations?	_____	_____	_____





1. INTRODUCTION

1.1 WHAT IS A CLEAN MARINA?

Clean Marinas incorporate environmental practices and standards that go beyond regulatory and contractual requirements to promote clean water and fresh air and create outreach programs that teach users to include similar practices in their daily lives. The number one priority of a Clean Marina is to keep coastal and inland waterways clean, attractive, and healthy. Clean Marinas are supported by Clean Marina Programs, which include various state-sponsored programs, and individual marina programs. All 'Clean Marina' programs support the overall Clean Marina Initiative, which was created to establish BMP guidance for NPS marinas.

While Clean Marina Programs vary from state to state, all programs offer information, guidance, and technical assistance to marina operators, local governments, and recreational boaters on BMPs they can use to prevent or reduce pollution. Marinas that participate in the state-certified Clean Marina Program are recognized for their environmental stewardship and can often receive formal certification for their efforts.

A variety of water and shore-based activities conducted within the national parks could benefit from the park's marina becoming a Clean Marina, including:

- Canoe and rafting facilities
- Marinas
- Boat yards
- Marine repair and maintenance facilities
- Docks
- Floating restrooms and fueling stations
- Boat rentals
- Ferries
- Tour boats

Facilities eligible to become a Clean Marina are located on lakeshores, rivers, oceans, lagoons, or any waterway in between.

All NPS operations that involve these types of facilities and activities can implement Clean Marina practices. Authorized operations may include activities being conducted by the park, by concessioners operating under a concession contract or commercial use authorization (CUA), concession permittees, incidental business permittees, cooperating associations, and special use permittees.

1.2 WHAT IS THE NPS CLEAN MARINA GUIDEBOOK?

The Guidebook, written and produced by the NPS, is designed to support the award-winning Clean Marina Initiative, which was developed through a partnership between the District of Columbia and the NPS National Capitol Region (NCR), with the support of the Environmental Protection Agency (EPA) and the Secretary of Transportation. It has been designed as a resource for identifying Clean Marina BMPs that can be incorporated into NPS operations to safeguard and improve existing environmental conditions. It is intended to help operators make cost-effective and environmentally sound decisions in the context of their existing responsibilities to the natural resources on which they rely and the contracts that govern their workplace.

While all water-based facilities and operations can benefit from adopting Clean Marina practices, the Guidebook is primarily oriented toward NPS concessioners operating marina facilities. It should also be noted that many NPS concessioner marinas are more like resorts than simple marinas. In addition to the marina, the concession complex may include hotels, landside restaurants, gas stations, employee housing, recreational vehicles, trailer parks, bus tours, horse rental services, and more. While the Guidebook is oriented toward the marina shore- and water-based facilities themselves, many of the recommended Clean Marina practices can be integrated into other concessioner operations.As the marina operator, you know what works best at your facility. For that reason, the Guidebook is not a rulebook. Since regulations and BMPs change, the Guidebook is issued electronically rather than as a hardcopy to more easily allow for updates. It is anticipated that the Guidebook can be used as a springboard for new ideas from marina employees and customers.

1.3 WHY DO YOU NEED THE GUIDEBOOK?

Increasing concern about the quality, health, and safety of the nation's waterways has led to a variety of regulations and initiatives to protect them. Marinas are in a unique position to lead the effort.

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

Marinas are not the only operations contributing to the degradation of waterways. Water quality is impacted by runoff of fertilizers and pesticides, 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 carried in with runoff from streets and highways. Careless pumping out of on-board toilets in a waterway, overboard disposal of trash, and other thoughtless actions will contribute to pollution. Environmental degradation is not the result of any particular industry or user group, but it is caused by all of us!

Operations that adopt Clean Marina practices will positively raise their visibility by demonstrating a commitment to environmental stewardship. Their commitment will support national and regional sustainability goals as well as the NPS Green Parks Plan goals listed below.

- **ENVIRONMENTAL COMPLIANCE:** Improve environmental compliance with federal sustainability mandates and other mandatory guidelines at all NPS facilities.
- **CLIMATE CHANGE MITIGATION & FACILITY ADAPTATION:** Reduce greenhouse gas (GHG) emissions from NPS operations and adapt the location and configuration of facilities in response to climate change.
- **ENERGY MANAGEMENT:** Improve the energy efficiency of NPS facilities, reduce energy consumption for operations, and use renewable energy.
- **WATER MANAGEMENT:** Reduce the consumption of potable water in NPS operations, reduce wastewater flows, and mitigate stormwater runoff.
- **FLEET & TRANSPORTATION MANAGEMENT:** Rightsize the NPS fleet, promote sustainable vehicle use, and increase the use of public transportation to, from, and within parks.
- **ENVIRONMENTAL PURCHASING & WASTE REDUCTION/MANAGEMENT:** Improve the sustainability of all materials used across the NPS and throughout the material life cycle and reduce toxins in park facilities.
- **HEALTHY INDOOR ENVIRONMENTS:** Advance human health, welfare, and productivity through improved management of indoor spaces.
- **OUTDOOR ENVIRONMENTAL QUALITY & SUSTAINABLE SITES:** Mitigate the impacts of NPS operations on the external environment.
- **BEST PRACTICES IN SUSTAINABLE FACILITY MANAGEMENT & USE:** Promote sustainability best practices at all NPS parks.

Clean Marina Programs offer many benefits to the business operations of marinas, as well. Marinas may receive public recognition in national and local newspapers, in Clean Marina publications, and at public events.

Clean Marina participants are likely to save money by following the Guidebook recommendations, ultimately reducing the cost of materials, waste cleanup, and disposal. A cleaner environment and the use of more efficient equipment can increase staff productivity.

1.4 UNDERSTANDING COMPLIANCE REQUIREMENTS

The main purpose of the Guidebook is to provide a toolkit to help reduce environmental impacts and improve the area around a marina facility. A critical step to effective environmental management is understanding applicable federal, state, and local laws and regulations; federal executive orders; and NPS and park unit policies. After all, although many of these requirements often seem complicated and burdensome, their true intent is to reduce impacts to the environment. Compliance with these requirements will not only meet legal obligations, but will also help the marina operate in an environmentally sound manner. As the Clean Marina Checklist at the beginning of the Guidebook demonstrates, compliance is a minimum requirement for creating a Clean Marina. Appendix D presents a summary of the pertinent statutes for marina facilities.

Note: The materials provided in the Guidebook do not represent a comprehensive coverage of all requirements applicable to marina operations. To further help in this complex process, the NPS Commercial Services Program environmental audit protocol for marina and watercraft operations is provided in Appendix F. These documents are provided as tools to assist a marina operation in achieving compliance, however, it is not intended to describe all environmental requirements applicable to a marina operator. It is the responsibility of the owner/operator to ensure all applicable requirements and regulations are understood and appropriately applied.

1.5 UNDERSTANDING BMPS

Another objective of the Guidebook is to offer suggestions on how a facility can go beyond compliance with laws and regulations to further improve the surrounding environment. BMPs are policies and practices that apply the most advanced means and technologies available to achieve the highest level of environmental protection possible. BMPs are expected to change from time to time as technology evolves, thereby introducing innovative methods for achieving environmentally sustainable operations in more efficient ways (i.e., those that have a restorative or net positive impact on the environment).

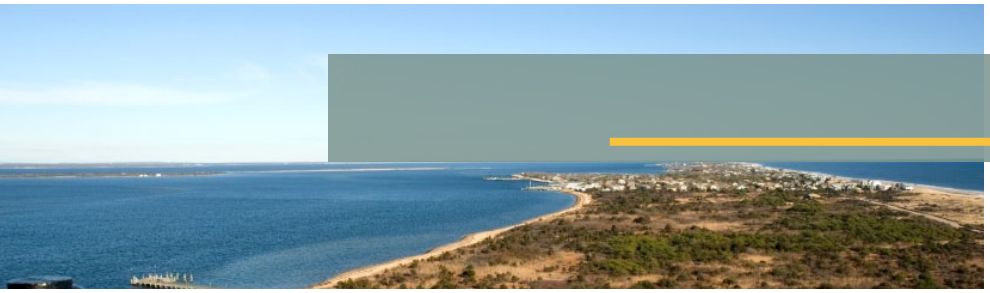
Although the implementation of BMPs is voluntary, marina facilities that incorporate them support the longevity of their operations by preserving their number one resource: the water! The following chapters outline Clean Marina management practices in various program areas. Many of these management practices fall into the "above and beyond" (aka, BMP) category. As you will see in **Section 6**, using BMPs and encouraging others to do the same can raise public awareness of the marina.

As time passes, the Guidebook will evolve and so will BMPs. By staying on top of new developments, your facility will have the opportunity to continue to decrease its environmental impacts while saving money.

1.6 ORGANIZATION

The Guidebook is set up in an easy-to-use format. Section 2 introduces you to the environmental impacts that a marina will likely face. Section 3 discusses environmental management systems. Section 4 provides a list of BMPs for solving and preventing the environmental impacts caused by a facility. The BMPs are alphabetical by subject (Air Quality, Education and Training, etc.). To find out if a facility has incorporated these BMPs, refer to Section 5 to help measure your performance. Also included at the end of the Guidebook are some success stories from concessioners at NPS parks around the US. These facilities are not just in compliance, they have put into place a number of the BMPs or other innovative park-approved projects to help their facility go above and beyond.

Do not assume that the Guidebook is complete! It is set up so that a facility may continue to build upon existing BMPs and develop new ones. Check out the Appendices for additional information, including useful websites, resources, an Environmental Management Program (EMP) template, and much more.



2. UNDERSTANDING ENVIRONMENTAL IMPACTS

All activities, both human and natural, have consequences for the immediate physical environment. The implications for water, air, soil, flora, and fauna vary depending on the type of intervention and the duration of the activity. The building of a new facility, a sudden severe storm, or the arrival of a large number of people for a water festival can each have significant effects on the environment, such as damage to flora, soil compaction, increased pollution loads in the water, or release of dust clouds into the air. However, many of these can be prevented, even when caused by natural phenomena, if adequate mitigation steps are taken.

2.1 AIR QUALITY IMPACTS

Many activities in a marina affect air quality, although some activities may produce more significant sources of pollution than others. Some possibilities include the following.

2.1.1 DUST, DIRT, AND SMOKE

Dust-producing equipment (rotary tools, saws, drills, etc.) release particles into the air that may interfere with or impede breathing ability, especially for those with asthma, or may produce other respiratory problems like chronic bronchitis or decreased lung function. Hazards such as unpaved roads and activities like the burning of wood or trash can also send particle pollution into the air. When particles settle, they may interfere with plant and aquatic life, soils, streams, lakes, and coastal waters.

2.1.2 CLEANERS, SOLVENTS, PAINTS, AND PESTICIDES

Chemical vapors from cleaners, solvents, paints, and pesticides can be released into the air. These emissions can have harmful effects on the environment (such as smog) and can be carcinogenic in certain concentrations.

2.1.3 FUEL, GASOLINE, AND OIL STORAGE

Harmful fumes can escape when filling gasoline tanks from a tanker or filling vehicles from gasoline tanks. Production and transport of fuels can increase the amount of Green House Gas (GHG) in the atmosphere.

2.1.4 MOLD

Molds are found almost everywhere; they can grow on virtually any organic substance when moisture and oxygen are present. This makes boats and marinas a prime target for mold growth. When mold spores land in damp areas indoors, they may begin digesting anything nearby in order to survive. By controlling indoor humidity, it is possible to control indoor mold growth.

Molds can trigger allergic reactions or even asthma attacks in people allergic to mold. Others may produce potent toxins and/or irritants. Health problems result from inhalation of fungal spores, fragments, or metabolites as well as physically touching or ingesting the mold. Potential health concerns are an important reason to prevent mold growth and to clean up any existing indoor mold.

2.1.5 MOTOR OPERATIONS

Engine repairs, vehicle operations, and forklift usage are examples of motor operations that contribute emissions to the environment. Emissions such as nitrogen dioxide that are created from the burning of fuel at high temperatures contribute to smog, acid rain, haze, and increased GHGs.

2.1.6 OZONE-DEPLETING SUBSTANCES

Vessels and marina facilities often have air conditioning and refrigeration systems that must be properly serviced to control ozone-depleting substance (ODS) emissions. Halon fire suppressant systems may also be an issue if not properly maintained.

2.2 ENERGY USE

Although energy use is essential for the operation of a marina, certain practices can be employed to help reduce energy misuse or waste. Energy efficiency is both cost effective and environmentally responsible. Energy conservation opportunities exist for employee practices and equipment usage, especially if equipment is old, inefficient, oversized, or improperly operated or maintained.

For example, opportunities for energy conservation involving lighting include installation of motion sensors, the use of high efficiency fluorescent or Light-emitting diode (LED) bulbs, removal of excessive lamps or bulbs, and turning off lights when not in use. Utilizing renewable energy sources helps conserve energy as well.

Other opportunities for conserving energy include:

- Replacing existing transformers with energy efficient power generators
- Regulating heating and cooling systems with programmable thermostats
- Using fuel efficient, low emissions engines
- Landscaping to provide shading or wind breaks
- Creating covered parking and docks
- Installing solar panels on roofs as an additional energy resource
- Considering building orientation and site selection and their impact on energy requirements when planning new facilities
- Using Energy Star equipment, including computers, refrigerators, and monitors

2.3 FISH AND WILDLIFE IMPACTS

Aquatic habitats and their components may be disrupted by marinas or boatyards. When these areas are altered, either directly or indirectly, the organisms living in them may not be able to survive the changes. Fish and shellfish populations are threatened when spawning and harvesting beds are disturbed or eliminated, by activities such as dredging. This can cause an immediate impact in the food chain for the area in which the marina resides.

Indirectly, fish and wildlife are affected by changes in their local environment when alterations occur to the wetlands, riparian zones, and beds of submerged aquatic vegetation. Fish may lose their protective barrier against predators and become vulnerable to an increase in pollutants (discussed below) and turbidity. Turbidity clouds the water, hindering photosynthesis and the development of aquatic plants on which the fish feed. Also, if shoreline and aquatic flora and fauna are removed, opportunities are created for invasive species to populate the area, disturbing the natural balance of the marina ecosystem. An invasive species is a species that is non-native and takes over a new environment; if introduced by marina activities, an invasive species can overpower local flora and fauna, especially if the ecosystem has already been weakened. For instance, boats being brought from one location to another could introduce a non-native species to the local area (e.g., zebra snail). It is important to survey the area to identify both invasive and endangered species so appropriate actions to manage them may be established.

Another concern is the pollutant level in aquatic organisms. Pollutants can mix freely in water or attach themselves to sediment or suspended particles in the water. When an organism ingests these, the pollutants accumulate in the

tissues of the organism. These pollutants are passed on to larger organisms when the smaller ones are eaten. This bioaccumulation causes pollutant levels to rise at an alarming rate in aquatic life forms. In turn, humans are exposed to toxins when they eat the contaminated fish.

2.4 GROUNDWATER QUALITY IMPACTS

Groundwater is the water captured within soils and in aquifers. A portion of precipitation that is neither evaporated nor transported through runoff is instead absorbed into the ground where it contributes to the soil saturation level and recharges aquifers. Groundwater and surface water can mix or trade places; water in a lake (surface water) can be absorbed into the earth (groundwater) OR excess water in the earth can refill a lake. This dynamic is significant because of its potential for spreading pollutants.

Groundwater quality is important because groundwater is the source for public drinking water and private well water. Contamination of this water can lead to health and environmental concerns.

Drums or tanks containing toxic materials, such as gasoline, may leak and pollute groundwater. Pesticides and fertilizers have the potential to be absorbed into the ground and contaminate groundwater. A leaking landfill can cause groundwater contamination. Any hazardous material that is allowed to penetrate the soil can infiltrate groundwater.

Cleanup of groundwater pollution is often difficult and expensive due to the depth and scale of the water. If the groundwater is used as a drinking source, alternate sources may be difficult to find, depending on the local environment and the number of people served by the source.

2.5 IMPACTS TO NIGHT SKY

Night lighting is important for marinas for safety and security issues as well as for enabling nighttime activities. However, light pollution is a concern for a number of reasons. For example, unnatural light patterns may have an impact on migratory birds or may affect the habits of local nocturnal creatures. Additionally, light may interfere with the aesthetic aspects of the nighttime sky, prohibit star-gazing, or it may contribute unnecessary lighting to surrounding neighborhoods, possibly disturbing neighbors. Due to the natural location of shoreline facilities, glare reflected from the water surface may intensify the effects of lighting. Glare can interfere with boat navigation, hindering the ability to see other boaters, hazards, and navigational aids.

This is an especially important consideration in more remote areas in which the NPS is especially active in protecting the night skies from light impacts. In such areas it is the responsibility of the NPS to ensure that visitors benefit from the full experience of the natural environment with clear views of the night skies, complete with stars, meteor showers, and northern lights.

2.6 SOIL QUALITY IMPACTS

Soil quality—the capacity of a soil to function—impacts features such as plant productivity, environmental buffers, and water movement. Human use and management are important determinants of soil quality.

Pollutants that can adversely affect soils include fertilizers and pesticides used in excess, oil or grease drippings, gasoline, and runoff from parking lots or other paved areas. When stored in or around the soil, these pollutants can cause damage to the surrounding wildlife. In addition, increased traffic may affect soil quality. Use of walking paths or trails can cause soil to compact, making it impermeable to rain water. If water is unable to pass through the soil, it runs over the earth's surface instead, which can increase erosion rates and create dirty runoff or mudslides.

Those pollutants that do not dissolve in water can attach themselves to sediments. Contaminants such as metals or petroleum hydrocarbons are likely candidates for this process. The heavier metals (such as copper or lead) sink to the bottom of the water column. Petroleum hydrocarbons can remain attached to sediments for many years. As previously discussed, fish and wildlife often ingest these sediment particles, causing health threats to the organisms themselves and to organisms at higher levels in the food chain, including humans.

2.7 SURFACE WATER IMPACTS

Surface water includes ponds, lakes, streams, rivers, estuaries, bays, and oceans. The effect of pollution on surface water is dependent upon the type of water body and how water behaves within it. The following are some factors to consider.

2.7.1 NONPOINT SOURCE POLLUTION

Because the source of nonpoint source pollution cannot be pinpointed to one specific activity or location, both prevention and reduction of contaminants are essential for a successful cleanup of the marina environment. Impacts from this type of pollution can interfere with and harm water sources (surface and groundwater, as previously discussed).

Some sources of nonpoint pollution associated with marina activity are:

- Fertilizers, herbicides, and insecticides
- Shore-based facilities
- Oil, grease, and toxic chemicals
- Sediments from construction sites, crop and forest lands, and eroding stream banks
- Bacteria and nutrients from pet wastes and faulty septic systems
- Wastewater discharge
- Stormwater runoff
- Retention ponds

2.7.2 SEDIMENT, NUTRIENTS, SOLID WASTE, AND TOXIC SUBSTANCES

All of these can be carried into surface waters through runoff. Sediment causes turbidity issues and can carry attached pollutants (nutrients, solid waste, and toxic substances), which in turn affect the aquatic life in the water body.

2.7.3 WATERSHEDS

A watershed is the area of drainage for a water source such as a lake or stream. All activities within a watershed influence the health of the associated surface water and its water body.

2.7.4 WEATHER

Wind and precipitation contribute to erosion in watersheds. This erosion can increase the amount of materials (sediments, pollutants, etc.) transported into the surface water.

2.8 RESOURCE USE

Environmentally preferable products are those that have a lesser effect on human health and the environment in comparison to competing products or services that serve the same purpose. Products factors such as raw materials acquisition, product, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service are all important to consider when comparing products. They are important to understand because of the implications they have in terms of:

- Environmental impacts
- Management of purchasing decisions
- Management of building decisions
- Product lifecycle

A product lifecycle begins with the raw materials and includes bulk material processing, engineered materials production, manufacture and assembly, use, retirement, and disposal of residuals produced in each stage. A lifecycle assessment (LCA) uses a "cradle-to-grave approach to evaluate all of the environmental impacts that a product causes during its lifecycle. An LCA can provide a practical numerical summary of a product's lifecycle in relation to its ecological effects. These assessments inventory relevant energy and material inputs and energy

releases, evaluate the potential environmental impacts associated with identified inputs and releases, and interpret the results to help make a more informed decision regarding the product lifecycle design. The LCA also identifies and evaluates opportunities for minimizing the overall environmental consequences of resource usage and environmental releases.

It is important to understand product lifecycles and life spans. Especially in facilities that include a workroom or a repair shop, it is often possible to find expired materials that have not been disposed of properly. These may pose an unexpected hazard for facility users when they are incorrectly stored with other materials with which they could react harmfully as they change with age. Another possibility is that with age, they will lose their properties and effectiveness, and larger quantities will be necessary to accomplish the same end with a greater cost to the environment.

There are some common misconceptions regarding environmentally preferable products:

> ***NATURAL IS NOT ALWAYS BETTER:*** Products must be considered as a whole. For example, for some products, you need about ten times as much wood as plastic. Although plastic does not occur naturally, plastic can be recycled; wood cannot.
>
> ***ENERGY CONSUMPTION IS OFTEN UNDERESTIMATED:*** Energy consumption is often much higher for environmentally preferable products.

Some examples of products for which it is important to look at product lifecycles include:

> ***NATURAL DURABLE TIMBERS:*** It is suggested that these be used for pilings and other structures, but they should be used conservatively. Along these lines, exotic durable timbers are not suggested for use because their harvest is harmful to tropical forests. Synthetic timber may be a suitable alternative and is increasingly available, specifically for the marina industry.
>
> ***EQUIPMENT SELECTION:*** Environmentally friendly equipment might cost more than older methods or products for performing the same job (painting, blasting, sanding), but such equipment generally uses less energy and produces less waste, which leads to long-term cost savings.
>
> ***SOLVENTS:*** Although using more of a solvent might get a job done quicker, a slower, safer process using less solvent or an alternative product will save money and prevent the unnecessary release of volatile chemicals.

Other tips for selecting environmental preferable products include:

- Increasing product lifetime: Increase durability or upgradeability.
- Use a minimum of material: Less weight means less fuel consumption.
- Use recycled materials that are recyclable: If there is a demand for recycled products, supply will follow.

2.9 WATER USE

Water is often considered a cheap utility when compared to energy. However, the true cost of water includes the cost of activities associated with its use. For instance, money is required to

- Provide energy for pumping, heating, and cooling;
- Purchase chemicals for treatment; and
- Pay staff to operate treatment and wastewater treatment systems.

Conservation of water is important because drought-prone areas are experiencing lower-than-normal lake levels, and over-use can deplete aquifers. Water conservation measures can give significant cost benefits over time and help keep resources stocked.

Visit the American Water Works Association website at www.awwa.org for more information about water, including technology, resources, and public health.

3. ENVIRONMENTAL MANAGEMENT SYSTEM AND THE CLEAN MARINA INITIATIVE

As any park Superintendent or successful NPS concessioner knows, an environmental management system (EMS) is necessary to effectively manage their facilities in relation to the physical environment around them, particularly when dealing with a sensitive national park. Park units are required to have an EMS under Director's Order (DO) 13, and many concessioners are required to have an EMS per their concession contract. The question is: if a concessioner has an EMS in place, would participation in the Clean Marina Initiative or in your state's Clean Marina Programs be burdensome and redundant?

ABSOLUTELY NOT! The Guidebook encourages the use of existing management tools that are already in place at your facility. The sections below briefly explain the EMS and how participation in the Clean Marina Initiative will complement this system.

3.1 WHAT IS AN EMS?

An EMS is a managerial approach that provides a systematic way of managing an organization's environmental affairs. From an environmental perspective, it emphasizes a continual, systematic review of all appropriate business practices, missions, and activities in order to provide management efficiencies and innovation. An EMS includes five core components:

- Setting environmental policy
- Data collection and planning
- Program implementation
- Corrective action
- Management review

The NPS is committed to developing and implementing EMSs at all of its park units as a tool to achieve NPS goals of environmental stewardship and leadership; these are also meant to meet past requirements under Executive Order (EO) 13148 that all appropriate federal facilities have an EMS in place by the end of 2005. In May 2004, the NPS publicly announced DO 13A, which formalized this commitment. (Note: EO 13423 rescinded EO 13148; however, EO 13423 includes a requirement that an EMS be implemented at all appropriate organizational levels.)

The requirement for concessioners to develop and implement an EMS was established as a requirement for larger and more complex operations (i.e., category I and II contracts) in the Standard Concession Contract. Requirements were published in the Federal Register on May 4, 2000 (65 FR 26051-26086). In Section 6(b) of the Standard Contract, a documented Environmental Management Program (EMP) is described. The park and concessioner EMS requirements are closely aligned. It is expected that parks and concessioners will coordinate to minimize impacts on NPS resources.

For both park units and concessioners, the EMS is directed toward meeting two core objectives:

- Compliance with applicable laws
- Implementation of BMPs

The Clean Marina Initiative has the same objectives at its core, and the Guidebook is designed to help park units and concessioners integrate Clean Marina philosophies and practices into their EMSs. By implementing Clean Marina practices, facility operators can establish compliance programs and BMPs to reduce environmental impacts in an efficient manner.

In employing an EMS, NPS facilities and concessioners are expected to be better able to:

- Comply with applicable laws and EOs;
- Identify and reduce environmental impacts;
- Make operations more efficient and less wasteful; and
- Provide a framework to continually improve performance.

The NPS/NPS concessioner model for the EMS has the following general components:

1. **ENVIRONMENTAL COMMITMENT STATEMENT/POLICY:** The facility creates a statement that presents its commitment to protecting and conserving the environment.

2. **GOALS AND TARGETS:** Goals provide broad ideas on what the facility wants to accomplish, while targets identify specific actions or steps to be taken toward achieving goals.

3. **RESPONSIBILITY AND ACCOUNTABILITY:** The facility defines roles and responsibilities for staff.

4. **DOCUMENTATION, DOCUMENT CONTROL, AND INFORMATION MANAGEMENT SYSTEM:** This step entails ensuring that the EMS is understood and operating as designed by providing adequate information to facility staff; it provides a way for the facility to track and monitor all facility plans, records, and other documents identified.

5. **REPORTING:** Data and/or reports must be submitted to federal, state, regional, and /or local environmental agencies, as well as to the park, on a routine basis.

6. **COMMUNICATION:** This section identifies the different audiences, how and what the facility will communicate to them, and who is responsible for communicating to the audiences.

7. **TRAINING:** Training will address applicable laws and their requirements; educate employees about the EMS, and provide information regarding the environmental impacts associated with each employee's specific job.

8. **MONITORING, MEASUREMENT, AND CORRECTIVE ACTION:** This will evaluate how effective and successful the facility EMS is and will determine whether the facility has reached its goals and targets or whether there is an opportunity to revise and improve the EMS.

The benefits of an EMS are numerous. An EMS can help a facility cut costs, acquaint a facility with where it stands regarding regulatory requirements, get a facility on track with environmental performance, and indicate to the outside community the facility's current environmental efforts.

3.1.1 EMS RESOURCES

Reliable EMS resources are readily available. Online sources from NPS and EPA provide more detail about an EMS, why it is important for you, and how it can be implemented and enforced. Check out the links below to see how the EPA can help your facility.

EPA, PRACTICAL GUIDE TO ENVIRONMENTAL MANAGEMENT FOR SMALL BUSINESSES
www.smallbiz-enviroweb.org/Resources/smallbizfiles/EM_Guide0902.pdf

ENVIRONMENTAL MANAGEMENT SYSTEMS: AN IMPLEMENTATION GUIDE FOR SMALL AND MEDIUM-SIZED ORGANIZATIONS
www.epa.gov/owm/iso14001/ems2001final.pdf

EPA, ENVIRONMENTAL MANAGEMENT SYSTEMS
www.epa.gov/EMS/

3.2 HOW IS THE CLEAN MARINA GUIDEBOOK DIFFERENT FROM AN EMS?

A facility-level Clean Marina program supports, but is not a replacement for, the NPS and concessioner contract-mandated EMS. Implementing practices promoted through the Guidebook will help the marina achieve two EMS goals: environmental compliance and implementation of BMPs. Clean Marina philosophies may be adopted as part of the concessioner's environmental policy. The integration of Clean Marina designated practices and/or achievement of Clean Marina designation itself may be adopted as an EMS goal. Furthermore, training, communication, and monitoring programs that meet the objectives of the Clean Marina Initiative are documented in the applicable sections of the EMS. It is suggested that Clean Marina concepts be integrated into the park's EMS or concessioner's EMP.

3.3 INTERDISCIPLINARY TEAMS AND COMMUNICATION

The Guidebook provides tools that enable Clean Marina features to be added to a facility's existing EMS/EMP, and it also provides valuable information regarding operational aspects and environmental impacts. Most importantly, and of greatest practical use, BMPs are provided and broken down into easy-to-reference sections pertaining to operational aspects. In addition, there are numerous resources connecting you to state Clean Marina Programs (Appendix C) and state government information for specific compliance issues (Appendix B).

It is of the utmost importance to incorporate the views and opinions of all interested parties into Clean Marina practices. The input of concerned parties provides a great source of ideas, material, and support. It would be beneficial to do the following:

- Ask staff what changes they would make to improve the operational aspects of the marina.
- Discuss your vision with patrons and get their feedback.
- Find out what improvements subcontractors can make in their practices and materials.
- Marina concession managers should work with the park unit to understand park-level natural resource management and recreation needs and how concession program activities could be directed to help.
- Ask who else is interested or affected by improvements at the marina. Who are the stakeholders?
    - Environmental advocacy groups
    - Businesses involved with natural resources
    - National professional organizations
    - Private landowners
    - Patrons
    - Visitors

When a policy or program appeals to a variety of people, they will follow it and even assist in its implementation and/or enforcement.

3.4 POLICY

Rather than duplicate the effort of the Clean Marina policy when creating an EMS, aspects of the facility's Clean Marina practices should be integrated into the facility EMS policy. In developing the EMS policy, you might have asked some of these questions:

- Where are we right now in our environmental management practices?
- Where do we want to go?
- How do we get there?
- What will it cost?
- How do we measure results?
- Who will help to accomplish the plan?
- When will each goal be completed?
- What are the expected results?

To incorporate the Clean Marina practices into the EMS policy, indicate the facility's management commitment to Clean Marina philosophies and practices. Cite this commitment as a means to ensure that the facility will meet and exceed the EMS environmental management objectives. When integrating Clean Marina philosophies into EMS policy, keep in mind that a good policy will include:

- Maintaining relevance to the facility's products and services
- Consistent questioning to keep the policy clear and simple
- Integration of input from all the people involved at the facility
- Employee understanding
- Community outreach and communication

Remember! The policy is goal- and target-oriented, and its purpose is to explain clearly and concisely how and what you will do in what time frame.

3.5 GOALS AND TARGETS

Goals are specific statements that express what a facility wants to attain in a specific timeframe. Related to goals are targets, the specific actions or steps (in this case BMPs) that will achieve the goals. To determine progress, you must be able to measure your goals (see Section 3.10). The table below shows examples of goals and targets that may already be established in a facility EMS:

TABLE A: GOALS AND TARGETS

GOALS	TARGETS
REDUCE USE OF HAZARDOUS CHEMICALS AND MATERIALS TO MINIMIZE POTENTIAL SPILLS AND ENHANCE WORKER SAFETY.	• Convert 50% of the office cleaning chemicals used in operations to environmentally preferable cleaners (e.g., nontoxic, biodegradable) by December 2008. • Research and use at least two environmentally preferable products (e.g., environmentally preferable solvent cleaner) in vessel operations by December 2009.
REDUCE GENERATION OF SOLID WASTE TO MINIMIZE LANDFILL DISPOSAL COSTS AND PROTECT WATER QUALITY.	• Institute recycling program for all houseboats (cans and bottles) by June 2008. • Replace current printer with new model that prints double-sided by June 2008. • Recycle 100% of paper, plastic, glass, and cans in office - ongoing.
REDUCE WATER USAGE TO ACHIEVE A 30% REDUCTION IN FACILITY WATER USE BY 2015.	• Annually train all employees during EMS training to conserve water when washing vessels and report leaking faucets, etc. by March 2008. • Install low-flow toilets and waterless urinals in restrooms as maintenance or replacement warrants by December 2008.

3.6 RESPONSIBILITY AND ACCOUNTABILITY

Environmental roles and responsibilities must be clearly defined for all staff in order for an EMS to be effective. The same holds for any new roles and responsibilities you are establishing with the integration of Clean Marina practices into the EMS. For example, it is necessary to identify those responsible for overall Clean Marina practice management as well as specific activities and practices. Refer to the following table on roles and responsibilities:

TABLE B: ROLES AND RESPONSIBILITIES

ROLES	RESPONSIBLITIES
MARINA MANAGER	• Provides resources necessary to implement the facility environmental policy; directs development of Clean Marina plans and procedures; hires and trains employees; distributes literature to patrons; and holds workshops that demonstrate BMPs.
MARINA STAFF	• Follow facility environmental policy; participate in relevant training, implement compliance requirements and BMPs; alert designated party in case of spill/noncompliance; and develop innovative measures to reduce environmental impact.
PATRON/BOATER	• Follows park unit and facility policy; implements boater-specific compliance requirements and BMPs; alerts park-unit/facility management in the case of a spill/noncompliance; develops innovative measures to reduce environmental impact.
SUB-CONTRACTOR	• Follows facility policy; alerts management of spill/noncompliance; notifies management of innovative operational aspects in contracted area.

At all costs, remember the importance of COMMUNICATION**!** When individuals know their roles and the roles of others, the system runs more smoothly and goals are attained.

3.7 DOCUMENTATION, DOCUMENTATION CONTROL, AND INFORMATION MANAGEMENT

To ensure that Clean Marina practices at the facility are understood and operating as intended, management must provide staff with adequate information. The Guidebook suggests the documentation of check sheets, plans, logs, standard operating procedures (SOPs), etc. These documents are just part of documentation maintained through the EMS.

3.8 REPORTING

Marinas may be confronted with a variety of compliance-driven reporting requirements such as a Spill Prevention, Control and Countermeasures (SPCC) Plan and stormwater permit monitoring. The incorporation of Clean Marina practices into the facility EMS may increase facility reporting needs. These needs should be added to the reporting element already in existence in the facility EMS to consolidate all reporting needs for the facility.

3.9 COMMUNICATION

Effective environmental management requires effective communication. Internally, you should communicate your EMP to help motivate your staff, gain park-wide acceptance for your plans and efforts, ensure understanding of roles and responsibilities, and monitor and evaluate performance. You should also communicate your EMP to external parties, such as customers, the NPS, and other stakeholders. Under this element, you will identify your different audiences, how and what you will communicate to them, and who will be responsible for communicating to the audiences.

3.10 TRAINING

Environmental training ensures that all staff is aware of the facility's commitment to protecting, conserving, and preserving park resources, as well as the procedures to follow while performing job duties. Clean Marina practices may require specialized training to be added to the compliance-based and general EMS training. Information regarding training is listed in Section 4.4, Education and Training.

3.11 MONITORING, MEASUREMENT, AND CORRECTIVE ACTION

The measures your facility takes toward achieving compliance and implementing BMPs are only as good as the progress that can be monitored. Chapter 5 of the Guidebook provides tools for marina operators to conduct simple assessments of their performance in relation to the Clean Marina principles.

Equally important is correcting noncompliance when it arises and striving for continual improvement, while capturing changes though documentation, and benefiting from it through reporting.

4. BEST MANAGEMENT PRACTICES

Some aspects of marina activities are required to be addressed (compliance), and some will help a marina or park go above and beyond the federal and state requirements (BMPs). Separating the BMPs into activities or tasks can make accomplishing these goals more achievable and will ultimately help the park, marina, patrons, and environment.

4.1 ORGANIZATION OF "MANAGEMENT PRACTICES" TABLES

This chapter has been divided into 12 activities or tasks that may be a part of the management practices at a marina. Each activity or task has its own table that includes specific information about related BMPs. Reviewing each sheet will provide you with an overview on how your facility can go above and beyond compliance to achieve BMPs.

Please note that NPS concession contracts may apply specific requirements that are above and beyond federal, state, or local requirements. Be sure to annually review your concession contract to become familiar with any such requirements.

4.2 ADDITIONAL RESOURCES

The NPS 2006 Management Policies establishes broad management guidelines that are incorporated into many of the BMPs listed on the following pages. These policies are a vital tool to help NPS employees and concessioners manage parks and concessions responsibly and make rational, well-informed decisions. A complete list of these policies is available online at: www.nps.gov/policy/MP2006.pdf.

Regulatory information specific to various topic areas is provided in Appendix D of the Guidebook. Additional information, including the NPS EnviroCheck Sheets – tools used by the NPS when conducting environmental audits of parks and concession operations (see below) – are available through the NPS Commercial Services Environmental Program.

NPS ENVIROCHECK SHEETS:

- Air Quality
- CFC and Halon Management
- Emergency Planning and Reporting
- Environmental Purchasing
- Fuel Storage Tank
- Hazard Communication
- Hazardous Materials Management
- Hazardous Waste
- Laboratory Chemical and Waste Management
- Pesticide Management
- Respiratory Protection
- Solid Waste Management
- SPCC Planning
- Stormwater Management
- Universal Waste Management
- Wastewater Management

4.3 AIR QUALITY

Improving air quality is important in parks and at marinas. The reason is simple: air quality affects many areas of operation. The health of guests and staff, equipment efficiencies, the health of the environment, and profitability can be negatively impacted by poor air quality. There are many sources of indoor and outdoor air pollution. These include:

- Burning of tobacco products, as well as fuels such as oil, gasoline, kerosene, coal, and wood
- Pesticides
- Building materials and furnishings such as old insulation, damp carpet, and cabinetry or furniture made of specific pressed wood
- Cleaning and maintenance products
- Central heating and cooling systems and humidification equipment

4.3.1 MOLD MANAGEMENT

Molds are found almost everywhere. They can grow on virtually any organic substance when moisture and oxygen are present. This makes boats and marinas a prime target for mold growth. When mold spores land in damp areas indoors, they may begin digesting anything nearby in order to survive. Molds gradually destroy the materials they grow on; however, by controlling indoor humidity, you can generally control indoor mold growth. Molds can produce allergens that may trigger allergic reactions or even asthma attacks in people allergic to mold. Others are known to produce potent toxins and/or irritants. Health problems result from inhalation of fungal spores, fragments, or metabolites as well as physically touching or ingesting the mold. Potential health concerns are an important reason to prevent mold growth and to clean up any existing indoor mold growth.

4.3.2 BEST MANAGEMENT PRACTICES

For the purposes of the NPS Commercial Services, BMPs are policies and practices that apply the most current and advanced means and technologies available to a concessioner in order to undertake and maintain a superior level of environmental performance, to the extent possible under the contract. BMPs are expected to evolve over time with an ultimate goal of achieving sustainability of operations. "Sustainability of operations" refers to implementation of activities that have a restorative or net positive impact on the environment. Table C, "Education and Training BMPs," below lists examples of above-and-beyond practices that could be implemented at your marina.

TABLE C: AIR QUALITY BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
PREVENT AND REMEDIATE MOLD.	• When possible, prevent mold growth through proper building and heating, ventilation and air conditioning (HVAC) system maintenance and prompt repair of water damage. • Perform frequent visual surveys to determine if water damage is present. • Be aware of hidden mold (e.g., on the back of wallpaper). Consult a professional so as not to inadvertently release spores when trying to clean it up personally. • Refrain from using biocides (e.g. chlorine bleach). Its effectiveness has not been proven, and dead molds can still cause health problems.
IF SPRAY PAINTING IS NECESSARY, REDUCE OVERSPRAY.	• Conduct all spray painting on land, in a spray booth, or under a tarp. Use equipment with high transfer efficiency. • Order your spray painting jobs to minimize coating changes. Fewer changes mean less frequent purging of the spray system. Order your work light to dark.

BEST MANAGEMENT PRACTICE	DESCRIPTION
MINIMIZE THE IMPACT OF PAINTING OPERATIONS.	• Use brushes and rollers whenever possible, and if not possible, reduce paint overspray and solvent emissions by minimizing the use of spray equipment. • If painting with a 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 a given job. 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 over-mixing in the future. • Use drip pans or other protective devices for all paint mixing, solvent transfer, or equipment cleanup operations. Ensure containers, are completely empty to conserve paint.
DEVELOP A PLAN TO IMPROVE THE INDOOR AIR QUALITY AT YOUR FACILITY.	• The plan, which should be an integral part of the facility's overall environmental plan, should list air quality goals, highlight issues, and set specific air quality targets based on those issues.
ADDRESS WATER AND MOISTURE PROBLEMS IMMEDIATELY.	• Materials with water damage, such as bedding or carpet can develop harmful mold growth within 48 hours.
PROPERLY MAINTAIN HEATING, AIR CONDITIONING, AND VENTILATION SYSTEMS.	• For a list of specific recommendations, visit www.dep.state.fl.us/greenlodging/bmp_indoor.htm.
PROPERLY VENT AREAS SUCH AS KITCHENS AND LAUNDRY ROOMS.	• Kitchens and laundry rooms often contain high levels of moisture and are at an increased risk of developing mold and mildew. Laundry rooms may have high levels of dust and other particulate matter in the air. Kitchens may contain respiratory irritants such as seasonings and smoke.
CLEAN GREEN.	• Use green cleaning products that contain environmentally friendly ingredients to protect human health and the environment. Check labels for biodegradable ingredients and other product information. Choose products with low levels of volatile organic compounds (VOCs).
DISCOURAGE VEHICLE IDLING.	• Consider placing signage to encourage drivers to turn off engines.
DRIVE GREEN VEHICLES.	• Consider using hybrid or alternative-fuel vehicles (e.g., flex-fuel or low-sulfur diesel) for trips between the hotel and airport or for your restaurant's catering operation.

4.4 EDUCATION AND TRAINING

To fully implement Clean Marina practices at your marina, it is imperative to educate and train your boaters and employees. As the participants become more knowledgeable and prepared, it will be easier for the facility as a whole to comply with laws and regulations and implement BMPs. When more people are involved and understand the possible consequences, it is more likely that someone will identify practices that can be improved. In addition, a better understanding by all participants may lead to the discovery of new BMPs.

As for the alternative, the lack of education or training may increase the potential for environmental and safety hazards and the general degradation of your marina. This is why knowing how to train or educate others involved in your marina is so important.

Your marina will see the positive results from appropriate education and training. More help will lead to a cleaner, healthier, more attractive marina, which will benefit everyone.

Specific training may be required for different operational aspects; it will be required for marinas with environmental concerns such as hazardous chemicals and wastes, as well as for marinas with fuel operations. Refer to section 8.4 for more information.

4.4.1 BEST MANAGEMENT PRACTICES

For the purposes of the NPS Commercial Services, BMPs are policies and practices that apply the most current and advanced means and technologies available to a concessioner in order to undertake and maintain a superior level of environmental performance, to the extent possible under the contract. BMPs are expected to evolve over time with an ultimate goal of achieving sustainability of operations managed performed by the concessioner under a contract. "Sustainability of operations" refers to the implementation of operations and activities that have a restorative or net positive impact on the environment. Table D, "Education and Training BMPs," below lists examples of above-and-beyond practices that could be implemented at your marina.

TABLE D: EDUCATION AND TRAINING BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
EDUCATE AND PROVIDE TRAINING TO STAFF, BOATERS, AND CONTRACTORS.	• Train staff on the marina's EMP (if required), and post the concessioner's environmental policy in a highly visible location. • Offer brown-bag lunches, evening programs, and other outreach efforts to educate staff and boaters on various environmental topics (e.g., night skies, water/energy conservation, local ecosystem, etc.). Work with the park to schedule natural resources and interpretation staff to speak. • Educate boaters through newsletters, inserts in billing statements, pamphlets, and flyers. • Develop and distribute Fact Sheets. One example can be found in the National Capital Region NCR Clean Marina Guide. • Invite the U.S. Coast Guard (USCG) and local fire department to demonstrate emergency response procedures at your facility. • In addition to meeting regulatory training requirements, at the beginning of each boating season, provide additional awareness training for all staff, even those not directly involved in emergency response. • Run emergency response drills at least twice a year.
TRAIN STAFF TO BECOME "DOCKWALKERS."	• Encourage staff become Dockwalkers. Dockwalkers are trained in teaching boaters environmentally sound boating habits. Dockwalkers distribute free educational materials to boaters and share information about clean boating practices and the location of services that support clean boating efforts. • Walk around the docks and ask boaters what questions they may have.

BEST MANAGEMENT PRACTICE	DESCRIPTION
ASSIST RENTAL BOAT CUSTOMERS WHO MAY NOT BE FAMILIAR WITH YOUR MARINA OR ITS PRACTICES.	• Provide signs and information for customers who rent boats to help them become familiar with your facility. • Post signs on rental boats (such as "Do not dump" on direct discharge drains). • Provide environmental sections in boat instruction manuals. • Concessioners should provide a safety/shake-down briefing for rental customers that covers environmental procedures. Do this early in the visit, before rental customers go out on the water.
POST SIGNS TO HELP INCREASE AWARENESS.	• Make sure signs are clear and visible. Letting boaters know where to recycle, distribute trash, etc. will make it easier to comply with BMPs. • Include signs at the fuel dock to help employees go beyond National Fire Protection Association (NFPA) requirements. (e.g., "Absorbent materials can control drippage." or "Use secondary containments for gas can filling.") • Provide signs at dock waste facilities so that boaters can properly sort materials into the correct receptacles. • Use signs to offer advice on environmentally preferable products in gift shops and grocery stores.
PROVIDE BOATER ASSISTANCE.	• Consider conducting inspections (safety, environmental, etc.) Check with your local Coast Guard Auxiliary to see if they will conduct any free boating safety inspections.
MAKE CERTAIN THAT EVERYONE KNOW THE RULES.	• Do not assume that boaters are aware of all the laws, regulations, or BMPs that your marina uses. • Include language in the boaters' contracts explaining the environmental policies of your marina. • Incorporate environmental language into contracts with outside service providers to ensure they understand and abide by the clean marina guidelines. For example: – Removing and disposing of all incurred waste properly – Keeping work areas clean – Using green alternatives depending on contractor's work – Signing in and out when working on any boats in the marina
DESIGN A TRAINING MATRIX.	• Develop a training matrix to improve staff understanding of applicable compliance and beyond-compliance training needs and to provide a method for tracking such needs. • Discuss existing BMPs and emphasize those that are of specific concern to your marina. Distribute the list of BMPs. • Discuss the operational aspects of your marina where improved BMP usage can assist. Bring up or develop new BMPs for your marina. • Give certificates for training.
EDUCATED STAFF AND PATRONS REGARDING AVAILABLE WASTE MANAGEMENT CONTROLS.	• If boaters are going to use the pumpout systems, the experience must be as pleasant and convenient as possible. Train your staff accordingly. • 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.

4.5 ENERGY USE

Facility operations, like most activities, require energy. Saving energy is far from a new idea; our resources are finite and our energy use seems infinite. Reducing energy use in the shore-based facility setting is sometimes difficult because it seems that facilities do not use enough overall energy to accomplish large-scale energy recovery. However, many innovative changes can be implemented to reduce energy use.

Energy efficiency is both cost effective and environmentally responsible. Energy conservation opportunities exist for equipment usage and employee practices. Equipment may be old, inefficient, oversized, or improperly operated or maintained.

4.5.1 BEST MANAGEMENT PRACTICES

For the purposes of the NPS Commercial Services, BMPs are policies and practices that apply the most current and advanced means and technologies available to a concessioner in order to undertake and maintain a superior level of environmental performance, to the extent possible under the contract. BMPs are expected to evolve over time with an ultimate goal of achieving sustainability of operations managed performed by the concessioner under a contract. "Sustainability of operations" refers to the implementation of operations and activities that have a restorative or net positive impact on the environment. Table E, "Energy Use BMPs," below lists examples of above-and-beyond practices that could be implemented at your marina.

TABLE E: ENERGY USE BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
REPLACE EXISTING FIXTURES.	• Replace all light bulbs with high-efficiency compact fluorescent (CLF) or light-emitting diode (LED) bulbs. • Avoid light pollution by using full cutoff luminaries, low-reflectance surfaces, and low-angle spotlights. • Install skylights or light tubes, and paint walls lighter colors to maximize use of natural light in buildings, thus reducing dependence on electric light.
INSTALL ENERGY SAVING DEVICES.	• Install motion sensors and timers. • If possible, cut down on security lights or employ motion detector lights to minimize unnecessary lighting.
MODIFY EQUIPMENT.	• Keep fewer vending machines and require vendors to refill them more often. • Install energy control devices for vending machines. • Use fewer ice machines. • Lower heat temperature.
IMPROVE HEATING / COOLING OPERATIONS.	• Apply localized heating as needed using propane heaters (infrared or forced air) rather than heating a whole building. • Use solar air heaters to enable building use with little or no electric heat (depending on locale). • If possible, do not air-condition maintenance buildings. • Insulate water heaters and supply pipes. • Perform regular maintenance to keep heating, ventilation and air conditioning (HVAC) systems running more efficiently. • Install electronic time clocks or setback-programmable thermostats to maximize efficiency.

BEST MANAGEMENT PRACTICE	DESCRIPTION
MONITOR BOAT POWER CONNECTIONS.	• Encourage slip holders to practice conservation on their boats by turning off large load appliances (air conditioning and resistance heat) while they are not in use. • Only allow slip holders to have one 30-amp connection; charge for additional connections. • Require that patrons turn off all large power consuming appliances when they leave the facility. • Require boaters to unplug from their connection when they will be gone from the dock for more than 24 hours.
IMPLEMENT ALTERNATIVE FORMS OF ENERGY PRODUCTION.	• Generate energy on-site with solar panels or wind turbines. • Look into a specially designed, EPA-approved furnace allowing the use of used motor oil and old diesel fuel to heat service buildings. • Consider the use of a photovoltaic (PV) hybrid power system. These systems require less fuel, produce fewer emissions, and require less regular maintenance.
INSTALL METERS FOR INDIVIDUAL BUILDINGS AND DOCKS.	• Meter individual boat docks and charge accordingly (rather than charging a flat fee for services). • Install meters on each individual building to better monitor building performance and energy usage.

4.6 ENVIRONMENTALLY PREFERABLE MATERIALS AND PRODUCTS

Purchasing environmentally preferable materials and products for marinas should provide fewer negative impacts on human health and the environment. Purchases of this type may include recycled materials or materials that may themselves be more recyclable, less toxic, or more biodegradable. These products may have less packaging or cost less to transport, be more durable, or use less energy or natural resources over their lifetime. These aspects should be considered during purchasing opportunities for the facilities and operations in the parks.

Purchasing environmentally preferable materials and products is particularly important for marinas, many of which are located on or near sensitive areas that serve important environmental functions. The parks include some of the nation's most valued public lands, and it is important that they not be diminished.

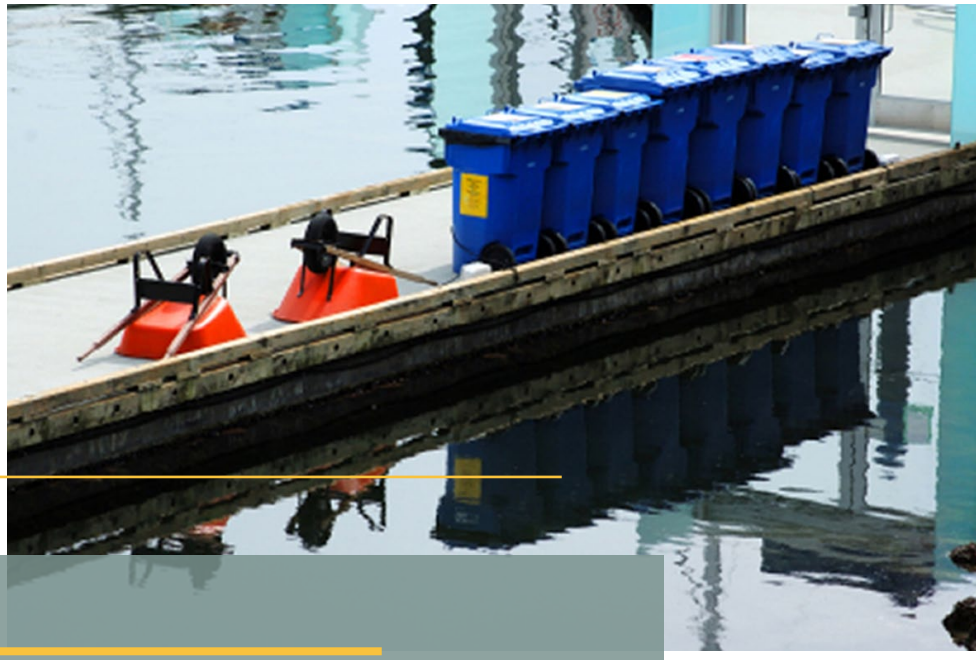
4.6.1 BEST MANAGEMENT PRACTICES

For the purposes of the NPS Commercial Services Program, BMPs are policies and practices that apply the most current and advanced means and technologies available to a concessioner in order to undertake and maintain a superior level of environmental performance, to the extent possible under the contract. BMPs are expected to evolve over time with an ultimate goal of achieving sustainability of operations managed performed by the concessioner under a contract. "Sustainability of operations" refers to the implementation of operations and activities that have a restorative or net positive impact on the environment. Table F, "Environmentally Preferred Materials and Products BMPs," below lists examples of above-and-beyond practices that could be implemented at your marina.

TABLE F: ENVIRONMENTALLY PREFERABLE MATERIALS AND PRODUCTS BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
PURCHASE ENVIRONMENTALLY PREFERABLE MATERIALS AND PRODUCTS.	• Look for environmentally preferred cleaners, fuels, and other products that have less impact on the environment. • Visit the EPA Environmentally Preferable Purchasing website. • Develop a comparison chart outlining environmental alternatives for products and materials. Indicate products that are currently being used. • 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). • Do not use wood treated with creosote for pilings or similar structures that are in or above 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 naturally durable timbers when possible, but use them conservatively. Black locust, cedar, chestnut, and white oak are naturally durable. • Use wood from sustainably-managed forests. Look for certifications such as those provided by the Forest Stewardship Council (FSC). • Avoid exotic timbers. Some tropical trees, such as greenheart and bongossi, are also naturally durable, but their harvest is harmful to tropical forests. • Use flotation foams that are coated or encapsulated in plastic or wood. As these floats age, the covering contains the degraded foam.

BEST MANAGEMENT PRACTICE	DESCRIPTION
DEVELOP AN ENVIRONMENTAL PURCHASING PLAN.	• Create a task force to research and inform staff that may be purchasing products for the marina. • Develop a procurement baseline based on current practices and product purchases. • Develop a mission statement with goals as well as schedules for achieving these goals. • Calculate life cycle costs associated with potential products. Sometimes a product or technology may cost more up front but will save more in the long run. • Encourage the task force to obtain feedback from users on how the products work. • Develop a green procurement plan to outline the marina's purchasing policy, goals and targets, and a list of approved products to use in operations.
ENCOURAGE PATRONS TO USE ENVIRONMENTALLY PREFERABLE ALTERNATIVES.	• Sell environmentally friendly products in marina stores. • Post signs regarding the environmentally friendly products that are available. • Provide employee trainings about environmentally preferable products and environmental purchasing. • Use non-toxic and biodegradable cleaners and maintenance products. • Write requirement for cleaners into marina contract. • Purchase biobased products. • Offer biodiesel fuels.



4.7 HAZARDOUS MATERIALS AND WASTES

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 released into the environment. Hazardous materials include, but are not limited to, fuels, paints, cleaners, solvents, antifreeze, and detergents.

4.7.1 BEST MANAGEMENT PRACTICES

For the purposes of the NPS Commercial Services, BMPs are policies and practices that apply the most current and advanced means and technologies available to a concessioner in order to undertake and maintain a superior level of environmental performance, to the extent possible under the contract. BMPs are expected to evolve over time with an ultimate goal of achieving sustainability of operations managed performed by the concessioner under a contract. "Sustainability of operations" refers to the implementation of operations and activities that have a restorative or net positive impact on the environment. Table G, "Hazardous Materials and Wastes BMPs," below lists examples of above-and-beyond practices that could be implemented at your marina.

TABLE G: HAZARDOUS MATERIALS AND WASTES BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
MINIMIZE USE OF HAZARDOUS MATERIALS.	• Avoid, to the greatest extent possible, using products that are corrosive, reactive, toxic, or ignitable. • Develop an inventory control plan to minimize the amount of hazardous materials you purchase, store, and dispose of. • Do not store large amounts of hazardous materials on-site. Purchase hazardous materials in quantities that you will use quickly. • Establish a "first-in, first-out" policy to reduce storage time. Dispose of excess material every six months. • Use non-toxic, environmentally-preferable alternatives whenever possible (see related section).
MANAGE EMERGENCIES AND/OR CLEAN UP SPILLS IN A PROPER AND TIMELY MANNER.	• Clean up and dispose of spills and leaks promptly and properly. • Provide spill control material and empty containers for emergency cleanup in accessible locations. • Designate an emergency coordinator and train hazardous material personnel in proper management procedures and emergency response in case of a fire or spill. • Post the phone numbers of the emergency coordinator, the local fire department, and the nearest household hazardous waste site. • Follow all emergency procedures to address spills and fires.
MEET SMALL QUANTITY / GENERATOR (SQG) REQUIREMENTS, EVEN IF YOU ARE A CONDITIONALLY-EXEMPT SMALL QUANTITY GENERATOR (CESQG).	• Manage your hazardous waste as if you were an SQG, even if you are not. This helps ensure sound environmental management onsite and proper waste disposal to prevent releases to the environment. • SQG requirements include hazardous waste container labeling, management of satellite accumulation and accumulation areas, disposing waste within designated time frames to an authorized Resource Conservation and Recovery Act (RCRA) facility or legitimate recycler, manifesting waste shipments, and maintaining some contingency planning.

BEST MANAGEMENT PRACTICE	DESCRIPTION
MANAGE HAZARDOUS MATERIALS SUCH THAT THEY DON'T BECOME HAZARDOUS WASTES.	• 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 (see above). • Organize your hazardous materials inventory into broad categories (e.g., petroleum products, detergents, solvents, paints, lubricants). – Maintain waste disposal records for a minimum of three years. • Routinely check the date of materials to prevent them from outlasting their shelf life. • Store containers on durable, impervious surfaces. • Provide secondary containment for hazardous materials and wastes, particularly in vulnerable areas such as near water or near doorways and floor drains. (Secondary containment should have a capacity equal to 110% of the volume of the largest storage tank or container.) • Know which containers should be segregated based on the chemicals being stored in order to prevent a potentially harmful or explosive mix in case of spill or accident. • 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 container must then be disposed of as hazardous waste, which is a very expensive undertaking. • Shelter containers from the elements. • Allocate an adequate waste storage facility based on the needs and size of your marina.
RECYCLE LIQUID WASTES.	• Provide separate containers for collecting oil, antifreeze, and solvents. • Attach funnels to containers to reduce chances of spills. Funnels should be large enough to drain portable containers and oil filters. • Check with your recycler to learn which liquids may be safely mixed. Generally speaking, engine oil, transmission fluid, hydraulic fluid, and gear oil may all be placed in a used oil container. Some haulers will also take diesel and kerosene. • Consider locking the intake to oil and antifreeze recycling containers to prevent contamination. If you do lock the containers, instruct your patrons to get the key from the appropriate staff person or to leave their oil or antifreeze next to the collection container. 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. • Be aware that recycling liquid materials is a long-term obligation. Investigate waste haulers to ensure that they do actually recycle the collected material.

4.8 SENSITIVE AREA PROTECTION

Land management decisions, operating procedures, and structural improvements may improve or detract from the quality of the land and water surrounding a marina. Many marinas are located on or near sensitive areas that serve important environmental functions. Riparian (i.e., shoreline) wetlands, for example, 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 support tourism and fishing. Because of the ecological, economic, recreational, and aesthetic values inherent in sensitive areas, it is important that they not be diminished by development.

The park environment is particularly subject to land management concerns because of the desire to preserve the unique environment for which they may have been established. Concessioners should work with park management to establish means for minimizing impacts to the natural environment.

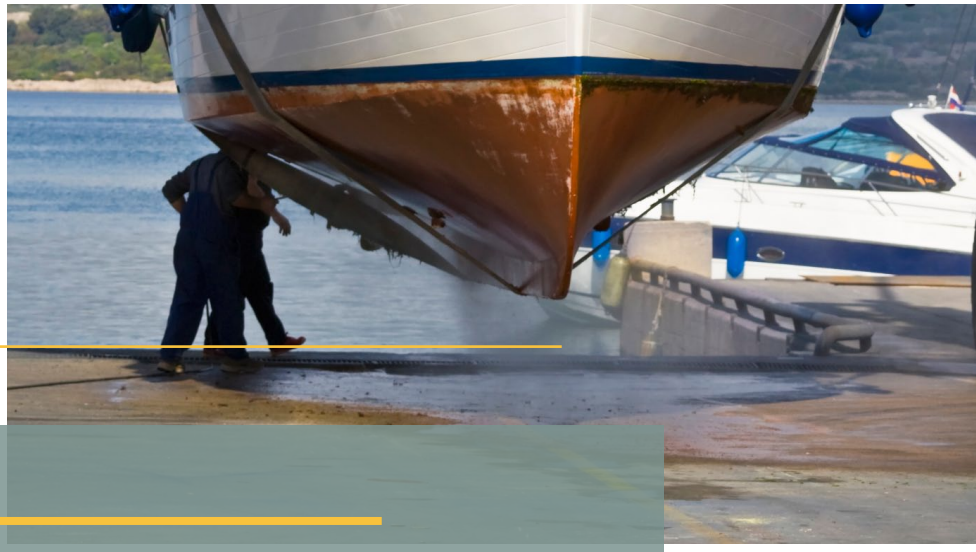
4.8.1 BEST MANAGEMENT PRACTICES

For the purposes of the NPS Commercial Services, BMPs are policies and practices that apply the most current and advanced means and technologies available to a concessioner in order to undertake and maintain a superior level of environmental performance, to the extent possible under the contract. BMPs are expected to evolve over time with an ultimate goal of achieving sustainability of operations managed performed by the concessioner under a contract. "Sustainability of operations" refers to the implementation of operations and activities that have a restorative or net positive impact on the environment. Table H, "Sensitive Area Protection BMPs," below lists examples of above-and-beyond practices that could be implemented at your marina.

TABLE H: SENSITIVE AREA PROTECTION BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
ADOPT INTEGRATED PEST MANAGEMENT (IPM) PRACTICES IN ALL AREAS OF OPERATION.	• Avoid toxic lawn and garden chemicals to the greatest extent possible. Instead, deter unwanted plants or animals with IPM practices. • Select plants that are disease- and insect-resistant, that will out-compete common weeds, and that can thrive on your property. • Pull weeds by hand to reduce reliance on herbicides. Mulching applications are also an effective weed-reducing practice. • Mow lawns properly to suppress weeds. Become more tolerant of weeds and pests. If it is not actually harming anything, leave it alone. • Leave natural predators alone. • Use natural agents – if approved by the NPS – such as milky spore disease to get rid of grubs and Japanese beetles. • Do not use pesticides just before a rainfall or on a windy day. • Use pesticides only after all other options have been exhausted. Choose organic alternatives over chemical pesticides, and apply them directly to problem areas rather than broadcasting them. • 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 birdbaths or swimming pools).

BEST MANAGEMENT PRACTICE	DESCRIPTION
MINIMIZE ACTIVITY WITHIN FISH AND WILDLIFE FEEDING AND BREEDING GROUNDS.	• Identify habitat functions to know when these areas will be used for spawning or feeding. • Minimize disturbances of riparian zones, which provide shelter, nesting facilities, and feeding ground for many fish and wildlife. • Redevelop or expand upon already existing facilities to limit additional loss of habitats that serve as feeding or reproductive areas. • Establish "no-wake" zones in sensitive areas. • Use dry stack storage to keep boats on land in a minimized space and out of sensitive areas.
MINIMIZE INTRODUCTION OF AQUATIC INVASIVE SPECIES.	• Provide a boat cleaning area to wash exterior of boats, trailers, and equipment before/after placing their boat into the marina to minimize spread of aquatic invasive species. • Require boaters to inspect their boats and remove plant fragments from trailers, props, bait wells, and fishing tackle. • Require drainage of water from motors, bait buckets, and bilges before leaving the ramp. Encourage rinsing areas with chlorine or salt solution. • Prohibit the release of live bait of any kind into the water.
CREATE AND PROTECT WILDLIFE HABITAT.	• Limit the number of covered slips to provide bottom-dwelling organisms requiring sunlight. • Choose plants that bear flowers, fruit, nuts, and seeds to attract birds, small mammals, and other wildlife. Consider installing bird feeders to attract birds. • Restore disturbances that have occurred at the facility site. If you are unable to restore specific areas, protect natural areas elsewhere to offset disturbed section. • 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).



4.9 WASTEWATER MANAGEMENT CONTROL

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

Sewage is also harmful to water quality. Because the 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.

4.9.1 INSTALL A PUMPOUT SYSTEM

Help boaters meet the requirements of the law by providing a convenient, reliable marine sewage disposal facility (i.e., a pumpout station). As a marina operator, you 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. The Clean Vessel Act Program is a nationwide competitive federal grant program that provides funds to states to clean up the nation's waterways. Public and private marinas can apply for a grant to construct, renovate, operate, or maintain a pump-out or dump station.

Note: The provision of sewage pumpout may be a concession contract requirement. If it is not, check with the NPS in your region for approval to provide this service at your marina.

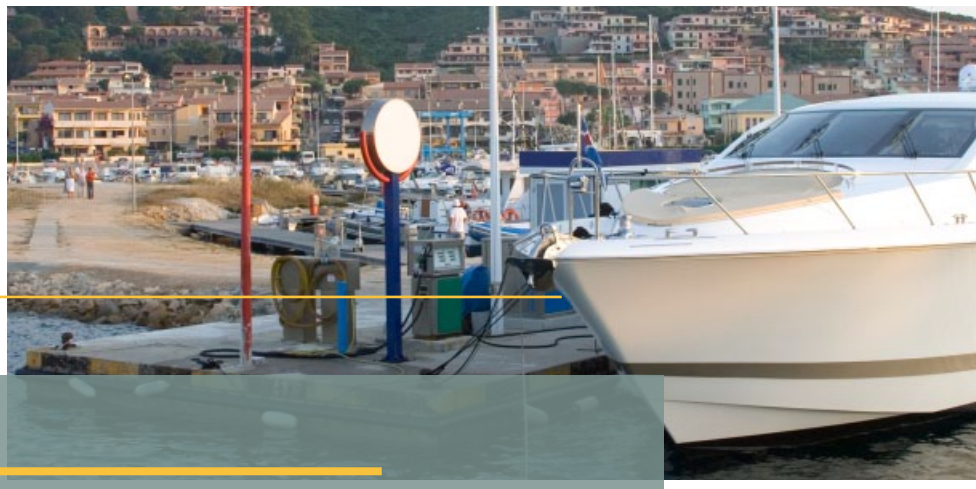
4.9.2 BEST MANAGEMENT PRACTICES

For the purposes of the NPS Commercial Services, BMPs are policies and practices that apply the most current and advanced means and technologies available to a concessioner in order to undertake and maintain a superior level of environmental performance, to the extent possible under the contract. BMPs are expected to evolve over time with an ultimate goal of achieving sustainability of operations managed performed by the concessioner under a contract. "Sustainability of operations" refers to the implementation of operations and activities that have a restorative or net positive impact on the environment. Table I, "Waste Management Control BMPs," below lists examples of above-and-beyond practices that could be implemented at your marina.

TABLE I: WASTEWATER MANAGEMENT CONTROL BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
INSTALL AN APPROPRIATE PUMPOUT SYSTEM FOR THE MARINA.	• Select a system that best meets the needs of your clients and that can move the expected volume of sewage over the required distance. Installation options include: • Permanently fixture to a dock. • Mobile, hand truck, or pumpout boat. • 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. Sewage pumpout boats may also be an option. • Consider having an attendant operate the pumpout. Install 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. • Train staff to operate the pumpout. Boaters rely on functional pumpout facilities. • 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. • 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. • Provide portable toilet dump stations near small boat slips and boat ramps.
PROVIDE SHORE-SIDE RESTROOMS.	• Provide clean, functional restrooms that are available 24 hours a day. • Install a security lighting system so people will feel safe, particularly at night. • Provide air conditioning and heating.
PROVIDE FACILITIES FOR LIVEABOARDS.	• Have a clear definition of "liveaboards," and specify what is and is not acceptable for individuals living legally on their vessels. • Provide a portable pumpout system, or require that liveaboards contract with a mobile pump-out service. • Reserve slips closest to shore side restrooms for liveaboards. Ensure that the dock and route to the bathhouse are well lit at night. • Offer to board their vessels and demonstrate the proper way to secure the "Y-shaped" valve. • Stipulate in the lease agreement that vessels used as homes may not discharge any sewage. • 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.

BEST MANAGEMENT PRACTICE	DESCRIPTION
MAINTAIN THE PUMPOUT SYSTEM AT THE MARINA.	• Inspect the system regularly, and keep a log of your observations. Contact the pumpout manufacturer for specific maintenance and winterization recommendations. • During the boating 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.
PROTECT OVERALL WATER QUALITY.	• Prohibit use and discharge of Type I and II marine sanitation devices (MSDs) at slips or moorings. • Encourage all boat owners to prevent discharge while boating in coastal waters by removing or retrofitting their existing Y-valves and seacocks with thru-hulls. • Offer winterization services to retrofit MSDs with holding tanks, and inspect MSD systems to ensure their proper operation. • Provide and promote biodegradable and non-toxic cleaners and holding tank deodorants that are chlorine- and formaldehyde-free. • 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.
PROPERLY MANAGE GREYWATER.	• Discourage customers from using dish soaps to clean dishes onboard. Consider providing shore side dishwashing facilities for boaters and encouraging their use. • Explore the potential of offering coin-operated laundry facilities. • Encourage customers to use the showers and restrooms provided by the marina when at the docks. • Provide and promote low/non-phosphorus, biodegradable soaps and shampoos.



4.10 SOLID WASTE MANAGEMENT AND RECYCLING

Marina operations produce a variety of non-hazardous solid wastes, from bottles to bags, six-pack rings to diapers. These items are harmful to water quality and aquatic habitats if allowed to enter into the water. Properly managing solid wastes is important to keeping the parks clean and protecting our natural resources. A recycling program is an easy, highly visible means to demonstrate environmental stewardship. Recycling programs are also a good way to introduce patrons to pollution prevention practices and to divert reusable materials out of the waste stream. In fact, many of your patrons or tenants are likely to already be in the habit of recycling at home and may expect to see recycling bins. In addition, less frequent tipping of your dumpster(s) because of the reduced volume of trash means cost savings.

4.10.1 FISH WASTE

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

4.10.2 BEST MANAGEMENT PRACTICES

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TABLE J: SOLID WASTE MANAGEMENT AND RECYCLING BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
DEVELOP AN INTEGRATED SOLID WASTE MANAGEMENT PLAN (ISWAP).	• Evaluate local needs and conditions, then select and combine the most appropriate waste management activities for those conditions. • Activities include waste prevention, recycling and composting, and combustion and disposal. • Establish goals and targets and means to measure solid waste disposal and recycling performance as part of the concessioner's EMP. • For more information on developing an ISWAP, check out: – EPA Fact Sheet: What is Integrated Solid Waste Management – NPS Solid Waste Management Handbook
REDUCE WASTE AT THE MARINA.	• Avoid having leftover materials by sizing up a job, evaluating what you actually need, and buying just enough products for the job. Encourage boaters to do the same. • Request alternative packing material from vendors (e.g., paper, potato starch peanuts, popcorn). • Do not use Styrofoam cups, food containers, utensils, and other non-biodegradable products. Encourage boaters to do the same. • Encourage boaters to exchange excess and unwanted products.

BEST MANAGEMENT PRACTICE	DESCRIPTION
EFFECTIVELY MANAGE TRASH AND PROMOTE RECYCLING AROUND YOUR FACILITY.	• Develop your waste management strategy based on the number of patrons, the types of waste generated, the layout of your facility, 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. • Select containers large enough to hold the expected volume of trash. On average, 4 to 6 gallons of capacity is needed per person, per vessel, per day. • Provide lids for trash and recycling containers or some other means of keeping the waste inside and preventing animals and rainwater from getting in. • Use a pool skimmer or crab net to collect floating debris that gathers along bulkheads or elsewhere within your facility. • Plant or construct a windscreen around dumpsters to make the area more attractive and to prevent trash from blowing away. • 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 trashcans. • Encourage recycling by providing recycling containers on rental and tour boats. • Consider cooperating with other nearby businesses to simplify recycling and reduce costs. Discuss with the park options for contacting a waste hauler or local solid waste recycling coordinator.
DEVELOP A COMPOSTING PROGRAM.	• Purchase bins to collect food wastes, yard clippings, fish wastes, and other organic materials. • 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.
ENCOURAGE OTHERS TO CONTRIBUTE TO THE CLEAN UP.	• Organize a shoreline cleanup around your facility. • Provide recognition and incentives to those boaters who use proper waste management techniques.
PROPERLY 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.
CONTROL THE DISPOSAL OF FISH WASTE.	• 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. Proper composting will control the odor and, over time, will produce an excellent soil conditioner that can be used for your landscaping needs. • Encourage boaters to freeze fish parts and reuse them as bait or chum. • Post signs directing people to clean their fish at a fish-cleaning station, at home, or offshore.
MINIMIZE SOLID WASTE FROM FISHING ACTIVITIES.	• Remove stray, broken, or old fishing wires from the environment. Make sure lines are placed in the proper receptacles so that they do not litter the ground or water. • Remove leader and hooks from fishing line before recycling. • 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.

4.11 SPILL PREVENTION

Spill prevention encompasses a variety of marina activities. Fueling operations and engine maintenance and repair have the greatest potential to cause a spill. Even small amounts of oil, fuel, or other petroleum hydrocarbons can cause a serious problem when regularly introduced into the environment. Many minor spills are reported to the Coast Guard, as is required by law, but because the people responsible don't want to get in trouble, there are many more spills that go unreported. All marinas that handle fuel, oil, or other hazardous chemicals should act to minimize the potential for spills to occur and improve their response and recovery processes.

4.11.1 EMERGENCY PLANNING

While it's impossible to predict when a spill emergency might occur, it's entirely possible to predict what type of emergencies might occur. There are a number of emergency situations that require an immediate response, and simply dialing 9-1-1 is not always the quickest or most effective way to deal with them. The best way to ensure an immediate and effective response to emergency situations is to plan and train for them. Without both of these components, important steps can be missed, and good intentions can produce bad results.

4.11.2 BEST MANAGEMENT PRACTICES

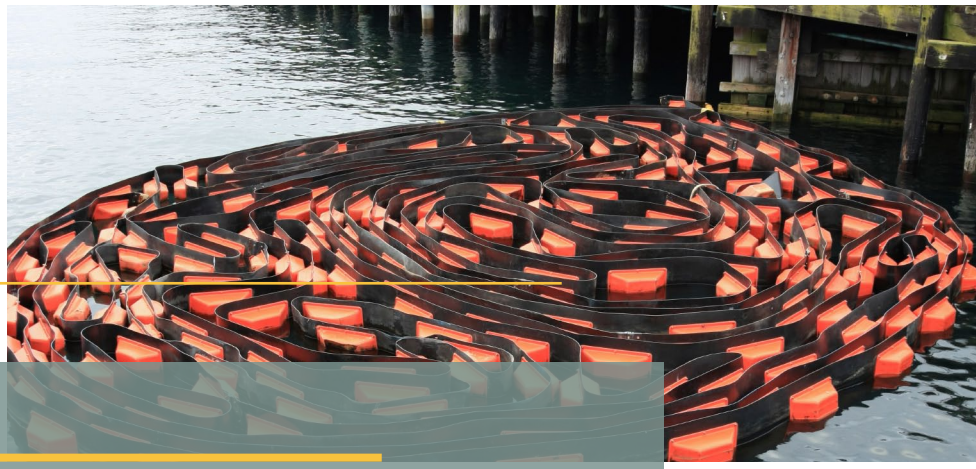
For the purposes of the NPS Commercial Services, BMPs are policies and practices that apply the most current and advanced means and technologies available to a concessioner in order to undertake and maintain a superior level of environmental performance, to the extent possible under the contract. BMPs are expected to evolve over time with an ultimate goal of achieving sustainability of operations managed performed by the concessioner under a contract. "Sustainability of operations" refers to the implementation of operations and activities that have a restorative or net positive impact on the environment. Table K, "Spill Prevention BMPs," below lists examples of above-and-beyond practices that could be implemented at your marina.

TABLE K: SPILL PREVENTION BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
ESTABLISH MEASURES TO PROTECT PETROLEUM AND FUEL STORAGE TANKS.	• Install a readily accessible shutoff valve onshore to halt, when necessary, the flow of fuel through a pipeline from the oil storage facility to the dock.
DETERMINE WHERE THE FUEL DOCK SHOULD BE LOCATED.	• Avoid waves and wakes. 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). Consider placing the PWC fueling area at the end of the fuel pier to reduce conflict with larger boats.

BEST MANAGEMENT PRACTICE	DESCRIPTION
MAINTAIN EQUIPMENT AND INSTALL ENVIRONMENTAL CONTROLS AT THE PUMPS.	• Double-walled piping systems should be installed where technically and economically feasible, and inspection of transfer equipment should be done regularly, with all leaks fixed 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. Equip both diesel fuel dispensing hoses as well as gasoline hoses with break-away devices. • Consider installing fuel nozzles that redirect blow-back into vessels' fuel tanks, or vapor-control nozzles to capture fumes. • 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; provide oil-absorbent material in a secure, convenient location; indicate the location of the absorbents. • Place small gas cans in oil-absorbent-lined drip pans when filling them on the dock, and install fuel collars for dispenser nozzles. • 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.
SUPERVISE FUELING OPERATIONS.	• Always have a trained employee at the fuel dock to oversee or assist with fueling. Consider a requirement that only marina fuel attendants can fuel vessels, not customers.
REDUCE THE PRESSURE.	• Ask your fuel company representative to reduce the pumping pressure. Problems with backsplash and vent-line overflow are often due to the high pressure of fuel flow from the pump.
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.
PROMOTE 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. • Slip a plastic bag over used oil filters prior to their removal to capture any drips. Hot-drain the filter by punching a hole in the dome end and draining for 24 hours. • Encourage the use of spill-proof oil-change equipment as a condition of your slip rental agreement.
INTEGRATE INTO FACILITY EMS.	• Address applicable emergency response policies, plans, and procedures into the park EMS and concessioner EMP (e.g., documentation and documentation control, roles and responsibilities, training, etc.).

BEST MANAGEMENT PRACTICE	DESCRIPTION
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. (Vessel length x 3 = required length of boom) • Store appropriate emergency response personal protective equipment (PPE) at the facility (this does not include a respirator).
COORDINATE EMERGENCY PLANS BETWEEN PARK AND APPLICABLE CONCESSIONERS AND/OR CONTRACTORS.	• Ensure coordination between the park/concessioners and contractors that may have responsibilities for spill response to ensure that roles are clearly understood and that response procedures are adequate. Considerations should be given to: concession contract requirements; concessioner/park resources; and environmental impacts.
STORE OIL RESPONSE EQUIPMENT WHERE IT IS SAFE BUT MOST NEEDED.	• 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, a copy of the facility's Spill Response Plan, and the notification that all spills in and around the marina must be reported to the Director (or their designee), as outlined in the concession contact. Contact local and state agencies to find out to which spills should be reported. • Consider leaving the incidental spill material container unlocked so that it is available to patrons as well as staff. • If the bin is left unlocked, check the inventory regularly. • Train staff and patrons on proper use of spill materials, and which types of spills are appropriate to clean up themselves.
INCLUDE SPILL THRESHOLD INFORMATION IN CONCESSIONER AND PARK EMERGENCY PLANS.	• Specify what type of spills staff are allowed to clean up (e.g. what type of material was spill, how large of a spill).



4.12 STORMWATER MANAGEMENT

Regularly-occurring marina activities can be sources of pollution when rainfall flushes pollutants on the ground into the surface water. These discharges contribute to the degradation of water quality and can lead to legal violations. The highest concentrations of surface pollutants in stormwater runoff occur during the first inch of rainfall. Older marinas constructed prior to stormwater management regulations may even discharge untreated stormwater directly into the surface water. Direct flows of runoff into the surface water should be avoided. It is important for marinas to employ preventative measures in order to reduce the discharge of pollutants in stormwater runoff. Many capital improvements will require coordination with the park. Marina managers should work with park staff to determine the best actions for the marina.

4.12.1 SEDIMENT AND EROSION CONTROL

Erosion is a slow process that usually goes unnoticed until it is too late. Erosion has a cumulative effect that, over a number of years, can have a significant environmental impact. Erosion causes sediments to accumulate and can result in the loss of water depth or the loss of aquatic habitats. It is difficult to fix these problems after years of neglect, but there are many preventative measures you can take to address erosion before it becomes a problem.

4.12.2 BEST MANAGEMENT PRACTICES

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TABLE L: STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
MAINTAIN YOUR SITE WITH LOW-IMPACT DEVELOPMENT.	• Maintain areas with grass, gravel, or other pervious materials that let water percolate. • Keep paved areas to an absolute minimum. • Diminish disturbance to sensitive shorelines. • Upland and inland areas should be far enough away from the water to allow for the natural filtering of pollutants. • Consider inland areas for boat repair activities and winter storage. • Nonstructural measures, such as beach nourishment, marsh creation, and other methods are the preferred methods of shore erosion control. • If nonstructural measures alone are not sufficient to control erosion, use revetments, breakwaters, or groins to stabilize and ensure the long-term viability of the nonstructural controls. • 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 flow toward a storm receiver. Soil and plants take up nutrients, pollutants, and the water itself 24 to 48 hours after a storm. Rain gardens and wetlands have the added advantage of being attractive, providing shade and wildlife habitat, acting as windbreaks, and muffling street noise. • 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. – Retain areas of natural vegetation whenever possible. – Plant 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.
BRING ATTENTION TO STORM DRAINS.	• Stencil or label storm drains with the words "Don't Dump – Drains to Lake (River/Bay/etc.)" and "No Fish Waste" as appropriate. Be sure to get permission from the local or state department of public works or equivalent agency before stenciling warnings on storm drains.

BEST MANAGEMENT PRACTICE	DESCRIPTION
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).
MINIMIZE IMPERVIOUS AREAS.	• Minimize paved areas. • Minimize the length of new roadway required to serve newly opened areas of your facility. • Consider alternatives to asphalt for parking lots and vessel storage areas (e.g., gravel, crushed seashells, and engineered porous pavement). • Prohibit vehicle and vessel maintenance in marina or yacht club parking lots. • Prohibit vehicle or vessel washing in marina or yacht club parking lots.
PRACTICE GOOD HOUSEKEEPING.	• Develop and implement regular sweeping/cleaning program. • Report to your local authority spills that have entered or could enter the storm drain system or a water body.
CONTROL SEDIMENT.	• Use devices such as hay bales, silt fences, storm drain filters, sediment traps, and earth dikes to prevent sediments from leaving construction areas.

4.13 VESSEL MAINTENANCE/REPAIR ACTIVITIES

Maintenance and repair activities can cause noise or odor pollution and may deposit petroleum-based hydrocarbons and heavy metals into the water. Blasting and sanding activities can release contaminants into the air or water. 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. One of the easiest ways to contain waste is to restrict the area in which maintenance activities may be performed. 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.

4.13.1 PAINTING

The painting of boat hulls and other surfaces must be carefully controlled to avoid concentrated releases of harmful vapors and liquids. Paint containing heavy metals or solvents, and even water-based paint, can be hazardous to the environment.

Management of paints and paint related wastes must be conducted in accordance with applicable federal regulations. Antifouling paint, chips, and dust may be hazardous waste due to the presence of cuprous oxide and other heavy metals. "Hazardous Waste and Materials" are discussed in Section 4.7.

4.13.2 BEST MANAGEMENT PRACTICES

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TABLE M: VESSEL MAINTENANCE/REPAIR ACTIVITIES BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICE	DESCRIPTION
DESIGNATE A LOCATION FOR MAINTENANCE / REPAIRS.	• 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. • Construct vessel maintenance areas with an impervious surface (e.g., asphalt or concrete) and, where practical, a roof. • If asphalt or concrete is not practical, perform work over filter fabric or over canvas or plastic tarps. • Surround the maintenance area with a berm or retaining wall. • Place a screen or filter fabric over storm drain grates to collect paint chips and other debris. • Establish a schedule for inspecting and cleaning stormwater systems. Remove paint chips, dust, sediment, and other debris. Clean oil/water separators.
POST SIGNAGE.	• Clearly mark the work area with signs, such as "Maintenance Area for Stripping, Fiberglassing, and Spray Painting." • Post signs in the boatyard describing BMPs that boat owners and contractors must follow, such as "Use Tarps to Collect Debris." Post signs about availability of vacuum sanders and grinders.

BEST MANAGEMENT PRACTICE	DESCRIPTION
CONTAIN DUST FROM SANDING.	• Do not let dust from sanding fall onto the ground or into the 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. • Require tenants and contractors to use vacuum sanders. Rent or loan the equipment to tenants and contractors. • Establish a marina policy to prohibit sanding without vacuum equipment. Bring vacuum sanders to tenants if you see them working with non-vacuum equipment. • Restrict or prohibit sanding on the water. When sanding on the water is unavoidable, use a vacuum sander and keep dust out of the water.
WINTERIZATION.	• Use the minimum amount of antifreeze necessary. If necessary, use propylene glycol antifreeze for all systems. It is substantially less toxic than ethylene glycol antifreeze. • Do not allow boaters to "blow out" antifreeze from the boat when it is put in the water for the first time after being winterized. Provide an antifreeze recapture and recycling service. • Use the highest-octane fuel recommended by the engine manufacturer. Premium fuels are more stable than non-premium fuels. • Inspect and clean bilges prior to extended boat storage. Clean all water, oil, or foreign materials from the bilge using oil-absorbent material. • Promote reusable canvas or recyclable plastic covers. Some manufacturers will clean and store canvas covers during the boating season.
MINIMIZE THE IMPACTS 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. • Recommend to your customers antifouling paints that contain the minimum amount of toxin necessary for the expected conditions. • Use low-volatile organic compound (VOC), high solids content, and water-based paints whenever practical. Provide antifouling products with fewer adverse environmental impacts associated with application. • Consider alternatives to chemical paint stripping depending on the characteristics of the surface being stripped, the type of paint being removed, and the volume and type of waste produced. • Store boats out of the water to eliminate the need for antifouling paints. Consider sharing leftover paints with customers or setting up a swap program for customers to exchange unused items.
MINIMIZE THE IMPACT FROM PRESSURE-WASHING AND BOAT CLEANING.	• Use cleaning products that are environmentally friendly (e.g., non-toxic and phosphate free). Use the products sparingly. • Wash boats on land in a contained area. Wash boat hulls above the waterline by hand using a soft sponge and frequently enough so that the need to use cleaners will be reduced. • Pressure-wash over a bermed, impermeable surface that allows the wastewater to be contained and sediment to be filtered out. • Use the least amount of pressure necessary to remove growth, but leave paint intact when pressure-washing ablative paint. • Collect debris – have your waste hauler characterize the waste and bring it to a facility authorized to manage municipal or industrial solid waste.

4.14 WATER CONSERVATION

Excessive use of water through high demand or overuse can be detrimental to the quality of water in your area. Overwatering plants or landscapes can carry materials such as sediments, dirt, or debris into local waters. Excessive use of water can also become costly for your marina.

Many NPS marina concessioners are situated in arid or drought-prone locations. As a result, these areas are facing falling water levels, which makes water conservation that much more critical.

As an added benefit to the marina and the environment, water conservation often leads to other forms of environmentally friendly practices, such as energy conservation. Less water usage means less energy used to pump and heat the water.

4.14.1 BEST MANAGEMENT PRACTICES

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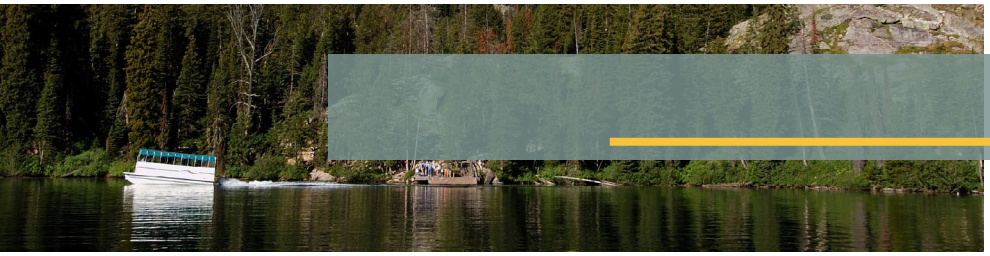
TABLE N: WATER CONSERVATION BEST MANAGEMENT PRACTICE

BEST MANAGEMENT PRACTICE	DESCRIPTION
IMPLEMENT WATER CONSERVATION MEASURES.	• Fix leaks and drips immediately. • Install "low-flow" faucets, toilets, and showerheads or waterless urinals and composting toilets. • Ensure there are aerators installed on all faucets. • Equip all freshwater hoses with automatic shutoff nozzles.
PRACTICE WATER-WISE LANDSCAPING.	• Water plants only when there is an indication 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. • Adjust your lawn mower to a higher setting. Longer grass shades root systems and holds soil moisture better than a closely clipped lawn. • Select native plants that are suited 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. • Use soaker hoses or drip irrigation systems to 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 shutoff device on your automatic sprinklers to eliminate unnecessary watering. • Place 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. • Replace some lawn areas with wildflowers, groundcover, shrubs, and trees.

BEST MANAGEMENT PRACTICE	DESCRIPTION
IDENTIFY REDUCTION OPPORTUNITIES AND TRACK WATER CONSERVATION.	• Conduct a water usage audit with help from your NPS Regional Energy Coordinator. • Use WATERGY, a computer spreadsheet program developed by the Federal Energy Management Program. It can be used to model water conservation and associated energy savings for a park. • Month-to-month tracking and recordkeeping provides the level of information necessary to identify performance levels based on seasonal variation and occupant loads. • Create a list of water conservation goals and objectives for the marina. Incorporate this as part of the concessioner's EMP, and use it to measure the marina's performance.
REUSE WATER WHENEVER POSSIBLE.	• Use greywater recycling systems for non-potable water applications, such as landscaping. • Capture rainwater for use in non-potable water applications, such as landscaping.
INSTALL METERS TO MONITOR WATER USE AT DIFFERENT CONCESSIONS FACILITIES AND OPERATIONS.	• Record and monitor monthly water use at different concessions facilities. • Record water usage to help evaluate the effectiveness of water conservation practices.



5. MEASURING YOUR PERFORMANCE

In order to determine the success of your Clean Marina practices, you must be able to track your progress. Using BMPs explained in Section 4, your organization's EMS, and the Clean Marina Guidebook, you will establish goals and targets that you can measure to determine how well you are accomplishing your policy. The following sections will give guidelines and suggestions on determining the success of your program.

5.1 DEFINING MEASUREMENTS

To start successfully measuring the environmental performance of your operations, you should establish a simple monitoring program. The key is to determine which operational factors at your facility have the most impact and how they can best be measured. Another key to successful monitoring is the combination of process and outcome measures. "Outcome measures" look at the results of an operation (e.g. the amount of waste generated or the number of fuel spills). "Process measures" look at 'upstream' factors (e.g. the amount of paint used per unit of product or the number of employees trained on a topic). Most important, monitoring and measuring should be completed frequently, and the data and results should be recorded, maintained, compared to prior data, and communicated to top management.

The first step is data collection relevant to your facility's policies and goals. Many park facilities already have an EMS/EMP in place, so some form of monitoring is most likely already occurring. This is addressed in the Standard Concession Contract language, which reads (and has been broken down into parts for the purpose of the Guidebook):

The EMP shall:

- Describe how the Concessioner will comply with the EMP and how the Concessioner will self-assess its performance under the EMP, at least annually, in a manner consistent with NPS protocol regarding audits of NPS operations;
- Include a self-assessment that should ensure the Concessioner's conformance with the Environmental Management Objectives and should measure performance against environmental goals and targets;
- Describe procedures to be taken by the Concessioner to correct any deficiencies identified by the self-assessment.

The information collected to assess progress toward Clean Marina BMPs is part of the EMS/EMP monitoring and measurement process.

Internal evaluation programs offer additional tools for measuring your facility's environmental performance. These programs include the NPS Environmental Audit Program for parks and the NPS Commercial Services Program environmental audits for concessioners as well as the annual concession evaluation process, which includes an environmental component. Certain monitoring requirements and evaluations are also part of park and concessioner safety programs.

In addition to conducting monitoring and measurements for the EMS/EMP, environmental audits, and evaluations, there are various monitoring requirements mandated by federal, state, and departmental agencies that may apply to your marina. Such examples include SPCC fuel system inspections, stormwater outfall inspections, hazardous waste storage area inspections, and others. These programs—the EMP, the NPS Commercial Services Program environmental audits, and the Guidebook —are designed to help the marina or park facility become aware of management requirements and the appropriate compliance issues required for proper management of the facility.

5.2 MEASURING PARTICIPATION OF STAKEHOLDERS

In developing your policy, you solicited the opinions of stakeholders. By doing this, you involved them and encouraged them to follow your Clean Marina policy. In review, stakeholders are the people and groups directly or indirectly involved in your marina.

Stakeholders might include:

- NPS (if you are a concessioner)
- Environmental advocacy groups
  - Businesses directly or indirectly affected by natural resources
  - National professional organizations
  - Contractors
  - Private landowners
  - Visitors

Measuring the participation of stakeholders might not be as quantitative as some of the cost-benefit analyses performed to determine the success of other BMPs, such as waste reduction or the use of vacuum sanders, but it is necessary to determine the involvement and satisfaction of your community. Satisfied stakeholders could potentially make or break the successful implementation of BMPs at your facility. Some questions to consider when thinking about the participation of your stakeholders include:

- Do you communicate with your customers/visitors to assess their needs and satisfaction regarding the environmental impact of the products and services you provide? How? Questionnaires, suggestion boards/boxes, meetings?
- Do your customers understand the BMPs you are implementing and why you are implementing them?
- Do you and your suppliers, contractors, and vendors have open communication regarding their performance and compliance with BMPs at your facility? Do you involve them in the development and improvement of the products, services, and processes they bring to your facility?
- How successfully do you work with oversight agencies to manage compliance? Do you work with objective auditors who help you attain continual improvement?
- Do you publicize your successes to gain the support of interested parties?

If you answer no to any of these, you may want to reevaluate your efforts. In order to gain understanding and support, it is essential to involve all interested parties. By measuring their involvement in your facility and their interest in your policy and goals, you can make them allies in decreasing your facility's environmental impacts and improving your surroundings.

5.3 MEASURING CHANGES IN OPERATIONAL ACTIVITIES

As explained in Section 2, operational activities can result in potentially detrimental environmental impacts. When you developed your Clean Marina program, you probably identified the need to change certain operational activities and to institute specific BMPs to achieve a reduced impact to the surrounding environment. But how can the impact of changes in operational activities be measured? How you measure change will vary depending upon what is being measured, and it can be quite simple. It is most important that the measurements are taken regularly, the data are reliable and meaningful, and appropriate changes are made when results come up short of expectations.

Section 5.1 touched upon available tools for measuring performance, such as the NPS and NPS Commercial Services Program EnviroCheck Sheets and the Commercial Services Program Operational/ Contract Compliance Evaluation Criteria/ Standards. These can be used for measuring changes in operation activities, and they can be obtained by contacting the NPS Commercial Services Environmental Program. As previously recommended, it is important that concessioners additionally consult their concessions contract to identify requirements that might be supplemental or even contrary to those suggestions included in the Guidebook.

6. SUCCESS STORIES

Many concessioners have already incorporated numerous BMPs into their operations. The sections below list just a few of the many parks and concessioners that are making the extra effort to protect their marinas by adopting Clean Marina practices.

6.1 LAKE MEAD NATIONAL RECREATION AREA

- **INVESTING IN "DRIVE-ON" FLOATING PERSONAL WATERCRAFT DOCKS FOR FUELING TO ENSURE A STABLE PLATFORM FOR FUELING.** Concessioners have installed state of the art, double-walled fuel distribution systems consisting of triple-wall hose and piping with alarmed secondary containment sumps for all hose and piping connections on the beach, dock gangways, under the dock, and under fuel dispensers. Although lake levels at both locations have been exceptionally low, concessioners have spent the extra money to install new sections of double-walled protected hose and piping, as the distance down the beach has grown to more than a half mile to ensure environmentally sound fueling systems.
- **POSTING A LARGE SIGN ON A WALL OF THE FLOATING MARINA STORE IN ITS DOCKSIDE PICNIC AREA THAT HIGHLIGHTS A VARIETY OF CLEAN MARINA PRACTICES FROM TRASH AND WASTE MANAGEMENT TO PROPER USE OF MARINE SANITATION DEVICES.**
- **SETTING UP A CLEAN MARINA DISPLAY AT ITS BOATING SUPPLIES STORE WHERE GREEN PRODUCTS, SUCH AS ENVIRONMENTALLY PREFERABLE BOAT CLEANERS AND POLLUTION PREVENTION EQUIPMENT, ARE SOLD.** Interpretive displays are provided to help customers understand why the green products are important.
- **USING SIMPLE, ENVIRONMENTALLY PREFERABLE CHEMICALS, INCLUDING VINEGAR AND BAKING SODA MIX TO WASH BOATS AND LEMON JUICE AND MOLASSES MIX TO CONTROL WEEDS, AND REUSING LARGE TRUCK TIRES TO CREATE BREAKWATERS FOR THE MARINA.** The tires are washed before entering the park to prevent the introduction of exotic plant seeds that might have been picked up on the tires outside the park and to ensure there is no residual oil or other contaminates.
- **ENGINEERING A LOW-COST BUT VERY EFFECTIVE STORMWATER PROTECTION SYSTEM FOR ITS MAINTENANCE PARKING AREA.** Oil absorbent socks were placed in front of small drains along the low end of the parking lot to pick up any oil contamination from the area. The socks are periodically checked and replaced as necessary as part of the marina's preventive maintenance program.
- **INSTALLING METAL LEAK-PROOF DECKING DESIGNED WITH A LIP ALONG ALL THE EDGES TO PREVENT ANYTHING FROM ENTERING THE WATER AND TO MINIMIZE THE RISK OF ANY KIND OF RELEASE INTO SURFACE WATERS.**
- **PROVIDING A 'BOAT IT IN-BAG IT OUT' PROGRAM.** Each of the concessioners help fund the program and provide special blue bags on their docks for customers to use for collecting trash while on the lake, and then to properly dispose when they get back to shore.

6.2 GLEN CANYON NATIONAL RECREATION AREA

- **DEVELOPING A COMPLETE SPCC PLAN FOR ITS LAND-BASED FUEL STORAGE AND ALSO A VESSEL RESPONSE PLAN FOR ITS BARGE TRANSPORT OF FUEL FROM STATELINE MARINA UP-LAKE TO A REMOTE MARINA AT DANGLING ROPE.** The concessioner transports over a million gallons of fuel per year using a triple-walled fuel barge.
- **PROVIDING FUEL ATTENDANTS WITH WALLET CARDS THAT OUTLINE FUELING PROCEDURES TO HELP EDUCATE AND ENSURE PROPER FUELING PROCEDURES, AS WELL AS PROVIDING ANNUAL TRAINING AND DOCUMENTED STANDARD OPERATING PROCEDURES.**
- **USING A PHOTOVOLTAIC SYSTEM TO POWER THE FUEL BARGE RUNNING LIGHTS AND BREAKWATER NAVIGATIONAL LIGHTS.**
- **USING ZERO DISCHARGE RENTAL HOUSEBOATS.** Both blackwater and greywater are collected into holding tanks and pumped out to a sewage treatment plant. In addition to the required Marine Pollution (MARPOL) dumping signage, sinks and drains on rental houseboats are provided with "No Dumping" signs warning renters that drains were piped to the lake and to avoid dumping improper materials.
- **CONDUCTING LAKE TRASH COLLECTION PROGRAMS.** With programs like "the Trash Tracker Program" at Lake Powell, concessioners provide various equipment and services including boats, captains and volunteers, and trash disposal services. Also, concessioners organize annual "clean-up" or "ecology dives" to collect materials that may have been disposed by boaters over the years. As lake levels drop, divers have been able to reach more lake-bottom locations to collect materials ranging from old anchors to engine blocks.
- **PUMPING AND USING LAKE WATER TO WASH DOWN BOATS RATHER THAN USING PRECIOUS POTABLE FRESH WATER**. Conservation of water is particularly important at such desert marinas.

6.3 GEORGE WASHINGTON MEMORIAL PARKWAY

- **REPLACING ENTIRE DOCK WITH A NEW SYSTEM CONSISTING OF 100% ENCAPSULATED FLOATATION AND RECYCLED-CONTENT LUMBER DECKING, WHICH IS DESIGNED TO LAST LONGER AND REQUIRE LESS MAINTENANCE.**
- **INSTITUTING STRICT NO-WAKE CONTROLS TO LIMIT THE POTENTIAL IMPACT FROM BOATERS TO DIKE MARSH, LOCATED IMMEDIATELY ADJACENT TO THE SMALL MARINA.**

6.4 GLACIER NATIONAL PARK

- **USING BIODIESEL AS AN ENVIRONMENTALLY FRIENDLY ALTERNATIVE TO PETROLEUM-BASED DIESEL FOR ITS INBOARD ENGINES.** Marina staff also optimized the boat engines to significantly reduce their weekly fuel use. In doing so, they reduced fuel consumption to close to 18 gallons per week, fleet-wide, even with three vessels running up to three trips per day.

6.5 ISLE ROYALE NATIONAL PARK

- **OPERATING A FUEL DOCK FOR RENTAL BOATS AND TRANSIENTS.** The operator instituted a procedure to fill portable gas tanks on the dock using a tub that provided secondary containment to prevent possible spillage. First seen at this location in 2002, this best management spill prevention practice has spread to many marinas in the NPS.

6.6 CRATER LAKE NATIONAL PARK

- **DISCONTINUING THE USE OF THE UNIQUE MOSQUITO ISLAND BOAT MAINTENANCE FACILITY.** Due to the steep crater walls, the island had offered one of the only available locations for such activities on the lake. However, the potential for impact to the clearest water in the world was too much to risk.

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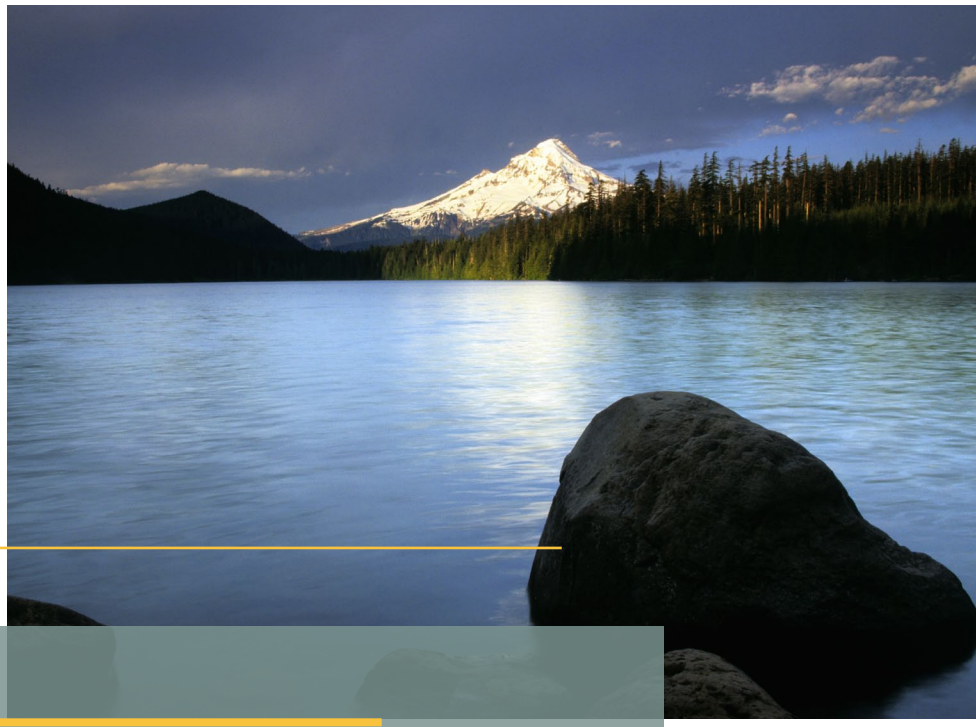
8. APPENDICES

A. INFORMATIONAL SOURCES

SOURCE	WEBSITE
AMERICAN BOAT AND YACHT COUNCIL	www.abycinc.org/index.cfm
ASSOCIATION OF MARINA INDUSTRIES (AMI)	www.marinaassociation.org/
BAYSCAPES INFORMATION	www.acb-online.org/project.cfm?vid=85
BOAT U.S. FOUNDATION	www.boatus.com/foundation/cleanwater/#
CHESAPEAKE BAY FOUNDATION	www.cbf.org/
CLEAN VESSEL ACT GRANT PROGRAM	http://wsfrprograms.fws.gov/Subpages/GrantPrograms/CVA/CVA.htm
COOPERATIVE EXTENSION SERVICE	www.hgic.umd.edu/
EMERGENCY MANAGEMENT SYSTEMS	www.epa.gov/ems/
GREEN SEAL	www.greenseal.org
HELP THE BAY ON THE ROAD	www.chesapeakebay.net/ontheroad.aspx?menuitem=14820
HUMANE SOCIETY	www.humanesociety.org/animals/browse_animals.html
INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN	www.potomacriver.org/cms/
MINNESOTA SEA GRANT COLLEGE PROGRAM	www.seagrant.umn.edu/
MOLD RESOURCES	www.epa.gov/mold/moldresources.html
NATIONAL FIRE PROTECTION ASSOCIATION	www.nfpa.org/
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	www.seagrant.noaa.gov/
NATIONAL PARK SERVICE	www.nps.gov/
NATIONAL PARK SERVICE COMMERCIAL SERVICES PROGRAM	http://concesssions.nps.gov
NATIONAL POLLUTION PREVENTION ROUNDTABLE	www.p2.org/

SOURCE	WEBSITE
PERMANENT INTERNATIONAL ASSOCIATION OF NAVIGATION CONGRESSES	www.pianc-aipcn.org/
SAVE OUR SHORES	www.saveourshores.org/
SEA GRANT EXTENSION PROGRAM BOATING POLLUTION PREVENTION SECTION	http://ucanr.org/sites/coast/Boating_-_Marina_Pollution_Prevention/
SHAWNEE COUNTY CONSERVATION DISTRICT: NONPOINT SOURCE POLLUTION	www.sccdistrict.com/nps.htm
STATES ORGANIZATION FOR BOATING ACCESS	www.sobaus.org/
STORMWATER MANAGER'S RESOURCE MANAGEMENT	www.stormwatercenter.net/
UNITED STATES ARMY CORPS OF ENGINEERS	www.usace.army.mil/
UNITED STATES COAST GUARD HEADQUARTERS	www.uscg.mil/
UNITED STATES DEPARTMENT OF AGRICULTURE	www.usda.gov/
UNITED STATES DEPARTMENT OF COMMERCE	www.ntis.gov/
UNITED STATES DEPARTMENT OF THE INTERIOR	www.doi.gov/
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY	www.epa.gov
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY COMPREHENSIVE PROCUREMENT GUIDELINES (CPG)	www.epa.gov/epawaste/conserve/tools/cpg/index.htm
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY HOTLINES AND CLEARINGHOUSES	www.epa.gov/epahome/hotline.htm
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY EMERGENCY MANAGEMENT: OIL SPILLS	**OIL CONTROL LAWS AND REGULATIONS** www.epa.gov/oilspill/ **WHEN TO REPORT OIL SPILLS** www.epa.gov/emergencies/content/reporting/index.htm **EPA OFFICE OF WETLANDS, OCEANS, AND WATERSHEDS** www.epa.gov/owow
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL JUSTICE	www.epa.gov/compliance/environmentaljustice/index.html
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY LIFE CYCLE ASSESSMENT RESOURCES	www.epa.gov/nrmrl/lcaccess/

SOURCE	WEBSITE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGIONAL OFFICES	www.epa.gov/epahome/whereyoulive.htm#regiontext
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY SUPERFUND, TRI, EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT (EPCRA), RMP AND OIL INFORMATION CENTER	www.epa.gov/superfund/contacts/infocenter/
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASTEWISE PROGRAM	**ENVIRONMENTALLY PREFERABLE PURCHASING** www.epa.gov/opptintr/epp/ **WASTE REDUCTION ACTIVITIES** www.epa.gov/wastewise/
UNITED STATES GREEN BUILDING COUNCIL	www.usgbc.org/default.asp
UNITED STATES FISH AND WILDLIFE SERVICE	www.fws.gov/
VESSEL MANAGEMENT SYSTEM	www.landfallnavigation.com/-evms1.htm



B. STATE ENVIRONMENTAL RESOURCES

STATE	WEBSITE
ALABAMA	Alabama Department of Conservation & Natural Resources Alabama Department of Environmental Management
ALASKA	Alaska Department of Environmental Conservation
ARIZONA	Arizona Department of Environmental Quality Arizona Fish & Game Department
ARKANSAS	Arkansas Department of Environmental Quality
CALIFORNIA	California Air Resources Board California Department of Conservation California Department of Toxic Substances Control California Department of Water Resources California Environmental Protection Agency
COLORADO	Colorado Revised Statutes Online Colorado Department of Public Health & Environment
CONNECTICUT	Connecticut Department of Environmental Protection
DELAWARE	Delaware Dept. of Natural Resources & Environmental Control Delaware Solid Waste Authority
DISTRICT OF COLUMBIA	DC Department of the Environment
FLORIDA	Florida Department of Environmental Protection
GEORGIA	Georgia Department of Natural Resources Georgia Environmental Protection Division
HAWAII	Hawaii Department of Land & Natural Resources Hawaii State Department of Health
IDAHO	Idaho Department of Environmental Quality Idaho Department of Water Resources
ILLINOIS	Illinois Environmental Protection Agency Illinois Department of Natural Resources
INDIANA	Indiana Department of Environmental Management Indiana Department of Natural Resources
IOWA	Iowa Department of Natural Resources
KANSAS	Kansas Department of Health & Environment

STATE	WEBSITE
KENTUCKY	Kentucky Environmental Quality Commissiovn Kentucky Department for Natural Resources Kentucky Department for Environmental Protection
LOUISIANA	Louisiana Department of Environmental Quality
MAINE	Maine Department of Environmental Protection
MARYLAND	Maryland Department of the Environment Maryland Department of Natural Resources
MASSACHUSETTS	Massachusetts Department of Environmental Protection
MICHIGAN	Michigan Department of Environmental Quality
MINNESOTA	Minnesota Department of Natural Resources Minnesota Pollution Control Agency
MISSISSIPPI	Mississippi Department of Environmental Quality
MISSOURI	Missouri Department of Natural Resources Missouri Department of Conservation
MONTANA	Montana Department of Environmental Quality Montana Natural Resource Information System
NEBRASKA	Nebraska Department of Environmental Quality
NEVADA	Nevada Division of Forestry Nevada Department of Conservation and Natural Resources Nevada Division of Environmental Protection
NEW HAMPSHIRE	New Hampshire Department of Environmental Services
NEW JERSEY	New Jersey Department of Environmental Protection
NEW MEXICO	New Mexico Environment Department
NEW YORK	New York State Department of Environmental Conservation
NORTH CAROLINA	NC Department of Environment & Natural Resources NC Division of Pollution Prevention & Environmental Assistance
NORTH DAKOTA	North Dakota State Water Commission North Dakota Geological Survey Division ND Department of Health - Environmental Health Section
OHIO	Ohio Department of Natural Resources Ohio Environmental Protection Agency Ohio Air Quality Development Authority
OKLAHOMA	Oklahoma Conservation Commission Oklahoma Department of Environmental Quality

STATE	WEBSITE
OREGON	Oregon Department of Environmental Quality Oregon Department of Fish & Wildlife
PENNSYLVANIA	Pennsylvania Department of Environmental Protection Pennsylvania Department of Conservation & Natural Resources
RHODE ISLAND	Rhode Island Department of Environmental Management
SOUTH CAROLINA	South Carolina Department of Health & Environmental Control South Carolina Department of Natural Resources
SOUTH DAKOTA	South Dakota Department of Environment & Natural Resources
TENNESSEE	Tennessee Department of Environment & Conservation
TEXAS	Texas Commission on Environmental Quality
UTAH	Utah Department of Environmental Quality Utah Automated Geographic Reference Center
VERMONT	Vermont Agency of Natural Resources Vermont Department of Environmental Conservation
VIRGINIA	Virginia Department of Environmental Quality
WASHINGTON	Washington State Department of Ecology Washington State Department of Natural Resources
WEST VIRGINIA	West Virginia Division of Environmental Protection
WISCONSIN	Wisconsin Department of Natural Resources Wisconsin DNR Environmental Protection
WYOMING	Department of Environmental Quality

C. STATE CLEAN MARINA PROGRAMS

STATE	WEBSITE
ALABAMA	www.masgc.org/cleanmarinas/index.htm
ALASKA	No Program*
ARIZONA	No Program*
ARKANSAS	No Program*
CALIFORNIA	www.coastal.ca.gov/ccbn/ccbndx.html
COLORADO	No Program*
CONNECTICUT	www.ct.gov/dep/cwp/view.asp?q=323530
DELAWARE	www.dnrec.delaware.gov/p2/Pages/CleanMarina.aspx
DISTRICT OF COLUMBIA	www.cleanmarinadc.org/clean_marina_program.asp
FLORIDA	http://marinefuel.com/clean-marinas-florida/
GEORGIA	www.uga.edu/cleanmarina/Become.html
HAWAII	No Program*
IDAHO	No Program*
ILLINOIS	No Program*
INDIANA	www.in.gov/dnr/naturepreserve/4747.htm
IOWA	No Program*
KANSAS	No Program*
KENTUCKY	No Program*
LOUISIANA	http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=124
MAINE	www.mainemarinetrades.com/clean_marinas/
MARYLAND	www.dnr.state.md.us/boating/cleanmarina/steps.asp
MASSACHUSETTS	www.mass.gov/czm/marinas/guide/macleanmarinaguide.htm
MICHIGAN	www.miseagrant.umich.edu/cmp/
MINNESOTA	No Program*
MISSISSIPPI	www.masgc.org/cleanmarinas/index.htm
MISSOURI	No Program*
MONTANA	No Program*
NEBRASKA	No Program*
NEVADA	No Program*
NEW HAMPSHIRE	http://des.nh.gov/organization/commissioner/p2au/pps/ppmpp/index.htm
NEW JERSEY	www.njcleanmarina.org/docs/brochure.pdf
NEW MEXICO	No Program*

STATE	WEBSITE
NEW YORK	www.seagrant.sunysb.edu/marinabmp/intro/contacts.htm
NORTH CAROLINA	http://dcm2.enr.state.nc.us/Marinas/clean.htm
NORTH DAKOTA	No Program*
OHIO	http://ohioseagrant.osu.edu/_documents/cmarina/brochure.pdf
OKLAHOMA	No Program*
OREGON	www.oregon.gov/OSMB/Clean/index.shtml
PENNSYLVANIA	No Program*
RHODE ISLAND	www.crmc.ri.gov/marinas.html
SOUTH CAROLINA	www.scdhec.gov/environment/ocrm/docs/Clean_Marina/Clean_Marina_Checklist.pdf
SOUTH DAKOTA	No Program*
TENNESSEE	www.tva.gov/environment/pdf/cleanmarina.pdf
TEXAS	www.cleanmarinas.org/pdfs/guidebook.pdf
UTAH	No Program*
VERMONT	No Program*
VIRGINIA	www.virginiacleanmarina.com/documents/cleanmarinaguidefinal.pdf
WASHINGTON	www.cleanmarinawashington.org/becomecertified.asp
WEST VIRGINIA	No Program*
WISCONSIN	www.wisconsincleanmarina.org/
WYOMING	No Program*

*At the time of this publication.

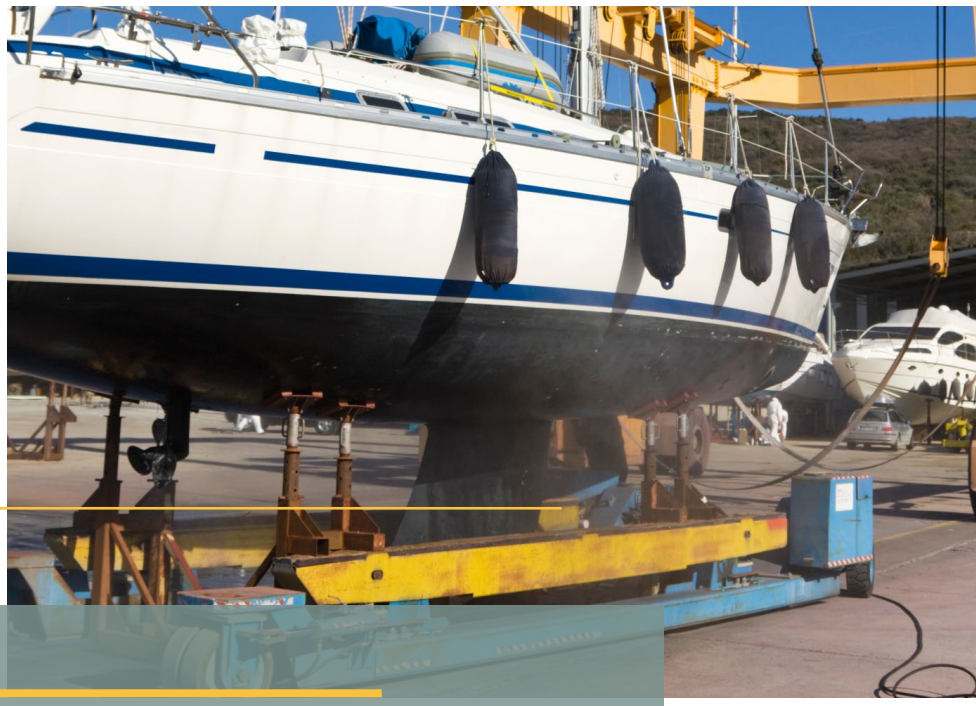
D. REGULATIONS, STATUTES, AND REQUIREMENTS SUMMARY

The table below provides links to the federal, state, and local regulations referenced in the above chapters; as well as, links to relevant NPS policy and guidelines.

FEDERAL REGULATIONS		STATE AND LOCAL REGULATIONS	NPS POLICY AND GUIDELINE REQUIREMENTS
EDUCATION AND TRAINING	EXECUTIVE ORDER 13423	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	NO SPECIFIC REQUIREMENTS
EMERGENCY PLANNING	29 CFR 1910.38 29 CFR 1910.120 40 CFR 355 40 CFR 370	EPCRA	DIRECTORS ORDER 50 B NPS 2006 MANAGEMENT POLICIES STANDARD CONCESSION CONTRACT OPERATING AND MAINTENANCE PLANS
ENERGY USE	EPACT EISA EXECUTIVE ORDER 13423 EXECUTIVE ORDER 13514	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	NPS 2006 MANAGEMENT POLICIES OPERATING AND MAINTENANCE PLANS
ENVIRONMENTALLY PREFERRED MATERIALS AND PRODUCTS	EXECUTIVE ORDER 13423 EXECUTIVE ORDER 13514 40 CFR 247 7 United States Code (USC) 8102 EPACT	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	NPS 2006 MANAGEMENT POLICIES OPERATING AND MAINTENANCE PLANS
HAZARDOUS MATERIALS AND WASTES	40 CFR 247 29 CFR 1910.1200 40 CFR 273 40 CFR 266 EXECUTIVE ORDER 13423 EXECUTIVE ORDER 13514	State Occupational Safety and Health Plans	DIRECTORS ORDER 50 B DIRECTORS ORDER 13 B NPS 2006 MANAGEMENT POLICIES OPERATING AND MAINTENANCE PLANS

FEDERAL REGULATIONS		STATE AND LOCAL REGULATIONS	NPS POLICY AND GUIDELINE REQUIREMENTS
SENSITIVE AREA ROTECTION	EXECUTIVE ORDER 13514	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	DIRECTORS ORDER 77 DIRECTORS ORDER 12 DIRECTORS ORDER 25 DIRECTORS ORDER 47 OPERATING AND MAINTENANCE PLANS
WASTEWATER MANAGEMENT CONTROL	29 CFR 1910.1030 Clean Water Act (CWA)	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	DIRECTORS ORDER 83B4 OPERATING AND MAINTENANCE PLANS SUPERINTENDENT'S COMPENDIUM
SOLID WASTE MANAGEMENT AND RECYCLING	EXECUTIVE ORDER 13423 EXECUTIVE ORDER 13514 40 CFR 243 33 USC 407 Marine Plastic Pollution Research and Control Act (MPPRCA)	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	DIRECTORS ORDER 13B NPS 2006 MANAGEMENT POLICIES SOLID WASTE MANAGEMENT HANDBOOK OPERATING AND MAINTENANCE PLANS SUPERINTENDENT'S COMPENDIUM
PETROLEUM MANAGEMENT	40 CFR 112 Oil Pollution Act (OPA) CWA 33 CFR 153.305 33 CFR 155.450	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	NPS SPECIAL DIRECTIVE 90-6 DIRECTORS ORDER 50 B National Fire Protection Agency (NFPA 30 A) OPERATING AND MAINTENANCE PLANS
STORMWATER MANAGEMENT	CWA EXECUTIVE ORDER 13514	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	DIRECTORS ORDER 77 OPERATING AND MAINTENANCE PLANS Stormwater Pollution Prevention Plan (SWPPP)

FEDERAL REGULATIONS		STATE AND LOCAL REGULATIONS	NPS POLICY AND GUIDELINE REQUIREMENTS
VESSEL MAINTENANCE/ REPAIR ACTIVITIES	Clean Air Act (CAA) CWA ORGANOTIN PAINT CONTROL ACT Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) 29 CFR1910.107 29 CFR 1926.66 29 CFR 1910.94	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	DIRECTORS ORDER 77 DIRECTORS ORDER 47 NFPA 33 OPERATING AND MAINTENANCE PLANS
WATER CONSERVATION	EXECUTIVE ORDER 13514 EPACT	Check with your state and local government office for state-specific and local requirements. Refer to Appendix 8.2 for links to state environmental websites.	NPS 2006 MANAGEMENT POLICIES OPERATING AND MAINTENANCE PLANS



National Park Service
US Department of the Interior

Concession Program
Denver, Colorado

Developing a Written Environmental Management Program (EMP)

[Service Type]

For more information, contact the *GreenLine* Number at 303.987.6920 or email NPS_GreenLine@nps.gov.

Updated: April 2011

WHY YOU SHOULD READ THIS DOCUMENT

The National Park Service Commercial Services Program has prepared this document, to assist [Service Type] concessioners in developing a written Environmental Management Program (EMP). All NPS concessioners awarded Category I or II concession contracts that are based on the Standard Concession Contract provisions published in the Federal Register on May 4, 2000 (65 FR 26051-26086: Part III, Department of the Interior, National Park Service, Standard Concession Contract; Revision; Notice), are required under Section 6 of the Standard Concession Contract to prepare and submit an initial written EMP. . The concessioner is required to implement the park-approved EMP at concessioner facilities and services in the park. This EMP is equivalent to an Environmental Management System (EMS).

This document provides guidance to assist concessioner's in developing their EMP, outlining the general requirements to meet the nine EMP elements specified in the Concession Contract. The document provides information on the purpose of each EMP element and what is required or a best management practice that may be appropriate for the element. Sample starter language for each element is also provided.

While the guidance provides a format for developing the EMP which has been found to be simple and effective, use of the format is not dictated as long as the Contract-specified elements are adequately addressed. Concessioners may develop and implement an EMS in accordance with an International Organization for Standardization (ISO) EMS as long as it addresses the nine elements required in an EMP.

LIMITATIONS AND DISCLAIMER

This document is for guidance purposes only. Its use does not guarantee compliance with Applicable Laws or contract requirements or acceptance of the concessioner's EMP by the Park.

It is critical to understand, that a concessioner's EMP will be unique. Each concessioner is responsible for developing their own Program as appropriate to address their specific facilities and operations, regulatory and contract requirements, and company policies and goals.

Per Standard Concession Contract requirements, the concessioner must submit its initial written EMP to the park within 60 days of the effective date of their concession contract for acceptance. The EMP should be updated as necessary and must be annually resubmitted to the park so that it may be reviewed and accepted as current and applicable to concessioner facilities and services.

DEFINITIONS AND ACRONYMS USED

APPLICABLE LAWS: The laws of Congress governing the area, including, but not limited to, the rules, regulations, requirements and policies promulgated under those laws (e.g., 36 CFR Part 51), whether now in force, or amended, enacted or promulgated in the future, including, without limitation, Federal, state and local laws, rules, regulations, requirements and policies governing nondiscrimination, protection of the environment and protection of public health and safety.

AREA: Property within the boundaries of [Name of Park].

BEST MANAGEMENT PRACTICES (BMPS): Policies and practices that apply the most current and advanced means and technologies available to the concessioner to undertake and maintain a superior level of environmental performance reasonable in light of the circumstances of the operations conducted under this CONTRACT. BMPs are expected to change from time to time as technology evolves with a goal of sustainability of the concessioner's operations. Sustainability of operations refers to operations that have a restorative or net positive impact on the environment.

CONCESSION CONTRACT: A binding written agreement between the NPS Director and a concessioner entered into under 36 CFR 51. It authorizes concessioners to provide certain visitor services within a park under specified terms and conditions.

EMERGENCY ACTION PLAN (EAP): Covers designated actions employers and employees must take to ensure employee safety from fire and other emergencies. These "other emergencies" include hazardous substance spills or releases, especially if the park directs the concessioner not to clean up large (non-incidental) hazardous substance spills or releases. Most concessioners probably have an EAP for other potential emergency situations (fires, floods); however, they may need to add a section for hazardous substance spills and releases.

ENVIRONMENTAL MANAGEMENT PROGRAM (EMP): Program that achieves the Standard Concession Contract Environmental Management Objectives of (1) complying with all applicable laws pertaining to the protection of human health and the environment and (2) incorporating best management practices in a concessioner's operation, construction, maintenance, acquisition, provision of visitor services, and other activities under a concession contract. The EMP should be developed, documented, implemented, and complied fully with by a concessioner to account for all activities with potential environmental impacts conducted by the concessioner or to which the concessioner contributes.

ENVIRONMENTALLY PREFERABLE: Products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.

ENVIRONMENTAL PURCHASING: Purchase of products and services that are environmentally preferable. Also referred to as "green procurement" or "environmentally preferable purchasing."

EXECUTIVE ORDER (EO): The President's declaration which has the force of law, usually based on existing statutory powers, and requiring no action by the Congress or state legislature.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA): Federal agency whose mission is to prevent work-related injuries, illnesses, and deaths by ensuring safe and healthful workplaces.

POLLUTION PREVENTION: "Source reduction" as defined in the Pollution Prevention Act of 1990 (42 United States Code 13102) and other practices that reduce or eliminate the creation of pollutants through (1) increased efficiency in the use of raw materials, energy, water, or other resources; or (2) protection of natural resources by conservation.

SOURCE REDUCTION: Any practice which (1) reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and (2) reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants. The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.

STANDARD OPERATING PROCEDURE (SOP): Procedures used to carry out a specific activity or operation. SOPs are usually documented and filed or posted in a readily accessible location for employee review.

SUSTAINABILITY: A sustainable society is one which satisfies its needs without diminishing the prospects of future generations.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA): Federal agency responsible for developing and overseeing many environmental regulations at the Federal level.

WASTE REDUCTION: Preventing or decreasing the amount of waste being generated through waste prevention, recycling, or purchasing recycled and environmentally preferable products.

WASTE PREVENTION: Any change in the design, manufacturing, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they are discarded. Waste prevention also refers to the reuse of products or materials

WHY A WRITTEN EMP IS IMPORTANT

The NPS requires a written EMP for all Category I and II concession contracts that are based on the Standard
Concession Contract provisions (65 FR 26051-26086). All concessioners, large or small, impact the environment in some way, are subject to local, state and Federal environmental regulations and have opportunities to develop and implement a system to help improve environmental performance.

There are four primary reasons for preparing a single consolidated environmental document (i.e., the EMP):

1. The exercise of preparing the written EMP helps familiarize you with environmental regulations and policies applicable to your facilities and services. Chances are that you already know about many of these regulations and policies. However, a comprehensive review of your operations may help you identify new or additional regulations that are applicable to the types of facilities you operate and services you provide under your concession contract.

2. The written EMP helps you proactively plan for compliance with existing environmental regulations and policies. It may also help you identify opportunities for implementing best management practices (BMPs). In developing an EMP, you will look at the types of services you provide at the facilities you operate and identify how these activities affect or impact the environment. Through this exercise, you may identify activities and practices with environmental impacts and opportunities for improvement that you had not considered before.

3. Your EMP can serve as a pointer document that identifies where environmental documents (such as reports and procedures) are located and identifies who is responsible for maintaining these documents. With a written EMP, you are able to systematically organize and locate copies of all your environmental records, reports, and documents, even if an environmental manager is absent or leaves the organization. A consolidated document will also assist the NPS in reviewing and evaluating your environmental program and practices to ensure compliance with applicable laws. In the event that a regulatory agency visits your operations, your EMP information and documents are readily available for review, which will help to show that your organization is committed to environmental compliance and environmental management.

4. Your EMP can be a tool for the following:
    - Establishing a process for setting goals;
    - Developing programs to reach those goals;
    - Measuring performance against those goals; and
    - Identifying and making improvements to your system.

A QUICK GUIDE TO THE EMP

Table 1 presents the nine required EMP elements (A-I) as specified in Section 6 of the Standard Concession Contract. These are further described in the Appendix.

TABLE 1: EMP ELEMENTS

A	POLICY
B	GOALS AND TARGETS
C	RESPONSIBILITY AND ACCOUNTABILITY
D	DOCUMENTATION
E	DOCUMENT CONTROL AND INFORMATION MANAGEMENT
F	REPORTING
G	COMMUNICATION
H	TRAINING
I	MONITORING, MEASUREMENT, AND CORRECTIVE ACTION

The sample written EMP presented in the Appendix divides each of the nine EMP elements into required components (per the Standard Concession Contract) and BMP opportunities.

Required components are marked with a checkmark (ü). Undertaking BMP opportunities is encouraged to support the EMP element but is not required. The number of BMP opportunities that exist is unlimited; therefore, not all of them are included in this document. Your environmental audit provides a good reference for BMP opportunities. BMP opportunities are marked with a star (µ). Most ✪s are consistent with current management practices adopted by private industry sectors.

TABLE 2: SYMBOLS

➲	REQUIRED COMPONENT (per Section 6 of the StandardConcession Contract)
✪	BMP OPPORTUNITY

The description for each EMP element included in the Appendix provides further detail and explanation for each element as required in the Standard Concession Contract. As a reference, there is a footnote in the Appendix for each EMP element that cites the language included in the Standard Concession Contract.

ADDITION ASSISTANCE RESOURCES

The sample EMP provided in the Appendix is a template. In developing your EMP, consider contacting your local, state, and Federal environmental agencies for assistance in identifying applicable laws for your concessioner facilities services, and operations. In addition, consider reviewing the resources listed below to identify appropriate BMPs for your EMP. Some of these resources are available through the NPS GreenLine Number (303-987-6920) or at the link below.

- **PRACTICAL GUIDE TO ENVIRONMENTAL MANAGEMENT FOR SMALL BUSINESS:**
  www.smallbiz-enviroweb.org/html/pdf/EM_Guide0902.pdf
- **GREENLINE NEWSLETTER – NPSCP:**
  http://concessions.nps.gov/tools_greenline.htm
- **NPS CONCESSION PROGRAM WEBSITE:**
  www.concessions.nps.gov

ENVIRONMENTAL MANAGEMENT PROGRAM TEMPLATE

A written EMP is composed of nine required elements as stated in Section 6 of the Standard Concession Contract.
A description of these nine elements (identified as letters A through I) is provided on the left side of the following pages.

A template for an EMP, including these nine elements, is presented on the right side of the following pages as an example. The template is a guide to help jumpstart your efforts in developing an EMP for your facilities and services. **REMEMBER THAT THE EMP THAT YOU DEVELOP SHOULD BE SPECIFIC TO, AND ADEQUATELY ADDRESS, THE TYPE AND SIZE OF SERVICES YOU PROVIDE UNDER YOUR CONCESSION CONTRACT WITH THE NPS.** Your EMP can and should be simple and flexible to ensure it is fully embraced and implemented by you and your staff. However, more complex operations and services, or additional park requirements to protect specific resources, may warrant a more detailed document.

[Concession Name] – Written EMP

[Park Name]

Date: [Date]

EMP ELEMENT: A. POLICY	SAMPLE FOR THIS EMP ELEMENT: [CONCESSION NAME] – WRITTEN EMP – [DATE]
The environmental policy declares your commitment to protecting and conserving the environment. The policy serves as the foundation for your EMP and provides a unifying vision to guide development and implementation of your environmental program. **REQUIRED COMPONENTS:** • Develop and document your policy. • State your commitment to complying with applicable laws. • State your commitment to implementing best management practices (BMPs). • State your commitment to continual improvement (e.g., commit to reviewing your environmental program and updating or modifying it as appropriate). **BMP OPPORTUNITIES:** • State your commitment to dedicate resources (i.e., staff and budget) to implement your EMP. ✪ • State your commitment to identify and hold staff responsible for potential environmental impacts. • State your commitment to communicate your environmental program to employees, customers and the NPS. ✪ • State your commitment to provide educational outreach to visitors and other stakeholders about environmental issues and educate them to reduce their own impact upon the environment. ✪ • State your commitment to recognize your employees' exceptional environmental performance (e.g., through awards, bonuses) ✪.	**A. Policy** [Insert Concessioner's Environmental Policy] This environmental policy is available to all employees and Park staff. We welcome suggestions for improving the EMP to ensure that it responds to the needs of our employees, visitors, and the environment in which we operate. [First & Last Name] [Title] [Concession Name]

Standard Concession Contract Language, Sec. 6 (b)(3)(i), Policy: *"The EMP shall provide a clear statement of the Concessioner's commitment to the Environmental Management Objectives."*

EMP ELEMENT B. GOALS AND TARGETS	SAMPLE FOR THIS EMP ELEMENT: [CONCESSION NAME] – WRITTEN EMP – [DATE]

It is important to establish goals and targets to measure your progress in implementing the EMP and to support your environmental policy. It also helps you continuously improve your EMP. Goals and targets are interrelated. Goals should provide broad ideas on what you want to accomplish and should be consistent with your environmental policy. They should help you answer the question, "will achieving this goal be consistent with our policy?" Targets identify specific actions or steps to be taken toward achieving goals. They should incorporate deadlines and be measurable.

REQUIRED COMPONENTS:

- Set goals that are consistent with your environmental policy.
- Set annual (i.e. short-term) targets.
- Set long-term targets.
- Set goals and targets that address known deficiencies in complying with applicable laws, including issues identified during self-assessments or through environmental audits (such as the Concession Environmental Audit System).

BMP OPPORTUNITY:

- Identify goals and targets for implementing BMPs. ✪

NOTES:

Establishing targets is an ongoing process. You may need to review the targets on a more frequent basis to determine if they are still appropriate or whether they need to be modified or updated. As targets are achieved, you should consider establishing new targets to continue to support existing goals or in support of new goals.

Goals and targets can be established to maintain current levels of performance as well to improve performance. If your goal is to maintain current levels, you should address current practices to be maintained.

Goals and targets should address compliance and may include BMPs.

B. Goals and Targets

Annually, [Concession Name] will review our facilities and services relative to applicable regulations, to Park environmental requirements and to the [Service type's industry] best management practices. We will seek opportunities to improve our operations to demonstrate a commitment to environmental compliance and stewardship. To achieve this, we will identify and set realistic goals and targets that will improve our client satisfaction while minimizing our environmental impacts to help ensure the protection, conservation, and preservation of Park resources.

Note: It may be helpful to review your environmental audit report as a resource for identifying goals and setting targets.

TABLE 1: GOALS AND TARGETS

GOAL	TARGET
Maintain environmental compliance	Address findings and BMPs in environmental audit report.
Reduce use of hazardous chemicals and materials to minimize potential spills and enhance worker safety.	Discontinue use of all toxic fly spray by July 2007. Replace with nontoxic products (e.g., Skin So Soft for horses).
[Goal]	[Description and Target Completion Date]
[Goal]	[Description and Target Completion Date]
[Goal]	[Description and Target Completion Date]

This table provides one example of a goal and target. For your EMP you should fill in the table as appropriate.

Standard Concession Contract Language, Sec. 6 (b)(3)(ii), Goals and Targets: *"The EMP shall identify environmental goals established by the Concessioner consistent with all Environmental Management Objectives. The EMP shall also identify specific targets (i.e., measurable results and schedules) to achieve these goals."*

EMP ELEMENT: C. RESPONSIBILITY AND ACCOUNTABILITY	SAMPLE FOR THIS EMP ELEMENT: [CONCESSION NAME] – WRITTEN EMP – [DATE]

For an EMP to be effective, it is important to have clearly defined environmental roles and responsibilities for all staff. Involvement andv commitment by all employees is essential to a successful environmental program.

REQUIRED COMPONENTS:

- Designate an environmental program manager. (It is appropriate to assign this title and accompanying duties to an existing worker with knowledge of environmental issues if staffing is limited.)
- Assign environmental responsibilities and functions to appropriate staff to ensure they are aware of their environmental roles and responsibilities.

BMP OPPORTUNITIES:

- Develop and implement evaluation procedures to assess environmental performance of staff.

NOTES:

You should try to include roles and responsibilities in your employees' job descriptions to help convey the idea that it is everyone's responsibility to implement the EMP.

The environmental responsibilities listed here are quite detailed but may not cover all specific staff where duties should be described. Your environmental responsibilities may be less detailed, but still cover the same operations and activities. Another option, although not as effective, is to develop a general requirement that states that all staff will be involved in the development and implementation of an EMP and that employees are responsible for ensuring the EMP is effective and successful.

C. Responsibility and Accountability

TABLE 1: POSITIONS AND RESPONSIBILITIES

Position	Environmental Responsibilities
Environmental Program Manager [First & Last Name] [Contact Information]	· Develops, maintains, and communicates EMP manual and environmental policy. · Coordinates development of environmental goals and targets. Reviews goals and targets at least annually to identify opportunities to modify or update them. · Maintains all environmental documentation and records. · Ensures employees receive environmental training and maintains employee training records. · Participates in NPS Concession Environmental Audit System. · Monitors and ensures that all environmental audit findings are addressed and closed.
[Position] [First & Last Name] [Contact Information]	· [List All Other Environmental Responsibilities] · [List All Other Environmental Responsibilities] · [List All Other Environmental Responsibilities] · [List All Other Environmental Responsibilities]

This table provides one example of an employee 's position and his/her respective responsibilities. For your EMP you should fill in the table as appropriate.

Standard Concession Contract Language, Sec. 6 (b)(3)(iii), Responsibilities and Accountability: *"The EMP shall identify environmental responsibilities for concessioner employees and contractors. The EMP shall include the designation of an environmental program manager. The EMP shall include procedures for the concessioner to implement the evaluation of employee and contractor performance against these environmental responsibilities.*

EMP Element: D. Documentation	SAMPLE FOR THIS EMP ELEMENT: [Concession Name] – Written EMP – [Date]
To ensure that your EMP is understood and operating as designed, you must provide adequate information to your staff. You should document what you (or your staff) do and how it is done for key activities that deal with environmental issues. A good starting point is to consider what you would tell a new employee about your environmental program; use this to develop a document that clearly states this information. **REQUIRED COMPONENTS:** • Develop and maintain a written EMP that includes all nine required EMP elements as identified in the concession contract. • Identify and maintain all plans and standard operating procedures (SOPs) required by applicable laws, including the concession contract. • Identify and maintain all records required by applicable laws, including the concession contract. **BMP OPPORTUNITIES:** • Identify and maintain all plans and SOPs not required by applicable laws or the concession contract. ✪ • Identify and maintain additional environmental records that support or advance the environmental program as appropriate. ✪ **NOTES:** Your EMP does not have to describe every detail of your environmental program. Instead, the EMP can provide references to other documents or procedures. For example, rather than including the inventory of hazardous wastes, you could simply state that the Office Manager maintains the inventory and that the file copy is located in the office. You may wonder why you need to develop an SOP when a procedure is already described in your operating and maintenance (O&M) plans. The SOPs identified in O&M Plans often simply identify responsibilities (e.g., concessioner shall manage solid waste), but do not provide detail on how to carry out these responsibilities.	**D. Documentation** Listed below are all the environmental documents that we will maintain. Annually, the Environmental Program Manager will determine whether there are additional environmental documents required by applicable laws, the concession contract and operating and maintenance plans, or those needed to support the environmental program, that should be added to this list. The location and people responsible for maintaining these documents are identified under Element E of this EMP. **a. Written EMP.** **b. Environmental Plans.** · Operating Manual (includes [Concession Name] -specific operating procedures) **c. Environmental SOPs.** · [List SOPs] · [List SOPs] **d. Environmental Records.** Procedures and responsibilities for updating these environmental records are found in our [Location]. · Inventory of hazardous substances · Material safety data sheets (MSDSs) for all hazardous chemicals · Inventory of solid waste · Environmental Audit Report · Environmental Audit Corrective Action Report · Notices of Violation (NOVs) · Operational evaluation · Approval for pesticide use · Annual EMP Performance Summary

Standard Concession Contract Language, Sec. 6 (b)(3)(iv), Documentation: *"The EMP shall identify plans, procedures, manuals, and other documentation maintained by the Concessioner to meet the Environmental Management Objectives."*

Emp Element: E. Documentation, Control, Andinformation Management System	SAMPLE FOR THIS EMP ELEMENT: [Concession Name] – Written Emp – [Date]

A documentation control and information management system provides a way for you to track and monitor all of your plans, SOPs, records, and other documents identified under the Documentation component of your EMP (Element D). Items that should be addressed in this element include identifying where plans, SOPs, records, and other documents can be located, how they are reviewed, and who is responsible for reviewing and maintaining these documents.

REQUIRED COMPONENT:

- Develop, document, and implement procedures to manage environmental documents. Indicate where the documents are physically located, and who is responsible for managing and/or maintaining the documents.

BMP OPPORTUNITY:

- Develop a training program and train staff on procedures and policies for managing environmental documents. ✪

NOTES:

If staff and others who need access to the documents are connected to a computer network or have access to your company's internal website, consider using a paperless document control and information management system. Such systems can facilitate control and revision of documents and ensure that the most current versions of all documents are readily accessible to all employees.

The simplest way to keep this document control information may be in a table, such as the one presented here.

E. Documentation, Control, and Information Management System

The Environmental Program Manager is responsible for identifying all environmental documentation that will be maintained, listing it below, and assigning individuals to update the environmental documentation. S/he will review this list on at least an annual basis to determine whether any documents need to be updated, amended, or added. Individuals responsible for updates will apprise all relevant staff about any changes made to the documents by telling them about changes in person, circulating updated versions of the documents, and posting changes on the bulletin board in the main office.

Most environmental documents will be kept in the Environmental Program Manager's office, including copies of key records. Certain documents are maintained at the point of use (e.g., inspection logs).

Document	Version & Date	Location	Responsible for Updates
Written EMP	1.0 (3/2011)	Environmental Program Manager's Office	Environmental Program Manager
Environmental Plans			
[List Environmental Plans]			
Environmental SOPs			
[List SOPs]			
Environmental Records			
[List Records]			

Standard Concession Contract Language, Sec. 6 (b)(3)(v), Documentation Control and Information Management System: *"The EMP shall describe (and implement) document control and information management systems to maintain knowledge of Applicable Laws and BMPs. In addition, the EMP shall identify how the Concessioner will manage environmental information, including without limitation, plans, permits, certifications, reports, and correspondence."*

EMP Element: F. Reporting	SAMPLE FOR THIS EMP ELEMENT: [Concession Name] – Written EMP – [Date]

Certain environmental data must be reported to Federal, state, regional, and/or local environmental agencies, and to the park, on a routine basis. The Reporting element should identify what data and/or reports must be submitted and identify a timeline for when and to whom the information should be submitted.

REQUIRED COMPONENTS:

- Identify your required reporting requirements under applicable laws, including the concession contract.
- Update reporting requirements based on changes made to applicable laws, including the concession contract.
- Submit all environmental reports to regulatory agencies and the park on time.
- Ensure your reports are included in the documentation section of your EMP.

BMP OPPORTUNITIES:

- Communicate the results of your internal environmental audits/evaluations to the park. ✪
- Communicate your performance against your annual goals and targets to the park and/or customers and stakeholders. ✪

NOTES:

Listing reports required by applicable laws, including the concession contract, along with the date by which they need to be submitted/updated, will help you keep track of all your reporting requirements and ensure you do not miss a deadline. All of these reports should also be included in your documentation (Element D) and document control and information management system (Element E) sections of your EMP.

F. Reporting

The Environmental Program Manager will conduct an annual review to determine whether there are new environmental requirements and/or reports required under the applicable laws that govern activities of [Concession Name] or that are required by the concession contract and operating and maintenance plans. The Environmental Program Manager will ensure that all reporting is completed and submitted in a timely manner and consistent with regulatory timelines.

TABLE 1: REPORT TIMELINES AND RESPONSIBILITIES

Report	For	Date Due	Responsibility	Submitted To/Date
Environmental Audit Corrective Action Report	Park	As corrective actions are completed	Environmental Program Manager	Park Concession Specialist · 08/2001 · 11/2002 · 05/2003 · 01/2004. Audit closed. No further reporting required at this time.
[Type of Report]	Park or Internal	[List Dates]	[List Responsible Party]	[Insert Dates]

This table provides one example of a report timeline and responsibilities. For your EMP you should fill in the table as appropriate.

Standard Concession Contract Language, Sec. 6 (b)(3)(vi), Reporting: *"The EMP shall describe (and implement) a system for reporting environmental information on a routine and emergency basis, including providing reports to the Director under this CONTRACT."*

EMP Element: G. Communication

Effective environmental management requires effective communication. Internally, you should communicate your EMP to help motivate your staff, gain acceptance for your plans and efforts, ensure understanding of roles and responsibilities, and monitor and evaluate performance. You should also communicate your EMP to external parties such as customers, the NPS, and other stakeholders. Under this element, you identify your different audiences, how and what you will communicate to them, and who is responsible for communicating to the audiences.

REQUIRED COMPONENTS:

- Establish procedures to ensure that all environmental information is communicated as required by applicable laws and the concession contract (e.g., MSDSs for staff).
- Document your environmental communication strategies and procedures. These should describe who is responsible for communicating environmental information to different audiences (e.g., visitors, staff).
- Communicate the EMP to staff for their review and as new ideas are introduced.

BMP OPPORTUNITIES:

- Discuss environmental performance at staff meetings; add it as a standing agenda item.
- Have staff participate in park environmental meetings as appropriate. ✪
- Establish an environmental committee ("green team") as a means to communicate with staff and receive staff input on EMP issues ✪.
- Establish procedures to solicit and respond to input from external groups such as visitors, local communities, and the NPS. ✪
- Communicate and partner with the park on environmental projects where feasible and appropriate (e.g., manure composting). ✪
- Participate in organizations that provide environmental support, information, or resources. ✪

SAMPLE FOR THIS EMP ELEMENT: [Concession Name] – Written EMP – [Date]

G. Communication

[Concession Name] will communicate with our staff, the Park, and our guests/visitors to apprise and educate our different audiences about our environmental management program, our environmental initiatives, our goals and achievements, and our commitment to protect the environment.

TABLE 1: COMMUNICATIONS AND RESPONSIBILITIES

Audience	Communication	Content	Responsibility
PARK	Annual reports Informal communicationvv with Park Concession Specialist	Annual reporting (as listed in section F of this EMP) Updates on Park policies, regulations	Environmental Program Manager
REGULATORS	Onsite formal inspections (i.e., face-to-face) Phone conversations Formal letter/memo correspondence	Compliance documents and/or reports (as requested)	Environmental Program Manager
[INSERT AUDIENCE]	[Communication Type]	[Content]	[Responsible Party]

This table provides two examples of communications and responsibilities. For your EMP you should fill in the table as appropriate.

Standard Concession Contract Language, Sec. 6 (b)(3)(vii), Communication: *"The EMP shall describe how the environmental policy, goals, targets, responsibilities and procedures will be communicated throughout the Concessioner's organization."*

EMP Element: H. Training

Environmental training ensures that all staff are aware of the company's commitment to protecting, conserving, and preserving park resources, and procedures to follow while performing job duties. Your training program should address the requirements of applicable laws, educate employees about your EMP, and inform them of environmental impacts associated with their specific jobs. You may, in fact, already be conducting some environmental training and may simply need to modify your current training program to address EMP elements.

REQUIRED COMPONENTS:

- Ensure all staff receive adequate job-specific training as required by applicable laws, including the concession contract.
- Assess training needs periodically. Document the training format (e.g., videotape, trainer) and frequency of training (e.g., at the start of every season, once a month during the season).
- Maintain training records for employees.
- Develop and implement a training plan (e.g., who needs training, type of training, how often it is required).

BMP OPPORTUNITIES:

- Coordinate training with the park, where feasible (e.g., partner with the park on training, invite park staff to concessioner training). ✪
- Conduct EMP training for all employees upon hiring, and whenever the EMP changes. ✪

NOTES:

There are few regulatory-mandated training requirements for small concessioners. However, if you deal with any hazardous chemicals (e.g., most cleaning chemicals), you usually need to comply with the OSHA Hazard Communication Standard. Also, if hazardous substances (e.g., cleaning chemicals) can spill, you most likely also need to talk with the park to determine your responsibilities if a spill occurs and train staff on these procedures (e.g., clean it up, call park).

Note that some types of training, but not all, can be informal (e.g., lunchtime discussion). Consider developing an EMP training package for new employees and provide it as part of their orientation.

SAMPLE FOR THIS EMP ELEMENT: [Concession Name] – Written EMP – [Date]

H. Training

The Environmental Program Manager will periodically identify and review training requirements for all employees and ensure that employees receive required training. Employees will be formally trained about environmental issues related to applicable laws within two weeks of hiring; all training related to environmental issues will be completed within one month of hiring. The Environmental Program Manager will maintain records documenting dates and types of training taken by each employee.

Training will occur as identified in Table 1. The form used to record each employee's training record will be similar to Table 2.

TABLE 1: TRAINING

Training Topic	Type	Trainer	Employees Covered	Frequency
EMP Awareness	In-House	Env Prog Mgr	All	Initial Hire/Annual Refresher
[Topic]	[Type]	[Position]	[Who's Trained]	[Frequency]

TABLE 2: TRAINING RECORDS

Employee Name _____

Training Topic	Trainer	Date	Date of Next Required Training
HAZCOM	[Name]	[Date]	[Date]
[Topic Name]	[Name]	[Date]	[Date]
Others (list):	[Name]	[Date]	[Date]

These tables provide examples of a training and employee training recordings. For your EMP you should fill in the table as appropriate.

Standard Concession Contract Language, Sec. 6 (b)(3)(viii), Training: *"The EMP shall describe the environmental training program for the Concessioner, including identification of staff to be trained, training subjects, frequency of training and how training will be documented."*

EMP Element: I. Monitoring, Measurement, and Corrective Action	SAMPLE FOR THIS EMP ELEMENT: [Concession Name] – Written EMP – [Date]

By implementing monitoring, measurement, and corrective action procedures, you can measure the performance of your operations against regulatory (i.e., compliance) and BMP standards. You can also evaluate how effective and successful your EMP is and determine whether you have reached your goals and targets (Element B) or whether there is an opportunity to revise and improve the EMP.

REQUIRED COMPONENTS:

- Participate in the NPSCP environmental audit.
- Correct NPSCP environmental audit findings according to the assigned schedule.
- Review the EMP at least annually, and modify appropriate elements (e.g., goals and targets) based upon quantitative data and feedback from staff, the park, and visitors.

BMP OPPORTUNITIES:

- Conduct periodic internal environmental assessments of concession facilities and services. ✪
- Collect information to measure progress toward your environmental goals and targets. ✪

NOTES:

It is important to participate in the NPSCP environmental audit. However, it is also very useful to establish your own routine internal environmental self-assessment program to proactively improve environmental management of your facilities and services.

Quantitative data (e.g., number of people that received environmental messaging, number of pounds of plastic recycled) is often a more useful way to measure performance since it allows you to provide specific details about performance.

I. Monitoring, Measurement, and Corrective Action

At the end of each calendar year, the Environmental Program Manager will determine whether [Concession Name] has achieved environmental goals and targets (as listed under Element B of this written EMP). If no progress has been made, the Environmental Program Manager will coordinate with staff to determine why goals and targets were not achieved and will implement new operating policies or procedures that will assist [Concession Name] in achieving our stated environmental goals and targets. We will prepare an annual EMP Performance Summary to document our progress and maintain the summary on file in the Environmental Program Manager's office.

Goal	Target	Completion Date/Status	Other Comments
Reduce use of hazardous chemicals and materials to minimize potential spills and enhance worker safety.	Discontinue use of all toxic fly spray by 2009. Replace with nontoxic products (e.g., Skin So Soft for horses).	Complete: 2/2008	[Insert Additional Comments]
[Goal]	[Description and Target Completion Date]	[Complete] [Not Complete][In Progress]	[Insert Additional Comments]

The Environmental Program Manager will also routinely monitor progress in addressing audit findings identified during environmental audits, including audits we conduct internally as well as environmental audits conducted by the NPS and environmental agencies. The Environmental Program Manager will ensure that [Concession Name] adequately addresses identified audit findings in a timely manner (i.e., before the Deadline to Close Audit Finding date agreed upon by the audit team and [Concession Name] for NPSCP environmental audits). [Concession Name] plans for implementing corrective action will be filed, along with the environmental audit report, in the Environmental Program Manager's office.

At least annually, the Environmental Program Manager and appropriate staff will review this written EMP and identify opportunities for improvement. As appropriate, we will discuss all updates with our employees and provide additional training if appropriate. We will continuously solicit input and feedback from our employees on the EMP. We will share a copy of the original EMP and all subsequent updates with the Park Concession Specialist [Park Concession Specialist Name].

Standard Concession Contract Language, Sec. 6 (b)(3)(ix), Monitoring, Measurement, and Corrective Action: *"The EMP shall describe how the Concessioner will comply with the EMP and how the Concessioner will self-assess its performance under the EMP, at least annually, in a manner consistent with NPS protocol regarding audit of NPS operations. The self-assessment should ensure the Concessioner's conformance with the Environmental Management Objectives and measure performance against environmental goals and targets. The EMP shall also describe procedures to be taken by the Concessioner to correct any deficiencies identified by the self-assessment.*

F. NPS COMMERCIAL SERVICES PROGRAM AUDIT PROTOCOL FOR MARINA AND WATERCRAFT OPERATIONS

INTRODUCTION

The National Park Service (NPS) has approximately 45 marinas in operation, ranging from small boathouses used for dry storage to full service marinas offering maintenance and repair services, wet slip rentals, fueling, and sewage pump-out stations. At certain parks, visitors may use personal watercrafts (PWC) or rent boats to enjoy the park's water resources. In addition, some marinas operate gift shops or food services (e.g., snack stands, full service restaurants). Other marinas are resort-type operations with associated lodging facilities.

Marinas and watercraft rental operation activities can be large and complex. Due to this, they have the potential to adversely affect the aquatic environment. Depending on the size and scope of the operation (limited, basic, intermediate, or full service), a marina or watercraft operator may be involved in numerous activities that have environmental considerations, including stormwater management, hull and engine maintenance, fueling, hazardous waste disposal, and visitor education.

AUDITABLE OPERATIONS

This EnviroCheck Sheet applies to concessioner marina or watercraft rental operations located within park boundaries. While the NPS Commercial Services Program Gas and Service Stations EnviroCheck Sheet covers fueling for land vehicles, this EnviroCheck Sheet covers fueling for boats and other watercraft and a number of other activities and operations commonly carried out by marinas1. The activities and operations within the park undergo environmental audits through NPS regional environmental audit programs.

REGULATORY OVERVIEW

The concessioner is required by the concession contract to ensure that it is conducting its activities and operations in accordance with all Applicable Laws. This includes federal, tribal, state, local laws, regulations, codes, and some Executive Orders (EOs); as well as, Department of the Interior (DOI) policies, NPS policies, applicable park policies and guidance such as the Park General Management Plan, Backcountry Regulations, and the concession contract. See the "General Environmental Issues" and "Marina and Watercraft Specific Issues" sections below for more information on laws and regulations applicable to marina and watercraft operation services.

FEDERAL, TRIBAL, STATE AND LOCAL REGULATIONS

Concessioners are subject to all applicable federal laws and associated regulations, such as U.S. Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and U.S. Department of transportation (DOT) (including the US Coast Guard) regulations. State and local environmental and associated public health, safety, transportation regulations, and codes also apply. Note that such requirements may be more stringent and therefore take precedence over less stringent federal standards. If the park is located on tribal land, the concessioner is subject to applicable tribal laws. Concessioners are not subject to EOs unless specifically identified in them.

Clean Water Act (CWA) (including Section 404)

This Act prohibits the discharge of oil, oily waste, or hazardous substances into navigable waters of the United States and prohibits the use of chemical agents (such as soaps, detergent, surfactants, or emulsifying agents) to disperse oil, fuel, or other chemicals without permission of the U.S. Coast Guard.

Stormwater is regulated at marinas with maintenance and/or fueling operations. Any vessel with an installed toilet must have a certified marine sanitation device (MSD). Section 404 specifically regulates dredging and filling in waters of the United States. If any of these operations take place, a permit must first be obtained from the Army Corps of Engineers.

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1 Activities at out-of-park facilities are not addressed as part of the environmental audit, unless the facilities are assigned under a Concession Contract. However, compliance with Applicable Laws for commercial operations taking place outside park boundaries is encouraged.

Coastal Zone Act Reauthorization Amendments (CZARA) of 1990

Section 6217 of CZARA (the Coastal Nonpoint Source Pollution Control Program) addresses nonpoint pollution problems in coastal waters. Under this section, the 29 states and territories with approved Coastal Zone Management Programs are required to develop Coastal Nonpoint Pollution Control Programs. States and territories are scheduled to implement the first phase of their approved program by 2004 and, if necessary, the second phase by 2009. This program is administered jointly by EPA and National Oceanic and Atmospheric Administration (NOAA).

Oil Pollution Act of 1990

While written primarily for commercial oil shipping boats, this Act makes the individual responsible for a vessel or facility liable for removal costs and damages to natural resources if oil is discharged. There are also penalties for failing to report an oil spill, remove oil, comply with regulations, and/or gross negligence.

Refuse Act of 1899

Refuse (e.g., trash, garbage, oil, and other liquid pollutants) is prohibited from being thrown, discharged, or deposited into waters of the United States.

Marine Plastics Pollution Research and Control Act

This Act restricts the type and size of garbage that can be disposed of overboard. As its name suggests, it concentrates primarily on limiting discharge of plastic trash overboard.

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.

DOI, NPS, AND PARK-SPECIFIC REQUIREMENTS

Concessioners are subject to DOI and NPS policies, such as those that require environmental audits of concessioners. Park-specific policies found in Director's Orders (DOs) and associated Reference Manuals apply, such as those related to concession management and integrated pest management. Parks may also have park-specific policies found in Superintendent Compendia, or Backcountry Regulations to which concessioners must adhere.

Although concessioners are not subject to EOs, unless specifically called out, the NPS Commercial Services recommends that concessioners comply with EOs where practicable (such as EO 13423, ***Strengthening Federal Environmental, Energy, and Transportation Management***). With regard to marinas and watercraft rental operations, EO 13423 requires federal agencies to lead by example in advancing the nation's energy security and environmental performance by achieving the following goals:

- Expanding purchases of environmentally-sound goods and services, including biobased products;
- Reducing the use of chemicals and toxic materials and purchasing lower risk chemicals and toxic materials from top priority list;
- Reducing water consumption intensity; and
- Reducing energy use intensity.

National Fire Protection Association (NFPA)

The NPS has adopted NFPA guidelines, which include a number of requirements for managing aboveground and underground fuel storage tanks and dispensing systems. Of particular note for marine fueling operations is NFPA 30A.

CONCESSION CONTRACT REQUIREMENTS

Concession contracts often include environmental requirements; however, individual contracts vary. Requirements that may be identified in the concessioner contract include:

- Participating in the local Clean Marina Program;
- Keeping the fuel pier area clean and free of excessive spillage and debris.
- Installing and maintaining of a sewage pumpout area.
- Implementing specific best management practices (BMPs);
- Maintaining and submitting an inventory of hazardous chemicals and waste streams;
- Recording and documenting management of all environmental reports and data; and
- Reporting and implementing an integrated pest management program per approval of the park.

APPLICABLE NPS ENVIROCHECK SHEETS

ALL NPS Environmental Audit Program (EAP) EnviroCheck Sheets should be reviewed prior to conducting an audit. They provide the framework for collecting compliance data during the audit. Note that the NPS EAP EnviroCheck Sheets (separate from NPS Commercial Services Program EnviroCheck Sheets) classify BMPs as a Priority 4 audit finding. The Priority 4 classification is not applicable to the NPS Commercial Services Program environmental audits as BMPs are either classified as "BMP – Potentially Low" or "BMP – Potentially High" in terms of the level of effort needed to implement the BMP for concessioners. As with parks, BMPs are not required to be implemented by concessioners, but may be recommended.

APPLICABLE NPS COMMERICAL SERVICES ENVIROCHECK SHEETS

Prior to auditing a concessioner offering marina and watercraft visitor services, determine if other NPS Commercial Services Program (concession specific) EnviroCheck Sheets may apply. For example, if a marina and watercraft operation includes any food services the Commercial Services Program ***Food Service*** EnviroCheck Sheet should be reviewed. Other NPS Commercial Services Program EnviroCheck Sheets that may apply include: Lodging Management, Water Guide Services, Retail Operations, and Environmental Management Systems (EMS).

DEFINITIONS

APPLICABLE LAWS: The laws of Congress governing the Area, including, but not limited to, the rules, regulations, requirements and policies promulgated under those laws (e.g., 36 CFR Part 51), whether now in force, or amended, enacted or promulgated in the future, including, without limitation, federal, state and local laws, rules, regulations, requirements and policies governing nondiscrimination, protection of the environment and protection of public health and safety (65 FR 26063).

AREA: Property within the boundaries of a park unit.

BMP: Best Management Practice. Policies and practices that apply the most current and advanced means and technologies available to the concessioner to undertake and maintain a superior level of environmental performance reasonable in light of the circumstances of the operations conducted under their concession contract. BMPs are expected to change from time to time as technology evolves with a goal of sustainability of the concessioner's operations. Sustainability of operations refers to operations that have a restorative or net positive impact on the environment (65 FR 26063).

DREDGE: Material excavated from the waters of the United States.

FILL: Material used to elevate the bottom of a water body.

FOTW: Federally Owned Treatment Works. A facility that is owned and operated by a department, agency, or instrumentality of the Federal Government treating wastewater, a majority of which is domestic sewage, prior to discharge in accordance with a permit issued under section 1342 or title 33 (NPDES, see below).

MSD: Marine Sanitation Device.

NPDES: National Pollution Discharge Elimination System Permit. A national program under Section 402 of the Clean Water Act for regulation of discharges of pollutants from point sources to waters of the United States. Discharges are illegal unless authorized by an NPDES permit.

NONPOINT SOURCE DISCHARGE: A discharge that is not traceable to a single originating point. An example of nonpoint source discharges would be pesticide/fertilizer runoff from agricultural fields.

POINT SOURCE DISCHARGE: A direct wastewater discharge into a national water source, such as rivers, lakes, and streams. Common discharge sources of point source pollutants are pipes, ditches, channels, and sewer deposits.

POTW: Publicly Owned Treatment Works. A treatment works, as defined by Section 212 of the Clean Water Act, that is owned by the state or municipality. This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW treatment plant [40 CFR 403.3]. Privately-owned treatment works, federally-owned treatment works, and other treatment plants not owned by municipalities are not considered POTWs.

PRETREATMENT: The reduction, elimination, or alteration of pollutants in wastewater prior to or in lieu of discharging into a POTW (e.g., oil water separation).

TBT: Tributyl tin-based paint used for hull painting.

WATERS OF THE UNITED STATES: All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States include all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. [See 40 CFR 122.2 for the complete definition.]

GENERAL ENVIRONMENTAL ISSUES

Many of the management issues and suggestions listed in the following pages are not required by federal regulations or NPS policy. However, many may be incorporated into concession contracts or Operating and Maintenance (O&M) Plans. Even if not specified in concession contracts or O&M Plans, the suggestions listed below are recommended as BMPs.

AIR QUALITY

Marina operators that conduct onsite maintenance may offer services, such as spray painting, that can have a negative effect on air quality and may require the concessioner to obtain a permit. Refer to the NPS ***Air Quality*** EnviroCheck Sheet for more information regarding permits associated with releases of contaminants to the air.

CFC AND HALON MANAGEMENT

Many marina operators maintain refrigerators and freezers (i.e., standalone or walk-in) for packing and storing fish and bait, and own or rent refrigerated vending machines (e.g., soda machines). Because these units contain ozone-depleting substances (e.g., CFCs), concessioners operating these establishments must ensure that their units are being serviced properly and maintain specific records (for units containing greater than 50 pounds of refrigerant). Refer to the NPS ***CFC and Halon Management*** EnviroCheck Sheet for more information.

EMERGENCY PLANNING AND REPORTING

Marinas and watercraft rental operations within the park should document and implement either an Emergency Action Plan (EAP) or an Emergency Response Plan (ERP). Concession operators determine which is necessary based on whether or not employees are required to respond to nonincidental hazardous substance spills[2]. If the concessioner does not

2 The threshold between an incidental and non-incidental spill may be defined by the state or local regulatory agency, the park, or may be left to the concessioner to determine. As a BMP, the concessioner should document the identified threshold.

have an ERP in place, staff are allowed to clean up hazardous substance spills or releases only if there are no recognized safety or health hazards present. Typically, such circumstances include non-emergency releases in which staff should take proper precautions in stopping and cleaning up the hazardous substance (e.g., review the material safety data sheet (MSDS) and follow procedures in the document). Refer to the NPS ***Emergency Planning and Reporting*** EnviroCheck Sheet for more information.

Emergency Planning and Community Right to Know (EPCRA)

In addition, hazardous substances handled during marina and watercraft rental operations must be considered in park-wide EPCRA reporting and should also be addressed in park emergency planning (e.g., spill and fire response). To meet these requirements, marina and watercraft rental operations should maintain a current inventory of hazardous materials used and stored in the park, and provide this information to the park.

Marina and watercraft rental operations typically do not need to provide hazard information under (EPCRA[3]) directly to a local emergency planning committee (LEPC) or a state emergency response commission (SERC). Reporting requirements will be triggered if the concessioner stores an extremely hazardous substance in quantities equal to or above the threshold planning quantity (TPQ), or hazardous chemicals over 10,000 pounds (i.e., approximately 1,200 gallons) on-site. Refer to the NPS ***Emergency Planning and Reporting*** EnviroCheck Sheet for more information.

ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS)

Concessioners operating under a concession contract issued after 2000 may be required to develop and implement a documented Environmental Management Program (EMP). An EMP is the NPS Commercial Services Program term for EMS; an EMP is one type of an EMS. A documented EMS can help a concessioner organize and prioritize environmental management efforts. Depending on the size and scope of the marina and watercraft rental operation, a simple EMS can be an effective tool. Even if not required, the institution of a formal EMP or EMS is recommended. Refer to the NPS Commercial Services Program ***Environmental Management System*** EnviroCheck Sheet for more information.

ENVIRONMENTAL EDUCATION

Marinas typically specify terms and conditions for customers renting wet slips or dry storage areas; as well as, outlining the requirements for rental boat customers. The provision of sound environmental requirements in these documents and the enforcement of these requirements will help concessioners manage one of their largest environmental risks: uneducated customers. Ubiquitous signage and other environmental awareness materials, such as brochures and newsletters, can help minimize potential impacts from this group of marina users.

CLEAN MARINA PROGRAMS

The NPS is developing a "Clean Marina" Program. The program is modeled after existing state programs and is designed to encourage NPS marina operators to achieve environmental compliance and implement best management practices. Marina operators may achieve Clean Marina certification if certain criteria established under these programs are met. Concessioners are encouraged to pursue Clean Marina certification in their state and to achieve NPS Clean Marina certification when the program is fully implemented.

Clean Marina programs support, but are not a replacement for, the contract mandated EMP. Clean Marina philosophies may be adopted as part of the concessioner environmental policy and the achievement of Clean Marina designation itself may be adopted as an EMP goal. Training, communication, and monitoring programs to meet the Clean Marina program specifications can be documented in the applicable sections of the EMP.

The documentation of a stand-alone Clean Marina Program is discouraged because it may duplicate parts of the EMP. Instead, it is suggested that Clean Marina concepts be integrated into the concessioner's EMP. In the event that a Clean Marina Program is specified as a condition of certification, this may be achieved by providing a cross-reference between the required Clean Marina and EMP elements.

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3 Examples of hazard information required by EPCRA are MSDSs, Tier II inventory reports, or toxic chemical release inventory reports (Form R).

ENVIRONMENTAL PURCHASING

Marina and watercraft rental operators have an opportunity to manage their operations in an environmentally-preferable manner. In addition to constructing, renovating, or maintaining buildings using environmentally-preferable methods (e.g., following Leadership in Energy and Environmental Design [LEED] guidelines), and using environmentally-preferable products in running administrative offices (e.g., recycled-content paper products), marina and watercraft rental operators have an opportunity to improve the environment in which they operate.

For example, they may consider purchasing:

- Docks made out of recycled plastic lumber;
- Four-cycle outboard or other pollution preventing motors for boats, which operate much more efficiently than traditional two-cycle engines;
- Natural bioremediation materials for spill cleanup; and
- Biofuels, such as biodiesel.

Refer to the NPS ***Environmental Purchasing*** EnviroCheck Sheet for more information.

FUEL STORAGE MANAGEMENT

Many marina operations offer marine fuel services to park visitors. Regulated USTs include tanks and their associated piping that have at least 10% of their volume located underground and that contain regulated substances, including petroleum products, that are liquids at standard pressure (e.g., diesel fuel, gasoline). Propane tanks are not covered by federal UST regulations. ASTs and USTs holding waste gasoline are regulated as a hazardous waste. Refer to the NPS ***Fuel Storage Management*** EnviroCheck Sheet for more information about USTs and ASTs.

HAZARDOUS MATERIALS MANAGEMENT

Marina or watercraft rental operations may handle a variety of hazardous materials in their daily activities and operations. Oils and grease are used to maintain engines and keep equipment in good working order. Batteries must be replaced over time. Depending on the size and type of boat equipment and vehicle engines, antifreeze may also be used. Boat and marina facilities and grounds maintenance may also involve the use of paints, solvents, fuels, and janitorial cleaning chemicals. Propane storage, dispensing, and other compressed gas management may occur.

Several key considerations in managing hazardous materials at marinas include:

- Ensure flammable materials are stored in accordance with NFPA requirements;
- Minimize the storage and handling of hazardous materials in over-water locations;
- Provide secondary containment for bulk and in-use materials other than retail products when in over-water locations; and
- Provide secondary containment as necessary to prevent spills and leaks from reaching floor and storm drains or outside where they could wash to the water when in other marina areas.

Refer to the NPS ***Hazardous Materials Management*** EnviroCheck Sheet for more information.

HAZARDOUS WASTE MANAGEMENT

Waste and/or contaminated gasoline, contaminated shop rags and sorbents, parts cleaners, painting or fiberglass solvents, paint chips, used antifreeze, and fluorescent lights may be considered hazardous waste at the time of disposal. Hazardous materials forgotten in a closet and no longer intended for use, such as old cleaning chemicals or paints, may also be considered hazardous waste and must be managed accordingly.

States may manage contaminated rags as hazardous waste or nonhazardous waste. It is best to check with the state environmental regulatory agency to determine how waste classifications vary based on end-of-life management (e.g., if they are laundered by a commercial laundry service versus disposal on-site). Oil and/or fuel contaminated water may

also be considered a hazardous waste by a state environmental regulatory agency. Care should be taken to purchase hazardous chemicals as is needed for a particular job.

Other BMPs for managing hazardous waste include storing hazardous wastes away from the water and providing secondary containment in areas where a spill could potentially reach the water or floor drains. If an area for collecting customer hazardous waste is provided, ensure that the area is well labeled. If situating such a collection area away from the water is unreasonable, and it must be located on or near the water, providing secondary containment is essential.

Refer to the NPS ***Hazardous Waste*** EnviroCheck Sheet for more information.

LABORATORY CHEMICAL AND WASTE MANAGEMENT

While it is unlikely to see findings related to marina and watercraft rental operations within this topic area, you should review and be familiar with regulations outlined in the NPS ***Laboratory Chemical and Waste Management*** EnviroCheck Sheet.

PESTICIDE MANAGEMENT

All methods to controls pests within a marina and watercraft rental operation must be approved annually by the park's integrated pest management (IPM) coordinator. This includes approval for use of fly spray, conventional rodent snap-traps, wasp killer spray, ant spray, and contracted pesticide services. Herbicides, algaecides, and fungicides used to control unwanted plants, algae, and fungi are included in this requirement. The quantity and type of pesticides used by the concessioner must be reported to the park IPM coordinator annually, by April 15th. Refer to the NPS ***Pesticide Management*** EnviroCheck Sheet for more information.

RESPIRATORY PROTECTION

In conducting activities such as sanding, sand blasting, fiberglass repair, construction (may create particulates and release volatile organic compounds), and painting (especially is spray painting equipment is utilized), some marina operators may require or allow their employees to wear air-purifying respirators – including filtering facepieces (i.e., dust masks). In doing so, a marina operation must ensure that it documents and implements a respiratory protection program (RPP) (29 CFR 1910.134) or provides the information in Appendix D for voluntary use of filtering facepieces. Respiratory risks can be reduced by incorporating engineering controls or implementing practices such as using dustless sanders or by not using spray equipment for painting. A qualified RPP administrator is required if a job hazard analysis reveals that an RPP is needed. Refer to the NPS ***Respiratory Protection Program*** EnviroCheck Sheet for more information.

SOLID WASTE MANAGEMENT

Marina and watercraft rental operations should provide an adequate number of trash and recycling containers for customers, since many customers want to dispose of their trash dockside. If vending machines are present, recycling containers for cans and bottles should be available. In addition to these traditionally recyclable materials, reel lines can also be recycled through reel line recycling programs. To encourage proper waste handling and disposal by rental boat and other marina customers, "Blue Bag" programs (i.e., providing a bag to customers for their waste) can be implemented.

Regardless of the types of materials recycled, care must be taken to ensure that the potential for "flyaways" is eliminated or substantially reduced, as these will not only cause problems on land but are also likely to reach the water. Flyaways can be prevented by providing and using lids on all trash cans and dumpsters, ensuring that an adequate number of trash cans and dumpsters are provided to contain the wastes generated at the marina, and ensuring overfilling does not occur. Also, containers on docks or near the water should be secured so as to prevent them from being blown into the water. Refer to the NPS ***Solid Waste Management*** EnviroCheck Sheet for more information.

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLANNING

A marina is subject to SPCC regulations if one of the following conditions is met AND there is a reasonable expectation of a discharge of oil into or upon navigable waters:

- The facility has aggregate aboveground storage capacity greater than 1320 gallons (this includes any storage container with the potential of holding at least 55 gallons of oil); or
- The facility has aggregate underground storage capacity (not including USTs regulated under 40 CFR 280) greater than 42,000 gallons in completely buried containers.

SPCC Planning requirements include

- Conducting a review and incorporating amendments, if necessary, at least every five years
- Having specific equipment on-hand
- Training; and
- Recordkeeping.

Refer to the NPS ***SPCC Planning*** EnviroCheck Sheet for more information. Please note, even if the concessioner does not need an SPCC Plan, plans may be required by the concession contract or may be a recommended BMP to protect the sensitive marina environment.

STORMWATER MANAGEMENT

Paint chips which may contain pesticides and toxic metals. Wood chips, oil, grease, fuel, antifreeze, chemical cleaners, and other potentially toxic substances may be picked up by freely running stormwater from marina facilities, especially those conducting vessel maintenance. Marinas or boat yards conducting boat maintenance, including washing, or those discharging other types of wastewater must obtain and follow the requirements of a NPDES permit.

Rinsing boats, without using chemicals or scrubbing boats, may also be considered washing. Therefore, any wastewater discharged require an NPDES permit. Marinas conducting maintenance and/or fueling operations may also be required to be covered by an NPDES stormwater permit. Key considerations to control these pollution sources include:

- Use dustless sanders and tarps to collect paint chips;
- Do not conduct boat bottom washing in the water; use permeable tarps or filtration systems to collect boat wash debris; and,
- Ensure that materials and equipment that may be oily or otherwise cause stormwater pollution are kept indoors or are covered and out of the weather.
- Refer to the NPS ***Stormwater Management*** EnviroCheck Sheet for more information.

UNIVERSAL WASTE MANAGEMENT

While it is unlikely to see findings related to marina and watercraft rental operations within this topic area, you should review and be familiar with regulations outlined in the NPS ***Universal Waste Management*** EnviroCheck Sheet.

USED OIL MANAGEMENT

Marina operations that provide boat repair and maintenance services will probably generate used oil and other lubricants which must be managed properly to ensure compliance with state and federal regulatory requirements. Rather than recycle the used oil, some marinas may opt to reuse the oil by burning it on-site in an energy recovery unit called a used oil furnace. Used oil furnaces are required to have an EPA identification number and may require registration and reporting through the state agency or local air quality district. If the used oil is transported off-site for disposal, the generator should ensure the transporter is certified to be performing such duties and is disposing of the material properly.

If an area for collecting customer used oil is provided, ensure that the area is well labeled and that there is a system in place to minimize cross-contamination of waste. For example, providing an oil drum for customers' used oil in an open, unsecured area could allow for a customer to mix other substances with the used oil, thus contaminating the entire drum and preventing it from being recycled or properly disposed of. However, if customers left their used oil in their own containers or in a smaller container that was transferred, by concessioner staff, to the oil drum, this would allow staff to ensure only used oil is put into the drum. For more information, refer to the regulations outlined in the NPS ***Used Oil*** EnviroCheck Sheet.

WASTEWATER MANAGEMENT

Some marinas conduct vessel maintenance activities. Depending on where wastewater from these maintenance areas end up, marinas may be required to obtain and follow the requirements of different permit types. If drains are covered so that no wastewater enters the sewers, no permit is needed. However, NPDES permits are required for wastewaters discharged from point sources directly to surface waters; POTW permits may be required for wastewaters discharged to the POTW. Refer to the NPS ***Wastewater Management*** EnviroCheck Sheet for more information.

MARINA AND WATERCRAFT RENTAL OPERATION-SPECIFIC ISSUES

DESIGN AND CONSTRUCTION OF MARINA AND WATERCRAFT RENTAL FACILITIES

Marina and watercraft rental facilities are subject to a great deal of weathering. Water (sometimes seawater), wind, and sun combine together to damage and weaken vessels and building structures. As a result, vessels and building structures (including docks) must be redesigned, rebuilt, and repainted.

When designing and constructing a new marina, or renovating an existing marina, special attention should be taken to ensure that natural plant and animal communities are disturbed as little as possible. This means limiting erosion, taking care not to destroy aquatic habitat (either through direct impacts, changes in water flow, and/or shading), using long-lasting and/or renewable materials in construction, and disturbing as little land area as possible. If any dredging or filling occurs in waters of the United States, including wetlands, then the activity must first be authorized by the U.S. Army Corps of Engineers by obtaining and following the conditions of a Section 404 Clean Water Act permit.

Some ideas to keep in mind when designing and constructing a marina include the following:

- Minimize the need for dredging by locating expanded marinas in deep water.
- Do not dredge during critical migration or spawning periods of fish species.
- Select an open design to promote water exchange. Use wave attenuators if the pier/dock system must be protected (since they allow water exchange to take place), and install bubbler systems to aerate areas with poor circulation.
- Locate buildings, workshops, waste storage facilities, parking, vessel storage areas, and maintenance areas away from the water.
- Limit the number of shaded slips since these minimize habitat of some shallow water bottom-dwelling species.
- Use reinforced concrete, coated steel, recycled plastic, or another type of piling that will last a long period of time (e.g., over ten years) and will not leach toxic chemicals into the water (e.g., wood treated with creosote, chromated copper arsenate (CCA)-treated wood) when installing new pilings.
- Use nonstructural shore erosion control measures (e.g., constructed wetlands) instead of structural erosion control measures.
- Conserve water by equipping all freshwater hoses with automatic shutoff nozzles and installing low-flow toilets and faucets.
- Use floatable foams that have been coated in plastic or wood so that as the foams degrade, they are contained by the covering.

MARINA MAINTENANCE

Maintenance activities at a marina may include vessel maintenance and repair, and facility management. Vessel maintenance and repair involves primarily engine and hull maintenance. These activities may be conducted at land based or dock based shops. Minor maintenance may also occur directly in vessel slips. In rare instances, concessioners may be involved in vessel parts and equipment fabrication.

Marina facility management includes many of the standard activities from ground maintenance such as lawn cutting and landscaping to building repair and heating and ventilation system maintenance. A number of hazardous substances are used in these activities, including oil, grease, batteries, antifreeze, building and boat antifouling paints, and chemical cleaning products. Hazardous and nonhazardous wastes, as well as, trash are generated. Sanitary wastewater, as well as, contaminated stormwater, wash water and fish wastes may be produced.

When cleaning and preparing the hull for painting, the hull may be scraped, sanded, sandblasted, or pressure washed to remove paint chips or fouling organisms (e.g., barnacles, algae). Conventional paints, solvents, and thinners used to paint boat hulls contain toxic metals and pesticides in order to inhibit fouling organism growth, or are ablative (i.e., the paint sloughs off in the water over time) in order to rid of fouling organism growth.

Some practices to adopt when painting boats include the following:

- Use TBT paints only on boats that are aluminum hulled, greater than 82 feet (i.e., 25 meters) in length, or have outboard motors or lower drive units. Avoid using soft, ablative paints.
- Consider using more innovative antifouling products (e.g., Teflon, silicone, polyurethane, and wax) with fewer adverse environmental impacts associated with application. These products inhibit fouling growth by providing a surface that is too slick for organisms to grasp.
- Use brushes and rollers instead of spray equipment. This will limit the amount of paint overspray that affects both environmental and occupational health.
- Use spray equipment only on land, in a spray booth, or under a tarp. Use only spray equipment that transfers a high proportion of the paint to the intended target rather than volatilizing into the air. This includes, but is not limited to, high-volume, low-pressure (HVLP) spray guns, air-atomizer spray guns, and gravity-feed guns.
- Do not paint over the water. If in-water painting is needed, bring only a very small container of paint. If the paint spills, there is less paint to clean up.

MARINE VESSEL FUELING

There are two main environmental concerns involved in vessel fueling – the fueling operation itself and storing fuel.

FUELING

Dockside fueling stations may be present for boats of all sizes, from small boats and personal watercrafts to larger houseboats and ferries. Each time these vessels are fueled, there is the potential for petroleum spills, both large and small. While a few drops of gasoline dripping from a nozzle may seem insignificant, the actual quantity of petroleum spilled at marinas across the United States in one year exceeds the amount spilled by the Exxon Valdez.

Marinas and watercraft rental operations should have their employees practice and educate visitors on the following fueling procedures:

- Inspect transfer equipment regularly and fix any leaks found immediately.
- Hang nozzles vertically when not in use so that fuel remaining in hoses does not drain out.
- Do not use holding clips to keep fuel nozzles open. Individuals must therefore stay with and watch the fueling operation.

- Install break-away devices and automatic back pressure shut-off nozzles on fuel pumps.
- Keep oil and gasoline absorbent pads at the fuel dock.
- Use an absorbent pad when fueling to catch any drips and spills, such as from backsplash or vent line overflow. Use secondary containment (e.g. tubs) when filling portable gas cans to collect drips and spills.
- Listen for when the fuel tank is near capacity, and slow down fueling at this time.
- Do not fill the tank more than 90% full if the watercraft will not be used immediately. This will reduce the possibility of fuel spills from thermal expansion in the fuel tank.
- Post clear instructions on proper fueling procedures at the fueling station.
- Install a protected, raised area that personal watercraft can drive up onto for fueling. This will stabilize the personal watercraft and reduce the risk of accidental spills while fueling.
- Provide secondary containment (e.g., tubs) for gas cans that are located on docks or close near water.

STORAGE AND DELIVERY SYSTEMS

Marinas and watercraft rental operations may have large underground or aboveground storage tanks storing diesel fuel and gasoline. They may also have long underground, aboveground and over-water fuel delivery piping systems. A fuel storage tank or piping leak or spill could release enormous amounts of petroleum that would be catastrophic to the immediate area's water quality, flora, and fauna.

To prevent accidental releases of fuel, marina and watercraft rental operations should observe the following practices:

- Fuel storage tanks and associated piping should be sited and installed properly;
- Tanks and piping should have adequate leak detection, corrosion protection, and spill/overfill protection equipment;
- Procedures for management of tanks and fueling operations should be in place and be based on appropriate state or federal regulations; and
- Operators should ensure fuel pumps and hoses are free of leaks and spills that can enter the water.
- Refer to the NPS ***Fuel Storage Management*** EnviroCheck Sheet for more information.

MARINA SANITARY WASTE MANAGEMENT

If a marina is located in a No Discharge Area (NDA) (e.g., freshwater lake, reservoir, or river in which interstate vessel traffic is not possible), absolutely no discharge of sewage, even treated sewage, is allowed. Marinas can help boaters comply with regulations by installing a pump-out station (mobile or stationary). The sewage must be disposed of properly and the best option would be to connect to a sanitary sewage system. It is also best to have staff, rather than guests, operate the pump-out station to reduce the possibility of sewage spills. The pump-out station should be maintained on a regular basis to ensure it is operable at all times and does not contribute to pollution spills and leaks.

If sewage discharges are tolerated, then any vessel with an installed toilet must have a certified Type I, II, or III MSD. (The higher the number of the MSD, the more protective it is of the environment.) Depending on state and park policies and regulations, more stringent rules may apply. The Clean Water Act, however, stipulates that the following be adopted at a minimum:

- Type I MSD: Must display a certification label from the manufacturer. Can be used on vessels 65 feet and under in length. This system mechanically cuts solids, disinfects waste, and discharges the treated sewage overboard. Fecal coliform bacteria count of the effluent cannot be more than 1,000 per 100mL.
- Type II MSD: Must display a certification label from the manufacturer. Can be used on all vessels. This system is similar to a Type I MSD, but requires more space and uses more energy since fecal coliform bacteria count of the effluent cannot be more than 200 per 100mL.

- Type III MSD: No certification label is needed. Sewage is not discharged. Type III MSDs may be holding tanks, re-circulating systems, and incinerating systems.

Even if sewage discharges are allowed, marina and watercraft rental operations should discourage this practice by posting signs, having onshore restrooms available, and having a pump-out station available.

Other recommended BMPs for managing sanitary waste include:

- Use dye testing to detect leaks;
- Provide secondary containment for dock pump stations; and,
- Provide port-a-potty dump stations.

FISH CLEANING

Fish waste can result in water quality problems at marinas with large numbers of fish landings or at marinas that have limited fish landings and poor flushing. The amount of fish waste disposed of into a small area such as a marina can exceed that existing naturally in the water at any one time.

Recommended BMPs for managing fish waste include:

- **ESTABLISHING FISH-CLEANING AREAS**. Particular areas can be set aside or designated for the cleaning of fish, and receptacles can be provided for the waste. Boaters and fishermen should be advised to use only these areas for fish cleaning, and the waste collected in the receptacles should be disposed of properly.
  - **ISSUING RULES OUTLINING THE CONDUCT AND LOCATION OF FISH-CLEANING OPERATIONS.** Marinas not equipped to handle fish wastes may prohibit the cleaning of fish at the marina. Those that allow fish cleaning should establish fish-cleaning areas with specific rules for their use and should establish penalties for violation of the rules.
  - **EDUCATING BOATERS REGARDING THE IMPORTANCE OF PROPER FISH-CLEANING PRACTICES**. Boaters should be educated about the problems created by discarding their fish waste into marina waters, proper disposal practices, and the ecological advantages of cleaning their fish at sea and discarding the wastes into the water where the fish were caught. Signs posted on the docks (especially where fish cleaning has typically been done) and talks with boaters during the course of other marina operations can help to educate boaters about marina rules governing fish waste and its proper disposal.

FOR MORE INFORMATION

- NPS Commercial Services Program ***GreenLine*** Number: 303-987-6820
- NPS Environmental Compliance and Response (ECR) Branch : 202-513-7033
- NPS Sustainable Operations and Climate Change (SOCC) Branch: 202-354-1835
- NPS and Regional Concession Chiefs and Specialists
- Coastal Zone Act Reauthorization Amendments (CZARA) of 1990: www.epa.gov/owow/nps/czmact.html
- National Oceanic and Atmospheric Administration (NOAA) Clean Marina Program: http://cleanmarinas.noaa.gov/
- Tennessee Valley Authority (TVA) Clean Marina Program: For TVA, go to www.tva.gov/environment/water/boating.htm
- NPS Fuel Management Technical Guidance – Part I
- State and regional clean marina programs; many have guidebooks to help marinas become "Clean Marinas."
- Programs currently exist in the following regions:
  - National Capital Region, go to http://cleanmarinadc.org/ or contact Julia Hewitt: 202-619-7083
  - Northeast Region: CT, DE, MD, ME, NJ, RI, VA
  - Southeast Region: AL, FL, GA, LA, MS, NC, SC, TN
  - Midwest Region: IN, MI, OH
  - Intermountain Region: TX
  - Pacific West Region: CA, OR, WA

CHECKLIST ITEMS

This checklist provides the auditor with an organized approach to gathering the data needed to assure concessioner compliance with Applicable Laws[4]. Use the checklist as a decision-making guide to determine the types of activities and associated Applicable Laws affecting the concessioner.

The checklist item listed in the first column identifies the regulatory criteria. The priority number listed in the second column identifies the weight applied to the criteria should there be noncompliance.

- **PRIORITY 1** findings are non-conformances with laws and regulations that pose immediate actual or potential harm to human health or the environment, or the potential for significant liability exists.
- **PRIORITY 2** findings represent non-conformances with laws and regulations that do not pose an immediate threat to human health or the environment.
- **PRIORITY 3** findings are non-conformances with concessioner-required EOs; DOI, NPS, park policy; or the concession contract that do not pose an immediate threat to human health or the environment.
- **BMPs** are not required by Applicable Laws. They come from industry oSERr other sources. Concessioners are encouraged, but not required, to implement them.
- An Isolated Finding may be assigned to either a P2 or P3 audit finding and is an instance where the nonconformance observed is isolated. Meaning, the majority of other operations, locations, or divisions complies with the audit criteria and demonstrates that the audited entity has made an effort and understands the audit criteria.

The priority numbers presented represent only the priorities for federal regulations, NPS policies, and industry or other BMP sources. If more stringent park, local, county, state, or tribal policies or regulations apply, then the appropriate priority number should be used.

CHECKLIST ITEM	PRIORITY
AIR QUALITY	
Are brushes and rollers used instead of spray equipment? [Green Marina Guidebook, NPS and District of Columbia]	BMP
Is spray equipment that transfers a high proportion of paint to the intended target (e.g., high-volume low-pressure spray guns, air-atomizer spray guns, gravity-feed guns) used? [Green Marina Guidebook, NPS and District of Columbia]	BMP
EMERGENCY RESPONSE, PLANNING AND REPORTING	
Has the concessioner obtained park permission prior to using any extremely hazardous substance, as defined by EPCRA? [Standard Concession Contract Sec. 6(d)(1)]	3 or BMP
Has the concessioner developed a written SOP that provides a threshold for determining whether a hazardous substance spill is incidental or nonincidental, and instructs staff on how to respond to each type of spill? [NPS Commercial Services Program]	BMP

4 Laws, regulations, EOs; DOI, NPS, or park policy; or the concession contract.

CHECKLIST ITEM	PRIORITY
ENVIRONMENTAL MANAGEMENT SYSTEMS	
Has the concessioner developed and implemented an EMP? [Standard Concession Contract, Section 6 (b)]	3 or BMP
Are customers and employees educated (through avenues such as posters or signs) about how to properly fuel watercrafts, how to maintain their watercraft in an environmentally-preferable manner, and how to properly manage waste? Are customers also informed of the concessioner's environmental efforts (e.g., participation in a Clean Marina or similar program, recycling oil, paper)? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
Are marina environmental requirements and BMPs described in slip holder lease agreement terms and conditions, described during houseboat vessel rental check-out briefings, and documented in customer sign-off sheets and vessel operations manuals? [NPS Commercial Services Program]	BMP
Does the concessioner participate with an organization that promotes clean boating practices, such as a state clean marina program? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
ENVIRONMENTAL PURCHASING	
Have opportunities been maximized for purchasing environmentally-preferable docks, such as docks made out of recycled plastic lumber, coated steel, or encapsulated foam? [Green Marina Guidebook, NPS and District of Columbia]	BMP
Are four-cycle outboard engines or other low-emission, more fuel-efficient engines used instead of two-cycle outboard engines? [EPA Region 1, "Do Motorboat Engines Cause Water Pollution?" and New England Clean Marina Engine Initiative]	BMP
Does the concessioner ensure that Styrofoam products are not used or sold? [NPS Commercial Services Program]	BMP
Are purchasing personnel buying equipment that is energy efficient? [EO 13423]	BMP
Are nontoxic, low toxic, or biodegradable cleaning products purchased and used? [Green Seal]	BMP
Does the concessioner make available alternative fuels? (Examples of such products include various grades of biodiesel.) [DOE Alternative Fuels Data Center]	BMP

CHECKLIST ITEM	PRIORITY
Have opportunities been maximized for purchasing environmentally-preferable products? Examples include: Bio-based lubricants and fuels; Propylene glycol antifreeze as an alternative to ethylene glycol antifreeze for engine coolant and winterization; Oil/water separators or alternative equipment to prevent oil discharges from bilges; Air/fuel separators for fuel vent lines; and Equipment to control carbon monoxide and other emissions from concessioner vessels. [NPS Commercial Services Program]	BMP
HAZARDOUS MATERIALS MANAGEMENT	
Do concessioner vessels greater than 26 feet in length display signage required by the Coast Guard prohibiting the discharge of oil into navigable waters of the US? [NPS DO 58; 33 CFR 155.450]	3
Has the concessioner reduced the use of chemicals and toxic materials in its operations? Does the concessioner purchase lower risk chemicals and toxic materials? [Contract or BMP, EO 13423]	3 or BMP
Has the concessioner minimized the storage and handling of hazardous materials in over-water locations? [NPS Commercial Services Program]	BMP
Is secondary containment provided where there is the potential for hazardous materials to reach water, such as in over-water locations or near floor drains? This is not necessary for retail display of hazardous materials. [NPS Commercial Services Program]	BMP
SOLID WASTE MANAGEMENT	
Do concessioner vessels greater than 26 feet in length display signage required by the Coast Guard prohibiting the discharge of garbage into navigable waters of the US? [NPS DO 58; 33 CFR 151.59]	3
Does the concessioner submit an inventory of all its waste streams generated within the park at least annually? [Standard Concession Contract Sec. 6(d)(1)]	3 or BMP
Does the concessioner's recycling program collect, at a minimum, all materials that the park recycles? [Contract or BMP, NPS Commercial Services Program]	3 or BMP
Has the concessioner implemented a "Blue bag" waste and/or recyclables program for guests to take a bag and deposit their trash/recyclables? Are bags available for slip rental customers, transients, and customers using the marina boat ramp? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP

CHECKLIST ITEM	PRIORITY
Are recycling and trash containers provided on docks, or if not technically feasible due to dock size and configuration, near the dock on-shore? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
STORMWATER MANAGEMENT	
Has the concessioner ensured that boat engines, equipment in dry storage areas, and other items that could pollute stormwater during rain are kept covered when not in use? [NPS Commercial Services Program]	BMP
USED OIL	
Where practical, do facilities for collecting customers' used oil exist on-shore, within a reasonable walking distance from the dock? If this is not practical and over-water collection areas are provided, are the collection areas well-designed, provided with secondary containment, and regularly emptied so that over-water storage of such materials is minimized? [NPS Commercial Services Program]	BMP
Are collecting facilities for customers' used oil well labeled? Does the concessioner have a system in place to minimize the occurrence of cross-contamination? [NPS Commercial Services Program]	BMP
WASTEWATER MANAGEMENT	
Does the concessioner disallow or discourage dockside boat bottom washing? Regardless of where washing takes place, are wastewater treatment systems in place to collect debris and contain rinse waters from pressure washing boat bottoms? Examples include using permeable tarps, allowing debris to settle, or treating the water. [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP

CONCESSIONER SPECIFIC

MARINA AND WATERCRAFT OPERATIONS	
DESIGN AND CONSTRUCTION OF MARINA AND WATERCRAFT RENTAL FACILITIES	
Are dredging needs minimized so that they do not occur during critical migrations or spawning of aquatic species? [NPS Commercial Services Program]	BMP

CHECKLIST ITEM	PRIORITY
If piers, docks, and other water-based structures are being rebuilt or designed, is an open water design chosen? Are fuel docks protected from wake (by equipment such as wave attenuators), and are bubblers installed in areas that have decreased water exchange due to the chosen marina design? [Green Marina Guidebook, NPS and District of Columbia]	BMP
If a marina is to be expanded, are green construction concepts considered? (e.g., redevelopment of existing sites, taking habitats into consideration, following natural channels, minimizing paved surfaces) [Green Marina Guidebook, NPS and District of Columbia]	BMP
Are buildings, workshops, waste storage facilities, parking, vessel storage areas, and maintenance areas located back from the water? Green Marina Guidebook, NPS and District of Columbia]	BMP
Are nonstructural shore erosion control measures (e.g., constructed wetlands) used? [Green Marina Guidebook, NPS and District of Columbia]	BMP
Is the number of shaded slips minimized to lessen the impact on the habitat of some shallow water bottom-dwelling species? [NPS Commercial Services Program]	BMP
ENERGY AND WATER CONSERVATION	
Are concessioner vessels equipped with graywater collection systems? [Concession Environmental Management System]	BMP
Are freshwater hoses equipped with automatic shutoff nozzles? Are low-flow toilets and faucets installed? [Green Marina Guidebook, NPS and District of Columbia]	BMP
Have efforts to reduce water consumption been made? Such efforts could include: • Developing and implementing a water efficiency and conservation program or strategy; • Educating staff on water efficient practices such as turning off faucets, etc. • Posting signage regarding water conservation; • Conducting a water audit; • Incorporating water efficiency and sustainability concepts into building construction and renovation; • Having procedures to verify that contractors are considering water conservation in facility and equipment designs, work plans and operating plans; and • Developing regular maintenance and tune-up programs for water-consuming equipment. [EO 13423]	BMP

CHECKLIST ITEM	PRIORITY
Have efforts to improve energy efficiency and reduce greenhouse gas emissions been made? Such efforts could include: • Developing and implementing an energy efficiency and conservation program or strategy; • Educating staff on energy efficient practices such as turning off lights, keeping windows and doors closed, etc.; • Posting signage regarding energy conservation; • Incorporating energy efficiency, renewable energy sources and sustainability concepts into building construction and renovation; • Having procedures to verify that contractors are considering energy conservation and renewable energy sources in facility and equipment designs, work and operating plans; • Conducting an energy audit; • Developing regular maintenance and tune-up programs for energy consuming equipment; and • Making low or no-capital investments to ensure that buildings and equipment are properly operated and maintained in a manner that maximizes energy efficiency (e.g., weather stripping, properly closing doors and windows and ensuring that vehicles are well-maintained). [EO 13423]	BMP
Has the concessioner installed motion sensors on its lights and vending machines? [NPS Commercial Services Program]	BMP
FISH CLEANING	
Are fish cleaning stations available for visitors to use? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
Is fish waste composted, if technically feasible and appropriate? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
MARINA MAINTENANCE	
Does the concessioner ensure that TBT paints are not used on boats less than 82 feet in length? [Organotin Antifoulant Paint Control Act of 1988]	2
Is vessel repair conducted in accordance with NFPA 303, the Fire Protection Standard for Marinas and Boatyards? [NPS DO 58; NFPA 303]	3
Do vessel repair facilities (particularly shops located over water) have equipment or controls to minimize releases of pollution to the environment, such as oil/water separators, absorbent pads or secondary containment? [NPS Commercial Services Program]	BMP

CHECKLIST ITEM	PRIORITY
Does the concessioner ensure that soft, ablative paints are not used, where technically and economically feasible and appropriate? If paints with toxic chemicals are used, is only the minimum amount of toxin used in the paint? [Green Marina Guidebook, NPS and District of Columbia]	BMP
Are water-based paints used? [Green Marina Guidebook, NPS and District of Columbia]	BMP
Are antifouling products such as teflon, silicone, polyurethane, and wax used instead of antifouling paints, where technically and economically feasible and appropriate? [NPS Commercial Services Program]	BMP
Does the concessioner ensure that watercraft are not painted on the water? If this does occur, are only very small containers of paint (i.e., less than one gallon) used? [Green Marina Guidebook, NPS and District of Columbia]	BMP
Does the concessioner discourage dockside sanding? If it is allowed, are dustless sanders, or other means to reduce particulate releases to the air (e.g., vacuums, plastic medium blast systems, hydroblasting, mechanical peeling) used? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
Is soap use minimized for boat washing? • If soap is used, is it non-toxic and phosphate-free? • If biodegradable soap is used, is it also non-toxic? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
MARINE VESSEL FUELING	
Are 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)? [NPS DO 58; NFPA 30A, 6.6.4]	3
Do dock attendants 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? [NPS DO 58; NFPA 30A 11.10.7(3)]	3

CHECKLIST ITEM	PRIORITY
3 Is signage posted with 2 inch red block letters on a white background that states the following information? 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: (6) Maintain nozzle contact with fill pipe. (7) Wipe up spills immediately. (8) Avoid overfilling. (9) Fuel filling nozzle must be attended at all times. AFTER FUELING: (10) Inspect bilges for leakage and fuel odors. (11) Ventilate until odors are removed. [NPS DO 58; NFPA 30A, 11.10.8]	3
Is fuel transfer equipment inspected and repaired regularly? [National Management Measures Guidance]	BMP
Are fuel nozzles hung vertically when not in use? [NPS Commercial Services Program]	BMP
Are fuel and gasoline absorbent pads readily available at the dock and used for every fueling operation to catch drips and spills? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
Are clear instructions documented for proper fueling procedures? • Are key procedures above and beyond what is required to be posted by 30A, 302 and 303 also displayed to help ensure customer awareness? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP

CHECKLIST ITEM	PRIORITY
Are stable platforms provided for personal watercraft fueling? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
Is secondary containment provided when filling portable fuel containers? [NPS Commercial Services Program]	BMP
MARINA SANITARY WASTE MANAGEMENT	
2 If the marina or watercraft rental operation is in a No Discharge Area (NDA), does the concessioner ensure that no discharge of sewage occurs? [State]	2
To minimize pollution from MSDs: • In areas where overboard sewage discharge is prohibited, has a program been implemented to ensure slip holder vessels do not utilize Marine Type I or II or other equipment that provides for overboard discharge? • If provided and if technically and economically feasible and appropriate, are all concessioner vessels with sanitary facilities equipped with certified Type III marine sanitation devices that do not have an overboard discharge of sewage? [NPS Commercial Services Program]	BMP
Are clean, sanitary on-shore restrooms available for visitor use? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
Does the marina or watercraft rental operation have a sewage pumpout available for use? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
Is the pumpout station regularly inspected, maintained in good working order, and operated by concessioner staff rather than park visitors? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
Are disposal facilities, aside from marina restrooms, provided for emptying portable boat toilets? [National Management Measures to Control Nonpoint Source Pollution from Marinas and Recreational Boating, EPA]	BMP
Are dock and aboveground sewage lines dye tested and visually inspected (or inspected with a similar alternative method) on a regular, periodic basis? [NPS Commercial Services Program]	BMP
Are double-walled holding tanks or lift stations used for containing sewage before it is pumped out for disposal? [NPS Commercial Services Program]	BMP