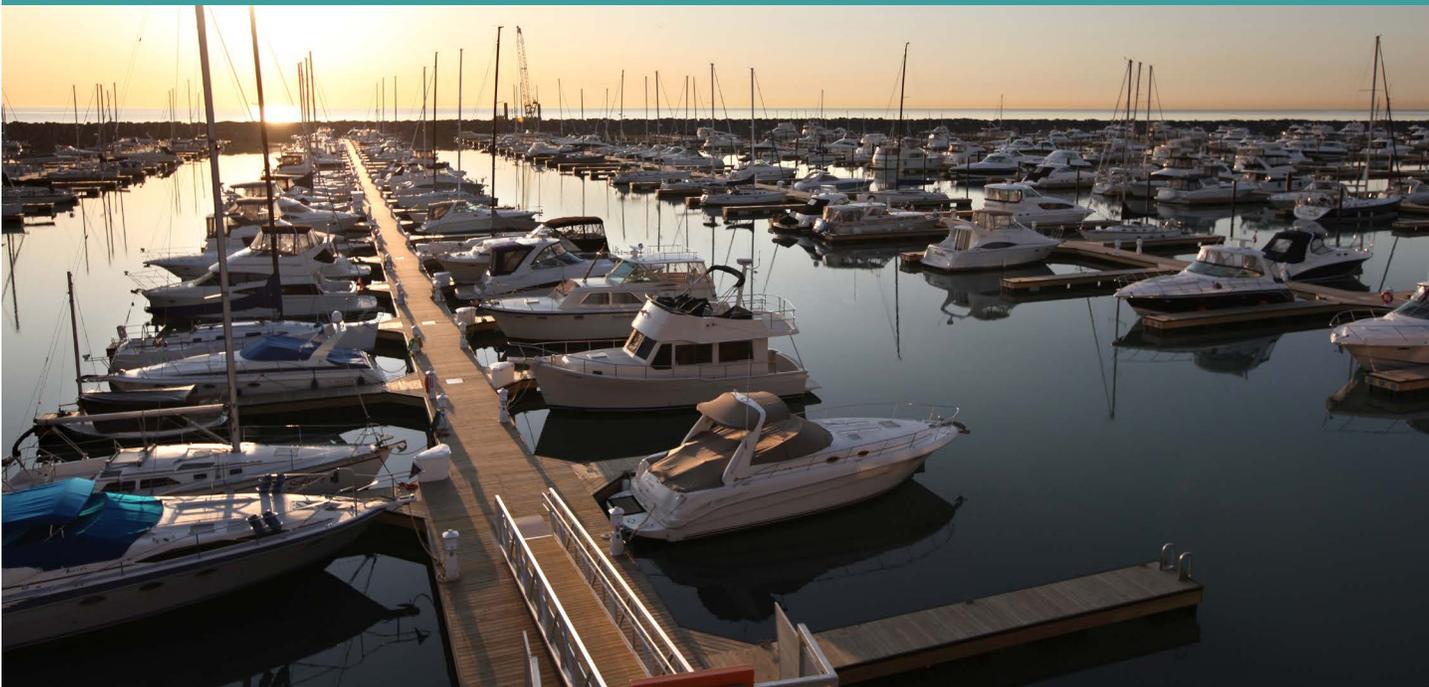


GREAT LAKES CLEAN MARINA
**BEST MANAGEMENT
PRACTICES GUIDE**



FOR STATE PROGRAM MANAGERS AND COORDINATORS



GREAT LAKES
**CLEAN
MARINA**

GREAT LAKES CLEAN MARINA NETWORK

The original version of the Great Lakes Clean Marina Best Management Practices Guide was published in 2012 by the Green Marina Education and Outreach Project team, in collaboration with marina operators, representatives from regulatory agencies, and others. The Green Marina Education and Outreach project began as a strategic collaboration between Michigan, Ohio, and Wisconsin Sea Grant programs to support education and outreach efforts across the Great Lakes states. This regional effort is supported by the Great Lakes Restoration Initiative, first through the U.S. Environmental Protection Agency and currently through the National Oceanic and Atmospheric Administration (NOAA).

The Great Lakes Clean Marina Network continues the project focus on reducing or eliminating pollution from entering the Great Lakes through boating and marina activities. Members of the Network lead efforts to develop uniform best management practices for marinas in the Great Lakes.

Network members and collaborators include universities, state agencies, and marina industries, including the Michigan Department of Natural Resources and Michigan Boating Industry Association; Indiana and Wisconsin Coastal Zone Management programs; Wisconsin Marine Association and Wisconsin Department of Natural Resources; Lake Erie Marine Trades Association; Midwest Marina Association; and National Association of Marina Industries. Additional collaborators include the National Oceanic and Atmospheric Administration, the former Lake Michigan Lakewide Management Plan Forum, U.S. Army Corps of Engineers, U.S. Coast Guard, Power Squadrons, and other non-government organizations. Several Great Lakes Sea Grant programs are represented in the Network. Sea Grant programs help foster economic growth and protect Great Lakes coastal resources through research, education and, outreach. The programs are part of the NOAA-National Sea Grant network of 33 university-based programs around the country.



Great Lakes Clean Marina Network Website: gcleanmarina.org

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Scope and Purpose

The Great Lakes Clean Marina Best Management Practice Guide (BMP Guide) was initially created to provide an inventory of common marina and boatyard best management practices (BMPs) used in four of the six certification-based Clean Marina programs in the Great Lakes States (Ohio, Wisconsin, Michigan and Indiana). Note, Illinois and Minnesota have joined the Network since the guide was published, so their programs' best management practices are not fully reflected in this guide. To standardize certification requirements across the basin, this list may be used to provide baseline practices across the states' programs. The BMP Guide also provides the basis for development of a common online training tool.

In 2016, the guide was updated to provide an expanded set of "proposed" best management practices. This update serves to provide a broadened set of best management practices that programs may wish to adopt. While these practices are not yet in place for many Great Lakes programs, they reflect best practices from national Clean Marina efforts. To retain both the inventory and resource functions of the document, the newly introduced best management practices are marked as "new."

The Clean Marina Classroom, developed by Michigan Sea Grant, has been revised and enhanced to reflect the content in the BMP Guide; see www.cleanmarinaclassroom.org. The BMP Guide and Clean Marina Classroom will serve as tools for existing and developing Clean Marina programs, as well as a resource for states without Clean Marina Programs. The BMP Guide only provides an overview and users are directed to seek more detailed information through state guidebooks, state regulatory agencies, and the Clean Marina Classroom.

BMP Status

The BMP Guide was developed to provide suggested standards for Clean Marina program certification requirements. Note that some BMPs may be required by Clean Marina programs in one state and may be legally required by a state regulatory agency in another. In addition, there are state-specific BMPs that are not reflected in this guide, as they were not common across all programs. ***Clean Marina Program coordinators should contact their relevant state representatives for assistance in determining certification requirements.***

BMP Status Definitions:

- **Mandatory** – BMP is required by federal regulation. Completion of this practice is mandatory by law.
- **Program Required** – The Great Lakes Clean Marina Network suggests that these BMPs be required by state Clean Marina programs for certification. They are practices that all certified Clean Marinas or boatyards should adopt, or practices that may be mandated by state regulations.
- **Recommended** – BMP is recommended for adoption, but not required. Certification-based programs typically require a percentage of recommended BMPs be implemented in order to award certification (e.g., 50% of recommended BMPs must be adopted to achieve certification).
- **BMP Example**: An example best management practice that provides further detail or stringency related to the generally agreed-upon practice.

Great Lakes Clean Marina Best Management Practices

This guide and the Clean Marina Classroom organize best practices by theme, including:

- Siting Considerations and Marina Design
- Marina Maintenance, Facilities, and Habitat
- Stormwater Management
- Boat Maintenance
- Petroleum Control
- Sewage Handling
- Waste Management and Recycling
- Marina Management and Boater Education
- Aquatic Invasive Species Education and Management
- Increasing Resilience (new)

Siting Considerations and Marina Design (Theme #1)	
Topic	Regional BMP
Permits	Have you received the proper federal and state permits for all activity and pledge that all permits will be obtained for future marina construction, erosion control, and dredging? <i>(Mandatory)</i>
	Have you consulted your state regarding definition of and regulations related to public trust bottomlands and tributaries? <i>(Mandatory)</i>
Site Planning	Have you planned new facilities to be located on previously disturbed sites rather than greenfields or undisturbed natural areas if applicable? <i>(Recommended)</i>
	Have you consulted with a site engineer? <i>(Recommended)</i>
	<i>Resource: Whole Building Design Guide. Design: Small Craft Berthing Facilities UFC-4-152-07 (PDF, National Institute of Building Sciences)</i>
	Have you selected a location and siting that minimize exposure to the elements (e.g., resist high winds and water)? <i>(Recommended; new)</i>
	<i>Resource: Technical Bulletin 1, Openings in Foundation Walls and Walls of Enclosures (2008) (PDF, FEMA)</i>
Floating or Fixed Adjustable Docks (new)	Have you installed fixed adjustable or floating docks? <i>(Recommended; new)</i>
	<i>BMP examples: Where it is impractical to install a new dock, consider these changes:</i> <ul style="list-style-type: none"> • Modify slip layout to position shallower draft boats in the shallow areas and restrict large craft to deeper portions of the marina basin. • Strengthen existing dockage by evaluating and strengthening connection points between dock sections (typically the weakest point in a dock's design).
Water Movement	Have you engineered the marina to enhance or maintain proper water movement, including consideration of impact on adjacent properties? <i>(Recommended)</i>
	Does your marina design enhance water circulation and minimize the need for dredging? <i>(Recommended)</i>
Fuel Dock Design	Are your fueling stations protected from waves and also easily accessible by boat without entering or passing through the main berthing area? <i>(Recommended)</i>
Construction Scheduling	Have you scheduled construction to avoid critical migration, nesting, and spawning periods of important species of fish and wildlife? <i>(Mandatory)</i>
Construction Materials	Have you used environmentally neutral materials? <i>(Recommended)</i>
	<i>BMP examples: Chromated copper arsenate (CCA)-treated lumber or creosote-treated lumber or other petroleum-based substances and asphalt are prohibited below the ordinary high-water mark. Use alternative asphalt coatings that do not contain coal tars, which leach harmful VOC chemicals into water runoff. (Recommended)</i>
	<i>Resource: LEED guidelines (website, U.S. Green Building Council)</i>
	Have you selected materials that will survive prolonged exposure to high water and heavy winds? <i>(Recommended; new)</i>
	<i>Resource: FEMA Technical Bulletin 2-08 - Flood Damage Resistant Materials Requirements (PDF, FEMA)</i>
Upland Storage	If your marina owns any upland property, have you used this property to locate service operations, parking, waste storage facilities, and boat storage away from the water where feasible? <i>(Recommended)</i>
Storage	Do you provide dry-stack or covered storage? <i>(Recommended)</i>

Marina Maintenance, Facilities, and Habitat (Theme #2)	
Topic	Regional BMP
Dredging	<p>Have you minimized the impacts of dredging by not dredging during critical migration or spawning periods, by avoiding colonial water bird nesting areas and historic waterfowl staging and concentration areas, and selecting an appropriate disposal site and containment design? <i>(Mandatory)</i></p> <p>For potential dredging needs, have you identified the jurisdiction for dredging and collected required information in advance of pursuing a permit? <i>(Recommended; new)</i></p> <p><i>Resources:</i> Ports, Harbors and Marinas: Harbor Dredging (Wisconsin Sea Grant); Dredging Operations Technical Support Program (website, USACE Dredging Operations Technical Support Program); Dredging Operations and Environmental Research (website, USACE Dredging Operations Technical Support Program); Great Lakes Dredging Team (webpage, Great Lakes Commission)</p>
Endangered Species	<p>Have you complied with all state and federal laws for rare and endangered species? <i>(Mandatory)</i></p>
Wetlands	<p>Have you checked federal and state rules regarding wetlands and taken steps to avoid, minimize or mitigate their disturbance? <i>(Mandatory)</i></p>
Erosion	<p>Have you consulted with local and state permitting authorities for sediment control requirements and utilized soil erosion control practices during construction? <i>(Mandatory)</i></p> <p>Have you focused erosion control measures on non-structural applications? <i>(Recommended)</i></p> <p><i>Resource:</i> Stabilizing Coastal Slopes on the Great Lakes (webpage, Minnesota Sea Grant)</p>
Shoreline Protection	<p>Have you used soft shorelines where feasible; and where structural practices are required, have you chosen the least intrusive option? <i>(Recommended)</i></p> <p><i>Resources:</i> Coastal Shore Protection Structures and Techniques (website, USACE); Living Shoreline Planning and Implementation (website, NOAA); Types of Shore Structures (webpage, Ohio Dept. of Natural Resources)</p>
No Wake	<p>If you have erosion-prone areas, have you designated a “no wake” or “no boating” zone to reduce sediment re-suspension from prop wash or destruction of shallow water habitat? <i>(Recommended)</i></p>
Water Conservation	<p>Do you practice water conservation at facility (e.g., use low-flow toilets and shower heads, maintain and fix faucet or hose leaks on the docks, install rain barrels, etc.)? <i>(Recommended)</i></p> <p>Do your landscaping practices promote water conservation? <i>(Recommended)</i></p> <p><i>BMP examples:</i> water only “thirsty” plants, water deeply and infrequently, place mulch around plants, group plants with similar water needs together, practice measured watering.</p>
Structure Maintenance	<p>Do you maintain structures using Clean Marina practices (i.e., scrape, sand, and paint structures according to the same management principles as for vessels; move floating structures to prescribed areas for scraping, painting, and major repairs)? <i>(Program Required)</i></p>
Habitat Protection	<p>Do your landscaping and grounds maintenance practices enhance and protect sensitive habitat? <i>(Recommended)</i></p> <p><i>Landscaping BMP examples:</i> Use native plants that require little care; use plants that are disease- and insect-resistant; choose plants that attract birds, small mammals, and other wildlife; plant in naturalized patterns; plant and maintain vegetated buffers and infiltration areas; create natural areas to use as educational features; preserve natural vegetation and shorelines; place land in conservation trust; establish No Wake Zones; minimize hardened surfaces, particularly vertical walls; and use vegetative shoreline protection measures where possible.</p>

	<i>Grounds Maintenance BMP examples:</i> Mow lawns and pull weeds to reduce reliance on herbicides, or as a last resort, use least-toxic chemicals applied at times to minimize leaching into the water; foster natural predators (integrated pest management); minimize fertilizer use; conduct annual soil test to identify soil chemistry — phosphorous fertilizer may not be necessary.
Pesticide Applicator Training/ License	Do you adhere to your state's training and licensing requirements (if applicable) for the application of pesticides? <i>(Mandatory)</i>

Stormwater Management (Theme #3)	
Topic	Regional BMP
SW Permit	Have you obtained the required stormwater permits? <i>(Mandatory)</i> <i>State-specific requirements:</i> Please consult your state regulatory agencies to determine state-specific mandatory requirements.
SWPPP	If required, do you have a stormwater pollution prevention plan (SWPPP)? <i>(Mandatory)</i> <i>Resource:</i> Marina Template Storm Water Pollution Prevention Plan (Ohio EPA) <i>BMP example:</i> If a SWPPP is not required, develop a stormwater information map.
Stormwater Management Structures	Do you have and maintain stormwater management structures that are appropriate for your property (e.g., bioretention and infiltration areas, retention and extended detention basins/ponds, constructed stormwater wetlands, sand filters, grassed swales, vegetated filter strip)? <i>(Program Required)</i> <i>Resource:</i> What is Green Infrastructure? (website, EPA)
Stormwater Site Management	Has your facility been designed to collect, infiltrate, and/or treat stormwater runoff? <i>(Program Required)</i> <i>Resource:</i> Stormwater Runoff Best Management Practices for Marinas: A Guide for Operators (webpage, New York Sea Grant)
Vegetation	Do you maintain vegetated drainage areas and retain vegetated buffers along the waterfront? <i>(Recommended)</i> <i>BMP example:</i> Position downspouts to drain to vegetated areas; use grassed swales to facilitate stormwater infiltration.
Paving/ Impervious Surface	Do you minimize the amount of impervious surface by only paving necessary areas or using pervious pavers? <i>(Recommended)</i> <i>Resource:</i> What is Green Infrastructure? (website, EPA)
Storage, Maintenance, and Cleaning Areas	Where maintenance and cleaning activities take place on impervious surfaces, is runoff from these areas directed away from the waterfronts and storm drains and onto vegetated areas? <i>(Recommended)</i>
Drain Label	Do you stencil or label storm drains with a "No Dumping, Drains to Lake (River)" message? <i>(Recommended)</i>

Boat Maintenance (Theme #4)	
Topic	Regional BMP
Boat Hull Maintenance and Power Washing	<p>Do you allow boat hull maintenance at your marina? This includes services conducted by marina staff, outside contractors, and patrons.</p> <p><i>If yes,</i></p> <p>a) Do you comply with your state’s rules for boat wash water discharge? <i>(Mandatory)</i> If you are unsure of your state’s requirements, contact your state authority; see Green Marina State Resources for Boat Wash Water webpage.</p> <p><i>Resources: National Pollutant Discharge Elimination System (NPDES) (website, EPA); Vessel Wash Water Management (website, New Jersey Sea Grant); A Guide to Selecting Pressure Washing Management Practices and Technologies: Supplement to the Massachusetts Clean Marina Guide (PDF, Supplement to the Massachusetts Clean Marina Guide)</i></p> <p>b) Are boat washing activities limited to a designated area? <i>(Program Required)</i></p> <p>c) Have you installed infrastructure improvements to power washing area, which include filtration of particles and/or recycling the wash water? <i>(Recommended)</i></p>
Antifouling Paints: Training and License	<p>Do you adhere to your state's training and license requirements (if applicable) for the application of anti-fouling paints? <i>(Mandatory)</i></p> <p><i>State-specific requirements:</i> Annual pesticide applicator license and pesticide application business license typically required. Please consult your state regulatory agencies to determine state-specific mandatory requirements.</p>
	<p>Do you recommend and use anti-fouling paints with minimal environmental impacts? <i>(Recommended)</i></p> <p><i>BMP examples:</i> Recommend to your customers antifouling paints that contain the minimal amount of toxic ingredient necessary for the expected conditions. Avoid soft ablative paints. Use water-based paints whenever practical. Stay informed about antifouling products like Teflon, silicone, polyurethane and wax that have limited negative impacts. Inform your customers about such paints.</p>
Antifreeze	Do you collect and recycle or dispose of antifreeze by approved methods? <i>(Mandatory)</i>
Freon	Do you use U.S. EPA certified technicians to recover and properly dispose of Freon? <i>(Mandatory)</i>
Lead Acid Batteries	Do you have appropriate procedures for the collection, storage and recycling of spent lead acid batteries? <i>(Mandatory)</i>
Maintenance Area	<p>Is maintenance work performed in a designated work area that is designed to contain waste materials? <i>(Program Required)</i></p> <p><i>BMP examples (marina facility):</i> Work area is as far from shore as is practical; areas are marked with signage or identified in marina rules for patron usage; areas are located indoors or on impervious surfaces such as concrete or asphalt.</p> <p><i>BMP examples (boaters working outside of designated area):</i> Provide tarps to patrons for hull maintenance. Restrict painting outside of designated shops to the use of rollers and brushes, with proper use of tarps and tenting to protect the surrounding area.</p> <p><i>Resource: Stormwater Runoff Best Management Practices for Marinas: A Guide for Operators (webpage, New York Sea Grant)</i></p>

	Do you regularly collect maintenance debris and dispose of it properly? <i>(Program Required)</i>
Sanding	Do you prohibit sanding or blasting work of any sort carried out by individual boat owners or their contractors unless it is done inside one of the designated shops or a vacuum sander is used and the residue properly disposed of? <i>(Recommended)</i>
	Do you rent or loan vacuum sanders to tenants and contractors? <i>(Recommended)</i>
Spraying restrictions	Have you restricted spray painting or spraying of fiberglass or other chemicals unless it is done inside a designated shop, in a spray booth, or under a tarp? <i>(Program Required)</i> <i>BMP examples:</i> If using a spray booth, you have approval of the local fire department and local building code authority. You have a painting policy to minimize environmental impacts of painting operations.
Chemical Storage Area	Do you designate and maintain appropriate storage areas for materials such as antifreeze, solvents, oil, and paints? <i>(Program Required)</i>
Environmentally Friendly Products	Do you use or sell “environmentally friendly” cleaning and maintenance products if possible, (i.e., biodegradable and phosphorous-free products; alternatives to standard teak cleaners, varnishes, and solvents)? <i>(Recommended)</i> <i>Resources:</i> Boat Cleaning and Maintenance (PDF, Michigan Clean Marina); Non-toxic Cleaning Alternatives (PDF, Wisconsin Clean Marina)
Engine Repair	Have you minimized the environmental impacts of engine repair and maintenance? <i>(Program Required)</i> <i>BMP examples:</i> Use dry pre-cleaning methods, such as wire brushing; avoid unnecessary parts cleaning; adopt alternatives to solvent-based parts washers such as bioremediation systems; use water-based, non-VOC cleaners that are less hazardous than solvent-based degreasers; use drip pans when handling any type of liquid.
	Do you winterize only with less toxic anti-freeze, such as propylene glycol? <i>(Program Required)</i>
Bilge Maintenance	Do you inspect bilges prior to boat storage at your facility and encourage boat owners to keep bilges clean and dry during storage? <i>(Recommended)</i> <i>BMP examples:</i> Offer bilge cleaning service, encourage patrons to use bilge socks. Provide educational materials to patrons that promote engine and bilge maintenance.

Petroleum Control (Theme #5)	
Storage Tank Permits/Regulations	Do you have the necessary permits and meet all the requirements (e.g., labeling, barriers, etc.) of the fire code for spill prevention and for fuel containment to operate a commercial Aboveground Storage Tank (AST) containing flammable or combustible liquids? <i>(Mandatory)</i> <i>BMP examples:</i> Install a secondary containment system that would prevent accidental fuel releases if your fuel system does not have a double-walled configuration. Install appropriate barriers (guard posts) to protect tanks and dispensing systems from damage. Properly label tanks.
	Do you meet the requirements of BUSTR (Bureau of Underground Storage Tank Regulations) for monitoring and registration of your commercial Underground Storage Tank (UST) containing flammable or combustible liquids? <i>(Mandatory)</i>
	In 2015, the U.S. Environmental Protection Agency (EPA) revised underground storage tank (UST) requirements including new requirements for operator training and secondary containment. Have you completed the necessary training and updated secondary containment, as applicable? <i>(Mandatory)</i>

	<p><u>Resources: Revising Underground Storage Tank Regulations – Revisions to Existing Requirements and New Requirements for Secondary Containment and Operator Training</u>; Final Rule (website, EPA)</p>
Records	<p>Do you keep a file of Material Safety Data Sheets (MSDS/SDS) for all products (including diesel and gas) used at your facility, as required by the Occupational Safety and Health Act of 1970 (29 USC Sec. 657) stored in an office away from the material storage areas? <i>(Mandatory)</i></p> <p><u>Resources: OSHA Brief: Safety Data Sheets</u> (website, OSHA), <u>Revised Hazard Communication Standard</u> (website, OSHA)</p>
	<p>Have you filed paperwork (Tier II forms) with the appropriate emergency management authorities for hazardous waste, including petroleum? <i>(Mandatory)</i></p> <p><u>Resources: State Tier II Reporting Requirements</u> (website, EPA); <u>SARA Title III Program</u> (website; Michigan Department of Environmental Quality)</p>
Fire Code	<p>Do you have records from your local or state fire inspections? <i>(Mandatory)</i></p>
Spill Prevention Plan	<p>Do you have a spill prevention, control, and countermeasure (SPCC) plan that meets all SPCC rules (if the facility has an aggregate aboveground storage capacity of greater than 1,320 gallons or an underground storage capacity greater than 42,000 gallons)? <i>(Mandatory)</i></p> <p><u>Resource: Spill Prevention, Control and Countermeasure (SPCC) Guide for Marinas and Boat Owners</u> (website, EPA)</p>
	<p>If you are not legally required to have an SPCC plan under these guidelines, do you still have an SPCC plan or similar plan in place and train employees on spill response? <i>(Recommended)</i></p>
Reporting/ Signage	<p>Have you posted the U.S. Coast Guard National Response Center phone number (800-424-8802) and phone number for the local/state authority at various and appropriate areas of your marina to allow for the proper notification of a spill? Do you notify these entities any time a spill produces a sheen on the water? <i>(Mandatory)</i></p> <p><u>Resource: When are You Required to Report an Oil Spill and Hazardous Substance Release?</u> (website, EPA)</p>
	<p>Do you post signage for boaters about clean boater fueling practices at your marina? <i>(Recommended)</i></p>
Fuel Nozzles	<p>Have you removed fuel nozzle holding clips? <i>(Mandatory)</i></p>
	<p>Have you installed automatic back pressure shutoff nozzles on fuel pump discharge hoses? <i>(Program Required)</i></p>
Spill Materials	<p>Do you prohibit the use of detergents to dissipate fuel spills on the water? <i>(Mandatory)</i></p>
	<p>Do you make available and promote the use of oil absorbent materials during oil changes, fueling, and in the bilge areas of all boats with inboard engines? <i>(Program Required)</i></p>
	<p>Do you recycle oil absorbent materials, if possible, or dispose of them in accordance with petroleum disposal regulations? <i>(Program Required)</i></p>
	<p>Do you maintain enough oil spill response equipment to contain the greatest potential spill at your facility and store it in readily accessible locations, such as at the fuel dock, launch, and dry stack areas? <i>(Program Required)</i></p>
Fuel Dock Operation	<p>Do you always have a trained employee at the fuel dock to oversee or assist with fueling? <i>(Program Required)</i></p>
	<p>Do you provide a stable platform for fueling personal watercraft to help drivers refuel without spilling? <i>(Recommended)</i></p>
Staff Training	<p>Do you train staff in fueling and spill prevention, containment, and clean-up procedures annually and keep records of the training? <i>(Program Required)</i></p>

	<i>Resources:</i> Spill Prevention and Response for Marina Staff (free online training course; BoatU.S. Foundation), “Panic Preventer File” (PDF, Florida Sea Grant), Oil Spills: Prevention, Preparedness and Response (paid online training course, University of Alaska Southeast)
Fuel Transfer Equipment	Do you regularly inspect, maintain and replace fuel nozzles, hoses, pipes and tanks for fueling stations as necessary? <i>(Program Required)</i>
Used Oil	If you offer oil changes, do you have appropriate procedures for the collection, storage, and recycling or disposal of used oil and filters (spill-proof oil changes)? <i>(Program Required)</i> <i>BMP examples:</i> Provide spill-proof oil changes. Include information on appropriate handling of maintenance waste (e.g., used oil and filters) in contract language. Provide oil filter crusher to reduce the size of disposal waste.
Machinery	Do you perform regular maintenance on your yard equipment (forklifts, tugs, trailers, hoists, etc.) and machinery, taking precautions to minimize oil spills and leaks? <i>(Program Required)</i>

Sewage Handling (Theme #6)	
Topic	Regional BMP
Prohibit Discharge	Do you prohibit the discharge of sewage (treated and untreated) in your marina and prevent waste from your pump-out, septic system, or dump station from draining into receiving waters? <i>(Mandatory/Program Requirement)</i> <i>Note: Regardless of No Discharge Zone status, if marina is to be certified, they cannot discharge.</i>
Pump-out Facility	Does your marina have a well-maintained pump-out facility or do you inform boaters of other pump-out locations for holding tanks and port-a-potties? <i>(Program Required)</i> <i>BMP example:</i> Sign an agreement with another marina or facility to provide pump-out services.
	If you have a pump-out facility, do you: a) Dispose of the waste in a manner that meets state standards? <i>(Mandatory)</i> <i>BMP example:</i> Connect pump-out to municipal sewer. If not connected to public sewer, regularly maintain your septic or private sewage treatment system. Consider advanced septic treatment systems. b) Have a regular maintenance schedule to keep pump-out stations clean and in service? <i>(Recommended)</i> c) Keep log sheets of pump-out maintenance? <i>(Recommended)</i> d) Have a dump station, wand attachment, or an alternative procedure to empty portable toilets? <i>(Recommended)</i> e) Have trained marina staff assist boaters with pump-out operation? <i>(Recommended)</i>
Contracts	Do you include information about marine sanitation device (MSD) requirements and sewage laws in contracts for slips, rentals, transients, and live-aboards? <i>(Program Required)</i> <i>BMP example:</i> Include contract language allowing marina operator to board and inspect vessel if sewage discharge is suspected. <i>Resources:</i> Vessel Sewage and Marine Sanitation Devices Tip Sheet (PDF, Michigan Clean Marina); House Rules and Dockage contract from Walstrom Marine (PDF, Michigan Clean Marina)
Signage	If your marina uses a septic or private treatment system, do you post signs about what patrons can and cannot put into the system? <i>(Program Required)</i>
	Do you post signs prohibiting the discharge of head waste and directing people to use shoreside restrooms? <i>(Recommended)</i>

	Are the pump-out station locations well marked by signage and are instructions for correct operation posted? <i>(Recommended)</i>
Graywater	Do you discourage the discharge of pollutants/graywater in the marina basin? <i>(Recommended)</i> <i>BMP examples:</i> Encourage eco-friendly, non-phosphorous detergents; provide laundry and dish washing facilities; include language in lease agreements to discourage discharge.
MSD Inspection	Do you check boats to ensure they have proper and functioning marine sanitation devices (e.g., checking Y-valve, dye test)? <i>(Recommended)</i>
Restrooms	Does your marina provide clean, functional restrooms which are open 24 hours a day to encourage people not to use their boat's head while in port? <i>(Recommended)</i>

Waste Management and Recycling (Theme #7)	
Topic	Regional BMP
Waste Disposal and Recycling	Do you follow state law and local ordinances for waste disposal and recycling? <i>(Mandatory)</i>
Hazardous Waste	Have you evaluated your waste stream, determined your hazardous waste generator status, and are in compliance with the regulations that apply to your state? <i>(Mandatory)</i> <i>Resources:</i> Resource Conservation and Recovery Act Laws and Regulations (website, EPA). <i>Example state RCRA Delegates:</i> Michigan Department of Environmental Quality , Wisconsin Department of Natural Resources , Ohio Environmental Protection Agency
	Do you meet all mandatory requirements for storage, transport, containment, and disposal of hazardous wastes? <i>(Mandatory)</i> <i>BMP examples:</i> Store hazardous wastes and materials in appropriate, labeled, and separate containers; minimize spills, leaks, or releases. Store regulated liquid wastes in proper, well-labeled containers and provide secondary containment capable of holding 110% of the volume of each tank.
	Do you minimize your use of hazardous products? <i>(Recommended)</i>
	Do you keep all hazardous materials on an impervious surface away from floor drains and covered to prevent contact with precipitation? <i>(Recommended)</i>
No Dumping (Federal)	Do you prohibit all dumping of waste in the water? <i>(Mandatory)</i> <i>BMP examples:</i> Include language about prohibition of dumping in your slip agreements and service provider contracts. Encourage boaters to contact marina staff to handle hazardous waste.
Receptacles	Do you provide both trash and recycling receptacles that are covered, well labeled, conveniently located, and maintained on a daily basis? <i>(Program Required)</i>
Fish Waste	Does your marina provide a fish cleaning station or post signs and contractually bind your customers to the proper disposal of fish waste? <i>(Program Required)</i> <i>BMP example:</i> Check with your local waste coordinator to determine availability of fish waste composting programs.
Records	Are you tracking pollution incidents (e.g., using a "Pollution Report and Action Log")? <i>(Recommended)</i> <i>Resource:</i> Pollution Report and Action Log (PDF, page 17, Illinois Clean Marina Guidebook)

Waste Reduction	Do you take steps to reduce waste? <i>(Recommended)</i> <i>BMP examples:</i> Avoid having leftover materials by sizing up a job, minimize office waste, request alternative packing material, discourage the use of plastic and styrofoam cups, etc.
Recycling	Do you provide or promote recycling of liquid waste (e.g., used oil, antifreeze and solvents)? <i>(Program Required)</i>
	Have you have contacted a waste hauler or your local solid waste coordinator to enroll in available recycling programs? <i>(Recommended)</i> <i>BMP example:</i> If you do not provide recycling facilities, direct your patrons to the nearest recycling facility.
	Do you recycle used shrink-wrap covers? <i>(Recommended)</i> <i>Resources:</i> Michigan Shrink-wrap Recycling Program (website, Michigan Clean Marina); Ohio Shrink-wrap Recycling Program (website, Ohio Clean Marina)
	Do you promote used fishing line collection or recycling? <i>(Recommended)</i> <i>Resource:</i> Monofilament Recycling Program (website, Michigan Clean Marina)
Staff Litter Patrol	Do you require your employees to be involved in policing the marina grounds, waters, and shoreline for trash and litter? <i>(Recommended)</i>
Signage	Do you post signs advising what can and cannot be disposed of in designated receptacles (e.g., recycling, trash, hazardous materials such as engine oil, antifreeze, paints, solvents, varnishes, lead batteries and transmission fluids)? <i>(Recommended)</i> <i>Resources:</i> For suggested sign templates, see the Wisconsin Guidebook, Marina Management Chapter . Also include instruction to contact the marina if unsure of how to handle disposal of an item.
Pet Waste	Does your marina provide dog walks or contractually bind your customers to the proper disposal of pet waste? <i>(Recommended)</i>
Bird Feeding	Do you discourage the feeding of waterbirds and waterfowl in your marina? <i>(Recommended)</i>

Marina Management and Boater Education (Theme #8)	
Topic	Regional BMP
Contract Language	Do you include language requiring the use of best management practices in all of your contracts: slip holders, live-aboards, transients, charters, workers, contractors, and tenants? <i>(Program Required)</i> <i>Resource:</i> House Rules and Dockage contract from Walstrom Marine (PDF, Michigan Clean Marina)

Training	<p>A well-trained staff will routinely minimize pollution, answer patrons' questions, and perform their duties more efficiently. The proper training will also contribute to a faster response time in emergencies. It is recommended that training be conducted twice per year/season for each employee.</p> <p>Do you train staff on the following at least once a year? <i>(Program Required)</i></p> <ul style="list-style-type: none"> ○ Used oil management ○ Used solvent management ○ Disposal of vessel wastewater (e.g., pump-outs, boat hull washing) ○ Pump-out operation ○ Spill prevention and control (SPCC Plan) ○ Fueling procedures ○ General good housekeeping and litter patrol ○ Painting and blasting procedures ○ Used battery management ○ Stormwater pollution prevention plan (SWPPP) ○ Relaying "yard rules" to patrons and contractors ○ Emergency Response Plan
	<p>Do you maintain training records and require staff to sign off on all training? <i>(Program Required)</i></p> <p><i>BMP examples:</i> Record training dates, topics, and names of employees and instructors; keep copies of instructional material.</p>
Records (new)	<p>Do you maintain a Clean Marina Manual to contain all reference material related to Clean Marina requirements, BMPs, and Emergency Plans? <i>(Recommended; new)</i></p>
Addressing Infractions	<p>Do you have a procedure and provide training to your employees to approach boaters or contractors who are not following the best management procedures? <i>(Recommended)</i></p>
Boater Audits	<p>Do you work with the Coast Guard Auxiliary or Power Squadron to offer vessel safety checks? <i>(Recommended)</i></p>
Signs	<p>Do you post clear, visible signs regarding your best management practices throughout the marina? <i>(Recommended)</i></p> <p><i>Note: Specific signage recommendations are listed in Petroleum Control, Sewage Handling, and Waste Management and Recycling sections of this Guide.</i></p>
Communication tools	<p>Do you provide information (brochures, fact sheets, workshops, tours, direct mail, billing inserts) to boaters promoting environmentally friendly marina and boating practices and emergency procedures? <i>(Recommended)</i></p> <p><i>Resource: Office for Coastal Management (website, NOAA)</i></p>
Customer Recognition	<p>Do you use public relations and customer recognition to demonstrate and promote best management practices? <i>(Recommended)</i></p>

Aquatic Invasive Species Education and Management (Theme #9)	
Topic	Regional BMP
AIS Education	<p>Do you inform boaters and encourage practices that help control the spread of aquatic invasive species and diseases? <i>(Program Required)</i></p> <p><i>BMP examples:</i> Use signage and/or other notices to advise boaters about their responsibility in controlling the spread of AIS; distribute pamphlets, newsletters, or billing inserts to promote BMPs that can reduce the spread of AIS.</p> <p><i>Resources:</i> Stop Aquatic Hitchhikers (webs, ANS Task Force); Clean Boats, Clean Waters Handbook and Checklist (website; Michigan Lake and Stream Associations, Inc.); Aquatic Nuisance Species Task Force (website, ANS Task Force); Invasive Species in the Great Lakes Region (website, Great Lakes Information Network); National Invasive Species Information Center (website, USDA); Clean Boating Act (CBA): About (website, EPA)</p>
Boat Cleaning Resources	<p>Do you encourage your boaters to use best management practices when cleaning, washing, and draining their boats? <i>(Program Required)</i></p> <p><i>BMP examples:</i> Provide trash receptacles for disposal of leftover bait and debris, plants, and mud from boaters' equipment; provide high-pressure washer or hot water; provide oil-absorbent materials at the wash station.</p> <p><i>Resources:</i> Preventing Invasive Species: Cleaning Watercraft and Equipment (PDF, NOAA); Guidelines to Prevent the Spread of Aquatic Invasive Species (website, GLANSIS; based on Aquatic Nuisance Species Task Force guidelines); Clean Boats Clean Tournaments (YouTube video, Stop Aquatic Hitchhikers).</p>
Transport	<p>Are you aware of and do you adhere to your state's restrictions on the transport of species? <i>(Program Required)</i></p> <p><i>State-specific requirements:</i> Please consult your state regulatory agencies to determine state-specific mandatory requirements.</p>
Wash Down Site	<p>Do you provide an area — contained and managed for wash water — where they can carefully inspect, clean, drain, and dry their boats and equipment when they leave the water? <i>(Recommended)</i></p>
AIS Reporting	<p>Do you provide information on reporting the detection of aquatic invasive species? <i>(Recommended)</i></p> <p><i>Resources:</i> Nonindigenous Aquatic Species Sighting Report Form and hotline (1-877-STOP-ANS) (website, USGS); Great Lakes Aquatic Nonindigenous Species Information System Reporting (website, GLANSIS); Invasive Species Experts Directory (website, Aquatic Nuisance Species Task Force),</p> <p><i>Contact Information by State:</i> Please consult your state regulatory agencies to determine state-specific mandatory requirements.</p>

Increasing Resilience (Theme #10 – new)	
Topic	Regional BMP
Emergency Response Plan	<p>Do you have a current, written Emergency Response Plan which is readily accessible to trained staff, and do you provide annual emergency response training? <i>(Program Required; new)</i></p> <p><i>Resources:</i> Planning for Emergencies: Panic Preventer File (PDF, Florida Sea Grant); Sample Emergency Response Plan, Manitowoc Marina (PDF, Wisconsin Clean Marina Program); Emergency Preparedness (website, U.S. Small Business Administration); Start Your Disaster Recovery Plan Today Webinar (webinar recording, PrepareMyBusiness.org)</p>
	<p>Do you have Emergency Plan Diagrams posted on all exit doors that reference fire extinguishers, power/gas shut-offs, and exit locations? <i>(Recommended; new)</i></p> <p><i>Resource:</i> Emergency Plan Diagram (PDF, Walstrom Marine, Michigan)</p>
	<p>Have you established a disaster response team and plan (e.g., evacuation procedures, employee safety, property protection, identification of emergency assistance, communications plan, procedures to secure boats in wet and dry slips, post-disaster clean-up procedures)? <i>(Recommended; new)</i></p> <p><i>Resources:</i> Preparation, Adaptation, and Response Tool (PART) (forthcoming Great Lakes disaster planning resources, Ohio Sea Grant). In the interim, see Sample Hurricane Plan (PDF, Florida Department of Environmental Protection).</p>
Hazard Mitigation Planning	<p>Is your marina included in your local government’s hazard mitigation plan? <i>(Recommended; new)</i></p> <p><i>Resource:</i> Multi-Hazard Mitigation Planning (website, FEMA)</p>
Evacuation Procedures	<p>Have you established an evacuation plan (e.g., determine logistics of mobilizing many boats quickly, ensure customers know marina policies and procedures and their responsibilities, have procedure to move to a “safe harbor,” know tie-down procedures, ensure emergency management team is trained, keep insurance current, identify both wet slips and dry dock evacuation procedures, clearly identify evacuation routes)? <i>(Recommended; new)</i></p> <p><i>Resource:</i> Protecting Your Boat Against Severe Weather (PDF, Texas Sea Grant)</p>
Variable Conditions	<p>Are you aware of the future climate trends for the Great Lakes that indicate shorter winters, warmer temperatures, more intense storms, reductions in ice cover, and fluctuating lake levels? <i>(Recommended; new)</i></p> <p><i>Resources:</i> Reinforcing our Waterfronts: Increased Resilience at Marinas and Harbors (PDF, Michigan Sea Grant); Great Lakes Ice Cover (website, NOAA); Projected Precipitation Changes in the Midwest: Interactive Map (U.S. Global Change Research Program – Midwest Report) (PDF, National Climate Assessment); Drought Early Warning System (website, National Integrated Drought Information System); Great Lakes Station Climatologies (interactive map, GLISA)</p>
	<p>Do you track water level variability? <i>(Recommended; new)</i></p> <p><i>Resources:</i> Six-Month Forecast Bulletins (website, USACE); Great Lakes Water Level Dashboard (interactive web tool, NOAA); Lake Level Viewer (interactive maps, NOAA)</p>
Evaluate Risks	<p>Have you evaluated risks from natural disaster to infrastructure and grounds (e.g., docks, structures, naturally protective wetlands, bluffs, beaches)? <i>(Recommended)</i></p> <p><i>Resources:</i> The Ports Resilience Index (PDF, Gulf of Mexico Alliance); Lakebed Erosion (webpage, Wisconsin Sea Grant)</p>

	<p>Do you understand your flood risk and have you prepared for flooding caused by heavy rain? <i>(Recommended; new)</i></p> <p><i>Resources:</i> Flood Map Service Center (website, FEMA); Flood Maps: Know Your Risk and Take Action Against Flooding (infographic, FEMA); National Flood Insurance Program: Flood Hazard Mapping (website, FEMA)</p>
<p>Infrastructure Planning</p>	<p>Have you invested or will you invest in long-term adaptations for the changing climate? <i>(Recommended; new)</i></p> <p><i>BMP examples:</i> Evaluate how the maintenance and operations of your buildings perform under extreme conditions (e.g., high temperatures, heavy downpours). Assess timber crib or other dock infrastructure for deterioration (e.g., wood previously underwater, rock foundations vulnerable to cracking due to exposure to freeze-thaw cycle). Estimate the costs of climate adaptation and explore financing options.</p> <p><i>Resources:</i> Great Lakes Coastal Infrastructure Brochure (PDF, U.S. Army Corps of Engineers); Failing Wood Infrastructure in the Great Lakes (PDF, Gene Clark, Wisconsin Sea Grant); Great Lakes Port & Harbor: Infrastructure & Dredging Cost Estimate Matrix Tool and Duluth, MN/Superior, WI and Toledo, OH Case Studies (PDF, Great Lakes Climate); Case Study – Portland, Maine: Balancing Maritime Uses and Waterfront Diversification Through Municipal Zoning (webpage/case study, Sustainable Working Waterfronts Toolkit); Adapting to Climate Change: A Planning Guide for State Coastal Managers – Appendix A: Potential Federal Funding Sources (PDF, NOAA)</p> <p><i>BMP example:</i> Do you represent your facility in community planning efforts (e.g., master planning, climate adaptation planning)?</p> <p><i>Resources:</i> What Could Changing Great Lakes Water Levels Mean for our Coastal Communities? A Case for Climate-adapted Planning Approaches (PDF, NOAA); Policy and Planning for Coastal Communities (webpage, Michigan Sea Grant); Adapting to Climate Change: A Planning Guide for State Coastal Managers (PDF, NOAA)</p>