WISCONSIN
CLEAN MARINA

BEST MANAGEMENT PRACTICES Guidebook

Version 3 • 2022

Foreword

The Wisconsin Clean Marina Program developed this comprehensive guide to marina and boatyard best management practices. This guidebook, the *Wisconsin Clean Marina Best Management Practices Guidebook,* outlines state and federal laws, regulations and programs that address marine facilities and nonpoint sources of pollution. Our goal is to distribute this guide to all marinas and boatyards in Wisconsin and to recognize all facilities that choose to participate and meet the Wisconsin Clean Marina Program requirements.

By using this guidebook and voluntarily adopting pollution prevention practices, Wisconsin marinas and boatyards may avoid regulatory fines resulting from regulation non-compliance and raise their community status as a designated Wisconsin Clean Marina. We urge all marina and boatyard operators to embrace the challenge—to work with the Wisconsin Clean Marina Program and continue to protect our recreational and natural resource treasures. By adopting the best management practices (BMPs) recommended throughout this guidebook, you will demonstrate your commitment to environmental stewardship. You can be proud that you are doing your share to protect the environment upon which we all depend. Additionally, your marina or boatyard will be a safer, healthier place to work and recreate.

This guidebook is intended as an educational tool for marina operators and owners. The guidebook and checklist are not intended to be, nor should they be construed as, legal advice. This guidebook does not constitute a complete reference to state, federal or local laws. Implementation of recommended BMPs does not ensure full compliance with the law. Participation in the Wisconsin Clean Marina Program is voluntary, and this guidebook does not create rights or duties that are enforceable in a court of law.

The guidance contained herein is for informational purposes only. The University of Wisconsin Sea Grant Institute, Wisconsin Marine Association and other contributing agencies, organizations or individuals cannot guarantee the accuracy or completeness of the guidebook or supporting material.

Program Support

The Wisconsin Clean Marina Program is administered by the University of Wisconsin Sea Grant Institute in partnership with the Wisconsin Marine Association, the Wisconsin Coastal Management Program, the Wisconsin Department of Natural Resources and the Fund for Lake Michigan.

History of the Wisconsin Clean Marina Program

Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990 required all coastal states to develop coastal nonpoint pollution control programs to address polluted runoff within the coastal zone. Nonpoint source pollution includes stormwater runoff from boatyards, drips from fuel docks, discharges of marine sewage and bilge water, and fish waste from recreational boaters.

In response to the CZARA requirement, the University of Wisconsin Sea Grant Institute, the Wisconsin Marine Association (WMA), and the Wisconsin Coastal Management Program, along with the marine industry and state of Wisconsin, developed the Wisconsin Clean Marina Program, which includes this comprehensive guide to marina and boatyard best management practices. The Wisconsin Clean Marina Program and guidebook were initially funded through grants from the Wisconsin Coastal Management Program.

The Wisconsin Clean Marina Program was developed in 2009 with guidance from a highly dedicated steering committee. The Wisconsin Clean Marina Steering Committee was composed of members representing the following agencies and marinas: the Wisconsin Coastal Management Program, the University of Wisconsin Sea Grant Institute, the Wisconsin Department of Natural Resources, the U.S. Coast Guard (Great Lakes Sector), the UW-Extension Solid and Hazardous Waste Education Center, the Bay-Lake Regional Planning Commission, the Wisconsin Harbor Towns Association, the city of Bayfield, Abbey Marina, Manitowoc Marina, Nestegg Marine, Port Washington Marina, Racine Yacht Club, South Bay Marina and Washburn Marina.

Maryland, Michigan, Indiana and Ohio Clean Marina Programs provided substantial content and valuable advice in the development of the *Wisconsin Clean Marina Best Management Practices Guidebook*.

Acknowledgements

It is with gratitude that we acknowledge the Wisconsin Clean Marina Technical Team for their guidance in this 2022 update to the *Wisconsin Clean Marina Best Management Practices Guidebook*. The Wisconsin Clean Marina Technical Team is composed of marina owners and operators, University of Wisconsin Sea Grant Institute, and state and regional agency representatives. Team members freely volunteered their time and effort to identify best management practices and review drafts of the guidebook. Technical Team members include:

Matt Bauer, F3 Marina

Cheryl Bougie, Wisconsin Department of Natural Resources (retired)

Todd Breiby, Wisconsin Coastal Management Program

Dennis Cherney, Port Washington Marina

Victoria Harris, University of Wisconsin Sea Grant Institute (retired)

Stacy Hron, Wisconsin Department of Natural Resources

Matt Jacobson, Wisconsin Department of Natural Resources

Jon Kukuk, Nestegg Marine (retired)

Steve Linton, Pikes Bay Marina (retired)

Chris Marx, Manitowoc Marina

Julia Noordyk, University of Wisconsin Sea Grant Institute

Bill Peterson, Apostle Islands Marina

Theresa Qualls, University of Wisconsin Sea Grant Institute

Carrie Reid, Reefpoint Marina

Pete Wood, Wisconsin Department of Natural Resources

Drafts of the *Wisconsin Clean Marina Best Management Practices Guidebook* were reviewed by additional subject area experts and regulatory agency representatives including:

Catherine Baerwald, waste management specialist, Advanced Waste and Materials Management Program, Wisconsin Department of Natural Resources

Greg Bareta, weight and measures internal section manager, Bureau of Weights and Measures, Wisconsin Department of Agriculture, Trade and Consumer Protection

Susan Eichelkraut, wastewater specialist, Division of Environmental Management, Wisconsin Department of Natural Resources

Amy Kretlow, water resources management specialist, Division of Environmental Management, Wisconsin Department of Natural Resources

Scott McComb, southeast wisconsin aquatic invasive species outreach specialist, University of Wisconsin Sea Grant Institute

Otto Oemig, pesticide programs unit supervisor, Bureau of Agricultural Chemical Management, Wisconsin Department of Agriculture, Trade and Consumer Protection

Erik Otterson, environmental engineering specialist, Bureau of Weights and Measures, Wisconsin Department of Agriculture, Trade and Consumer Protection

Finally, we wish to acknowledge the University of Wisconsin Sea Grant Institute, including Moira Harrington, assistant director for communications, and Elizabeth White, editor, and Media Solutions, including Judith Kozminski, designer.

Contact Information

For more information about the Wisconsin Clean Marina Program, contact:

Theresa Qualls
Wisconsin Clean Marina Program Coordinator
University of Wisconsin Sea Grant Institute
University of Wisconsin - Green Bay
(920) 465-5031
quallst@uwgb.edu

Julia Noordyk
University of Wisconsin Sea Grant Institute
(920) 465-2795
jnoordyk@aqua.wisc.edu

Todd Breiby
Wisconsin Coastal Management Program
(608) 261-6349
todd.breiby@wisconsin.gov

Table of Contents

Introduction

How to Use This Guidebook

The goal of the Wisconsin Clean Marina Program is to encourage informed decision-making that leads to a reduction in boating-related pollution and adverse effects on the environment. The *Wisconsin Clean Marina Best Management Practices Guidebook* provides an overview of actions that marine industry professionals can take to protect water and air quality. It is written primarily for the owner/operators of full-service marinas but is equally applicable to boaters and facilities that offer less than full service, including yacht clubs, transient docks and boatyards.

The *Wisconsin Clean Marina Best Management Practices Guidebook* is intended to be used as a reference document and a supplement to the checklist. The checklist lists best management practices (BMPs) that are mandatory, program required and recommended for certification as a Clean Marina. Refer to selected chapters as needed. For example, as you prepare for spring commissioning, review the recommendations in the chapter titled "Boat Maintenance." The Clean Marina certification checklist includes page references to more information in the guidebook. Throughout the book you will find references and links to additional sources of information.

Samples of spill prevention, control and countermeasure (SPCC); emergency response; and stormwater pollution prevention (SWPPP) plans can be found in the appendices. The guidebook also includes an explanation of the Wisconsin Clean Marina certification process and related forms.

Those marinas that adopt a significant proportion of the best management practices (BMPs) suggested within the guidebook will be recognized as Wisconsin Clean Marinas. They will receive a certificate acknowledging their environmentally responsible actions, permission to use the Wisconsin Clean Marina logo on their letterhead and advertising, a sign and burgee to display at their facility and promotion by the Wisconsin Clean Marina Program in publications, online and at public events.

Acronyms

AIS	Aquatic invasive species
AST	Aboveground storage tank
BMP	Best management practice
CVA	Clean Vessel Act
CZARA	Coastal Zone Authorization Amendments
DATCP	Wisconsin Department of Agriculture, Trade and Consumer Protection
DOT	Department of Transportation
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FWCA	Fish and Wildlife Coordination Act
LEPC	Local emergency planning committee
MPPRCA	Marine Plastic Pollution Research and Control Act
MSD	Marine sanitation device
NDZ	No-discharge zone
NFPA	National Fire Protection Association
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
OSHA	Occupational Safety and Health Administration
RCRA	Resource Conservation and Recovery Act
RUP	Restricted use pesticide
SDS	Safety Data Sheets
SPCC	Spill prevention, control and countermeasure plan
SWPPP	Stormwater pollution prevention plan
TBT	Tributyl tin
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
UST	Underground storage tank
VOCs	Volatile organic compounds
WCMP	Wisconsin Coastal Management Program
WDNR	Wisconsin Department of Natural Resources
WMA	Wisconsin Marine Association
WPDES	Wisconsin Pollutant Discharge Elimination System

Wisconsin Clean Marina Program Certification Process and Forms

Wisconsin Clean Marina Certification Process

The following seven steps must be completed in order to become a certified Wisconsin Clean Marina:

Step 1. Contact the Wisconsin Clean Marina coordinator, Theresa Qualls, at 920-465-5031 or quallst@uwgb.edu.

Step 2. Sign a pledge form.

By pledging to become a Wisconsin Clean Marina, your marina commits to actively seeking certification and doing its part to keep Wisconsin's waterways free of harmful chemicals, excess nutrients and debris and to use best management practices (BMPs) that prevent pollution and protect aquatic habitat. Email the signed pledge to the Wisconsin Clean Marina Program coordinator at quallst@uwgb.edu.

Display a copy of the pledge in a public area so that your customers will be aware of your commitment to clean water. The Wisconsin Clean Marina Program will include your marina or boatyard's name on our website list of pledged facilities and in public displays.

Step 3. Perform a marina self-evaluation using the Wisconsin Clean Marina Best Management Practices Guidebook and certification checklist.

To achieve Wisconsin Clean Marina status, marinas and boatyards must meet 100% of all applicable BMPs mandated by laws and regulations, 100% of all applicable Wisconsin Clean Marina Program-required BMPs and a minimum of 50% of applicable recommended BMPs.

Step 4. Schedule an initial site visit with the Wisconsin Clean Marina coordinator.

Do not be discouraged if you have difficulty meeting the minimum scores on the self-evaluation checklist. We want you to become a Wisconsin Clean Marina and can help you identify ways to achieve the minimum standards. Please contact the Wisconsin Clean Marina Program coordinator for assistance. If the program coordinator cannot answer your questions directly, they will put you in touch with one of the program's technical team members to provide the information you need. In addition, we are willing to provide an informal site visit and assessment of your facility with comments and recommendations for the implementation of appropriate BMPs to reach the minimum program certification requirements.

Step 5. Incorporate BMPs.

Incorporate the BMPs necessary to reach the minimum Wisconsin Clean Marina certification criteria as indicated by the program checklist and recommended by the initial site visit. Contact the program coordinator if you need more information or advice on how to implement a BMP. Submit the completed checklist to the program coordinator for review.

Step 6. Complete a final certification site visit with the Clean Marina Technical Team.

When the Wisconsin Clean Marina Program coordinator is satisfied that your completed checklist demonstrates that your facility

tentatively meets the designation criteria, the program coordinator will schedule an onsite certification inspection. A site review team will visit your facility, verify the items on the checklist and make a recommendation to the technical team for certification.

Step 7. Welcome Aboard! Enjoy the benefits of being a Wisconsin Clean Marina.

Once you are certified as a Wisconsin Clean Marina, the Wisconsin Clean Marina Program staff will help you prepare a news release recognizing your demonstrated commitment to environmental stewardship. You will be authorized to use the Wisconsin Clean Marina logo on your letterhead and in your advertising. You will receive a Wisconsin Clean Marina certificate, sign and burgee to display at your facility. Your marina or boatyard will also be listed in Wisconsin Clean Marina publications, the program website and social media, and in public displays.

Maintaining Your Clean Marina Status

Marinas and boatyards must be recertified at five years or when marina ownership or management changes.

Halfway through the five-year certification term, you will be asked to affirm that your marina continues to be dedicated to the protection of Wisconsin's waterways, meets all of the requirements for Wisconsin Clean Marina certification through ongoing pollution prevention measures and complies with all applicable regulations, plans and permits.

In addition, the Wisconsin Clean Marina Program Technical Team may periodically update the guidebook or checklist due to new information or changes in rules and regulations. You will be notified of program updates or changes in certification criteria. You are responsible for ensuring that your facility is in compliance with all current, applicable state and federal rules and regulations. The Wisconsin Clean Marina Program and its partners are not responsible for any violations or fines that may be applied for non-compliance.

If you have any questions or issues that arise during your certification, please do not hesitate to contact the Clean Marina coordinator, Theresa Qualls, at 920-465-5031 or quallst@uwgb.edu.

Wisconsin Clean Marina Pledge Statement

The Wisconsin Clean Marina Program promotes and celebrates the voluntary adoption of measures to reduce pollution from marinas and recreational boats. Designated "clean marinas" are recognized as environmentally responsible businesses.

As the first step toward achieving clean marina status on behalf of

Name of Marina or Boatyard	
Address (number and street)	
City	Zip

I pledge to do my part to keep Wisconsin's waterways free of harmful chemicals, excess nutrients and debris. I will identify opportunities and implement practices to control pollution associated with:

- Marina Maintenance
- Stormwater Management
- Boat Maintenance
- Petroleum Control
- Marina Resilience
- Boater Sewage, Graywater and Animal Waste Handling Control
- Solid Waste Management and Recycling
- Hazardous Waste Management
- Marina Management and Boater Education
- Aquatic Invasive Species Education and Management

I commit to actively pursuing full standing as a Wisconsin Clean Marina. I will implement appropriate environmental best management practices and will apply to the Wisconsin Clean Marina Program for recognition as a Wisconsin Clean Marina.

Printed Name of Marina or Boatyard Owner	Date (month, day, year)
Signature of Marina or Boatyard Owner	
Phone	Email Address

Printed Name of Marina or Boatyard Owner	Date (month, day, year)
Signature of Marina or Boatyard Owner	
Phone	Email Address

Please complete and return signed form to:

University of Wisconsin Sea Grant Institute
Theresa Qualls
UW-Green Bay, MAC 212
2420 Nicolet Drive
Green Bay, WI 54311
920-465-5031
quallst@uwgb.edu

Wisconsin Clean Marina Program Checklist

This checklist is intended to be used by marina, boatyard and yacht club operators to conduct self-assessments of their facilities. If you are a boat dealer only, the Wisconsin Clean Marina Program will not apply to you. This checklist will also be used by representatives of the Wisconsin Clean Marina Program to conduct onsite marina certification assessments.

The practices listed on the checklist by chapter refer to the 2022 *Wisconsin Clean Marina Best Management Practices Guidebook*. **It is important that you refer to the corresponding guidebook pages for more complete descriptions of practices.** (Online guidebook: wisconsincleanmarina.org/resources/guidebook-and-certification-forms)

Symbols used on the checklist indicate the following: Mandatory (M) = practices mandated by federal, state or local laws and regulations, Program Required (P) = program-required best management practices (BMPs) and Recommended (R) = program-recommended BMPs.

Answer each question by checking either Yes, No, or N/A. The "not applicable" (N/A) option is offered so items that do not apply to your operation will not be tallied in the certification score. For example, some checklist items under the "petroleum control" chapter apply only to marinas with fuel docks.

Disclaimer: The *Wisconsin Clean Marina Best Management Practices Guidebook* is intended as an educational tool for marina operators and owners. The guidance is for informational purposes only. The guidebook and checklist are not intended to be, nor should they be construed as, legal advice. The Wisconsin Marine Association or other contributing agencies, organizations or individuals cannot guarantee the accuracy or completeness of the guidebook or supporting materials. The guidebook does not constitute a complete reference to state, federal or local laws. Implementation of recommended BMPs may not ensure full compliance with the law. Participation in the Wisconsin Clean Marina Program is voluntary and the guidebook does not create rights or duties that are enforceable in a court of law.

Contacts:

Theresa Qualls
Wisconsin Clean Marina Program Coordinator
University of Wisconsin Sea Grant Institute
University of Wisconsin - Green Bay
(920) 465-5031
quallst@uwgb.edu

Julia Noordyk
University of Wisconsin Sea Grant Institute
(920) 465-2795
jnoordyk@aqua.wisc.edu

Todd Breiby
Wisconsin Coastal Management Program
(608) 261-6349
todd.breiby@wisconsin.gov

Facility Information Form

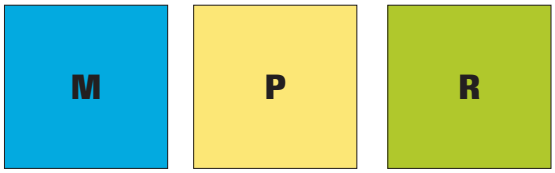
Marine Facility Name	Assessment Date ☐ Preliminary ☐ Certification ☐ Re-certification
Type of Facility (check all that apply) ☐ Marina ☐ Yacht club ☐ Transient docking ☐ Boatyard ☐ Boat dealer ☐ Other (Describe) _____ **Number of slips:** _____ **Age of facility:** _____	
Name of Owner/Manager	Area Code and Telephone
Facility Address	City and Zip Code
Facility Mailing Address (if different)	City and Zip Code
Email Address	Website
Types of Services Your Facility Offers (check **all** that apply) ☐ Outside winter storage ☐ Seasonal in-water slips ☐ Clubhouse or pavilion ☐ Inside cold winter storage ☐ Transient in-water slips ☐ Restaurant/bar ☐ Inside heated storage ☐ Rack in and out service ☐ Marina store ☐ Fish cleaning station ☐ Gasoline fuel pumps ☐ Diesel fuel pumps ☐ Pump-out facilities ☐ Launch ramp ☐ Hoist service ☐ Other:	
Types of Operations Performed (check **all** that apply) ☐ Use shrink wrap covers ☐ Fiberglass repairs ☐ Paved roadways ☐ Winterization ☐ Bottom sanding and painting ☐ Storm drains ☐ Mechanical/engine shop ☐ Boat bottom washing ☐ Oil changes ☐ Other:	
Number of employees: Full-time (year-round): _____ Part-time (year-round): _____ Seasonal: _____	
What type of docking system do you have? ☐ Floating docks ☐ Fixed docks ☐ Bulkheads What are the docks made of?	
Petroleum storage: ☐ Aboveground ☐ Underground, gallons of diesel: gasoline:	
How do you dispense fuel? ☐ Staff only ☐ Staff oversee fueling ☐ Boaters	
Is the marina: ☐ Public ☐ Private ☐ Other:	
Do you plan on siting a new marina or expanding, updating or upgrading your facility in the next five years? ☐ Yes ☐ No	
Do you plan on re-paving or sealing asphalt in the next 5 years? ☐ Yes ☐ No ☐ N/A	

Best Management Practices Checklist

(M) Mandatory = practices mandated by federal, state or local laws and regulations

(P) Program Required = program-required best management practices (BMPs)

(R) Recommended = program-recommended BMPs



Chapter 2: Marina Maintenance	Page	Status	Yes	No	N/A
1. Modify or reconfigure your marina to minimize the need for dredging.	2	R			
2. Minimize impacts of dredging.	2	M			
3. Secure required permits for marina construction and dredging.	2	M			
4. Environmentally friendly materials are used for docks and other in-water structures (e.g., encapsulated floats, pilings).	3	R			
5. Maintain structures using clean marina practices (e.g., use the same management principles as for vessels; move floating structures to shore for scraping, painting and major repairs).	3	P			
6. Incorporate practices to enhance water circulation, reduce algae build-up and prevent stagnant water, such as bubblers or aerators.	4	R			
7. Adopt at least one water conservation practice at facility (e.g., install low-flow toilets/faucets/shower heads, maintain and fix any water leaks and hoses on the docks).	4	P			
8. Use environmentally friendly landscaping and maintenance practices (e.g., choose native plants, compost or leave grass clippings on lawn, mulch landscaping and eliminate or minimize use of chemicals).	6	P			
9. Adopt at least one water conservation practice on the grounds (e.g., water only "thirsty" plants, use high-efficiency sprinklers, collect and reuse rainwater).	7	P			
10. Use nature-based shoreline protection measures to prevent shoreline erosion (e.g., vegetated buffers, anchored logs, dunes, vegetated rip rap).	9	R			
11. Have a designated "no wake" or "no boating" zone in erosion-prone areas to reduce shoreline erosion and protect shallow-water habitat.	9	R			
12. Conserve and protect existing sensitive areas and habitats in perpetuity.	10	R			
13. Enhance aquatic and/or terrestrial habitats adjacent at, or adjacent to the marina basin.	10	R			

Chapter 3: Stormwater Management	Page	Status	Yes	No	N/A
1. Obtain a WPDES stormwater discharge permit or no-exposure certification from WDNR. All marinas with maintenance or boat cleaning areas are required to obtain a permit or no-exposure certification. *Resources:* See dnr.wi.gov/topic/stormwater/industrial/overview.html for general information and dnr.wi.gov/topic/stormwater/industrial/forms.html for permit applications and the form for an exclusion application.	2	M			
2. Develop a stormwater pollution prevention plan (SWPPP) or stormwater information map. *Resources:* Wisconsin template for a stormwater pollution prevention plan; Instructions for a stormwater information map.	2	P / M			
3. Conduct monitoring and maintain records for a minimum of 5 years as part of the SWPPP. *Resources:* WDNR visual inspection instructions and record form.	2	M			
4. Minimize the amount of impervious surfaces at your facility (replace impervious surfaces with pervious pavers or vegetated areas).	3	R			
5. Use alternative asphalt sealants and do not use coal tar sealants, which pollute runoff water.	3	P / M			
6. Maintain vegetated areas and buffers to prevent direct runoff to adjacent waterways.	5	P			
7. Install and maintain at least one green stormwater infrastructure practice (e.g., rain gardens, bioswales, rain barrels or cisterns).	5	R			
8. Position downspouts to drain to vegetated areas (e.g., grassy areas, rain gardens, grass swales, landscaping).	5	R			
9. Practice "good housekeeping" by regularly sweeping or cleaning paved surfaces, work areas and boat wash pads to remove pollutants that could be transported with runoff water.	6	P			
10. Runoff from maintenance, cleaning and dumpster areas is directed away from waterfronts and storm drains and onto vegetated areas or into green stormwater infrastructure features.	6	R			
11. Monitor and maintain all stormwater infrastructure on the property (e.g., storm drains, retention ponds, rain gardens, bioswales).	6	P / M			
12. Use soil erosion control practices during construction.	7	M			
13. Stencil or label storm drains.	7	R			

Chapter 4: Boat Maintenance	Page	Status	Yes	No	N/A
1. Restrict maintenance activities to *designated* work areas where debris can be easily contained and collected.	3	R			
2. Locate designated work areas as far from the shore as practical.	3	P			
3. Collect and dispose of all maintenance debris.	3	P			
4. Provide tarps to patrons for hull maintenance. Restrict painting or fiberglassing outside of designated shops to the use of rollers and brushes, with proper use of tarps and tenting to protect the surrounding area.	3	R			
5. Provide information about best boat maintenance practices that boat owners and contractors must follow in at least one format (e.g., environmental rules, education, training and/or signage).	4	P			
6. Clearly state acceptable and/or prohibited boat maintenance practices in your slip and subcontractor contracts.	4	R			
7. Use or sell environmentally friendly cleaning and maintenance products, (e.g., teak cleaners, varnishes, solvents).	4	P			
8. Obtain and comply with the requirements and BMPs contained in the Wisconsin WPDES general permit for low-impact discharge (dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html).	5	M			
9. Wash boats on land and collect and treat boat wash water (e.g., wash pad with catch basin, closed water recycling system, hay bales, filter socks, etc.).	5	P			
10. Store solvents in an enclosed location and handle solvents appropriately.	6	P			
11. Keep records of solvent and paint usage.	6	M			
12. Minimize the environmental impacts of engine repair and maintenance.	8	P			
13. Winterize only with less toxic propylene glycol antifreeze.	9	P			
14. Collect and recycle antifreeze as much as is practical, or use best management practices to minimize the release of antifreeze into the environment.	9	P			
15. Inspect bilges prior to boat storage at your facility and encourage boat owners to keep bilges clean and dry during storage.	9	R			
16. Support proper engine and bilge maintenance by boat owners (e.g., provide bilge socks and/or encourage their use by boaters, provide educational materials, offer bilge cleaning services).	10	R			

Chapter 4: Boat Maintenance (cont.)	Page	Status	Yes	No	N/A
17. Recycle or reuse shrink-wrap covers.	10	P			
18. Have appropriate procedures for the collection, storage and disposal of spent lead acid batteries.	10	P			
19. Rent or loan vacuum sanders to tenants and contractors.	12	R			
20. Prohibit power sanding and painting over the water.	12	R			
21. Contain dust from sanding and debris from sand blasting and dispose of them properly.	12	P			
22. Prohibit sanding or blasting work carried out by individual boat owners or their contractors unless it is done inside one of the designated shops or a vacuum sander and tarps are used and the residue is disposed of properly.	12	R			
23. Obtain an annual pesticide **business license** from Wisconsin DATCP if you apply antifouling paints to boats for hire.	14	M			
24. Obtain an annual pesticide **applicator license** from Wisconsin DATCP for staff that apply antifouling paints to boats.	14	M			
25. Recommend antifouling paints with minimal environmental impacts.	14	R			

Chapter 5: Petroleum Control	Page	Status	Yes	No	N/A
1. Meet the requirements ATCP 93 for monitoring, registration and inspection of your storage tanks containing flammable, combustible or hazardous liquids.	4	M			
2. Complete the necessary operator training requirements for those who operate and maintain underground storage tank (UST) systems.	4	M			
3. Meet all the requirements of the fire code for spill prevention and fuel containment to operate a commercial aboveground storage tank (AST) containing flammable or combustible liquids (e.g., install a secondary containment system if your fuel tank is not double-walled, install appropriate barriers (guard posts) to protect tanks and dispensing systems, properly label tanks).	4	M			
4. Regularly inspect and repair fuel transfer equipment.	5	P			
5. Always have a trained employee at the fuel dock to oversee or assist with fueling.	7	P			
6. Make available and train employees on the use of oil-absorbent materials and collection devices (e.g., "no-spill" bottles and oil-absorbent pads) at the fuel dock.	7	P			
7. Remove fuel nozzle holding clips.	8	M			

Chapter 5: Petroleum Control (cont.)	Page	Status	Yes	No	N/A
8. Have automatic back pressure shut-off nozzles on fuel pump discharge hoses.	8	M			
9. Dispose of oil-absorbent materials properly.	8	P			
10. Take precautions to minimize spills and leaks from machinery.	9	P			
11. Offer spill-proof oil changes.	9	R			
12. Have a spill prevention, control and countermeasure (SPCC) plan that meets all SPCC rules (mandatory 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). Remember to include heating oil, lube oil, solvents, used oil and fuel in the aggregate volume. *Resource:* Spill Prevention, Control and Countermeasure (SPCC) Guide for Marinas and Boat Owners.	11	P / M			
13. Maintain oil spill response equipment to contain a potential spill in water at your facility.	11	P			
14. Store your oil response equipment and booms where they are convenient and accessible to the most likely location of an oil or fuel spill.	12	P			
15. Post the U.S. Coast Guard National Response Center phone number (800-424-8802) and WDNR spill notification phone number (800-943-0003) at appropriate areas of your marina and notify these entities any time a spill produces a sheen on the water. *Resource:* epa.gov/emergency-response/when-are-you-required-report-oil-spill-and-hazardous-substance-release?	12	M			
16. Have annual fire inspection records indicating compliance with all applicable fire codes.	13	M			
17. Maintain files of Safety Data Sheets (SDS) for all hazardous 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. *Resources:* OSHA Brief: Safety Data Sheets (website, OSHA), Revised Hazard Communication Standard (website, OSHA).	13	M			
18. File Wisconsin **Tier Two** forms for petroleum and hazardous waste by March 1 annually (dma.wi.gov/DMA/wem/preparedness/epcra/forms-resources).	14	M			

Chapter 6: Boater Sewage, Graywater and Animal Waste Handling	Page	Status	Yes	No	N/A
1. Prohibit the discharge of sewage in your marina and encourage compliance by including information about marine sanitation device (MSD) requirements and sewage laws in contracts for slips, rentals, transients, and live-aboards.	3	M			
2. Offer marine sanitation device (MSD) inspections of boats.	3	R			
3. Have a well-maintained pump-out facility appropriate for your facility or inform boaters of other pump-out locations.	5	P			
4. Have a dump station, wand attachment or an alternative procedure to empty portable toilets.	5	R			
5. Provide clean, functional restrooms 24 hours per day for marina customers.	5	R			
6. Address the special sewage handling needs of live-aboards.	6	P			
7. Maintain your septic system regularly and post signs about what patrons can and cannot put into the system.	7	P			
8. Adopt at least one practice to discourage the discharge of polluted graywater in the marina basin (e.g., encourage use of biodegradable, non-phosphorous detergents, provide laundry and dish-washing facilities, include language in lease agreements to discourage discharge).	7	R			
9. Establish practices to manage pet waste.	8	P			
10. Discourage the feeding of birds at your marina.	8	R			

Chapter 7: Solid Waste Management and Recycling	Page	Status	Yes	No	N/A
1. Adopt at least one practice to reduce waste (e.g., 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.).	2	R			
2. Provide trash and recycling receptacles that are covered, well labeled and located in convenient locations.	3	P			
3. Recycle materials in accordance with Wisconsin state and local recycling laws.	4	M			
4. Post signs indicating what must be recycled and where.	4	P			
5. Post signs indicating what may not be placed in the dumpster, such as engine oil, oil filters, antifreeze, paints, solvents, varnishes, lead batteries and transmission fluids and indicate where to dispose of these hazardous wastes.	4	P			
6. Collect and recycle used fishing line at your marina.	5	R			
7. Install a trash skimmer (such as a Seabin) in your marina basin.	5	R			
8. Provide fish-cleaning stations and/or require patrons to dispose of fish waste properly.	6	R			

Chapter 8: Hazardous Waste Management	Page	Status	Yes	No	N/A
1. Minimize your use of hazardous products.	1	R			
2. Store, use and dispose of hazardous waste in accordance with federal and state regulations. This includes storing hazardous waste and materials in appropriate, labeled and separate containers; minimizing spills, leaks or releases; storing regulated liquid wastes in proper, well-labeled containers; and providing secondary containment capable of holding 110% of the volume of the largest barrel or tank in storage.	5	M			
3. Keep all hazardous materials on an impervious surface away from floor drains and covered from rain and snow.	5	P			
4. Prohibit all dumping of waste in the water. For example, include language about prohibition of dumping in your slip agreements and service provider contracts. Encourage boaters to contact marina staff to handle hazardous waste.	5	P			
5. Provide or promote recycling of liquid waste (e.g., used oil, antifreeze and solvents) and have proper containers and containment areas.	7	P			
6. Track pollution incidents by using the pollution report and action log found in the guidebook.	7	R			
7. Follow recommended waste disposal methods.	7	P			

Chapter 9: Marina Management and Boater Education	Page	Status	Yes	No	N/A
1. Have accessible, current, written emergency response plans for likely threats (e.g., fuel or chemical spills, fire).	2	P			
2. Provide staff training on environmental rules and marina policies (e.g., fueling procedures, pump-out procedures, used oil management, painting procedures).	4	P			
3. Provide staff training on the stormwater pollution prevention plan (SWPPP).	4	M			
4. Review emergency response plans and procedures and have regular emergency response drills with staff annually.	4	P			
5. Maintain staff training records and have staff sign off on all completed training.	4	P			
6. Maintain an accessible clean marina binder to contain all reference material, Clean Marina requirements, permits, SWPPP, SPCC and Emergency Plans.	4	R			
7. Train staff to watch for inappropriate discharge and other polluting activities.	4	P			
8. Have established procedures for approaching and documenting boaters and contractors who are polluting.	5	R			

Chapter 9: Marina Management and Boater Education (cont.)	Page	Status	Yes	No	N/A
9. Incorporate BMPs into all contracts: slip holder, live-aboards, transient, charter, worker, contractor and tenant.	6	**P**			
10. Post signs informing boaters of BMPs (sample signage provided in Appendix II of guidebook).	7	**P**			
11. Provide environmental education materials to boaters (e.g., offer Great Lakes Clean Marina rack cards or include articles about BMPs in your newsletter).	7	**P**			

Chapter 10: Aquatic Invasive Species Education and Management	Page	Status	Yes	No	N/A
1. Educate boaters on controlling the spread of aquatic invasive species. For example, use signage and/or other notices to advise boaters about their responsibility in controlling the spread of AIS; distribute pamphlets to promote practices that reduce the spread of AIS.	4	**P**			
2. Implement at least one of the following BMPs to encourage boaters to stop the spread of invasive species: provide boaters with a dedicated area to inspect, clean, drain and dry boats; provide high-pressure washer or hot water; provide trash receptacles for disposal of leftover bait and debris; provide oil-absorbent materials at the wash station.	4	**R**			

Chapter 11: Marina Resilience	Page	Status	Yes	No	N/A
1. Complete the Wisconsin Marina Resilience Assessment.*	4	**R**			

*If interested in filling this out, please contact Clean Marina coordinator for assistance.

Extra Credit: List any additional operating procedures or practices that your facility uses that have reduced waste or pollution. *(Note: Each additional practice is worth the same as one recommended practice on the checklist.)*

Scoring:				
	# Yes Responses	# Applicable Items	Actual % (# Yes ÷ # Applicable) x 100	Required %
Mandatory Practices (M)				100
Program-Required BMPs (P)				100
Program-Recommended BMPs (R)				50

Verified by Wisconsin Clean Marina certification specialist(s):

Certification Specialist Name		
Signature		
Date	Phone	Email Address

Certification Specialist Name		
Signature		
Date	Phone	Email Address

Comments and Recommendations

Actions Required for Certification:

Additional Recommended Actions:

Wisconsin Clean Marina Certification Site Visit Preparation

Step 1: *Wisconsin Clean Marina Best Management Practices Guidebook* and Checklist

Review the checklist **and** corresponding pages referenced from the *Wisconsin Clean Marina Best Management Practices Guidebook*. It is important to review all applicable sections of the guidebook in order to understand and properly complete the checklist. The guidebook is available online at wisconsincleanmarina.org/resources/guidebook-and-certification-forms.

Step 2: Self-Assessment

Conduct a self-assessment of your facility using the Clean Marina Checklist (newest version available at wisconsincleanmarina.org/resources/guidebook-and-certification-forms). Make a note of any additional BMPs you employ from the guidebook that are not mentioned on the checklist. They may be counted as extra credit toward certification.

Step 3: Submit Checklist and Key Documents

Email your completed checklist and questions to Theresa Qualls at quallst@uwgb.edu or mail to Theresa Qualls, 2420 Nicolet Drive, Green Bay, WI 54311. Also send electronic files of your slip agreement/contract, environmental rules, staff training manual, emergency response plan and stormwater Pollution prevention plan or stormwater map. We will call you to review the information, answer questions and schedule a site visit.

Step 4: Site Visit

Please have all key personnel on hand for the on-site visit to help answer questions (e.g., assistant manager, shop manager). Have the following documents ready to be viewed, if applicable:

Facilities with docks only:

- Stormwater information map – This map is required for marinas that are exempt from a stormwater discharge permit by the WDNR. (Stormwater map instructions are available at wisconsincleanmarina.org/resources/guidebook-and-certification-forms.)
- Staff training documents and records.
- Marina emergency response plan (send an electronic copy with your checklist).
- Slip agreements or contracts (send an electronic copy with your checklist).
- Dredging permits from the U.S. Army Corps of Engineers and the WDNR.
- Records of most recent fire department inspections.

All other facilities that have petroleum, wash boats or do any maintenance (in addition to the items above):

- Stormwater discharge permit and stormwater pollution prevention plan (SWPPP) – Contact the WDNR to determine if this permit and plan are required. Provide proof for exemptions.
- Letter from the WDNR granting permission for the discharge of boat wash water with a wastewater general permit for low-impact discharge **(WI-0066575-01-0**) (dnr.wi.gov/topic/wastewater/GeneralPermits.html).
- Records of solvent and paint usage.
- Annual pesticide applicator license – for all personnel applying anti-fouling paint (datcp.wi.gov/Pages/Licenses_Permits/CommercialApplicator.aspx).
- Spill prevention, control and countermeasure (SPCC) Plan – if you store an aggregate of 1,320 gallons of petroleum products aboveground or have an underground tank containing more than 42,000 gallons.
- Safety Data Sheet (SDS) files (for petroleum and other chemicals used on site).
- Inspection records for petroleum storage tanks.
- Emergency and hazardous chemical inventory tier two forms – for petroleum (dma.wi.gov/DMA/wem/preparedness/epcra/forms-resources.)

If you have questions, ideas or concerns, please contact:

Theresa Qualls, WI Clean Marina Program Coordinator, 920-465-5031, quallst@uwgb.edu

Siting, Expanding and Designing Marinas

Reference Chapter: Please refer to this chapter if you plan to site a new marina, expand your marina, update your facility, add new buildings or fuel docks, or replace docks.

The development of a new marina or expansion/modification of an existing facility can have long-term effects on water quality, fish and wildlife habitats, and shoreline processes at the marina and adjacent waterways. Every project should include a careful assessment of the hydrological and geographic characteristics of the area and an engineering design that requires the least amount of modification to these characteristics as possible.

Initial site selection of a new marina is the most important factor in preserving the environment and its benefits. When selecting a site for a new marina or expanding an existing facility, avoid or minimize disturbances to shoreline areas that include any of the following natural resources:

- Tributary streams, creeks and rivers
- Existing wetlands, forests and prairies
- Shallow water areas with aquatic plants
- Rare, threatened or endangered species
- Known fish spawning and nursery habitats
- Colonial-nesting bird and shorebird areas (e.g., pelicans, terns, cormorants)
- Migratory waterfowl staging areas
- Cultural heritage areas

Shoreline development and protection structures (e.g., rip rap, sea walls) can also significantly change water circulation patterns, sand movement along the coastline and how hard waves hit the shore. Poorly designed structures can cause erosion and flooding at the marina and at adjacent properties. A hydrodynamic assessment of the site should be done to inform any engineering designs that may alter shoreline and nearshore processes.

When marinas are designed with pollution prevention and water circulation in mind, they can be an asset to the community, allowing for quiet, sheltered waters that are more aesthetically pleasing and support a healthy wildlife habitat.

Laws and Permits

U.S. Army Corps of Engineers (USACE)

The majority of marina development and expansion projects, including dredging, will require a permit from the U.S. Army Corps of Engineers (USACE). As part of the permitting process, the Wisconsin Department of Natural Resources (WDNR) reviews potential water quality impacts for newly proposed or expanding marinas through the 401 Water Quality Certification Program. Section 10 of the Rivers and Harbors Act of 1899 gives the USACE authority to regulate all works and structures in navigable waters of the United States. Section 404 of the Federal Water Pollution Control Act (aka the Clean Water Act) regulates discharges of dredged or fill materials into navigable waters, including wetlands. More information on dredging permits can be found at dnr.wi.gov/topic/Waterways/construction/dredging.html.

The Fish and Wildlife Coordination Act (FWCA) requires a U.S. Fish and Wildlife Service (USFWS) review of potential effects on fish and wildlife from proposed water resource development projects. The FWCA requires that fish and wildlife resources receive equal consideration to other project features. In addition, it also requires federal agencies (e.g., USACE) that construct, license or permit water resource development projects to first consult with the USFWS and relevant state (e.g., WDNR) and local agencies to mitigate impacts on fish and wildlife.

Federal Consistency (National Oceanic and Atmospheric Administration)

Federal activities – including permitting, funding and direct actions – that have reasonably foreseeable effects on Wisconsin's coastal uses or resources may be subject to federal consistency review by the Wisconsin Coastal Management Program (WCMP). Generally, such activities must be consistent with the WCMP's enforceable policies. Federal regulations (15 CFR 930) establish the basic policies and procedures for coastal states, federal agencies and other affected parties pertaining to the federal consistency review process. The review ensures coordination between state and federal policies, programs and agencies. Please contact the WCMP for more information at coastal.wisconsin.gov.

Marina Site Selection

Redevelop Existing Sites

Avoid disturbing undeveloped areas of the shoreline and place new facilities in previously occupied waterfront sites. State regulations favor expansion of existing marinas over development of new facilities. Redeveloping a site restores property to productive uses, increases property values, increases local tax base, uses existing infrastructure, mitigates public health and safety concerns, and improves community image. The state offers a number of grant programs to encourage productive redevelopment of brownfields. For more information, see dnr.wi.gov/topic/Brownfields/Financial.html.

- Locate new facilities in previously occupied waterfront sites and avoid undisturbed areas of the shoreline.

- Before beginning any development project, acquire the proper permits for marina construction and dredging.

Pikes Bay Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

Characterize Project Site

- Identify habitat types and seasonal use of the site by fish and wildlife.
- Assess the impact of new development on nearshore coastal processes, for example, circulation and sand movements, accretion and erosion.
- Hire a private engineering firm to perform a site assessment.
- Ensure that any previous environmental contamination (e.g., underground tanks or contaminated sediments) has been cleaned up. For more information, see dnr.wisconsin.gov/topic/Waterways/construction/dredging.html and dnr.wisconsin.gov/topic/Brownfields/Brownfields.html.
- If archaeological or historic features are known or suspected (shipwrecks, Native American artifacts and historic buildings) the State Historical and Preservation Office should be consulted. For more information, see wisconsinhistory.org/Records/Article/CS15284.

Identify Rare and Endangered Species

- Rare and endangered species may not be disturbed (Federal Endangered Species Act and Wisconsin State Statute 29.604 and Wis. Adm. Code NR 27) (dnr.wi.gov/topic/endangeredresources/laws.html).
- All proposed development sites must be assessed by the USFWS and the WDNR (dnr.wi.gov/topic/ERReview/Review.html) for endangered and threatened species and habitat protection areas.
- For more precise information concerning sensitive habitat areas, submit a project description and a photocopy of a United States Geological Survey topographic quadrangle map, with the site identified, to the USFWS (fws.gov).
- If protected species are identified, you must implement an approved protection plan prior to project approval.
- Provide a mitigation or habitat enhancement plan to the USACE and the USFWS.

Avoid Submerged Aquatic Vegetation

Submerged (underwater) aquatic vegetation provides habitat for fish and food for waterfowl. It is an important component of healthy coastal ecosystems.

- Avoid or mitigate any disturbances of submerged aquatic vegetation.
- Site new or expanded marinas to avoid navigation over submerged aquatic vegetation beds.

Minimize Disturbance to Wetlands

- Avoid disturbance to wetlands and native vegetation in coastal or shoreline areas. (For guidance criteria refer to WDNR NR 103, Wis. Adm. Code.)
- The goal is to preserve and, where possible, increase wetland acreage and function.
- Any construction that extends into wetland areas requires authorization or permits from the WDNR and the USACE. For more information on wetland permits, please refer to dnr.wi.gov/topic/wetlands/permits.
- Mitigation is required when loss of wetlands is unavoidable.
- Wetlands can be naturally created adjacent to marinas on the down-current side of the marina.

Minimize Disturbance to Fish and Wildlife during Construction

- Schedule construction outside of critical migration, nesting and spawning periods of important species of fish and wildlife.
- Consult with the WDNR for site-specific determinations of the potential effects of marina siting or construction on wildlife populations.
- Preserve nesting trees and other natural habitats where possible.

Avoid Waterfowl Nesting and Staging Areas

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

- New and expanding marinas must avoid areas that will adversely affect historic waterfowl staging areas (NR 103).
- Locate marinas such that the associated increased boating activities do not deter waterfowl from using these traditional areas.

Marina Design

Enhance Water Circulation

The water quality at marinas depends largely on how well water circulates and is flushed within and through the basin. Marina basin flushing is essential for maintaining good water quality. If a marina is not properly designed, pollutants will build up in the water or sediments. Excess dredging to create deeper water can slow flows and diminish re-oxygenation of waters in the marina basin.

- Any new or expanding marina should be constructed to enhance or maintain proper water movement.
- Design new or expanding marinas with as few segments as possible and rounded corners to promote circulation within the basin (refer to figure below). The fewer the segments, the better the circulation. Rounded basins minimize wave resonance and also promote circulation.

- Locate marinas on well-flushed waterways.
- Choose fixed adjustable or floating structures that encourage rather than impede water movement. Another advantage of floating dock systems is that they can be removed in the winter to avoid ice damage and the debris that may result. Floating structures also accumulate zebra and/or quagga mussels; this encrustation can be easily removed when the docks are stored on land.
- Piers and other structures should be placed to enhance, rather than obstruct, water circulation.
- Align entrance channels with natural channels to increase flushing.
- Avoid locating the entrance channel perpendicular to the natural channel as shoaling may increase the need for maintenance dredging.
- Avoid using long, winding channels to connect marinas to open water.
- Where possible, establish two openings at opposite ends of the marina to promote flow-through currents.
- Install wave attenuators (if permitted) to reduce the force of incoming water if protection is necessary. Wave attenuators do not restrict water exchange nor do they interfere with bottom ecology or aesthetically pleasing views. Furthermore, they are easily removed and do not significantly interfere with fish migration and shoreline processes.
- If the basin has space constraints, use a mechanical aeration system to aerate areas with poor circulation. Circulators can also minimize icing during winter.

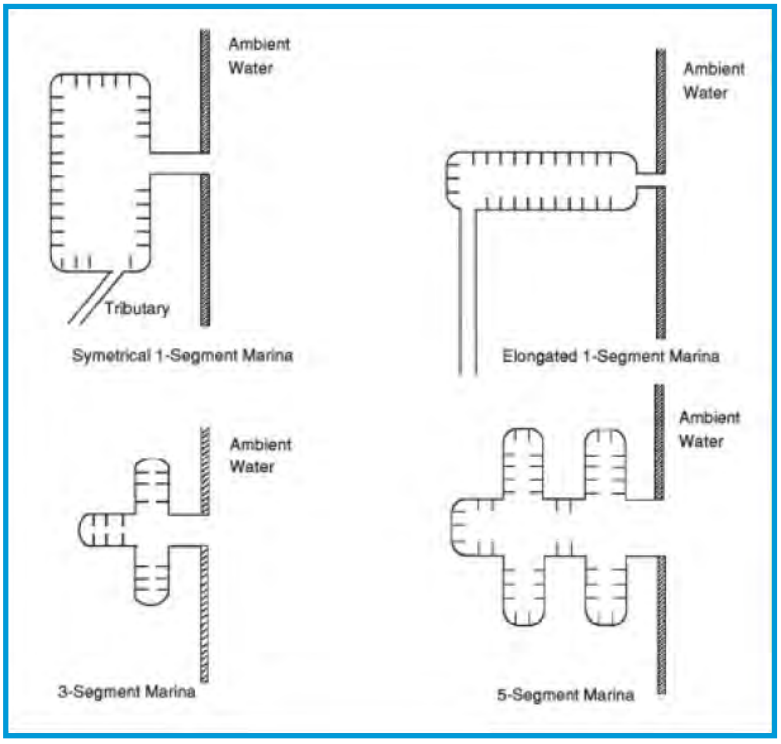


Figure: Example of marina designs (Source: U.S. EPA 2001).

Consider Bottom Configurations

- A continuous, gradual downward slope from the berthing area into deeper water is ideal.
- Avoid canals, irregular pockets and sumps that are deeper than adjacent channels.
- Avoid square corners in marina basins and dead-end channels to the greatest extent possible.

Evaluate Upland Impacts

- Develop the site to address stormwater drainage and infiltration with green infrastructure practices.
- Avoid siting buildings in drainage areas.
- Avoid steep slopes where serious erosion can occur.
- Identify and avoid areas with high groundwater during wet periods.

For more information, see the WDNR's "Stormwater Post-Construction Technical Standards" (dnr.wi.gov/topic/stormwater/standards/postconst_standards.html).

Assess Coastal Processes and Hydrodynamics at the Site

Marina protection must be carefully designed. Incorrectly designed structures may amplify wave action, exacerbating erosion, creating excessive shoaling and interrupting or restricting circulation. Coastal engineering analysis will be required to determine the best size, configuration, location and materials for protection structures such as rubble mound breakwaters, wave attenuators and seawalls.

- Natural ("soft") shorelines using vegetation to protect shorelines and attenuate waves are preferable for protecting habitat.
- Where needed, rock rubble is preferable to vertical seawalls to attenuate waves. Vertical walls can reverberate waves and provide no habitat value.

Public Trust

- Marinas are also discouraged from extending beyond the present line of shoreline facilities or "sticking out."
- Facilities are encouraged to develop by expanding into the upland areas rather than building out onto the bottomland or shallow nearshore areas. This avoids the loss of access to public trust waters and bottomland. For more information, refer to docs.legis.wisconsin.gov/misc/lc/issue_briefs/2019/environment_and_natural_resources/ib_public_trust_doctrine_ah_2019_10_01.

Ice

- Damage from ice can cause oil and gas spills and the deposition of debris and other substances. Ice can also damage coastal infrastructure, including docks. Areas prone to ice flows need to be identified, and construction or management processes identified.

Fuel Dock Design

- Design fueling stations so they are protected from waves.
- Fueling stations should be easily accessible by boat without entering or passing through the main berthing area.

Meet Recycling Collection Needs

State and local laws require owners or designated managers of all non-residential locations to provide for recycling of certain waste materials[1] banned from landfill disposal or incineration.

- Anticipate needs for collection bins and pick-up services when designing a marina.

Use Environmentally Friendly Materials for Structures

- For new pilings and other structures that are in or near the water, use materials that will not leach hazardous chemicals into the water or degrade (e.g., reinforced concrete, coated steel, recycled plastic, vinyl sheet piling or plastic reinforced with fiberglass).
- Avoid using chromated copper arsenate-treated (CCA-treated) lumber or creosote-treated lumber for pilings and similar structures that are in or near the water. Use alternative materials.
- Use naturally durable timbers conservatively. Black locust, cedar, chestnut and white oak are naturally durable but expensive and may be hard to find.
- Avoid exotic timbers, such as greenheart and bongossi, as their harvest is harmful to tropical forests.
- Use recyclable decking material.
- Purchase floatable foams that have been encapsulated in plastic. As these floats age, degraded foam is contained by the covering. Replace disintegrating foam floats that release foam particles.
- Contain shavings when cutting plastic pilings and timbers at your marina.

Minimize Paved Surfaces and Building Footprints

- Keep paved areas to an absolute minimum, such as designated work areas and roadways for heavy equipment. Consider covering these areas with washed stone or other permeable materials (e.g., permeable pavers, porous pavement) instead of traditional pavement.
- Direct stormwater runoff from paved areas into grassy areas, rain gardens or vegetated swales. It is particularly important to install vegetated buffers between paved areas and the lake or river in order to slow direct runoff and filter out pollution.
- Minimize building footprints and capture roof and downspout water and snowmelt in rain barrels or cisterns to use for other purposes. Include other green infrastructure practices such as rain gardens and vegetated swales in architectural design plans to capture and filter stormwater pollution from building and other structures.

---

[1] *Newspapers, cardboard, magazines, office paper, and food and beverage containers made of glass, plastics 1 and 2, aluminum or steel (under state law s. 287.07 (1) to (4)). See NR 544, Wis. Adm. Code for recycling requirements.*

Use Upland and Inland Areas

- To the greatest extent possible, locate buildings, workshops and waste storage facilities in upland areas, away from fragile shoreline habitats. Upland areas also provide protection against floods, waves and high-water levels.
- Locate parking and vessel storage areas away from the water where feasible, and provide infiltration between these areas and the water with grassy areas, rain gardens or vegetated swales.
- Consider inland areas for all boat repair activities and winter storage. Use hydraulic trailers to quickly and easily move boats to inland storage locations.
- Check with local authorities to ensure compliance with local zoning ordinances.

Expand Upward

- Rather than adding wet slips, consider expanding the marina's storage capacity by adding covered dry-stack storage. Covered dry-stack storage provides the following environmental benefits:
  - Dry-stacked boats do not accumulate marine growth, making antifouling coatings unnecessary and minimizing the need to wash, scrape and paint boats.
  - Dry-stacked boats are less likely to accumulate water in their bilges, and therefore, less likely to discharge oily bilge water.
  - Dry-stack storage allows for greater public access to waterways, an increased number of rental units, and reduced weathering and maintenance for boats.
- Manage stormwater runoff from dry-stack areas, as well as from any expanded parking areas, with grassy areas, rain gardens or vegetated swales to remove pollutants and reduce flows.
- Keep heavy equipment well-tuned to prevent grease or oil from dripping onto staging areas or into the water.
- Plan for spills and possible fires. Since dry-stack storage concentrates boats in a relatively small area, provisions need to be in place for accidental spills. Fire protection systems must also be in place.
- Use absorbent booms to collect any grease or oil in the launching and retrieval areas for the dry-stack building.

Dry-stack storage at SkipperBud's Madison Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

Clean Marina sign at Reef Point Marina. Photo credit: Mari Mitchell, Wisconsin Sea Grant.

Marina Maintenance

Marina maintenance activities can greatly impact water quality within the marina basin. Stormwater from roads and parking areas may run off directly into adjacent waterways. Dredging may resuspend toxic compounds such as heavy metals, hydrocarbons and synthetic chemicals. Hazardous chemicals may be leached into the water from piers and other similar structures. Broken or degraded floats may release foam and debris that birds and fish mistake for food. In addition, the location and installation of shoreline and in-water structures may lead to accelerated coastal erosion and sedimentation that can have impacts on fish and wildlife, cause shoaling and lead to additional dredging costs.

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Dredging in the Marina Basin

Dredging has the potential to reduce fish spawning and juvenile fish survival due to removal of bottom substrates and resulting high levels of suspended silt. Currents can move silt particles suspended during dredging away from the site and deposit them in spawning or juvenile fish habitats some distance away.

While the best approach is to minimize or avoid the need for dredging, it may be unavoidable. **If dredging is necessary, we strongly recommend that you contact the WDNR early in the planning to see what is required by law.**

Beach shore at Racine Yacht Club. Photo credit: Karmen Anderson, Wisconsin Sea Grant.

Minimize the Need for Dredging

If your marina requires frequent maintenance dredging to maintain operation and function, investigate practical options to increase circulation or reduce sediment accumulation. Possibilities include:

- Extending piers and docks into naturally deep waters.
- Locating slips for deep draft boats in naturally deep water.
- Dredging channels to follow the course of the natural channel.
- Providing dry storage for smaller boats.

#1 BMP-R **Modify or reconfigure your marina to minimize the need for dredging.**

Minimize the Impacts of Dredging

- Contact and work with the WDNR early in the dredging process to ensure that dredging projects have minimal impacts and meet all state regulations and to discuss opportunities for the beneficial use of clean dredged material.
- Do not dredge during critical migration or spawning periods of important species of fish and wildlife. Contact the WDNR to learn when these periods are.
- Avoid colonial waterbird nesting areas and historic waterfowl staging and concentration areas.
- Be certain that your dredging contractor selects an appropriate approved and/or permitted material disposal/placement site and containment design based upon the sediment characterization. The disposal site must have minimal impact on public safety, adjacent properties and the environment. Dredge material must be disposed of in accordance with the NR 500 series. It is important to work with your local WDNR office.
- Use dredging methods, like hydraulic dredging, that minimize environmental impacts.

#2 BMP-M **Minimize impacts of dredging.**

Laws and Permits

Dredging at marinas will require a joint permit from the U.S. Army Corps of Engineers (USACE) and the Wisconsin Department of Natural Resources (WDNR). Sediment sampling and testing prior to dredging may be required to determine the appropriate disposal or placement options (NR347). We strongly recommend that you contact the WDNR early in the planning for dredging to see what is required.

More information on dredging permits can be found at dnr.wi.gov/topic/Waterways/construction/dredging.html.

In addition, any dredging operation that discharges carriage water (water portion of slurry that is pumped from the dredging site) and/or interstitial water (water that is squeezed out of the sediment or pore water) will need to obtain a general WPDES wastewater permit titled "Carriage and Interstitial Water from Dredging Operations" (WI-0046558-06-0). This permit is intended to cover dredging operations where carriage water or interstitial water from sediment dredging projects is discharged to surface waters or seepage systems. More information can be found at dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html.

#3 BMP-M **Secure required permits for marina construction and dredging.**

Maintaining Marina Facilities

Use Environmentally Friendly Materials

- For new pilings and other structures that are in or near the water, use materials that will not degrade or leach hazardous chemicals into the water, e.g., reinforced concrete, coated steel, recycled plastic, vinyl sheet piling or plastic reinforced with fiberglass.
- Avoid using chromated copper arsenate-treated (CCA-treated) lumber or creosote-treated lumber for pilings and similar structures that are in or near the water. Use alternative materials.
- Use naturally durable timbers conservatively. Black locust, cedar, chestnut and white oak are naturally durable but expensive and may be hard to find.
- Avoid exotic timbers, such as greenheart and bongossi, as their harvest is harmful to tropical forests.
- Use recyclable decking material.
- Purchase floatable foams that have been encapsulated in plastic. As these floats age, degraded foam is contained by the covering. Replace disintegrating foam floats that release foam particles.
- Contain shavings when cutting plastic pilings and timbers at your marina.

#4 BMP-R **Environmentally friendly materials are used for docks and other in-water structures (e.g., encapsulated floats, pilings).**

Maintain Structures Using Clean Marina Practices

- Scrape, sand and paint land-side structures according to the same management principles as for vessels. (Refer to the chapter titled "Boat Maintenance" in this guidebook.)
- If feasible, move floating structures to shore for scraping, painting and major repairs.

#5 BMP-P **Maintain structures using clean marina practices (e.g., use the same management principles as for vessels; move floating structures to shore for scraping, sanding, painting and major repairs).**

Enhance Water Circulation

Water quality in the marina basin depends largely on how well water circulates and is flushed within and through the basin. Incorporate practices to enhance water circulation, reduce algae buildup and prevent stagnant water. Practices to enhance water circulation include:

- Use a mechanical aeration system in areas with poor circulation. Circulators can also minimize icing during winter.

- Inspect aeration systems routinely to avoid encrustation of zebra or quagga mussels and other organisms. Submersible pumps or air lines for a bubbling system may be protected with materials that resist attachment (e.g., brass, galvanized steel).

#6 BMP-R **Incorporate practices to enhance water circulation, reduce algae buildup and prevent stagnant water, such as the use of bubblers or aerators.**

Water Conservation at Facility

Save money on utility bills and reduce your environmental footprint by minimizing your water use.

- Equip all freshwater hoses with automatic shutoff nozzles.
- Fix any dockside faucet and hose leaks and drips.
- Install "low-flow" faucets, toilets and showerheads.
- Install automatic faucets and toilet fixtures.
- Conduct a water audit to inventory all water uses at your facility and identify ways to increase water use efficiency. For more information, please refer to epa.gov/sites/default/files/2017-01/documents/ws-commercial-water-assessment-checklist.pdf.

#7 BMP-P **Adopt at least one water conservation practice at facility (e.g., install low-flow faucets/toilets/showerheads, maintain and fix any water leaks and hoses on the docks).**

Landscaping and Grounds Maintenance

Natural Landscaping

Planting a diverse array of native flowers, groundcovers and trees can beautify the marina, reduce landscaping maintenance and attract butterflies, hummingbirds and other wildlife. Because native plants are adapted to your climate and soil conditions, they are often disease- and insect-resistant and will out-compete common weeds. In addition, they foster natural predators such as spiders, praying mantises, dragonflies, lacewings, soldier beetles, birds, bats, frogs, lizards and certain snakes and toads that eat pests. Practices to create successful native planting areas include:

- Replace lawn areas with plants that are native to your location and are suited to the existing conditions (i.e., soil type, moisture and sunlight). For information on Wisconsin native plants, dnr.wi.gov/files/pdf/pubs/nh/nh0936.pdf.

- Plant a pollinator garden at your facility. For more information, please refer to datcp.wi.gov/Documents/PPPGardens.pdf and dnr.wisconsin.gov/topic/endangeredresources/pollinators.html.
- Group plants with similar water needs together. This practice will ease your maintenance burden, conserve water and benefit the plants.
- Plant vegetated areas with low-maintenance plants—plants that require minimal care in terms of trimming, watering and applications of fertilizer and pesticides. Native plants demand little care since they are adapted to the local climate and soil type. In addition, many horticultural varieties and imported plants may be considered beneficial, and non-invasive, if they have few maintenance requirements and if they do not displace naturally occurring vegetation.
- Select perennial plants instead of annuals. Perennial plants need only be planted once and tend to shade out most weeds. Consult with the University of Wisconsin Division of Extension or local nurseries for advice on selecting the right plants.

Pollinator garden at Buffalo Bay Marina. Photo credit: Julia Noordyk, Wisconsin Sea Grant.

Mulching, Composting and Maintaining Healthy Soils

Mulching and composting are great ways to reduce weed problems, conserve moisture and prevent soil erosion. They also foster beneficial animals, such as earthworms that aerate the soil, improving the flow of water and air to plant roots creating healthy and water-absorbing soils.

- Place mulch (wood chips, bark, grass clippings, nut shells, etc.) to a depth of 3-4" around plants to keep water in the soil, prevent weeds and reduce the amount of soil picked up by stormwater. Planting groundcover at the base of trees serves the same function.
- Compost leaves, branches, grass trimmings and other organic matter. Use the mature compost to nourish your soil. Alternatively, chip branches and leaves and use them as mulch to discourage weeds and to conserve moisture. Organic matter should never be deposited into any water body.
- Add organic matter such as compost, leaf mold, manure, grass clippings, bark or peat moss to soil to improve its fertility.
- Maintain proper soil pH and fertility levels. These two measures together tell you which plants your soil can support. Soil pH may be adjusted by adding lime (base) or gypsum (acid).
- Periodically, submit a soil sample to your county extension office or soil conservation district office to determine fertility, pH and application rates for soil amendments.

Lawn Care

- **A healthy lawn will reduce the need for herbicides and fertilizers and can absorb more stormwater runoff.** Mow lawn areas properly to suppress weeds by setting your mower to cut at 2-2.5 inches in height and mowing each time grass reaches 3-4 inches. Avoid cutting more than 1/3 of the height.
- Leave grass clippings on the lawn.
- Proper fertilization is important for developing a thicker root system that can absorb more water. Apply organic and/or a slow-release fertilizer, such as Milorganite, when daytime temperatures are consistently in the 60s.
  - Refer to the following websites for more tips on green lawn care:

    milorganite.com/lawn-care

    hort.extension.wisc.edu/article-topic/lawns

Eliminate Chemicals or Use Sparingly

Because of your proximity to the water, it is important to avoid using toxic lawn and garden chemicals to the greatest extent possible.

- Pull weeds by hand instead of relying on herbicides.
- Treat only serious or threatening intolerable pest infestations, and purchase the least toxic pesticides and herbicides in the smallest amount practical.
- Use natural agents such as Bacillus thuringiensis (BT) or inorganic insecticides (e.g., some oils and soaps) that kill pests on contact and pose little threat to the environment. Check the label to be sure that natural agents are approved for use in aquatic systems.
- Use pesticides only after all other options have been exhausted. Instead of broadcasting pesticides, apply them directly to problem areas. Select pesticides that are "pest specific," designed to kill only the insect, weed or disease organism that is causing the problem.
- Do not use pesticides just before it rains or on a windy day, and do not apply pesticides near water, like the shore, wells, streams, ponds, bird baths, swimming pools, etc.
- Apply insecticides during the evening when honeybees and other beneficial insects are less active.
- If chemically treating aquatic plants, a permit is required from the WDNR (NR 107). More information on the permit requirements can be found at dnr.wi.gov/topic/wastewater/AquaticPesticides.html.

#8 BMP-P

Use environmentally friendly landscaping and maintenance practices (e.g., choose native plants, compost or leave grass clippings on lawn, mulch landscaping and eliminate or minimize use of chemicals).

Water Conservation on Grounds

Reduce Watering Frequency

- Water only when plants indicate that they are thirsty; shrubs will wilt and grass will lie flat and show footprints.
- Water in the early morning or early evening when temperatures generally are cooler. Plants will not be shocked, and water loss to evaporation will be minimized.
- Water deeply and infrequently rather than lightly and often. Deep watering promotes stronger root systems that enable plants to draw on subsurface water during hot spells and droughts.

Water-Saving Practices

- Select sprinklers, hoses and watering systems that deliver water prudently. Sprinklers work well for lawns. Soaker hoses or drip irrigation systems deliver water directly to the roots of shrubs, flowers and vegetable plants with minimal loss to evaporation.
- Recycle "graywater." Graywater is water that has been used once–maybe for dishwashing or in a washing machine–but does not contain sewage or chemicals. It can be filtered and used to water landscaped areas but must be conveyed in a plumbing system separate from potable water. Because regulations vary, be sure to check local ordinances for permit requirements and obtain written approval before pursuing this option.
- Collect rainwater and snowmelt by directing downspouts into covered containers, such as commercially available rain barrels or cisterns. Use the collected water on your landscaped areas.

Rain barrel at Port Washington Marina. Photo credit: Kae DonLevy, Wisconsin Marine Association.

#9 BMP-P

Adopt at least one water conservation practice on the grounds (e.g., water only "thirsty" plants, use high-efficiency sprinklers, collect and reuse rainwater).

Shoreline Management

Natural and nature-based practices can stabilize shorelines and reduce shore erosion. These practices include installing vegetated buffers, creating wetlands, installing native plants, nourishing beaches, establishing dunes, installing nearshore reefs and using other methods that preserve the natural environment. In addition, naturalized shorelines can slow, capture and filter surface water runoff; dissipate wave energy; provide wildlife habitat and flood protection; and are aesthetically pleasing. Structural solutions and hard armoring of the shoreline, by contrast, are practices that include placement of large rock, rip rap revetments, sea walls, groins and breakwaters that may offer shoreline protection but have fewer additional benefits. Hard armoring can interrupt the movement of sediment in nearshore waters, alter wave dynamics and impact shorelines downdrift of the harbor and marina. Natural and nature-based solutions have been shown to provide diverse benefits while providing resilient shoreline protection.

Additional benefits of natural and nature-based practices include the ability to adapt to and recover from water level fluctuations and storm events (maintenance may be necessary in some cases); lower installation, maintenance and replacement costs in comparison with hard armoring; and increase in access for recreation.

For additional information on nature-based shoreline options, please refer to publications.aqua.wisc.edu/product/nature-based-shoreline-options-for-the-great-lakes-coast.

Vegetated Shoreline Buffers

- Where possible, use soft armoring protection measures (native grasses and other vegetation, etc.). Root systems will help stabilize shorelines.
- Maintain vegetated buffers (rain gardens, grass swales, trees and shrubs, etc.) between the water and all paved areas (e.g., parking lots, boat storage areas). Properly constructed rain gardens and woody vegetation are more effective than grass turf in absorbing runoff and pollutants.

Beach Nourishment and Dunes

- If there is a beach, nourish it with clean sediment or sand to maintain beach slope and install dunes to slow and help with infiltration of runoff from adjacent grass or paved areas. Planting of dune grass can assist with dune stabilization, infiltration and absorption of pollutants.
- When possible, use clean sediment and sand from nearby harbor dredging for nourishment.

Slope Stabilization

- Regrade failing or eroding shorelines, where appropriate, to stabilize the slope and allow for vegetation to establish.

Edging

- Place anchored logs and woody debris, or stones, at the base of the shoreline to reduce erosion and allow vegetation to establish.

Sills (reefs)

- Use nature-based structures in nearshore waters to reduce wave energy.
- Install sills to create aquatic habitat behind the sill to the shoreline. Types of sills include emerged and submerged.
- Please consult with the WDNR on permitting requirements.

Reduce Wave Action on the Shoreline

- Designate a "no wake" or "no boating" zone in erosion-prone and shallow areas to help reduce erosion and protect fish habitat.

Use Structural Measures as a Last Resort

- Use nature-based designs to protect shorelines (vegetated buffers, edging, dunes, etc.).
- If structural protection must be used, use riprap revetments instead of vertical bulkhead walls (concrete or steel sheet pile) as much as possible.
- Minimize the use of riprap and maintain native vegetation along shorelines to the greatest extent possible.
- Use structural measures in this order of preference: shoreline revetments, breakwaters and bulkheads.
- Add vegetation, textured surfaces and other features to hard armoring material and structures to provide habitat for aquatic species.
- Make sure to minimize the adverse effects of erosion-control projects on adjacent properties, navigation, threatened or endangered species and significant historic or archaeological resources by contacting the Wisconsin Sea Grant Coastal Engineer.

Additional erosion-control resources for coastal property owners can be found at seagrant.wisc.edu/our-work/focus-areas/coastal-processes-and-engineering/resources-for-property-owners.

#10 BMP-R	**Use nature-based shoreline protection measures to prevent shoreline erosion (e.g., vegetated buffers, anchored logs, dunes, vegetated rip rap).**
#11 BMP-R	**Have a designated "no wake" or "no boating" zone in erosion-prone areas to reduce shoreline erosion and protect shallow-water habitat.**

Conserve Sensitive Natural Areas

Provide a serene setting for your marina by preserving adjacent sensitive lands and natural areas (e.g., coastal wetlands, beaches, forests). Ways to preserve these areas in perpetuity include:

- Placing adjacent land in a conservation trust. Income, estate and property tax benefits may be available.

- Participate in programs to preserve farmland, forestland, waterfront, wetlands, rare or unique areas, scenic areas, endangered species habitat, historic properties and open space.
- Sell or donate the land (or the development rights to the land) to a local land trust or a non-profit organization.

#12 BMP-R

Conserve and protect existing sensitive areas and habitats in perpetuity.

Enhance Wildlife Habitat

Create new habitats or enhance and expand habitats in your marina basin to increase biodiversity. Wetland vegetation provides fish and wildlife habitat and helps reduce erosion and shoreline damage from storms and wave action. Consider how any changes you make to the shoreline affect wildlife by minimizing disturbance to native vegetation along shorelines.

- Create or allow development of wetland vegetation along the outside perimeter of the marina or in shallow-water areas.
- Add bat boxes, bird houses, butterfly houses and/or pollinator gardens.
- Add rocks to the shoreline to create new areas for fish to feed and spawn.
- Consider using pocket beaches between rock headlands to protect shorelines and provide beach habitat for shorebirds, waterfowl and turtles.
- Add spawning-sized rocks at the toe of breakwalls to enhance fish spawning habitat. Consult the WDNR fish manager in your area for the proper rock size for desired fish species in your area. It may be necessary to obtain a Ch. 30 Wetlands and Waterways permit from the WNDR. Information on permit requirements can be found at dnr.wi.gov/permits/water.

Habitat area sign at Port Washington Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

#13 BMP-R

Enhance aquatic and/or terrestrial wildlife habitats at, or adjacent to the marina basin.

Stormwater Management

Marinas offer a "last chance" opportunity to capture and clean stormwater runoff before it enters Wisconsin's lakes and rivers. Many of the services and activities that happen at a marina--boat storage and maintenance, chemical and fuel storage, bottom washing, vehicle traffic and parking--produce dust, debris and drips that fall to the ground with contaminants like heavy metals, dirt, chemicals, oil and fuel. Rain and snowmelt pick up these pollutants as they flow over rooftops, parking lots, lift wells, maintenance areas, wash-down areas and roads, carrying them untreated via storm drains or direct draining to adjacent lakes and rivers. Stormwater runoff can be lethal to aquatic wildlife, degrade fish habitat, cause flooding, erode stream banks and damage property.

In addition to preventing pollution from entering the waterways, many of the BMPs for managing stormwater runoff also provide a variety of additional benefits for the marina. These include improved aesthetics, reducing and eliminating nuisance flooding, and providing habitat for butterflies and other wildlife. There are many BMPs to improve stormwater management, and they can be tailored to meet your marina's unique situation.

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Laws and Permits

Wisconsin Pollutant Discharge Elimination System

Stormwater Discharge Permit Program

To meet the requirements of the Federal Clean Water Act, the Wisconsin Department of Natural Resources (WDNR) administers the Wisconsin Pollutant Discharge Elimination System (WPDES) permit program, which is regulated under the authority of ch. NR 216, Wis. Adm. Code. The WPDES Stormwater Program regulates stormwater discharge from construction sites at municipalities and industrial facilities, such as marinas and boatyards.

Marinas and boatyards are considered tier 2 industries and are required to have a stormwater discharge permit if they allow boat maintenance (mechanical repairs, rehabilitation, painting) or boat cleaning on site. The stormwater permit does not cover non-stormwater discharges of wastewater, such as boat-bottom washing. A low-impact discharge general permit (WI-0066575-01-0) may be needed for that activity.

A marina may obtain a no-exposure certification from the WDNR if the marina has no discharge of contaminated stormwater. Additional information on no-exposure certification can be found at dnr.wi.gov/topic/stormwater/industrial/no_exposure.html. **If a marina does not qualify for a no-exposure certification, the marina will need to obtain a tier 2 industrial stormwater permit.**

As a condition of the stormwater permit, each marina must develop a site-specific stormwater pollution prevention plan (SWPPP) and implement best management practices (BMPs) to ensure that stormwater leaving the marina property will not harm the surrounding water quality. Guidance and an example SWPPP can be found at dnr.wi.gov/topic/stormwater/industrial/overview.html and Wisconsin Template for a Stormwater Pollution Prevention Plan.

As part of the SWPPP, marinas are required to perform monitoring and keep records for five years. Monitoring must include non-stormwater discharges, an annual facility site compliance inspection and quarterly visual monitoring of stormwater quality.

Additional information and permit and monitoring forms can be found at dnr.wi.gov/topic/stormwater/industrial/forms.html.

For marinas that either obtain a no-exposure exclusion or are not required to have a stormwater permit/SWPPP, the Wisconsin Clean Marina program requires submission of a stormwater information map.

In addition, some municipalities and townships are required by the WDNR to implement municipal stormwater management programs. These programs include stormwater discharge controls and municipal best management practices that could affect marinas located within the municipal boundary. Marinas located in these communities should coordinate their stormwater management plans with the municipal stormwater utility or public works department.

#1 BMP-M

Obtain a WPDES stormwater discharge permit or no-exposure certification from WDNR. All marinas with maintenance or boat cleaning areas are required to obtain a permit or no-exposure certification.

#2 BMP-M

#2 BMP-P

Develop a stormwater pollution prevention plan (SWPPP) or stormwater information map.

#3 BMP-M

Conduct monitoring and maintain records for a minimum of 5 years, as part of the SWPPP.

BMPs to Reduce, Capture and Clean Stormwater Runoff Pollution

Refer to your marina's SWPPP or stormwater information map to better understand how stormwater is moving across the marina and where there are opportunities to reduce the amount of stormwater runoff and capture, reuse and encourage it to absorb into the ground.

Minimize and Replace Paved and Other Impervious Surfaces

Reduce the amount of stormwater produced at your marina by minimizing and paving only those areas that are absolutely necessary.

- Plan development so parking areas, vessel storage areas, buildings, paths, roads, etc., do not cross sensitive areas, such as wetlands. Minimize the length of new roadway required to serve new or expanding marinas.
- Consider replacing asphalt, concrete surfaces and other paved areas, like parking lots and pathways, with permeable options that allow water to infiltrate into the ground. There are many options, like grasscrete, gravel geo grids and permeable pavers, that offer durability and aesthetic appeal. For more information on permeable pavement options, refer to the following websites:
  - lakesuperiorstreams.org/stormwater/toolkit/paving.html
  - michiganseagrant.org/cmst/learn/green-infrastructure-101

**Check with local authorities about the requirements for road and parking lot surfaces. Many communities still have "aesthetic" requirements that are consistent with traditional concrete and asphalt paving, and your marina may have to request a variance in order to use permeable surfaces.*

#4 BMP-R

Minimize the amount of impervious surfaces at your facility (replace impervious surfaces with pervious pavers or vegetated areas).

Do Not Use Coal Tar-Based Asphalt Sealants

Coal tar sealants contain toxic compounds that cause a public health risk and can kill aquatic wildlife. Many Wisconsin communities have banned the use of coal tar-based sealants. For more information on tar-based sealants and alternatives, please refer to cleanwisconsin.org/our-work/water/pah.

#5 BMP-M

#5 BMP-P

Use alternative asphalt sealants and do not use coal tar sealants, which pollute runoff water.

Use Vegetated Areas and Green Stormwater Infrastructure to Manage Stormwater

Green stormwater infrastructure practices are site-specific stormwater management techniques that mimic natural hydrologic processes to slow down, provide storage for, encourage infiltration of and allow the evaporation of rain and snowmelt where it falls. These practices can replace and/or reduce the need for traditional stormwater infrastructure, like gutters, storm drains, pipes, that is only designed to direct untreated stormwater into a pond or directly into a waterbody via a stormwater outfall. For more information on marina stormwater management and green infrastructure and marinas, visit michiganseagrant.org/cmst and epa.gov/green-infrastructure/what-green-infrastructure.

To use the natural processes of plants to absorb and clean stormwater runoff before it goes into the lake or river:

- Preserve areas of natural vegetation where possible.
- Position roof downspouts so that they drain to vegetated areas—avoid draining to concrete or asphalt.
- Plant vegetated buffers and landscapes between your upland property and the water's edge.
- Direct runoff from impervious surfaces (parking lots, sidewalks, roofs, etc.) to a rain garden instead of a storm drain. Rain gardens are low-lying areas with engineered soils and native and/or long-rooted plants that collect and store stormwater to be taken up by plants or infiltrated into the ground. For more information on rain gardens, see dnr.wi.gov/topic/Stormwater/raingarden.
- Capture stormwater at the edge of parking lots and within parking lot islands with rain gardens and bioswales.
- Capture roof water in rain barrels, cisterns or tanks to reuse, such as for landscape irrigation, boat washing, etc.
- Replace ditches on your property with bioswales, hybrid ditches and grassed swales that are designed with engineered soils and an underdrain, and planted with grass or native plants that help slow stormwater, filter out pollutants and allow water to soak into the ground.

Rain garden at South Shore Yacht Club. Photo credit: Mari Mitchell, Wisconsin Sea Grant.

Rain barrel at Port Washington Marina. Photo credit: Mari Mitchell, Wisconsin Sea Grant.

- Install a green roof that is designed with a waterproof membrane, drainage system and layer of plants to capture and absorb water.
- In areas with limited space, install compact stormwater collection systems like stormwater planter and tree boxes that can efficiently filter stormwater through layers of mulch, soil and trees or plants.
- In low areas, natural drainage areas or areas adjacent to water bodies, build a stormwater treatment wetland engineered to mimic the ability of natural wetlands to cleanse and absorb stormwater runoff. Stormwater wetlands are created by excavating to the high-water table elevation and can serve drainage areas of 5 to 10 acres.
- Use permeable pavement systems for parking lots, pathways and other paved areas to allow stormwater to soak through the surface via pores, joints or gaps and into the ground below.

Bioretention basins with native plantings at Saxon Harbor Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

#6 BMP-P **Maintain vegetated areas and buffers to prevent direct runoff to adjacent waterways.**

#7 BMP-R **Install and maintain at least one green stormwater infrastructure practice (e.g., rain gardens, bioswales, rain barrels or cisterns).**

#8 BMP-R **Position downspouts to drain to vegetated areas (e.g., grassy areas, rain gardens, grass swales, landscaping).**

Minimize Runoff Pollution From Boat Storage, Maintenance and Cleaning Areas

- Practice "good housekeeping" by regularly sweeping or cleaning paved surfaces, work areas and boat wash pads to remove pollutants that could be transported with runoff water.
- Use covered storage for equipment, used oil and antifreeze containers, and materials used in maintenance.
- Direct runoff from maintenance, cleaning and dumpster areas away from waterfronts and storm drains and onto vegetated areas or into green stormwater infrastructure features.

#9 BMP-P **Practice "good housekeeping" by regularly sweeping or cleaning paved surfaces, work areas and boat wash pads to remove pollutants that could be transported with runoff water.**

#10 BMP-R **Runoff from maintenance, cleaning and dumpster areas is directed away from waterfronts and storm drains and onto vegetated areas or into green stormwater infrastructure features.**

Monitor and Maintain Stormwater Infrastructure, Including Green Stormwater Infrastructure

Regular monitoring and maintenance of the stormwater infrastructure at your marina ensures that it will continue to function correctly and prevent pollutants from entering the waterways.

- Clean and maintain storm drains, gutters and other stormwater-related structures that may become littered with debris on a regular schedule.
- Inspect green infrastructure features after larger storm events to ensure they are not holding water.
- For retention ponds and green stormwater infrastructure, remove trash and debris build-up and check for clogging semiannually. F orebay cleanout should be performed once per year. Removal of sediment accumulated on mulch or bottom of the basin can be done by hand, vacuum truck or, in the worst cases, an excavator.

Cleaning bioswale after rain event at Egg Harbor Marina. Photo credit: Vicky Harris, Wisconsin Sea Grant.

#11 BMP-M **#11 BMP-P** **Monitor and maintain all stormwater infrastructure on the property (e.g., storm drains, retention ponds, rain gardens, bioswales).**

Control Sediment From Construction Sites

- Become familiar with and adhere to soil erosion regulations for construction sites and obtain a permit if one acre or more of ground disturbance will occur (NR 216).
- Erosion and sediment control are required for all ground-disturbing activities, including those under an acre (NR151.105).
- Use devices such as straw bales, compost socks, silt fences, storm drain filters, sediment traps and earth dikes to prevent sediments from leaving construction areas.

- Use chipped wood for mulch or sediment control instead of floatable mulches in areas where runoff could wash the mulch into the water. Engineered wood products and dimensional lumber make up a large percentage of the wood waste from construction activities, and they can be chipped to provide an effective and inexpensive method of erosion and sediment control. The WDNR has recently simplified the process of obtaining a low-hazard exemption for use of these products. For more information see dnr.wi.gov/files/PDF/pubs/wa/WA608.pdf.

More information on construction site erosion-control regulations and permits can be found at dnr.wi.gov/topic/stormwater/construction/overview.html.

Also, for information on stormwater technical standards, refer to dnr.wi.gov/topic/stormwater/standards.

#12 BMP-M

Use soil erosion control practices during construction.

Stencil Storm Drains

- Stencil or label storm drains with the words "Dump No Waste—Drains to Lake (River)" and "No Fish Waste" (if appropriate). Stencils are available from the Wisconsin Clean Marina Program.
- Get permission from the county or city department that maintains your storm drains prior to applying any stencils or labels. Generally, the appropriate municipal authority would be the department of public works.

Storm drain stencil at Harbor Centre Marina. Photo credit: Julia Noordyk, Wisconsin Sea Grant.

#13 BMP-R

Stencil or label storm drains.

Boat Maintenance

Boats require a great deal of attention, and many common maintenance activities have the potential to introduce pollutants into the environment. Sanding, blasting and pressure washing can release toxic heavy metals such as copper and tin into the air and water. Paints, solvents, thinners and brush cleaners are generally toxic to aquatic wildlife. Some give off volatile organic compounds (VOCs) that are dangerous to our health and contribute to poor air quality. In addition, many cleaning products also contain toxic and caustic elements such as chlorine, phosphates, inorganic salts and metals. Even non-toxic products can be harmful to wildlife. For example, detergents found in many boat-cleaning products will destroy the natural oils on fish gills, reducing their ability to take up oxygen.

Marinas can help reduce or prevent a lot of the pollution created from maintenance activities. From designating maintenance work areas to collecting and treating boat wash water to educating boaters and staff on best practices, marinas can create safer and healthier places to work and recreate.

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Laws and Permits

General Permit for Low-Impact Discharge (boat wash water)

The Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit for Low-Impact Discharge (WI-0066575-01-1) from the Wisconsin Department of Natural Resources (WDNR) is applicable to facilities with low-impact wastewater discharges to waters of the state (including wastewater infiltrating into the ground). The discharges must not contain pollutants in concentrations that cause, have the reasonable potential to cause or contribute to an excursion above any applicable water quality standards or groundwater quality standards. This general permit covers several activities, including the outside washing of vehicles (including boats), equipment and/or other objects. Facilities are required to meet the applicability criteria and implement the BMPs contained in the permit to prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the state. For more information on the permit and how to apply for coverage under the general permit, please visit the WDNR wastewater general permits webpage at dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html.

Pesticide Applicator License for Applying Antifouling Paints

The Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) has certain licenses and certification requirements for marinas that apply antifouling paints to boats. These requirements are dependent on whether the marina is applying the antifouling paints in a for-hire status and whether the antifouling paint is a restricted-use product.

Marinas that commercially apply antifouling paint will need a pesticide application business location license. In addition, the person(s) applying the antifouling paint would need to be a **certified pesticide applicator** within the 5.1 antifouling paint category and be licensed as an "individual commercial pesticide applicator – for hire" (annual license). This is required regardless of whether the antifouling paint is a general-use pesticide or a restricted-use pesticide.

Certain antifouling paints, like those containing tributyltin (TBT), are restricted-use pesticides (RUP). Pesticides labeled as RUP can only be purchased and applied by certified applicators. Applicators applying RUP antifouling paints to their own or their employers' boats are required to be certified in the 5.1 antifouling paint category and also need to be licensed with an "Individual Commercial Pesticide Applicator - Not for Hire" (annual license).

Applicators applying general-use antifouling paints to their own or their employers' boats do not need to be certified or licensed with DATCP. Please note, all pesticide applicators are required to read and follow label directions.

For more information on the certification process, please refer to datcp.wi.gov/Pages/Programs_Services/PesticidesFertilizersCertificationLicensing.aspx, or contact DATCP at datcppesticideinfo@wi.gov or by phone (608) 224-4548.

Boat Maintenance BMPs

Reduce and Eliminate Pollution From Work Areas

- Restrict maintenance activities to designated work areas where debris can be easily contained and collected. Clearly mark the work area with signs, such as: "Maintenance Area for Stripping, Fiberglassing and Spray Painting."
- Locate maintenance areas as far away from the shore as possible and look for areas that have vegetated buffers.
- Locate boat maintenance areas indoors or on a paved surface (e.g., asphalt or cement) where the debris can be collected easily and, where practical, under a roof. Sheltering the area from rain will prevent stormwater from carrying pollutants into storm drains or the water.
- Restrict painting and fiberglass repair outside of designated areas to the use of rollers and brushes, with proper use of tarps and tenting to protect surrounding areas.
- Surround outside, paved and gravel maintenance areas with a berm or retaining wall to contain wastewater and spills. This practice is not recommended for porous surfaces (e.g., grass or permeable pavers), as it would promote ponding and groundwater contamination.

- Perform work over filter fabric, canvas or plastic tarps. Filter fabric will retain paint chips and other debris while still allowing water to pass through. Tarps may potentially be reused.
- Provide tarps to patrons for hull maintenance.
- Collect and dispose of all maintenance debris. Clean work areas after completing each operation. Remove sanding dust, paint chips, fiberglass and trash.

Boat maintenance using tarps at Washburn Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

- Use vegetative or green infrastructure practices cited in the chapter titled "Stormwater Management" to manage wastewater and stormwater runoff.
- 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 signs in the boatyard describing BMPs that boat owners and contractors must follow, such as "Use Tarps to Collect Debris."
- Provide environmental rules, education, training or signage describing best management practices that boat owners and contractors must follow and clearly state acceptable and/or prohibited practices in your slip and subcontractor contracts. Develop procedures for managing requests to use the work space, to move boats to and from the site, and to ensure the use of BMPs.

#1 BMP-R	**Restrict maintenance activities to *designated* work areas where debris can be easily contained and collected.**
#2 BMP-P	**Locate designated work areas as far from the shore as practical.**
#3 BMP-P	**Collect and dispose of all maintenance debris.**
#4 BMP-R	**Provide tarps to patrons for hull maintenance. Restrict painting or fiberglassing outside of designated areas to the use of rollers and brushes, with proper use of tarps and tenting to protect the surrounding area.**

#5 BMP-P **Provide information about best boat maintenance practices that boat owners and contractors must follow in at least one format (e.g., environmental rules, education, training and/or signage).**

#6 BMP-R **Clearly state acceptable and/or prohibited boat maintenance practices in your slip and subcontractor contracts.**

Environmentally Friendly Boat Cleaning

- Use cleaning and maintenance products that are non-toxic and phosphate free. Always follow the instructions on the label.
- Sell environmentally friendly cleaning and maintenance products in your ship's store.
- Use products sparingly and only when "elbow grease" is not working.
- Keep boats waxed. A good coat of wax will prevent surface dirt from becoming ingrained in the hull and makes boats easier to clean later.

Environmentally friendly cleaning products at Harbor Centre Marina. Photo credit: Mari Mitchell, Wisconsin Sea Grant.

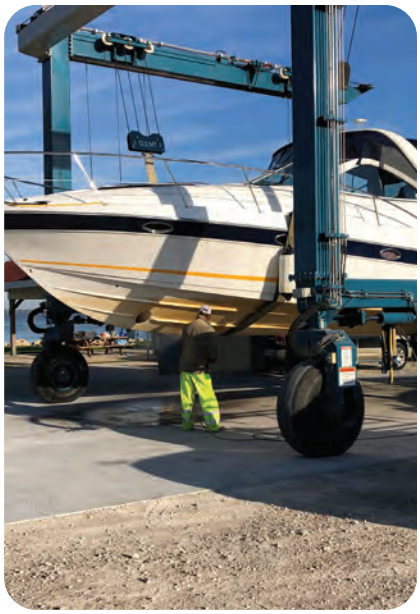
- Wash boat hulls above the waterline by hand using a soft sponge frequently enough that the need to use cleaners will be reduced.
- Avoid using caustic cleaners such as bleach, ammonia or lye. Do not use petroleum-based cleaning products.

#7 BMP-P **Use or sell environmentally friendly cleaning and maintenance products (e.g., teak cleaners, varnishes, solvents).**

Collect and Treat Pressure-Washing Wastewater

- If pressure-washing boats, or allowing boaters to pressure-wash boats, and the wash water will be discharged to a water of the state, please apply for coverage under the WPDES General Permit for Low-Impact Discharge (WI-0066575-01-1) from the WDNR.
- Wash boats on land in a contained area where the wash water can be collected and treated.
- When pressure-washing ablative/antifouling paint, use the least amount of pressure necessary to remove the growth, but leave the paint intact. Where practical, use a regular garden hose and a soft cloth.

- Locate pressure-washing facilities on a permeable surface, such as grass. If a permeable surface is not possible, ensure that washing is done on a bermed, impermeable surface that allows the wastewater to be contained and filtered to remove sediments.
- Direct wash water containing solids and particulates to a seepage area, such as a grassy location, so that solids are trapped by the soil.
- Remove collected solids from settling and filtration areas periodically to ensure continued settling and filtration capacity and to avoid overflow of solids into the water.
- Use filtration devices such as compost socks, screens, filter fabrics, oil/water separators, sand filters and hay bales to remove particles from water discharged directly to surface waters. Collect and dispose of boat-washing debris at the end of each use day. Be sure to replace filtration devices (hay bales and filter socks) as needed to maintain effectiveness.



Pressure-washing boats on wash pad with catch basin that discharges to wastewater treatment facility. South Bay Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

- Reuse the wash water. For example, recycle it through the power-washing system (a closed water recycling operation).
- Install a wash pad with a catch basin. The particulates settle and are collected for proper disposal. The wash water can be discharged to a sanitary sewer and conveyed to a sewage treatment plant for treatment. Be sure to get permission from your municipal wastewater treatment plant before discharging wash water.
- Direct any wash water used with disinfection cleaners, detergents or soaps to a permeable surface, such as grass, to infiltrate into the ground and prevent discharge to a surface water of the state. If a permeable surface is not possible, ensure that washing is done on a bermed, impermeable surface that allows the wastewater to be contained, collected and discharged to a sanitary sewer. Dispose of collected solids in a licensed landfill.

#8 BMP-M **Obtain and comply with the requirements and BMPs contained in the Wisconsin WPDES general permit for low-impact discharge.**

#9 BMP-P **Wash boats on land and collect and treat boat wash water (e.g., wash pad with catch basin, closed water recycling system, hay bales, filter socks, etc.).**

Minimize and Safeguard the Use of Hazardous Products

Refer to the chapter titled "Waste Management and Recycling" for further information about requirements for handling, storing and transporting hazardous wastes.

Solvents

- Store containers of usable solvents, as well as waste solvents, rags and paints in covered, UL-listed approved containers.
- Use only one cleaning solvent to simplify disposal.
- Use only the minimum amount of solvent (e.g., stripper, thinner) needed for a given job.
- Direct solvent used to clean spray equipment into containers to prevent evaporation of volatile organic compounds. A closed gun cleaning system will reduce cleaning material costs.
- For small jobs, pour the needed solvent into a small container, reducing the contamination of a large amount of solvent.
- Use citrus-based solvents and other similar products with no or low volatility.
- Plan your spray-painting jobs to minimize coating changes. Fewer changes mean less frequent purging of the spray system. Order your work from light to dark colors.
- Allow solids to settle out of used strippers and thinners so you can reuse solvents.
- Keep records of solvent and paint usage so you have a handle on the amount of hazardous waste generated on site.
- Hire a permitted and registered hazardous waste hauler to recycle or dispose of used solvents.
- Marinas that do more than occasional touch-up painting may require an air permit from the WDNR. The Permit Primer can assist marina owners in evaluating whether these regulations apply to them. See dnr.wisconsin.gov/topic/SmallBusiness/Primer/AirMgmt.html.

#10 BMP-P **Store solvents in an enclosed location and handle solvents appropriately.**

#11 BMP-M **Keep records of solvent and paint usage.**

Compound Waxing

- Check all product Safety Data Sheets (SDS) and purchase products that are non-hazardous.
- Conduct compounding and waxing away from the water.

- If possible, use phosphate-free, biodegradable non-toxic soap when prepping a hull. When removing tough stains, use only as much stain remover as necessary, or use a more abrasive rubbing or polishing compound.

Fiberglassing

- Minimize waste by working with small batches of resin.
- Avoid putting liquid hardener in the trash, since it can spontaneously combust when mixed with sawdust and other materials.
- Store acetone appropriately. Refer to the "Waste Containment and Disposal" chapter for more information on handling, storing and disposal requirements.

Teak Refinishing

- Avoid teak cleaners containing acids (such as phosphoric acid or oxalic acid) or those labeled "caustic, corrosive or acidic." These cleaners can be toxic to marine life when spilled in the water.
- Clean teak with a mild, phosphate-free detergent with bronze wool, if possible.
- If sanding teak, use a dustless or vacuum sander.
- If possible, conduct teak refinishing in an upland maintenance area. If not possible, use safer cleaners and avoid flushing excess teak cleaner and teak oil into the marina basin.

Varnishing

- Avoid the disposal of leftover varnish by mixing only as much as is needed for a given job.
- Consider sharing leftover varnishes with customers or setting up an exchange area for customers to swap unused items.
- Use less hazardous, water-based varnishes that pose less of a threat to human health or the environment.
- In case of varnish spills on land, use absorbent material for cleanup, and collect any contaminated soils. Spills in waterways should be contained and mopped up with booms or pads that repel water but absorb petroleum.

Repairing and Maintaining Engines

- Avoid unnecessary parts cleaning.
- Use dry pre-cleaning methods, such as wire brushing.
- Do not wash engine parts over the bare ground or water.
- Adopt alternatives to solvent-based parts washers such as bioremediation systems that take advantage of microbes to digest petroleum. Bioremediation systems are self-contained with no effluent discharge. The cleaning fluid is a mixture of detergent and hot water. Hydrocarbon-degrading microbes are added periodically to digest the accumulated wastes.
- Use water-based, non-VOC cleaners that are less hazardous than solvent-based degreasers. They are also less toxic and non-flammable.

- If you use a solvent to clean engine parts, do so in a container or parts washer with a lid to prevent evaporation of VOCs. Keep the container lid closed when not in use. Continue to reuse the solvent until it is totally spent, then recycle it.
- Use drip pans when handling any type of liquid. Use separate drip pans for each fluid to avoid mixing.
- Recycle collected fluids whenever possible. Mixed liquids cannot be recycled and must be stored and disposed of as hazardous waste.
- Prohibit the discharge of antifreeze to storm drains and the water.
- Drain all fluids from parts prior to disposal.
- Use funnels to transfer fluids.
- Clean engine repair areas regularly using dry cleanup methods, e.g., capture petroleum spills with oil-absorbent pads.
- Store engines and engine parts under cover on impervious surfaces such as asphalt or concrete.

Bioremediating parts washer at Washburn Marina. Photo credit: Gene Clark, Wisconsin Sea Grant.

#12 BMP-P **Minimize the environmental impacts of engine repair and maintenance.**

Floor Drains in Maintenance Areas

- Check all floor drains and make sure you know where they drain. If a floor drain goes to a storm sewer, it is considered an illegal drain and will need to be sealed or rerouted to a holding tank or sanitary sewer.
- Do not put fluids like oil, solvents, paints and chemicals into a floor drain.
- If you have floor drains that you are not using, have them capped or plugged.
- Prohibit the practice of hosing down the shop floor.

Winterizing Boats

Antifreeze

It is illegal in Wisconsin to "blow out" antifreeze directly into the water or onto any surface that would drain to the water. The BMPs listed here will minimize the release of antifreeze in the environment,

- Use the minimum amount of antifreeze necessary for the job.
- Use only propylene glycol antifreeze for all systems. It is substantially less toxic than ethylene glycol antifreeze.

- Collect and recycle antifreeze as much as is practical or use BMPs to minimize release of antifreeze into environment when boats are put in the water for the first time after being winterized.
- Provide an antifreeze recapture and recycling service.
- For health reasons, ethylene glycol should never be used in potable water systems; it is highly toxic and cannot be reliably purged come springtime.
- If you use ethylene glycol, it must be captured and disposed of properly and not down a drain that goes to the wastewater treatment plant.
- Train employees on the proper way to handle antifreeze.

Gasoline

- Add stabilizers to fuel to prevent degradation and to eliminate the need to dispose of stale fuel in spring. Stabilizers are available for gasoline and diesel fuels and for crankcase oil. These products protect engines by preventing corrosion and the formation of sludge, gum and varnish.
- Be sure fuel tanks are 85-90 percent full to prevent flammable fumes from accumulating and to minimize the possibility of condensation leading to corrosion.
- Do not fill the tank more than 90 percent full. Fuel expands as it warms in the springtime; fuel will spill out the vent line of a full inboard tank.
- Be sure the gas cap seals tightly.

Bilges

- Inspect bilges prior to extended boat storage. Require boat owners to clean all water, oil or foreign materials from the bilge using oil-absorbent materials.
- Encourage boat owners to keep bilges dry during storage and use bilge socks.
- Offer bilge cleaning services.

Covers

- Promote reusable canvas or recyclable plastic covers.
- Provide cleaning and storage of canvas and/or plastic covers.
- Recycle used shrink-wrap covers. Contact the Wisconsin Clean Marina program coordinator if you are unable to find a used shrink-wrap recycler.

#13 BMP-P **Winterize only with less toxic propylene glycol antifreeze.**

#14 BMP-P **Collect and recycle antifreeze as much as is practical, or use best management practices to minimize the release of antifreeze into the environment.**

#15 BMP-R **Inspect bilges prior to boat storage at your facility and encourage boat owners to keep bilges clean and dry during storage.**

#16 BMP-R **Support proper engine and bilge maintenance by boat owners (e.g., provide bilge socks and/or encourage their use by boaters, provide educational materials, offer bilge cleaning services).**

#17 BMP-P **Recycle or reuse used shrink-wrap covers.**

Battery Storage and Disposal

Landfilling or burning lead acid batteries is prohibited in Wisconsin (s. 287.07 (1m) (a) and (am), Wis. Stats.). For those marinas that sell lead acid batteries, Wisconsin retailers are required to accept used batteries with the sale of a lead acid battery (s. 287.18 (4), Wis. Stats.).

- Avoid long-term storage of spent lead acid batteries by sending accumulated batteries to a reclaimer within six months of receipt. Limit accumulation of large quantities of spent batteries. If necessary, ship more frequently.
- Store spent lead acid batteries upright in a secure location, protected from freezing. Make sure the batteries are covered to avoid rain and snow contact.
- Never stack batteries directly on top of each other. Layer with wood.
- Never drain batteries or crack the casings.
- Place cracked or leaking batteries in a sturdy, acid-resistant, leak-proof, sealed container (e.g., a sealable five-gallon plastic pail). The container should be kept closed within the battery storage area.
- Strap batteries to pallets or wrap batteries and pallet in plastic during transport.
- Keep written records of weekly inspections of spent lead acid batteries.

#18 BMP-P **Have appropriate procedures for the collection, storage and disposal of spent lead acid batteries.**

Boat Disposal

- Empty the boat's fuel tanks and reuse or dispose of used gasoline as hazardous waste.
- Remove and recycle the following boat parts and fluids:
  - used oil
  - antifreeze
  - boat engine (recycle as scrap metal)
  - any metal with recyclable value, such as lead, zinc, aluminum, copper
  - appliances or HVAC equipment containing refrigerants
- Remove all mercury-containing devices (i.e., some electronic equipment, bilge pump switches, old ship's barometers, fluorescent lights) and manage as universal waste. Refer to the "Waste Containment and Disposal" chapter for more information.

- Reduce the size of the hull into smaller pieces as directed by the solid waste facility. The smaller the pieces, the easier it is for the facility to take. Measures should be taken during this process to control fugitive dust. Many marine products contain toxic materials that may become airborne.

In-Water Maintenance

- Do not allow debris or chemical wastes to fall into the water.
- Remove the boat from the water if the impacts of in-water cleaning or maintenance activities cannot be contained.
- Keep containers of cleaning and maintenance products closed.
- Restrict or prohibit sanding on the water.
- Use vacuum sanders to prevent dust from falling into the water when it is absolutely necessary to sand on the water.
- Do not sand in a heavy breeze.
- Plug scuppers to contain dust and debris.
- Restrict or prohibit spray painting on the water.
- Discourage underwater hull cleaning in your facility. Given the concentration of boats, underwater cleaning is dangerous to divers and the heavy metals that are released are harmful to aquatic life. Insurance to cover divers is also expensive.

Sanding

- Conduct sanding in the maintenance area or over a drop cloth.
- Do not let dust fall onto the ground or into the water or become airborne.
- Restrict or prohibit sanding on or near the water to the greatest extent possible.
- Establish a marina policy to prohibit sanding without vacuum equipment.
- Rent or loan vacuum sanders and grinders to tenants or contractors. These tools collect dust as soon as it is removed from the hull. Vacuum sanders allow workers to sand a hull more quickly than with conventional sanders. Additionally, because paint is collected as it is removed from the hull, health risks to workers are reduced.
- When sanding on the water is unavoidable, use a vacuum sander and keep dust out of the water.
- Use a damp cloth to wipe off small amounts of sanding dust.
- Collect dust and debris. Determine if the dust and debris are hazardous or non-hazardous waste. If the waste is non-hazardous and does not contain free liquids, take it to a municipal solid waste landfill or dispose of it in a dumpster.

For information on waste determination and recordkeeping from the WDNR, refer to dnr.wi.gov/files/PDF/pubs/wa/wa1152.pdf.

#19 BMP-R **Rent or loan vacuum sanders to tenants and contractors.**

#20 BMP-R **Prohibit power sanding and painting over the water.**

#21 BMP-P **Contain dust from sanding and debris from sand blasting and dispose of them properly.**

Blasting

- Prohibit uncontained abrasive (sand) blasting at your facility.
- Perform abrasive blasting in the boat maintenance area within a structure or under a plastic tarp enclosure. Do not allow debris to escape from the enclosure.
- Avoid blasting on windy days when using tarp enclosures. Because tarps are not rigid, they do not eliminate wind flow through the blasting area, so they allow the wind to carry blasting material and residue into surface waters.
- Consider alternatives to traditional media blasting. Hydroblasting and mechanical peeling essentially eliminate air quality problems. However, debris must still be collected—consider using a filter cloth ground cover.
- Avoid dust entirely by using a stripper that allows the paint to be peeled off. These products are applied like large bandages, allowed to set, and then stripped off. When the strips are removed, the paint is lifted from the hull. Dust and toxic fumes are eliminated.
- Invest in a closed, plastic medium blast (PMB) system. These systems blast with small plastic bits. Once the blasting is completed, the spent material and the paint chips are vacuumed into a machine that separates the plastic from the paint dust. The plastic is then cleaned and may be reused. The paint dust is collected for disposal. A 50-foot boat will produce about a gallon of paint dust, substantially less than the many barrels of sand and paint that must be disposed of with traditional media blasting methods.
- Collect debris and provide for proper disposal. If the waste is hazardous, send it to a permitted hazardous waste disposal facility.
- Recycle used blast media. Investigate companies that recycle used blast media into new media or other products.

#22 BMP-R **Prohibit sanding or blasting work carried out by individual boat owners or their contractors unless it is done inside one of the designated shops or a vacuum sander and tarps are used and the residue is disposed of properly.**

Painting Operations

- Limit in-water painting to small jobs. Any substantial painting should be done on land, in the boat maintenance area and/or over a ground cloth.
- Use brushes and rollers whenever possible.
- If painting with a brush or roller on the water, transfer the paint to the boat 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.
- Consider sharing leftover paints with customers or setting up an exchange area for customers to swap unused items.
- Mix paints and solvents in a designated area indoors or a covered area far from the shore.
- Keep records of paint use. Use the information to prevent over-mixing in the future.

Antifouling Paints

Most antifouling bottom paints contain elemental copper, cuprous oxide (a copper compound) or tin oxide compounds (tributyltin oxide), which kill organisms attempting to attach to a painted surface. Pesticides and heavy metals within the paints also harm fish and other non-target species.

Copper-based paints are not used on aluminum hulls; the interaction between copper and aluminum leads to corrosion. Instead, tin-based paints (tributyl tin, or TBT) are often used on aluminum-hulled vessels.

In Wisconsin, tributyl tin is classified as a limited use pesticide— "a pesticide which under certain conditions or usages constitutes a serious hazard to wild animals other than those it is intended to control" (NR 80.01 (4)). Wisconsin allows the use of TBT compounds and organotin derivatives if usage does not involve addition to waters of the state or to structures in contact with waters of the state or if the paint does not have a release rate greater than 4 micrograms per day and is used on a boat at least 65 feet in length or on an aluminum boat, boat part or boat accessory (NR 80.03(13)).

Antifouling paints can be separated into three general categories:

- *Leaching Paints.* Water-soluble portions of leaching antifouling paints dissolve slowly in water, releasing the pesticide. The insoluble portion of the paint film remains on the hull. The depleted paint film must be removed before the boat is repainted.
- *Ablative Paints.* Ablative antifouling paints also leach some toxins into the water. The major difference is that as the active ingredient is leached out, the underlying film weakens and is polished off as the boat moves through the water. As the depleted film is removed, fresh antifouling paint is exposed. There are several water-based ablative paints on the market that are up to 97 percent solvent free. As a result, levels of VOCs are substantially reduced as compared to solvent-based paints. Ease of cleanup is another advantage of water-based paints.

- *Non-Toxic Coatings.* Teflon, polyurethane and silicone paints are non-toxic options. All deter fouling with hard, slick surfaces.

For marinas that apply antifouling paints, minimize the impacts by following these BMPs:

- Maintain a pesticide applicator license and annual business license. For more information on the certification process and requirements, please refer to datcp.wi.gov/Pages/Programs_Services/PesticidesFertilizersCertificationLicensing.aspx.
- Be familiar with state, federal and local antifouling paint regulations.
- Recommend antifouling paints to your customers that contain a 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.
- Store boats out of the water, where feasible, to eliminate the need for antifouling paints.
- Leftover antifouling paints containing pesticides, solvents or metals such as barium, chromium, cadmium or lead may need to be disposed of as a RCRA hazardous waste. Hazardous waste antifouling paints cannot be mixed with non-hazardous paints (e.g., latex) for disposal.

#23 BMP-M **Obtain an annual pesticide *business license* from Wisconsin DATCP if you apply antifouling paints to boats for hire.**

#24 BMP-M **Obtain an annual pesticide *applicator license* from Wisconsin DATCP for staff that apply antifouling paints to boats.**

#25 BMP-R **Recommend antifouling paints with minimal environmental impacts.**

Spray Painting

In some cases, spray painting is the only practical choice for paint/solvent application. Minimize the impact of spray painting by following these recommendations:

- Consider establishing a marina policy that prohibits customer paint spraying.
- Prohibit spray painting on the water. Conduct all spray painting on land, in a spray booth or under a tarp.
- Reduce paint overspray and solvent emissions by minimizing the use of spray equipment or use equipment with high transfer efficiency. Tools such as high-volume, low-pressure (HVLP) spray guns direct more paint onto the work surface than conventional spray guns. As a result, less paint is in the air, fewer volatile

organic compounds are released, less paint is used and cleanup costs are reduced. Air atomizer spray guns and gravity feed guns are other types of highly efficient spray equipment.

- Educate personnel on how to properly operate spray equipment to reduce overspray and minimize the amount of paint per job.

Paint Stripping

- 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. Alternatives include scraping, sanding and/or abrasive blasting.
- Use a heat gun to remove paint and varnish where appropriate.
- If paint strippers must be used, use citrus-based or water-based products, which are less hazardous.
- Use only the minimum amount of paint stripper needed for a job.
- Prevent evaporation by using tight-fitting lids or stoppers. Reducing evaporation protects air quality and saves product and money.
- Reduce the chance of spills during transport by storing unused paint stripper where it's used most in the shop. Place the product on an impervious surface.
- Encourage careful use by informing all workers and operators of the hazardous nature of solvents and the purchasing and recycling costs.
- Train employees to use less paint stripper, to properly store new and used paint strippers, to use wise clean-up procedures and to prevent leaks and spills.

Educating Boaters

- Inform your boaters/clients when and where they can take their recyclable materials as well as any hazardous waste.

Links

- Additional resource on pressure washing: A Guide to Selecting Pressure Washing Management Practices and Technologies: Supplement to the Massachusetts Clean Marina Guide.
- Publications on used oil, antifreeze and universal waste (mercury-containing devices) are available from dnr.wi.gov/topic/recycling/outreach.html.
- For information on refrigerants see dnr.wi.gov/topic/AirQuality/Refrigerants.html.

Petroleum Control

Petroleum in or on the water is harmful, flammable and, in some cases, fatal to aquatic life. Petroleum products typically contain a wide range of volatile organic compounds (VOCs), some with adverse environmental effects. Gasoline contains benzene, a carcinogen, and motor oil contains zinc, sulfur and phosphorus.

Once petroleum is spilled into the water, it may float at the surface, evaporate into the air, become suspended in the water or settle to the lake bottom. Floating gasoline is flammable, and floating petroleum is particularly noxious because it reduces light penetration and the exchange of oxygen at the water's surface. Floating oil also contaminates the uppermost portion of the water column near the surface, which contains thousands of species of aquatic plants, animals and microbes.

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Laws and Permits

Spill Response and Reporting

Water Pollution Control Act (Clean Water Act)

The Clean Water Act (33 CFR 153.305) prohibits the discharge of oil or oily waste into or upon navigable waters of United States, including inland waters, lakes, rivers and streams and all Great Lakes, if such discharge causes a film or sheen upon, or discoloration of, the surface of the water or causes a sludge or emulsion beneath the surface of the water.

The U.S. Coast Guard must be notified of spills that produce a sheen on the water. Call the National Response Center (NRC) at (800) 424-8802. Report the location, source, size, color, substance and time of the spill. Failure to report a spill may result in substantial fines. In Wisconsin, all spills must be reported immediately to the Wisconsin Department of Natural Resources (WDNR) using the 24-hour toll-free hotline: (800) 943-0003.

All boats 26 feet or more in length are required to display a placard that is at least 5 x 8 inches, made of durable material and fixed in a conspicuous place such as in the machinery spaces or at the bilge pump control station. The placard must read (see next page):

Discharge of Oil Prohibited

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon, or discoloration of, the surface of the water, or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a penalty of $5,000.

The Clean Water Act requires that the U.S. Coast Guard be notified any time a spill produces a sheen on the water. Failure to report a spill may result in civil penalties. Report spills to (800) 424-8802.

The Clean Water Act also prohibits the use of soaps or other dispersing agents to dissipate oil on the water or in the bilge without permission from the U.S. Coast Guard. Soaps, emulsifiers and dispersants cause the petroleum to sink and mix with the sediments where it may remain for years. Also, the soaps themselves are pollutants. You may be fined up to $25,000 per incident for the unauthorized use of soap or other dispersing agents on the water or in the bilge.

Oil and Hazardous Substance Liability

Accountability and penalties of a fuel discharge to waters within federal jurisdictions, including the Great Lakes, are regulated by federal law (33 U.S.C. 1321). Calling the NRC does not designate the reported as the responsible party for a spill or initiate a penalty. The cause and source of the spill will be investigated by the U.S. Coast Guard. Marinas will not be held accountable for spills that did not originate at their facility. However, failure to report spills to the U.S. Coast Guard may result in civil penalties.

Marinas will be held liable for any oil discharges that come from their facility (33 U.S.C. 2101-2720). Boaters are also responsible for any spills originating from their boat.

Spill Prevention, Control and Countermeasure (SPCC) Plan

The U.S. Environmental Protection Agency's (EPA) Oil Pollution Prevention regulation (40 CFR 112) requires that marinas prepare and implement a plan to prevent any discharge of oil into navigable waters or adjoining shorelines if the facility has an aggregate aboveground storage capacity greater than 1,320 gallons or an underground storage capacity greater than 42,000 gallons.

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

BMPs to Prevent Spills at the Source

Install and Protect Petroleum Storage Tanks Properly

Fuel storage tanks at marinas typically hold from 1,000 to 10,000 gallons of fuel; if a tank were to rupture, the consequences could be devastating. Even if the tank system leaks or drips, the impact to the environment can be significant and expensive to remediate.

Aboveground storage tanks (ASTs) and underground storage tanks (USTs) today are varied and complex. Operator training is required for underground systems only, and inspections are performed at least every three years for underground tank systems, but usually annually. Aboveground tanks systems are moving from a three-year inspection frequency to a five-year frequency. Although the day-to-day operation of fuel storage systems is quite automated, the marina operator must remain diligent to prevent any release to the environment, whether it is a catastrophic release or a drip.

Effective October 1, 2019, DATCP no longer regulates ASTs of less than 5,000 gallons. For more information on AST regulations, please refer to datcp.wi.gov/Documents/RegulationASTLessThan5000Gallons.pdf.

Wisconsin's flammable, combustible and hazardous liquids administrative rule (ATCP 93) addresses all aspects of storage tanks and the associated systems used to store petroleum and hazardous products above and below ground. The Bureau of Weights and Measures is responsible for the administration and regulation ATCP 93. See datcp.wi.gov/Pages/Programs_Services/PetroleumHazStorageTanks.aspx.

As required by the federal Energy Policy of 2005, marinas that have USTs must have operator training. There are three classes of operator training: class A is for the owner, class B is for the manager in charge of supervising day-to-day operations and class C is for on-site employees. For more information on UST training, please refer to datcp.wi.gov/pages/programs_services/ABCOperatorinfo.aspx.

Wisconsin Administrative Code ATCP 93 requires the addition of submersible and dispenser aboveground-to-underground transition containment sumps for new, existing and upgraded piping systems. ATCP 93 also requires the addition of aboveground-to-underground (and vice-versa) transition containment sumps for new or replacement systems only. For more information on containment sumps installation and upgrade requirements, please refer to datcp.wi.gov/Documents/ContainmentSumpInstallationAndUpgradeRequirements.pdf.

AST and UST BMPs

- Hire a certified installer to install tanks. State-certified personnel are also needed to repair and close tanks.
- ASTs located on land shall be set back at least 10 feet from the ordinary high water mark of a navigable body of water (Wisconsin, ATCP 93.640).
- Allow adequate space between stored boats and ASTs.
- Cover the AST with a roof to prevent rainwater from filling the containment area, or provide a means for pumping out any accumulated oil/water mix.

- Locate single-walled ASTs within a dike or over an impervious storage area with containment volumes equal to 1.25 times the capacity of the storage tank(s). Double-walled tanks over land do not need a dike. Design containment areas with spigots to drain collected materials. For fuel collected, contact your fuel supplier or waste oil hauler for disposal options. (Do not allow fuel or oil to evaporate.) Uncontaminated rainwater collected by the dike must be removed as soon as practical.
- Each operating day, measure inventory. Record the amount of fuel dispensed and the amount remaining in the tank.
- Record deliveries. Take a daily reading of the amount of fuel delivered and pumped.
- Inspect ASTs and piping regularly for drips or leaks, and monitor USTs at least every 30 days for leaks (ATCP 393.510).
- Ensure marina personnel who work with USTs receive operator training. See datcp.wi.gov/Pages/Programs_Services/ABCOperatorInfo.aspx.
- Maintain UST operator training documentation on site (ATCP 93.870).
- Keep inspection records indicating compliance with petroleum storage tank requirements.
- Contact the Wisconsin Bureau of Weights and Measures for further information and assistance with new tank installation and pre-installation plan review for USTs greater than 110 gallons or ASTs greater than 5,000 gallons at datcpweightsandmeaures@wi.gov or (608) 224-4942.
- Be aware that the municipality in which the tank is located may have additional requirements for the siting and inspections of the tank.

#1 BMP-M

Meet the requirements of ATCP 93 for monitoring, registration and inspection of your storage tank containing flammable, combustible or hazardous liquids.

#2 BMP-M

Complete the necessary operator training requirements for those who operate and maintain underground storage tanks (UST) systems.

#3 BMP-M

Meet all the requirements of the fire code for spill prevention and fuel containment to operate a commercial aboveground storage tank (AST) containing flammable or combustible liquids (e.g., install a secondary containment system if your fuel tank is not double-walled, install appropriate barriers (guard posts) to protect tanks and dispensing systems, properly label tanks).

Maintain Fuel Transfer Equipment

- Inspect transfer equipment regularly, and fix all leaks immediately.
- Maintain transfer equipment and hoses to ensure they are in good working order. Inspect hoses and hose connectors for frayed fabric or other damage that may lead to leaks. Replace hoses, pipes and tanks before they leak.
- Maintain transfer equipment and hoses from the fuel delivery truck to ensure they are in good working order. Make sure good connections are made to the delivery nozzles.
- Hang nozzles vertically when not in use so that fuel remaining in hoses does not drain out.

#4 BMP-P **Regularly inspect and repair fuel transfer equipment.**

Avoid Waves and Wakes

Spillage around fueling areas is often caused by unanticipated movement of the boat and/or dock.

- Locate fuel docks in areas protected from wave action and boat wakes when constructing new or upgrading existing facilities. For safety reasons, all fueling stations should be accessible by boat without entering or passing through the main berthing area.
- Provide a stable platform for fueling personal watercraft. You may purchase prefabricated drive-on docks or modify an existing dock by cutting a v-shaped berth and covering it with outdoor carpeting.
- Consider placing the personal watercraft fueling area at the end of the fuel pier to reduce conflict with larger boats.

Supervise Fueling

- Always have a trained employee at the fuel dock to oversee or assist with fueling.
- Train employees to:
  - Observe fueling practices; make sure fuel is not accidently put into the holding or water tank.
  - Clarify what the boater is asking for. For example, as your employee passes the fuel nozzle to the boater, have him or her say, "This is gasoline. You asked for gasoline."
  - Hand boaters oil-absorbent pads with the fuel nozzle. Request that boaters use them to capture backsplash and vent line overflow.

Absorbent pad on fuel pump at Pikes Bay Marina. Photo credit: Gene Clark, Wisconsin Sea Grant.

Fuel pump sign at Egg Harbor Marina. Photo credit: Karmen Anderson, Wisconsin Sea Grant.

Absorbent fuel bib at Port Washington Marina. Photo credit: Mari Mitchell, Wisconsin Sea Grant.

  - Attach a container to the external vent fitting to collect overflow. There are products on the market that may be attached to the hull with suction cups. A rubber seal on the container fits over the fuel vent, allowing the overflow to enter the container. Fuel captured in this manner can be added to the next boat to fuel.
  - Use a slow filling rate at the beginning and end of fueling.
  - Listen to filler pipes to anticipate when tanks are nearly full.
- Require all passengers to disembark from gasoline-powered vessels before fueling.
- Require boaters to stay with their craft during fueling.
- Instruct boaters to follow these safety precautions:
  - Stop all engines and auxiliaries.
  - Shut off all electricity, open flames and heat sources.
  - Extinguish all cigarettes, cigars and pipes.
  - Close all doors, hatches and ports.
  - Maintain nozzle contact with the fill pipe to prevent static spark.
  - Inspect the bilge after fueling for leakage or fuel odors.
  - Turn on boat bilge blowers for several minutes before starting the engine. Ventilate until odors are gone.

- Remind boaters that gasoline vapors are heavier than air; they will settle in a boat's lower areas.
- Encourage boaters to fill their fuel tanks just before leaving on a trip to reduce spillage due to thermal expansion and rocking—if the fuel is used before it warms up, it cannot spill overboard. If boaters prefer to refuel upon their return to port, encourage them to fill their tanks to no more than 90% of capacity. Also, leave expansion space in fuel tanks of boats going into storage.
- Encourage boaters to keep their engines well-tuned. Properly maintained engines use fuel and oil more efficiently and are less likely to leak and/or emit oil and vapor emissions into the environment.
- Post signage for boaters about clean boater fueling practices.

Fuel spill cup at Pikes Bay Marina. Photo credit: Gene Clark, Wisconsin Sea Grant.

#5 BMP-P **Always have a trained employee at the fuel dock to oversee or assist with fueling.**

#6 BMP-P **Make available and train employees on the use of oil-absorbent materials and collection devices (e.g., "no-spill" bottles and oil-absorbent pads) at the fuel dock.**

Install Environmental Controls at the Pump

- Reel, rack or otherwise protect hoses more than 18 feet long from damage (ATCP 93.640).
- Do not install fuel nozzle holding clips. The use of holding clips to keep fuel nozzles open is illegal at marina fuel docks (ATCP 93.640).
- Install automatic back pressure shut-off nozzles on fuel pump discharge hoses to automatically stop the flow of fuel into a boat's fuel tank when sufficient reverse pressure is created (ATCP 93.640).
- Turn down the pressure. Problems with backsplash and vent-line overflow are often due to the high-pressure flow of fuel from the pump. Ask your fuel company representative to set the delivery rate appropriately for the size of boats at your marina.
- Consider installing fuel nozzles that redirect blow-back into vessels' fuel tanks or vapor control nozzles to capture fumes.
- Offer your services to install fuel/air separators on boats.
- Maintain a supply of oil-absorbent pads and pillows at the fuel dock to mop up spills on the dock and on the water.

- Secure oil-absorbent material at the waterline of fuel docks to quickly capture small spills. Look for oil-absorbent booms that are sturdy enough to stand up to regular contact with the dock and boats.
- Keep used absorbents in covered fireproof containers to prevent evaporation.
- 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.
- Place small gas cans in drip pans when filling. Maintain proper grounding, but have oil-absorbent materials nearby.

#7 BMP-M **Remove fuel nozzle holding clips.**

#8 BMP-M **Have automatic back pressure shut-off nozzles on fuel pump discharge hoses.**

Use Oil-Absorbent Materials

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

- Make absorbent materials like pads, pillows or booms readily available to staff and customers.
- Dispose of used oil-absorbent materials as appropriate for what type of product it is and how it was used.
  - Oil-absorbent materials may be disposed of in a landfill if the following conditions are met (2011 WI Act 152):
    - There are no visible signs of free-flowing oil in or on the absorbent material.
    - The oil-absorbent materials are not hazardous waste.
  - Standard absorbents saturated with oil or diesel only (no gasoline) may be wrung out over oil recycling bins and reused.
  - Bioremediating bilge booms may be disposed of in your regular trash as long as they are not dripping any liquid. Because the microbes need oxygen to function, do not seal them in plastic bags.
  - Standard absorbents saturated with gasoline should be stored in fireproof containers and disposed of as hazardous waste.
  - Small pads used to clean up minor drips at the fuel pump may be allowed to air dry and reused.
  - Call your municipal solid waste department or WDNR regional office for oil recycling locations.

#9 BMP-P **Dispose of oil-absorbent materials properly.**

Minimize Spills and Leaks From Machinery

- Perform regular maintenance on machinery, taking precautions to minimize oil spills and leaks.
- Take steps to prevent rainwater from coming into contact with or transporting oils and greases in runoff.
- Use non-water-soluble grease on Travelifts, fork lifts, cranes and winches.
- Place containment berms with containment volumes equal to 1.1 times the capacity of the fuel tank around fixed pieces of machinery that use oil and gas. The machinery should be placed on an impervious pad. Design containment areas so that oil/water mixes can be collected. Dispose of all collected material appropriately. Refer to the "Waste Management and Recycling" chapter of this guidebook.
- Cover the machinery with a roof to prevent rainwater from filling the containment area.
- Place leak-proof drip pans beneath machinery. Empty the pans regularly, being careful to dispose of the material properly. (Uncontaminated oil and antifreeze may be recycled.)
- Place oil-absorbent pads under machinery.

#10 BMP-P

Take precautions to minimize spills and leaks from machinery.

Offer Spill-Proof Oil Changes

- Purchase a non-spill pump 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.
- Purchase or rent an oil filter crusher. This device will crush the filter to approximately one-fifth its original size, removing the majority of excess oil for recycling. If you currently pay to dispose of your filters per drum, you will reduce disposal costs by placing five times more crushed filters in each drum.
- 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.
- Recycle collected oil and metal canister. Oil filters are banned from Wisconsin landfills (s. 287.07(04)).

#11 BMP-R

Offer spill-proof oil changes.

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.
- Subcontract bilge cleaning services at your facility.

Promote Good Fueling and Boat Maintenance Practices to Boaters

- Post signage for boaters about clean boater fueling practices at your marina.
- Provide bilge socks and other absorbent materials (pads, pillows or booms) to your customers.
- Require tenants to use oil-absorbent materials as part of your lease agreement.
- Post instructions at the fuel dock directing staff and patrons to clean up spilled fuel from the dock and water immediately with oil-absorbent material.
- Encourage the use of spill-proof oil change equipment as a condition of your slip rental agreement.

Emergency Planning

Prepare and Maintain a Spill Prevention, Control and Countermeasure (SPCC) Plan

- A SPCC plan is required if the facility has an aggregate aboveground storage capacity greater than 1,320 gallons or an underground storage capacity greater than 42,000 gallons (40 CFR 112).
- The plan must address:
  - Operating procedures implemented by the facility to prevent oil spills.
  - Control measures installed to prevent a spill from entering navigable waters or adjoining shorelines.
  - Countermeasures to contain, clean up and mitigate the effects of an oil spill that affects navigable waters or adjoining shorelines.
- The plan must be certified. In some cases, the SPCC plan must be certified by a professional engineer, and in other cases facility managers can "self-certify" their plan. Because the SPCC rule is subject to change, marina operators should visit epa.gov/oil-spills-prevention-and-preparedness-regulations to view up-to-date rules and criteria.
- The SPCC plan must be kept on-site for EPA review.
- A copy of the plan must be submitted to EPA Region 5 if a single spill of greater than 1,000 gallons occurs or two discharges of 42 gallons or more occur within one year. For more information call: (312) 886-7187 or visit dnr.wi.gov/topic/spills.

- SPCC plans must be reviewed by the marina owner or manager at least every five years (40 CFR 112.5). A record of the review should be kept in the beginning of the plan, including the reviewer's signature, date signed and a list of any changes. Major changes such as new tank installations or removals require a formal amendment signed by an engineer.
- The template in Appendix IV can be used to create your SPCC plan.

#12 BMP-M

#12 BMP-P

Have a spill prevention, control and countermeasure (SPCC) plan that meets all SPCC rules (mandatory 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). Remember to include heating oil, lube oil, solvents, used oil and fuel in the aggregate volume.

Develop Emergency Response Plans

Develop written procedures describing actions to be taken under given circumstances. The plans should be clear, concise and easy to use during an emergency and address likely threats at your marina (fuel spill, fire, health emergency, weather emergency, etc.). Please refer to the "Marina Management and Boater Education" chapter for more information on developing an emergency response plan.

Maintain Oil Spill Response Equipment

- Maintain enough oil spill response equipment to contain the greatest potential spill at your facility.
- Ensure your marina has enough boom to encircle the largest boat in your facility. For every foot of boat, you will need three feet of boom. For example, if you have a 25-foot boat, 75 feet of boom is required.

#13 BMP-P

Maintain oil spill response equipment to contain a potential spill in water at your facility.

Store Oil Spill Response Equipment Wisely

- Store the equipment where the greatest threat of an oil spill exists—fuel-receiving and fuel-dispensing areas.
- Store materials in an enclosed container or bin that is accessible to all staff—especially those who handle the fueling operations.
- Mark the storage site with a sign reading "Oil Spill Response Kit."
- Include instructions in the kit for deploying pads and booms and notification that all spills must be reported to the U.S. Coast Guard at (800) 424-8802 and the WDNR at (800) 943-0003.
- Post emergency contact numbers at appropriate areas of the marina to ensure proper notification of a spill.

- Consider leaving the storage container unlocked so that it is available to patrons, as well as staff. If leaving the bin unlocked at all times is not feasible, try leaving it unlocked just on weekends and holidays when both activity and risk are greatest.
- Check the inventory regularly.

Spill kit at Washburn Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

#14 BMP-P

Store your oil spill response equipment and booms where they are convenient and accessible to the most likely location of an oil or fuel spill.

#15 BMP-M

Post the U.S. Coast Guard National Response Center phone number (800-424-8802) and WDNR spill notification phone number (800-943-0003) at appropriate areas of your marina and notify these entities any time a spill produces a sheen on the water.

Be Prepared for a Fuel Spill

What do you do when oil, gas or diesel is spilled on the water?

1. Protect yourself, stop the source, protect others and stay at the site.
2. Call the U.S. Coast Guard's NRC at (800) 424-8802 and the WDNR at (800) 943-0003.
3. Contain the oil or diesel spill, protect water resources, recover and/or absorb liquids and cover dry materials. However, DO NOT try to confine gasoline spills. Due to the risk of explosive fumes or fires, gas spills should be allowed to dissipate and vaporize from the water surface.
4. Clean up the spill site.

Please note that calling the NRC does not designate you as the responsible party for a spill nor does it initiate a penalty against the reporter. The NRC is used to disseminating information to all required agencies in a quick and efficient manner. Failure to report spills to the U.S. Coast Guard may result in civil penalties.

Call the NRC if oil pollution floats into your marina from an unknown source. The U.S. Coast Guard will clean up the spill with their resources. They will also investigate and attempt to identify and eliminate the source of the spill. You will not be held liable for a spill that did not originate at your facility.

Be Prepared for a Fire

- Meet the National Fire Protection Association's (NFPA) standards for marinas (NFPA 30A, 33, 302, 303, 307). Visit nfpa.org/Codes-and-Standards/All-Codes-and-Standards/List-of-Codes-and-Standards to review these codes.
- Be sure hydrants are available to allow firefighting throughout your facility.
- Install and regularly test smoke detectors.
- Provide and maintain adequate, readily accessible and clearly marked fire extinguishers throughout the marina, especially near fueling stations.
- Inspect and test all firefighting equipment and systems regularly.
- Test fire extinguishers annually.
- Train personnel on fire safety and response—who to call, location of hydrants, use of portable extinguisher, etc.
- Provide ready access to all piers, floats and wharves for municipal firefighting equipment.
- Invite the local fire department to train at your marina annually with your employees. These annual visits will also help the fire department become familiar with your facility.
- Have annual fire inspections to ensure compliance with all applicable fire codes.
- Maintain fire inspection records.

#16 BMP-M

Have annual fire inspection records indicating compliance with all applicable fire codes.

Maintain Safety Data Sheets

- Keep a file of Safety Data Sheets (SDSs) for all products used at your facility, as required by the Occupational Safety and Health Act of 1970 (29 USC Sec. 657).
- SDSs must be readily accessible to employees who use the chemicals, materials or products. Keep in mind that during an emergency this file will not tell you what quantity is on site or even whether all the materials listed are present.
- Inform the Local Emergency Planning Committee (LEPC) what materials you store and what is released when they burn.

#17 BMP-M

Maintain files of Safety Data Sheets (SDS) for all hazardous 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.

File Tier Two Forms

- The Emergency Planning and Community Right-to-Know Act (EPCRA) requires that marinas with 10,000 pounds or more of hazardous materials, including petroleum (approximately 1,250 gallons), file Tier II forms with emergency response agencies by March 1 of each year. The form must be submitted to Wisconsin Emergency Management, your local emergency planning committee (LEPC) and your local fire department. Marinas are not included in the retail gas exemption; this exemption only applies to motor vehicles on land.

Forms and contact information for LEPCs are available from the Wisconsin Department of Military Affairs – Division of Emergency Management at dma.wi.gov/DMA/wem/preparedness/epcra/forms-resources or (608) 242-3232.

#18 BMP-M

File Wisconsin Tier Two forms for petroleum and hazardous waste by March 1 annually.

Resources

- Revising Underground Storage Tank Regulations – Revisions to Existing Requirements and New Requirements for Secondary Containment and Operator Training; Final Rule. (website, EPA)
- Spill Prevention, Control and Countermeasure (SPCC) Guide for Marinas and Boat Owners. (website, EPA)
- Spill Prevention and Response for Marina Staff. (free online training course, Boat U.S. Foundation)
- When Are You Required to Report an Oil Spill and Hazardous Substance Release? (website, EPA)
- OSHA Brief: Safety Data Sheets. (PDF, OSHA)
- Revised Hazard Communication Standard. (website, OSHA)

Boater Sewage, Graywater and Animal Waste Handling

Keeping sewage, graywater and animal waste out of the water is important to maintaining and improving water quality. Due to the many water quality and public health impacts, the discharge of untreated sewage from boats is illegal in the waters of Wisconsin. Since marine toilets use little or no water, the sewage released from boats is much more concentrated than from other sources. The illicit release of sewage and graywater can result in excessive algae and underwater plant growth within the marina basin, and in severe cases, may result in loss of aquatic habitat and fish kills. Additionally, raw sewage and pet waste contain disease-causing bacteria and viruses that are a threat to swimmers and others coming into direct contact with the water. Every year there are a number of beach closures in Wisconsin due to elevated *E. coli* bacteria levels (an indicator of sewage contamination).

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Laws and Permits

No-Discharge Zones

A no-discharge zone (NDZ) is an area of a waterbody or an entire waterbody into which the discharge of sewage (whether treated or untreated) from all vessels is completely prohibited. All inland and coastal waters of Wisconsin are NDZs, except for the Wisconsin waters of Lake Superior, the Mississippi River, and part of the St. Croix River. In Wisconsin, it is illegal to dispose of any toilet wastes in any manner into the water while maintaining or operating any boat equipped with toilets (State Statute Sec. 30.71 (2)).

Marine Sanitation Devices

The Federal Clean Water Act (33 U.S.C. 1322) requires that all vessels with installed toilets have a U.S. Coast Guard-certified marine sanitation device (MSD) Type I, Type II or Type III.

Type I and II MSDs are used to pretreat boat sewage before it is discharged (except where prohibited in a NDZ or as prohibited by state or local ordinances). Type I systems mechanically cut solids and disinfect waste, and Type II systems treat sewage to a higher standard and generally require more space and energy to run. Both Type I and II MSDs must have a "Y" valve secured to allow waste to enter a proper on-board holding tank for future drainage at a pump-out station. Type III MSDs are holding tanks and do not discharge sewage. Type III MSDs must be pumped out on shore at a proper facility and cannot be discharged overboard.

Portable toilets are not considered installed toilets; therefore, MSD requirements do not apply to vessels with portable toilets. Portable toilets should be properly emptied on shore. Again, it is illegal to discharge sewage into state waterways. Most pump-out facilities have wand attachments to empty portable toilets, and some marinas have portable toilet dump stations.

Pump-Out Stations

Wisconsin Statute Sec. 30.71 (3) requires that any marina that provides berths or moorings to five or more boats equipped with toilets and is located on any outlying water must provide pump-out stations. Outlying waters are defined in Sec. 29.001 (63) as Lake Superior, Lake Michigan, Green Bay, Sturgeon Bay, Sawyer's Harbor and the Fox River from its mouth up to the dam at De Pere.

Best Management Practices

Prohibit Discharge at the Slip or Mooring

Effluent from Type I and Type II systems contains nutrient pollution and can potentially contain toxic chemicals and pathogens as well. Discharges from Type I and Type II systems in crowded, enclosed areas—such as marinas—pose a real threat to human health, aquatic habitat and water quality. If your marina is located within an NDZ, discharge of sewage, treated or untreated, is completely prohibited; therefore, boaters must secure their Type I and Type II MSDs, e.g., lock the door to the head or disable the seacock. Even if your marina is located outside an NDZ, it is undesirable to allow residents to discharge their Type I or Type II systems and certified Clean Marinas should not allow discharge of treated or untreated sewage.

- Prohibit discharge of sewage (treated and untreated) in your marina as a condition of your lease agreement (regardless of NDZ status). State that failure to comply with MSD laws and marina policy will result in expulsion from the marina and forfeiture of fees.
- Include information about MSD requirements and sewage laws in contracts for slips, rentals, transients and live-aboards.
- If a customer fails to observe the law or honor your contract: 1) discuss the matter with them, 2) mail a written notice asking that the offending practice stop immediately and keep a copy for your records, and finally, 3) evict the boater.
- If a tenant is discharging raw sewage, report them to the WDNR (call or text 1-800-847-9367). Provide as much information as possible—name of the owner, vessel, location, etc.
- Require that boaters keep Y-valves on head discharge lines closed and locked to prevent discharge.
- Encourage boaters to maintain their MSDs properly and to purchase environmentally friendly treatment products for their holding tanks.
- Discourage the discharge of graywater waste in your marina as a condition of your lease agreements. See the "Handling Graywater Properly" section later in this chapter.

- Post signs prohibiting the discharge of head waste, discouraging the discharge of graywater and directing people to use shoreside restrooms and dishwashing areas.

#1 BMP-M

Prohibit the discharge of sewage in your marina and encourage compliance by including information about marine sanitation device (MSD) requirements and sewage laws in contracts for slips, rentals, transients and live-aboards.

Offer MSD Inspections

- Offer to inspect patrons' MSDs annually to ensure that their "Y" valves are secured to prevent illegal discharge or, only for marinas outside NDZs, that their Type I and II systems are functioning properly.
- Encourage boaters to run dye tablets through their Type I and II systems outside of the marina. If a system is operating properly, no dye will be visible. Maintenance is required if dye can be seen in the discharge.

#2 BMP-R

Offer marine sanitation device (MSD) inspections of boats.

Install a Pump-Out System

Help boaters meet the requirements of the law by providing a convenient, reliable marine sewage disposal facility—a pump-out station. Marina operators also benefit from the installation of a pump-out station. The presence of the pump-out facility shows the public that you are environmentally responsible. The need to pump out MSDs regularly will draw a steady stream of customers to your dock, and each arriving vessel presents an opportunity to sell fuel, hardware, repair services, etc.

The Clean Vessel Act (CVA) of 1992 is a nationwide competitive federal grant program that provides funds to states to clean up the nation's waterways. Any public or private marina in Wisconsin is eligible to apply for grant funds. Eligible projects include construction, renovation, education, operation and maintenance of pump-out and dump stations. For more information on the CVA, please refer to the WDNR website at dnr.wi.gov/Aid/CleanVessel.html.

In exchange for grant funding, marina owners agree to maintain pump-out systems in good operating condition for a minimum of 10 years and agree not to charge more than $5 per pump-out. The pump-out system must be able to accept waste from portable toilets, as well as holding tanks, and must be available to the public during reasonable business hours.

Once you have decided to invest in a pump-out system, consider the following recommendations:

- **Select an appropriate system.** Install pump-out facilities and dump stations that meet the marina's needs. Ask the manufacturer for a written assurance that their system will operate effectively within the specific conditions at your marina. There are three types of onshore sewage collection systems:

  - *Fixed-point systems* are stationary systems that require boats to move to the pump-out station. A hose is connected to the sanitation device fitting, and a pump or vacuum system moves the waste material into an onshore holding tank or into the sewer system. A fixed-point system should be centrally located and easily accessible by boats.
  - *Portable systems* can be pushed up to the boat needing service instead of bringing the boat to a pump-out station. They are good for smaller marinas, especially those that offer limited maneuverability. However, portable systems must be returned to an area where they can be pumped out, and a full system may be difficult to move. These systems also require more hands-on cleaning.
  - *Dedicated slip-side systems* provide continuous wastewater collection at select slips within a marina. These are good systems to choose if enough slips can be dedicated to their use. They have a direct connection to the boat and a below-dock gravity-drained sewer system and use a vacuum-type pump-out system.
- **Choose a suitable location.** Consider where the pump-out 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 pump-out system so that a boat being pumped out does not prevent another boat from fueling. Avoid locations where stormwater runoff can come in contact with equipment.
- **Dispose of collected waste.** Be sure to dispose of waste in a manner that meets state standards. The best option for disposing of the collected waste is to connect directly to the public sewer line. If a sewer line is not available in your area, you will need a holding tank. The contents of the tank must be pumped periodically and trucked to a treatment plant. Holding tank size and location is generally determined by the local health department.
- **Decide if the pump-out will be staffed.** Ideally, an attendant would operate the pump-out. Consider installing a buzzer or paging system so boaters at the pump-out station can easily locate the attendant. If the station is unattended, be sure that clear instructions are posted.
- **Train employees to handle collected waste with care**. For health reasons, train employees to take precautions to avoid coming into direct contact with sewage. Require that employees wear rubber gloves during pumping and respirators when maintaining or repairing MSDs.
- **Decide whether to charge a fee.** No more than $5 may be charged if CVA grant funds were accepted for the purchase or installation of the system. If the pump-out system is not regularly staffed, you will have to make arrangements to collect a fee. Consider providing a free pump-out with a fuel fill-up.
- **Post signs**. Provide information about the use and cost of the pump-out station, hours of operation and where to call for service if the system is out of order. Also, post signs that are visible from the channel so that passing boaters are aware of the facility.

- **Maintain the pump-out system**.
  - Inspect the system regularly and keep a log of your observations.
  - Contact the pump-out 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 five-gallon bucket of water.
  - In order to quickly address any malfunctions, establish a maintenance agreement with a contractor qualified to service and repair pump-out facilities.

Pump-out at Egg Harbor Marina. Photo credit: Vicky Harris, Wisconsin Sea Grant.

- **Do not allow waste to drain into receiving waters.** Do not allow rinse water or residual waste in the hoses to drain into receiving waters. Keep the pump running until it has been rinsed with clean water.
- **Provide portable dump stations.** Have a dump station, wand attachment or an alternative procedure to empty portable toilets. Provide portable toilet dump stations near small boat slips and boat ramps.
- **Inform boaters of pump-out locations.** If you do not have a pump-out system, post signs directing boaters to the closest public pump-out locations.

#3 BMP-P **Have a well-maintained pump-out facility appropriate for your facility or inform boaters of other pump-out locations.**

#4 BMP-R **Have a dump station, wand attachment or an alternative procedure to empty portable toilets.**

Provide Shoreside Restrooms

- Provide clean, functional restrooms to encourage people not to use their heads while in port.
- Make restrooms available 24 hours a day.
- Install a security system on restroom doors so people will feel safe, particularly late at night.
- Provide air conditioning and heating.

#5 BMP-R **Provide clean, functional restrooms 24 hours per day for marina customers.**

Provide Facilities for "Live-Aboards"

Boaters who make their homes aboard vessels pose a tricky problem. It is not reasonable to expect that they will untie their boats in order to use a fixed pump-out facility. It is also unwise to assume that people living on their boats will always use shoreside restrooms.

Furthermore, even if your marina is located outside an NDZ, it is undesirable to allow residents to discharge their Type I or Type II systems. Your obligation as marina owner/manager is to provide a convenient sewage disposal system for live-aboards, while maintaining good water quality. Consider the following options to meet this challenge. Keep in mind that most live-aboards expect and are willing to pay a premium for extra service and more convenient slips.

- Stipulate in the lease agreement that boats may not discharge any sewage.
- Provide a portable pump-out system or require that live-aboards contract with a mobile pump-out service.
- Reserve slips closest to shoreside restrooms for live-aboards. Be sure 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" valve.
- As a condition of the lease agreement, require that live-aboards place dye tablets in holding tanks to make any discharge clearly visible.
- Install direct sewer hookups for live-aboards.

#6 BMP-P

Address the special sewage handling needs of live-aboards.

Maintain Septic Systems

Septic failures can contaminate drinking water. Watch for signs of septic failure, such as wet areas, standing water above the drain field, toilets that run slowly or back up, and odor.

- Post signs in the restrooms requesting patrons not to place paper towels, tissues, cigarette butts, disposable diapers, sanitary napkins or tampons in the toilets. Provide adequate covered disposal for these items to avoid clogging the septic system.
- Post signs in the laundry room requesting that patrons use minimal amounts of detergents and bleaches.
- Do not dump pesticides or solvents such as paint thinner or other harsh chemicals down the drain, and post signs prohibiting customers from doing the same.
- Do not pour fats and oils down drains.
- Use small amounts of drain cleaners, household cleaners and other similar products.
- Do not use "starter enzyme" or yeast. These products can damage the system by causing the infiltration bed to become clogged with solids that have been flushed from the septic tank.

- Hire a licensed professional to pump the septic tank every two to three years.
- Direct downspouts and runoff away from the septic field to avoid saturating the area with excess water.
- Do not compact the soil by driving or parking over the septic field.

#7 BMP-P

Maintain your septic system regularly and post signs about what patrons can and cannot put into the system.

Reduce Graywater Pollution

Graywater is the wastewater from the sink and shower (sewage is called blackwater). Graywater can contain detergents, soap, other chemicals and food wastes. When it is released to the environment, it can pollute water, promote algae growth and reduce oxygen levels as bacteria break down wastes and algae. Help your customers reduce the effects of graywater by taking the following steps:

- Educate customers about the effects of graywater and steps they can take to help reduce them.
- If soap is necessary for hard-to-clean jobs, use low-phosphorus and biodegradable soaps in moderation.
- Sell only phosphate-free detergents and biodegradable soaps and shampoos in your ship's store.
- Consider providing shoreside dishwashing and coin-operated laundry facilities for boaters and encourage their use.
- Encourage customers to use the showers and restrooms provided by the marina when at the docks.

#8 BMP-R

Adopt at least one practice to discourage the discharge of polluted graywater in the marina basin (e.g., encourage use of biodegradable, non-phosphorous detergents; provide laundry and dish washing facilities; include language in lease agreements to discourage discharge).

Manage Pet Waste

- Educate your patrons about the problems posed by pet waste, and require owners to clean up after their pets.
- Provide a dedicated grassy area away from the shoreline and storm drains for pets to be taken for walks.
- Provide a supply of pet waste cleanup bags and a waste container with a lid on it. Empty waste container regularly.

Pet waste station at Pikes Bay Marina. Photo credit: Karmen Anderson, Wisconsin Clean Marina Program.

"Doggie Island" at Port Washington Marina. Photo credit: Mari Mitchell, Wisconsin Clean Marina Program.

Prevent Wildlife Issues

- Prohibit feeding wild birds, including ducks, geese and/or seagulls, in the marina. Feeding encourages birds to flock to the marina and become long-term residents. Bird droppings can contaminate water and create a mess on boats and walkways.
- If wild birds do become established at your marina, there are several humane measures to consider to prevent loafing, such as scare tactics (both visual and audible), hanging string or bird netting, trained border collies, etc. For more information on humane control measures, refer to the following websites:
  - icwdm.org/species/birds/canada-geese/canada-goose-damage-prevention-and-control-methods
  - icwdm.org/species/birds/gulls/gull-damage-prevention-and-control-methods
  - wihumane.org/wildlife/help/gulls
  - wihumane.org/wildlife/geese

#9 BMP-P — **Establish practices to manage pet waste.**

#10 BMP-R — **Discourage the feeding of birds at your marina.**

Solid Waste Management and Recycling

All marinas generate solid waste and debris in one form or another. Once land-based waste enters a waterway it become marine debris and is harmful, unattractive and may be costly to remove. Common solid waste includes household and restaurant trash, packaging, plastic bags, food waste, plastic and Styrofoam containers, aluminum cans, cigarette butts, fishing line and fish waste. This waste harms living organisms and their habitats, both on land and in the water. As an example, plastic debris is hazardous to fish and wildlife that can ingest, choke on or become entangled in the debris. Divers and swimmers are likewise susceptible to entanglement. Plastics may also be a hazard to navigation as they can snare propellers and clog engine intake systems. Marinas are in a unique position to prevent waste from entering the waterways.

Managing waste and debris at marinas includes both prevention and removal. The best way to prevent solid waste from entering waterways is to reduce the amount of waste your marina produces and to make sure what it does produce is managed properly through recycling, collection and disposal.

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Laws and Permits

Marine Plastic Pollution Research and Control Act

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

All vessels 26 feet or longer must display a MARPOL placard in a prominent location outlining the garbage dumping restrictions. In addition, all vessels 40 feet or longer operating more than three miles from shore that are equipped with a galley and berthing must also have a written waste management plan on board.

State Litter and Recycling Laws

Wisconsin state laws (s. 287, Wis. Stats., and NR 544 Wis. Adm. Code) prohibit disposal of certain materials in Wisconsin landfills or incineration facilities and require local jurisdictions to require

recycling of these materials under local ordinance.[1] Local jurisdictions are further required to implement recycling programs to ensure proper recycling of these materials. For information see the WDNR website at dnr.wi.gov/topic/Recycling. For more information on some local community programs visit recyclemorewisconsin.org.

Waste Containment and Disposal Best Management Practices

Reduce Waste

- Avoid having leftover materials by sizing up a job, evaluating what your actual needs are and buying just enough product for the job. Encourage boaters to do the same.
- Minimize office waste. Use electronic files more frequently, make double-sided copies, use scrap paper for notes and messages, purchase recycled office paper, and reuse polystyrene peanuts or give them to small-scale packing and shipping companies that will reuse them.
- Request alternative packing material from vendors, such as paper and plant-based biodegradable peanuts.
- Discourage and replace plastic and Styrofoam cups and food containers, plastic utensils, plastic straws, bags and other non-biodegradable products with reusable and eco-friendly alternatives.
- Encourage boaters to exchange excess paints, thinners and varnishes. Provide a bulletin board where boaters can post notices that they are seeking particular materials or have an excess of materials.
- Post the names of local organizations (schools or theater groups) that are willing to accept excess non-toxic paints.
- Implement an environmentally preferable purchasing policy that promotes the purchase of recycled, renewable and/or reusable products and services.

#1 BMP-R

Adopt at least one practice to reduce waste (e.g., 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.).

Trash and Recycling

- Provide adequate trash and recycling receptacles (cans, bins and dumpsters) based on the number of patrons supported, the types of waste generated, the layout of your marina and the amount of staff time you can devote.
- Empty trash cans and pick up stray litter from your grounds and nearshore areas daily.
- In Wisconsin, recycling is the law. Know what materials MUST be recycled under state and local laws (dnr.wi.gov/topic/Recycling/banned.html). Contact a waste

[1] *Materials banned from landfilling or incineration under state law s. 287.07 (1m.) to (4): major appliances, lead acid batteries, yard waste, waste oil, oil filters, waste tires, newspaper, magazines, office paper, cardboard, and glass/plastic/aluminum/steel food and beverage containers.*

hauler or your local solid waste recycling coordinator to learn what materials are collected in your area. For information on how to establish a public venue recycling program, see dnr.wi.gov/topic/Recycling/business.html.

Trash and recycling receptacles at Saxon Harbor Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

- Provide containers to collect, at a minimum, plastic, glass, aluminum and paper.
- Select containers that are large enough to hold the expected volume of trash or recyclables. On average, 4 to 6 gallons of reception capacity is needed per person per vessel per day. A cubic yard of dumpster space holds 216 gallons of trash.
- Post signs indicating what must be recycled and directing people to trash and recycling receptacles if they are not in plain view.
- Post information about local recycling services if you are not able to provide all of the desired services at your facility.
- Locate trash and recycling receptacles in convenient locations. Select high-traffic areas such as at the landside foot of the dock, near bathrooms and showers, alongside vending machines, adjacent to the marina office or on the path to the parking lot.

Trash and recycling receptacles at Quarterdeck Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

- Do not place trash or recycling containers on docks, as waste or recyclables may inadvertently be tossed or blown into the water.
- Make the recycling bins look different from the standard trash cans, e.g., use a different color or material and clearly mark each container so people know what may and may not be put in it. Refer to sample signs in Appendix II of this guidebook.
- Provide lights around trash receptacles so that they are easy to find and safe at night, and it is easy to read posted instructions.
- Provide lids or some other means to trap the waste inside and to prevent animals and rainwater from entering receptacles. Proper selection of lids for recycling bins is one of the most effective means of keeping recyclables separate from trash.

#2 BMP-P **Provide trash and recycling receptacles that are covered, well labeled and located in convenient locations.**

#3 BMP-M **Recycle materials in accordance with Wisconsin state and local recycling laws.**

#4 BMP-P **Post signs indicating what must be recycled and where.**

Special Considerations for Dumpsters

- Post signs indicating what may not be placed in the dumpster, such as engine oil, antifreeze, paints, solvents, varnishes, pesticides, lead batteries, transmission fluid, distress flares and polystyrene peanuts. Include information on where to dispose of this waste.
- Provide boaters with a separate collection for these materials: antifreeze, used oil, oil filters, solvents, lead acid batteries, plastic films such as shrink wrap or bags, and used fishing line.
- Ensure that dumpsters are covered and fully contained by a four-sided enclosure with trash storage areas graded or curbed to drain away from storm drains and surface waters. This prevents animals from getting into trash and polluted runoff.

Dumpster sign at Racine Yacht Club. Photo credit: Karmen Anderson, Wisconsin Clean Marina Program.

Signage at Port Washington Marina. Photo credit: Mari Mitchell, Wisconsin Clean Marina.

#5 BMP-P **Post signs indicating what may not be placed in the dumpster, such as engine oil, oil filters, antifreeze, paints, solvents, varnishes, lead batteries and transmission fluids. Indicate where to dispose of these hazardous wastes.**

Preventing Marine Debris

- Promote collection and recycling of used fishing line. Set up a collection bin at your marina. For information on building a monofilament recycling bin, refer to boatus.org/monofilament.
- Install a trash skimmer or collector, such as a Seabin, in the marina basin. Please reach out to the Wisconsin Clean Marina program coordinator if you are interested in learning more about using trash skimmers, or other available technology at your facility. More information on the Seabin can be found at seabinproject.com/the-seabin-v5.
- Reduce or eliminate single-use plastics, such as plastic bags, polystyrene cups, plastic straws and containers at the marina, in restaurants and ship's stores.
- Provide cigarette disposal containers for patrons and staff.
- Use a pool skimmer to collect floating debris that gathers along bulkheads or elsewhere within your marina basin.

Used fishing line recycling receptacle at Port Washington Marina. Photo credit: Kae DonLevy, Wisconsin Marina Association.

#6 BMP-R **Collect and recycle used fishing line at your marina.**

#7 BMP-R **Install a trash skimmer (such as a Seabin) in your marina basin.**

Manage Fish Waste

If your marina services sport anglers, you must make provisions to dispose of fish waste properly. It is illegal to dispose of fish waste in waters of the state. Improperly handled fish waste can degrade water quality, create odors, and attract vermin and undesirable insects.

- Designate an area where fish can be cleaned. To prevent fish waste from entering marina waters, boaters should not be allowed to clean fish at their slips.
- Fish cleaning stations should be located away from the water on impervious surfaces equipped with floor drains. They should be sheltered from wind and rain.
- Fish cleaning stations should be large enough to accommodate the volume of fish waste generated at the marina.
- Fish cleaning stations should be supplied with potable water.
- Consider providing or stocking your ship's store with heavy-duty biodegradable bags to accommodate fish waste.

- Fish cleaning stations can be equipped with mechanical grinders that macerate fish carcasses and are connected to the sanitary sewer. Consult your local sewage treatment plant to confirm it is capable of handling fish waste.
- When a fish cleaning station is not equipped with mechanical grinding, a covered solid waste receptacle should be placed close to the station.
- Freeze carcasses if fish waste volumes are manageable. Freezing allows for less frequent waste hauling and minimizes odors.

Fish cleaning station at Washburn Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

- Where no municipal connection is available, wash water and ground fish waste can be stored in properly sized below-ground septic tanks for disposal by a licensed liquid industrial waste hauler.
- Vent storage tanks in a way that disperses fish odors away from the marina facility and adjacent properties.
- Most landfills are prohibited from accepting free liquid waste; however, liquefied fish waste is accepted by some larger landfills. Be sure to check with the landfill before bringing fish waste for disposal.
- Instruct boaters to dispose of fish scraps in plastic bags in a dumpster or at home.
- Solid fish waste can be disposed of in a Type II municipal landfill. Work with your waste hauler to arrange a pick-up schedule that ensures fish waste does not accumulate and break down.
- Consider composting fish waste. Proper composting controls odors and, over time, will produce an excellent soil conditioner for your landscaping needs. Refer to "The Compost Solution to Dockside Fish Wastes," published by University of Wisconsin Sea Grant, available at publications.aqua.wisc.edu/product/compost-solution-to-dockside-fish-wastes.

#8 BMP-R

Provide fish-cleaning stations and/or require patrons to dispose of fish waste properly.

Manage Pet Waste

- Prohibit boaters from throwing pet waste overboard.
- Provide dedicated areas for pets to be taken for walks.
- Provide pet waste cleanup bags and containers for pet waste disposal.
- Empty pet waste disposal containers on a regular/daily basis.

Hazardous Waste Management

All marinas generate waste that can be hazardous to human health and wildlife. Marina operators are responsible for determining which materials handled at their facilities are subject to hazardous waste regulations, and they must comply with regulations for handling, storage, transportation and disposal of waste. Examples of common hazardous waste generated at marinas include paint, solvents, paint thinners, waste oils, antifreeze, cleaners, fertilizers and pesticides.

Laws and Permits

Resource Conservation and Recovery Act and State Hazardous Waste Laws

The Federal Resource Conservation and Recovery Act (RCRA) of 1976 was established to improve the collection, transportation, separation, recovery and disposal of solid and hazardous waste. The state hazardous waste law (WI Statute 291) and administrative code NR 660-679 govern the management of hazardous waste, universal waste and used oil in the state of Wisconsin.

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Hazardous Waste Best Management Practices

Minimize Use of Hazardous Products

By minimizing your use of hazardous products, 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 clean-up of inappropriately disposed of material.

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

#1 BMP-R **Minimize your use of hazardous products.**

Manage and Dispose of Hazardous Waste

Hazardous waste exhibits the characteristics of ignitability, corrosivity, reactivity and/or toxicity or are specifically listed as hazardous waste because of their chemical properties and environmental health hazards. Lists of hazardous waste can be found in chapter NR 661 of the Wisconsin Administrative Code at docs.legis.wisconsin.gov/code/admin_code/nr/600/661.

Requirements for handling hazardous waste differ depending on how much is generated on site. To determine the requirements that apply to you, first determine the amount of hazardous waste that is generated on a monthly basis. The requirements for hazardous waste generators like marinas can be found in chapter NR 662 of the Wisconsin Administrative Code at docs.legis.wisconsin.gov/code/admin_code/nr/600/662.

All Generators of Hazardous Waste

- Determine if waste generated by your operation are hazardous, either by applying knowledge of the material (i.e., safety data sheets) or by having the waste analyzed by a state of Wisconsin certified laboratory. Visit dnr.wi.gov/files/PDF/pubs/wa/wa1152.pdf for information on how to identify hazardous waste.
- Prohibit all dumping of waste in the water. Include language about the prohibition on dumping in your slip agreements and service provider contracts.
- Store solvents or other hazardous materials in fire-safe containers that are UL listed or Factory Mutual approved. Containers must meet U.S. Department of Transportation (DOT) standards (49 CFR 178). Approved containers will carry specification markings (e.g., DOT 4B240ET) in an unobstructed area.
- Separate hazardous chemicals by hazard class. Contact the DOT to determine which classes the chemicals you have fall into.
- Small quantities of solvents may be stored in the containers in which they were purchased.
- Clearly label each hazardous waste container. Also, mark each container with the indication of hazards such as a placard, label or wording that says “ignitable, corrosive, reactive or toxic.”
- Use containers that are in good condition, closed except when adding or removing waste and labeled “hazardous waste.”
- Store incompatible waste in separate containers and away from each other.
- Keep the storage area neat.
- Allow enough aisle space between containers for inspection and cleaning up spills or leaks.
- Store containers on pallets to prevent corrosion and in an area able to contain any leaks.
- Keep all hazardous materials on an impervious surface, away from floor drains and covered to prevent contamination with precipitation.

- Provide secondary containment that is capable of holding 100% of the largest container or 10% of the volume of all containers, whichever is greater (NR 664.0175).
- To minimize air pollution, cap solvents and paint thinners whenever they are not in use.
- Store rags or paper saturated with solvents in tightly closed, clearly labeled containers.
- Inspect containers weekly for corrosion or leaks.
- Train employees in the proper management of hazardous waste to ensure compliance with state regulations.
- Assign control over hazardous supplies to a limited number of people who have been trained to handle hazardous materials and understand the first-in first-out policy.
- Encourage boaters to contact marina staff to handle hazardous waste.
- Call your local fire official to schedule a "basic fire inspection." The inspection will determine whether you are meeting the state fire code, including hazardous material storage requirements.

Very-Small-Quantity Generators

Very-small-quantity generators produce fewer than 100 kg (220 lbs. or 30 gallons) of hazardous waste per month and are allowed to store up to 1,000 kg (2,205 lbs.) at any time.

- If you use hazardous waste uniform manifests to ship waste off-site, obtain an EPA generator identification number from the WDNR.
- Send the hazardous waste to an approved, licensed or permitted hazardous waste storage, treatment or disposal facility. Very-small-quantity generators can also self-transport the waste to a household/very-small-quantity-generator hazardous waste collection facility.

Small-Quantity Generators

Small-quantity generators produce 100 to 1,000 kg of hazardous waste during any calendar month.

- Ship hazardous waste off-site within 180 days of generation and before you accumulate 6,000 kg (13,230 lbs.). If the waste must be shipped 200 miles or more, they can accumulate for up to 270 days.
- Apply to the Wisconsin Department of Natural Resources (WDNR) for an Environmental Protection Agency (EPA) identification number. Use EPA Form 8700-12, which is available from the EPA website at epa.gov/hwgenerators/instructions-and-form-hazardous-waste-generators-transporters-and-treatment-storage.
- Provide secondary containment for 100% of the largest container or 10% of the volume of all containers, whichever is greater (NR 664).
- Mark the date accumulation begins on each container.
- Routinely check the date of materials to prevent them from outlasting their shelf life.

- Mark and label containers according to Department of Transportation requirements and use the correct placards when shipping waste off-site.
- Ship the waste to an approved, licensed or permitted hazardous waste treatment, storage or disposal facility using a state of Wisconsin licensed transporter.
- Have available and maintain in good working order adequate emergency equipment for the types of hazardous waste generated, such as fire extinguishers, spill control equipment and telephones or alarms.

Waste containers and containment at Washburn Marina. Photo credit: Gene Clark, Wisconsin Sea Grant.

- Establish emergency response procedures. Identify at least one employee as an emergency coordinator who will be responsible for coordinating and responding to any spills or other emergencies that might occur. Post the name and phone numbers for the emergency coordinator and the fire department and the location of emergency response equipment near telephones.
- Prepare a uniform waste manifest for every single shipment of waste. Each transporter and the treatment, storage or disposal facility will sign the manifest and keep a copy for their records. Once the waste have been accepted by the treatment storage or disposal generator, all manifests are uploaded in the EPA e-Manifest system and copies will be stored there.
- Submit an annual report to the WDNR that summarizes hazardous waste activities during the previous year.
- Retain all records, including manifests, waste analysis and annual reports, for at least three years. The files must be available for inspection by the WDNR.

Large-Quantity Generators

Large-quantity generators produce more than 1,000 kg (2,205 lbs. or about 220 gallons) of hazardous waste during any calendar month and are allowed to store the waste up to 90 days.

- Comply with the requirements for small-quantity generators. In addition, prepare a written emergency contingency plan instead of simply establishing emergency response requirements. Copies of the plan must be given to local police departments, fire departments, hospitals, and state and local emergency response teams.
- Conduct annual employee training on how to handle hazardous waste.
- Keep training records on-site.

#2 BMP-M

Store, use and dispose of hazardous waste in accordance with federal and state regulations. This includes storing hazardous waste and materials in appropriate, labeled and separate containers; minimizing spills, leaks or releases; storing regulated liquid waste in proper, well-labeled containers; and providing secondary containment capable of holding 110% of the volume of the largest barrel or tank in storage.

#3 BMP-P

Keep all hazardous materials on an impervious surface away from floor drains and covered from rain and snow.

#4 BMP-P

Prohibit all dumping of waste in the water. For example, include language about prohibition of dumping in your slip agreements and service provider contracts. Encourage boaters to contact marina staff to handle hazardous waste.

Universal Waste

Universal waste is a subset of commonly generated hazardous waste and include waste lamps, batteries, mercury-containing devices and some pesticides. Antifreeze is a Wisconsin specific universal waste if it is recycled. Universal waste requirements are streamlined hazardous waste requirements to encourage the recycling of these waste and can be found in chapter NR 673 available at docs.legis.wi.gov/code/admin_code/nr/600/673.

Universal waste handlers include generators, transporters and off-site storage facilities. Most marinas are classified as small-quantity handlers (accumulate less than 11,000 lbs. (5,000 kg)). The following requirements apply to small-quantity handlers.

- Label containers “universal waste” or “waste” or “used” lamps, batteries, etc.
- Use sturdy containers that are kept closed except when adding or removing waste.
- Place cracked or leaking lead acid batteries in a sturdy, acid-resistant, leak-proof, sealed container (e.g., a sealable five-gallon plastic pail).
- Keep track of the date the universal waste begin to accumulate by marking the date on the universal waste container, by posting the accumulation start date in the storage area, or by recording the date in your records.
- Within a year, send the waste to another universal waste handler or destination facility.
- Clean up spills, such as broken glass from lamps or battery acid, immediately.
- Train staff about the proper management of universal waste.

Used Oil

Do not mix used oil with solvents or other materials because the mixture may need to be disposed of as hazardous waste. Used oil requirements can be found in chapter NR 679 available at docs.legis.wi.gov/code/admin_code/nr/600/679. The following requirements apply to used oil generators.

- Label containers and tanks “used oil” and keep them closed unless oil is being added or removed.

- Only use containers and tanks that are in good condition and are not leaking.
- Designate areas for storing used oil that are clearly marked and readily accessible.
- Collect and recycle oil filters.
- Use a WDNR-licensed solid waste transporter to ship used oil to an oil recycler. Used oil generators can self-transport 55 gallons or fewer of used oil to a collection facility in their own vehicle.
- Require proper used oil management in your environmental rules.
- Post signs explaining how to manage used oil and filters.

Waste from Boat Owners

Hazardous waste generated by boat owners are considered household hazardous waste and are not subject to hazardous waste requirements as long as they are managed with normal household trash. In some areas, boat owners may be able to take their hazardous waste to a local household hazardous waste collection facility. If a household hazardous waste collection facility is nearby, marinas should post information identifying its location, phone number, the types of waste accepted, and its days and hours of operation.

Universal waste, used oil and antifreeze collected from boat owners should be managed according to those requirements stated above. If you collect the waste at your marina:

- Provide separate containers for the collection of used oil, antifreeze, solvents and each of the different types of universal waste and **clearly label the containers**.
- Post signs indicating what may and may not be placed in each container.
- Lock the intake to oil and antifreeze recycling containers to prevent contamination.
- Instruct your patrons to get the key from the appropriate staff person or, if approved by marina staff, to leave their oil or antifreeze (in labeled containers) next to the collection container or tank. Assign a member of your staff to inspect the collection site daily for any material that may have been dropped off.

Waste containers at Pikes Bay Marina. Photo credit: Gene Clark, Wisconsin Sea Grant.

- Use funnels to prevent spillage during filling. Remove the funnel and cap the container when waste are not being added or use a funnel with a spring-loaded cover.
- Do NOT allow patrons to pour gasoline, solvents, paint, varnishes or pesticides into the oil or antifreeze recycling containers. The introduction of these materials results in disposing of the container or tank contents as hazardous waste—a very expensive undertaking.

- Check with your recycler before mixing any materials. Ask if engine oil, transmission fluid, hydraulic fluid and gear oil may all be placed in a waste oil container. Some haulers will also take diesel fuel and kerosene. Also ask if ethylene glycol and propylene glycol antifreeze need to be collected separately.
- Tanks and containers used to collect used oil and other flammable, combustible or hazardous liquids are subject to the Wisconsin Department of Agriculture, Trade and Consumer Protection requirements (ATCP 93, docs.legis.wisconsin.gov/code/admin_code/atcp/090/93).
- Shelter storage containers and tanks from the elements.
- Be aware that recycling liquid materials is a long-term obligation. To minimize your liability, check that the waste haulers and the recycling treatment, storage and disposal facilities are in compliance with RCRA requirements before allowing them to manage your waste.

Waste collection at Pikes Bay Marina. Photo credit: Gene Clark, Wisconsin Sea Grant.

#5 BMP-P **Provide or promote recycling of liquid waste (e.g., used oil, antifreeze and solvents) and have proper containers and containment areas.**

Track Pollution Incidents

- Copy and use the form titled "Pollution Report and Action Log" included at the end of this chapter to track pollution incidents and actions taken.
- Post the log on a clipboard in the maintenance area or another easily accessible location. Consult the log daily.

#6 BMP-R **Track pollution incidents by using the pollution report and action log found in the guidebook.**

Follow Recommended Waste Disposal Methods

Ensure staff and boaters are aware of recommended waste disposal methods for waste typically found at marinas. Refer to the table in Appendix I for recommendations.

#7 BMP-P **Follow recommended waste disposal methods.**

Pollution Report and Action Log

Report Date	Staff Reporting	Problem Description	Action Taken	Action Date	Staff Handling

Marina Management and Boater Education

It is important to regularly educate and train staff and boaters on Clean Marina practices at your marina. Annual staff training on the emergency response plan, stormwater pollution prevention plan (if applicable) and environmental policies will help your marina be prepared for emergencies. Make sure to review and update plans annually and keep them accessible to staff.

Update contracts and environmental rules to incorporate Clean Marina best management practices. Educate boaters on how they can help reduce pollution through environmental rules, signs and rack cards. Posting signs describing best management practices will help everyone understand what is expected at the marina. Signage will also let the public know that you are doing your part to protect the health and safety of your staff, patrons, community and the environment.

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Emergency Response Planning

During an emergency—when a quick response is necessary—you will want everyone at the marina to know what to do and how to do it to keep staff, patrons and the facility safe. Refer to the sample emergency response plan in Appendix V of this guidebook.

Assess Hazards

- Consider and plan for:
  - Fires
  - Fuel spills
  - Holding or water tank filled with gas
  - Spills at the storage or boat maintenance area, such as used oil, antifreeze or solvents
  - Medical emergencies
  - Intense storm events (high wind, waves, storm surge, coastal flooding)
  - Tornadoes
  - Flooding
  - Vehicular collisions
  - Boating accidents
  - Sinking boats
  - Overdue boaters

Develop Emergency Response Plans

- Develop written procedures describing actions to be taken under given circumstances. The plans should be clear, concise and easy to use during an emergency, e.g., use a large font size and clearly labeled section tabs. See the sample emergency response plan in Appendix V to create your emergency plan.
- Update the plan annually to include any new technology or equipment and to confirm phone numbers, staff leads and contact information.
- Keep copies of all emergency response plans in a readily accessible location for staff. Place a copy of the plan in the oil spill response kit.
- Keep an up-to-date evaluation plan on file and make it accessible to staff. Designate an off-site location for staff and patrons to meet in case an emergency warrants evacuation.
- Post emergency plan diagrams on all exit doors that reference fire extinguishers, power/gas shut-offs and exit locations.
- Each emergency response plan should contain the following information:
  - A site plan/description of the facility showing valves, pipes, tanks, structures, roads, hydrants, docks, power and fuel shut-offs, hazardous material storage locations, telephones, and locations of emergency response materials.
  - Information about what type of response equipment is available on site and what its characteristics and capabilities are.
  - The type, amount and location of hazardous and potentially hazardous materials stored on site.
  - Who is responsible for taking what action, including deploying equipment, contacting emergency agencies, etc.
  - A designated staff person as the official spokesperson for the facility.
  - A list of emergency phone numbers and a brief description of each agency's jurisdiction for all of the following: U.S. Coast Guard's National Response Center (800) 424-8802, the WDNR at (800) 943-0003, local fire and police departments, the marina owner, local harbormaster, neighboring marinas that have emergency response equipment and spill response contractors.
  - A description of the marina's piers.
  - A list of equipment and services available at neighboring marinas and local spill response contractors.
  - A list of steps and actions to be taken during an emergency and, based on possible threats, what equipment should be used.
  - Additional resources and when they should be called for assistance.

#1 BMP-P **Have accessible, current, written emergency response plans for possible threats (e.g., fuel or chemical spills, fire).**

Share Your Emergency Response Plan

- Inform your local fire department and harbormaster (if applicable) about your emergency response plans and equipment.
- Let neighboring marinas know what resources are available at your marina.
- Educate tenants about emergency response and evacuation procedures.

Staff Training

Well-trained staff will routinely minimize pollution, answer patrons' questions, and perform their duties more efficiently and safely. Proper training will also contribute to a faster response time in emergencies.

Staff should be trained annually on the following topics (if applicable):

- Management of used oil, solvents and batteries.
- Proper use of equipment (dustless sanders, high-volume low-pressure spray guns).
- Boat washing.
- Pump-out operation.
- Fueling procedures.
- Spill prevention and control (SPCC plan).
- General good housekeeping (timely clean-up of spills, keeping grounds free of debris, avoiding open containers, etc.).
- Painting and blasting procedures.
- Communication of environmental rules to patrons and contractors.
- Stormwater pollution prevention plan (SWPPP).
- Emergency response plan:
  - Review plans and response procedures with staff at the beginning of each boating season.
  - Train employees in the use of containment measures.
  - Remind employees that the use of detergents to dissipate fuel spills on the water is prohibited.
  - Run emergency response drills annually.
  - Invite the U.S. Coast Guard and local fire department to demonstrate emergency response procedures at your marina.

#2 BMP-P **Provide staff training on environmental rules and marina policies (e.g., fueling procedures, pump-out procedures, used oil management, painting procedures).**

#3 BMP-M **Provide staff training on the stormwater pollution prevention plan (SWPPP).**

#4 BMP-P **Review emergency response plans and procedures and have regular emergency response drills with staff annually.**

Maintain Training Records

- Maintain training records and require staff to sign off on all completed training.
- Record training dates, topics and names of employees and instructors.
- Keep copies of instructional material.
- Maintain an accessible clean marina binder that contains all reference materials related to Clean Marina requirements, BMPs, permits and plans.

#5 BMP-P **Maintain staff training records and have staff sign off on all completed training.**

#6 BMP-R **Maintain an accessible clean marina binder to contain all reference material, Clean Marina requirements, permits, SWPPP, SPCC and Emergency Plans.**

Train Staff to be Watchful for Marina Pollution

- Require marina personnel to pick up any trash/waste from the grounds and along shoreline daily.
- Encourage personnel to look for and immediately stop the following:
  - Hull cleaning that results in colored plumes in the water.
  - Bilge water discharge with a sheen.
  - Uncontained sanding, painting, varnishing or cleaning.
  - Washing of maintenance debris into the water.
  - Discharges of sewage within the marina.
  - The use of environmentally harmful cleaning products.
  - Littering.

#7 BMP-P **Train staff to watch for inappropriate discharge and other polluting activities.**

Approaching Boaters and Contractors

- Determine who will address boaters and contractors who are polluting, and let your staff know whether they should handle polluters themselves or report pollution incidents to the manager. Except in an emergency, this usually is a job for the manager.
- Require boaters and contractors to practice pollution prevention as a condition of their contracts.
- Create and distribute materials explaining your marina's environmental policies to boaters.
- If an issue arises, politely inform boaters and contractors why their actions are harmful. Describe a more environmentally sensitive method and ask that the work stop until it can be done with a reduced environmental impact.
- If the problem persists, take these additional steps:
    1. Document any issue(s) that have occurred (date, points of contact and any steps taken to resolve issue, etc.).
    2. Talk to the boater or contractor again.
    3. Mail a written notice asking that the harmful practice stop. Keep a record of the mailing.
    4. Charge the boater or contractor for the cost of removal and clean-up.
    5. Ask the tenant or contractor to leave your marina.
- Report oil, gas and diesel spills to authorities. Call the U.S. Coast Guard's National Response Center at (800) 424-8802 and the WDNR at (800) 943-0003.

#8 BMP-R

Have established procedures for approaching and documenting boaters and contractors who are polluting.

Investigate Course and Workshop Offerings

- Consider enrolling yourself or staff in marina-related courses at community colleges, workshops through county extension programs, presentations by boating industry experts, and online courses and training.
- Take an online course from Boat US Foundation on spill prevention for marina staff (boatus.org/courses).
- Attend Wisconsin Marine Association and Wisconsin Clean Marina conferences, meetings and workshops.

Clean and Safe Boater Education

Incorporate BMPs Into Contracts and Environmental Policies

In addition to being legal documents, contracts are very effective educational tools. Use the contract to inform boaters and contractors how to minimize their environmental impacts.

- Include language requiring BMPs to be followed in all of your contracts, including for slip holders, live-aboards, transients, charters, workers, contractors and tenants. Refer to sample contract language in Appendix VI.
- Include language specifying the consequences for not following BMPs, e.g., "Failure to use BMPs will result in expulsion from the marina and forfeiture of rental fees."

#9 BMP-P

Incorporate BMPs into all contracts: slip holder, live-aboards, transient, charter, worker, contractor and tenant.

Post Signs Describing BMPs

- Post signs at fuel docks and pump-out stations, along piers, at boat launches, in vessel maintenance areas, and at dumpsters and recycling stations. See samples below.

Signage at Quarterdeck Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

Signage at Saxon Harbor Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

- Be sure the signs are visible, durable, eye catching and appropriately sized.
- Post your facility's environmental policy for public viewing.

- Post signs reminding boaters how they can help stop the spread of aquatic invasive species (AIS).
- Refer to sample signs in Appendix II.

#10 BMP-P

Post signs informing boaters of BMPs (sample signage provided in appendix of guidebook).

Distribute Clean Boating Information to Boaters

- Talk about pollution prevention in conversations with boaters and contractors.
- Distribute your environmental policy to boaters.
- Post information about BMPs on a marina bulletin board, marina website and via social media.
- Copy and distribute the Great Lakes Clean Marina rack cards to boaters. They can be found in this guidebook and on the WisconsinCleanMarina.org or create your own.
- Send the rack cards with monthly mailings or place in dock boxes or on vessels. Make sure they do not end up in the water.
- Include articles about BMPs in your newsletter.
- Get copies of clean boating materials from organizations such as Boat U.S. (boatus.org).
- Contact the U.S. Coast Guard for publications summarizing federal boating requirements.

#11 BMP-P

Provide environmental education materials to boaters (e.g., offer Great Lakes Clean Marina rack cards or include articles about BMPs in your newsletter).

Host a Workshop on Clean Boating Practices

- Arrange a workshop with a walking tour of the facility to demonstrate clean and safe boating practices.
- Schedule workshops to coincide with an existing marina function that is traditionally well attended.
- Offer incentives to attendees such as door prizes, discounts, product samples and food.

Recognize Boaters

- Publicly recognize boaters who are making an effort to prevent pollution.
- Include a feature in your newsletter or on social media, post a flyer with the boater's picture on a public bulletin board, or give an award.

Promoting Clean and Safe Boating in the Community

- Implement a life jacket loaner program at your marina, boatus.org/life-jacket-loaner.
- Install emergency safety ladders at your marina.
- Partner with a local community college, youth club or other educational entity to offer internships, field trips or collaborative programs to host safe boat events. For example, work with the U.S. Coast Guard Auxiliary (cgaux.org/vsc) or the U.S. Power Squadron to offer vessel safety checks.
- Inspect engines, bilges, fuel systems and holding tanks.
- Provide pollution prevention materials, such as oil-absorbent pads, bilge pillows or socks, and air/fuel separators, to boaters.

Life jacket loaner station at Port Washington Marina. Photo credit: Mari Mitchell, Wisconsin Sea Grant.

Emergency safety ladders at Port Washington Marina. Photo credit: Mari Mitchell, Wisconsin Sea Grant.

Aquatic Invasive Species Education and Management

Aquatic invasive species (AIS) are continuing to enter and spread throughout Wisconsin waterways. Biologists estimate that more than 180 non-native species now inhabit the Great Lakes region, and some are causing billions of dollars' worth of economic damage and significant ecological change. Invading species, such as quagga and zebra mussels, Asiatic clams, banded mystery snails, spiny water fleas, sea lamprey, round goby, Eurasian ruffe, starry stonewort, New Zealand mudsnails, purple loosestrife and Eurasian water milfoil, have displaced native species, drastically altered aquatic ecosystems and interfered with business and recreational activities.

Once established, invasive species are virtually impossible to eliminate. However, preventing new introductions has not only been shown to reduce the likelihood of their spread but also reduce management costs. Most invasions are the direct result of human activity. Although ballast water from commercial shipping is an important source of AIS, the spread of zebra and quagga mussels to inland lakes in Wisconsin shows that recreational boating and the dumping of unwanted bait by sport anglers are important contributors. Since marinas congregate boaters and anglers, they play a significant role in stopping the spread of AIS to other lakes and rivers.

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Laws and Permits

Invasive Species Rule: Chapter NR 40

The Invasive Species Identification, Classification, and Control Rule classifies invasive species in Wisconsin as "prohibited" or "restricted" and regulates the transportation, possession, transfer and introduction of those species. The rule also establishes "preventive measures" to slow the spread of invasive species, including the removal of plants and animals and drainage of water after removing any boat or equipment from the water and before leaving any boot launch area.

For more information on NR 40 see dnr.wisconsin.gov/topic/invasives/classification.html.

AIS Best Management Practices at Marinas

Identifying and Reporting New AIS Infestations

- Train marina personnel and boaters to identify AIS. Identification resources:
  - WDNR AIS website (dnr.wi.gov/topic/Invasives/species.asp?filterBy=Aquatic&filterVal=Y).
  - A graphic of sixteen important invasive species in Wisconsin (dnr.wi.gov/topic/Invasives/documents/NR40Aquatics.pdf).
  - Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS), (glerl.noaa.gov/glansis).
  - UW Sea Grant Institute. (seagrant.wisc.edu/our-work/focus-areas/ais/invasive-species/invasive-species-fact-sheets).
- Instruct boaters to contact marina personnel if they believe they have identified an invasive species.
- Report any new AIS to your regional AIS coordinator at dnr.wi.gov/lakes/invasives/contacts.aspx?role=AIS_POC.

General AIS Prevention Procedures for Boaters

- When launching or retrieving boats, make sure that mud, plants, animals and water are removed from boats, propellers, trailers and accessory equipment, including live wells (law NR 40).
- Discard any invasive species in the trash located away from the water to prevent re-entry.
- For more information on prevention see the website Stop Aquatic Hitchhikers (stopaquatichitchhikers.org).

Transporting Boats

- Be aware of and adhere to restrictions on the transport of species (law NR 40).
- Give special attention to boats originating from infested areas that will be launched within 48 hours into an uninfected body of water. All parts of the boat that have the potential to harbor invasive species should be carefully inspected. Anchors, anchor ropes, downrigger cables, fishing tackle and scuba gear can harbor invasive species.
- Train marina staff and boaters on procedures for washing the exterior and interior surfaces of boats for transporting boats. Refer to the section below for a list of procedures.
- Consider hiring a Clean Boats, Clean Waters summer intern to inspect watercraft (dnr.wi.gov/lakes/CBCW). Contact your local AIS coordinator for assistance. The WDNR provides a grant to assist in the cost of running a CBCW program. See dnr.wisconsin.gov/aid/SurfaceWater.html for more information.

Fishing

- Encourage anglers to use non-invasive or native species as bait and to buy minnows from a licensed Wisconsin bait dealer.
- Provide trash receptacles for disposal of leftover bait. Dispose of unwanted bait in the trash; never dump unused bait into the water.

Marina Launch Ramp

Boater Education

- Use signage to advise boaters about their role in controlling the spread of AIS.
  - Contact your local AIS coordinator about installing or replacing AIS signage (dnr.wi.gov/lakes/invasives/signage.aspx).
- Place watercraft checkpoint signs about proper boat cleaning near launch areas in boat maintenance areas. For example:
  - Wisconsin Clean Boats, Clean Waters program (uwsp.edu/cnr-ap/UWEXLakes/Documents/programs/CBCW/forms/CheckPoints.pdf).
  - Watercraft check points (Michigan Clean Marina program tip sheet) (michiganseagrant.org/michigan-clean-marina-program/wp-content/uploads/sites/4/2019/04/11-403-Watercraft-Check-Points-Boating-Tips-2017update.pdf).
- Provide pamphlets and/or newsletters to promote BMPs that can reduce the spread of AIS.
  - AIS publications and products available from WDNR (dnrx.wisconsin.gov/swims/downloadDocument.do?id=96843623).

AIS signage at Pikes Bay Marina, Bayfield. Photo credit: Gene Clark, Wisconsin Sea Grant.

Provide an Area for Boaters to Inspect and Clean Boats

- Provide boaters with a dedicated area to inspect and clean boats.
- Provide trash receptacles for disposal of leftover bait and debris, plants and mud from boaters' equipment.
- Provide a high-pressure washer or hot water. Boats and trailers should be washed with HOT (140^0 F) water with a 10-minute contact time and allowed to completely dry in a sunny location for at least five days.

- Consider purchasing and staffing a boat decontamination unit.
  - Decontamination protocols (Wisconsin Sea Grant) (seagrant.wisc.edu/our-work/focus-areas/ais/water-decontamination/decontamination-protocols).
  - Decontamination and disinfection information (WDNR) (dnr.wisconsin.gov/topic/Invasives/disinfection.html).
  - Door County boat cleaning station examples (including waterless option) (doorinvasives.org/boat-cleaning-stations).
- Provide oil-absorbent materials for boaters using the wash station.

AIS wash station at Washburn Marina. Photo credit: Theresa Qualls, Wisconsin Sea Grant.

#1 BMP-P

Educate boaters on controlling the spread of aquatic invasive species. For example, use signage and/or other notices to advise boaters about their responsibility in controlling the spread of AIS; distribute pamphlets to promote practices that reduce the spread of AIS.

#2 BMP-R

Implement at least one of the following BMPs to encourage boaters to stop the spread of invasive species: provide boaters with a dedicated area to inspect, clean, drain and dry boats; provide high-pressure washer or hot water; provide trash receptacles for disposal of leftover bait and debris; provide oil-absorbent materials at the wash station.

Marina Resilience

Ports, harbors and marinas are vulnerable to numerous weather hazards, including more frequent and severe storms, record temperature swings, wind and wave events, shoreline erosion and fluctuating water levels. These hazards threaten the structural integrity of infrastructure, damage natural resources, compromise the safety of marina staff and boaters, and impact the economic well-being of waterfront communities. Marinas provide both a direct and indirect economic impact to coastal communities and the region. It is important for marinas to plan for potential hazards and implement best practices to limit damage and maintain continuous operation.

Resilience is the ability to plan for, absorb, recover from and adapt to weather hazards and stressors. Assessing the vulnerabilities, risks and information gaps at your marina will provide a blueprint for how to identify, prioritize, plan and initiate enhancements to increase resilience and lessen the impacts of hazards.

BEST MANAGEMENT PRACTICES KEY

(M) Mandatory practices mandated by federal, state or local laws and regulations

BMP-M

(P) Program Required program-required best management practices (BMPs)

BMP-P

(R) Recommended program-recommended BMPs

BMP-R

Local and Regional Community Planning BMPs

Represent your Facility in Community Planning

- Establish relationships with community planning organizations (e.g., local planning department, regional planning commissions, state coastal management programs).
- Be sure that your marina is included in the local municipal or county hazard mitigation plan.
- Pursue development of harbor management plans and master plans that anticipate changing environmental conditions as well as repair or replacement of aging infrastructure.
- Participate in community planning exercises, as available. Identify and voice needed measures (e.g., design standards, zoning ordinances, funding).

Facility Planning BMPs

More severe and frequent storms, shoreline erosion and fluctuating water levels will likely increase wear and tear on your marina's infrastructure. Assessing and investing in property upgrades based on the most up-to-date weather and climate information will limit the damage and maintain function during varying lake levels, ice, intense storms, extreme precipitation and flood events.

Invest in Long-Term Solutions

Most marina infrastructure in the Great Lakes region was designed based on historic conditions. The design life for most marina structures is approximately 40-50 years. As these structures face needed repairs or replacement, there is an opportunity to adapt to fluctuating environmental conditions.

- Use information related to historic water level trends, past extreme weather events and future climate condition in facility planning. For example, shorter winters, variable weather conditions, more intense storms and wave surges, and reductions in ice cover.
- As needed, repair or replace components of your stormwater management system, buildings, wood infrastructure, pilings or shoreline protection system.
- Consider installing floating docks that easily adjust to fluctuating water levels. Another option that retains pilings while allowing for increased flexibility to fluctuating water levels is fixed adjustable docks.
- If required, enlarge breakwaters, reinforce walls and improve scour protection. Where possible, use soft engineering or natural shorelines.

Storm damage at Saxon Harbor Marina. Photo credit: Iron County Forestry & Parks Department.

Ice damage at Harbor Centre Marina. Photo credit: Matt Bauer, F3 Marina.

Evaluate Risks to Infrastructure and Grounds

The first step in preparing against uncertainty is to evaluate the potential risks and vulnerabilities of infrastructure and marina property.

- Evaluate how your facility is likely to perform under extreme conditions such as:
  - high and low water levels
  - high wind, wave, storm surge and seiche events
  - ice hazards
  - extreme rain, snow melt and flood events
- Periodically monitor your facility, the surrounding area and the lakebed for signs of erosion and related risks to infrastructure or shore protection structures.

- Consider options for stabilizing shorelines or relocating facilities if erosion is jeopardizing the integrity of the marina infrastructure or grounds.
- Work with federal and local authorities to monitor the condition of breakwalls, timber cribs, etc. for deterioration.

Planning for Extreme Weather Events

- Make sure your emergency response plan includes weather- and Great Lakes-related hazards in addition to the threats in addressed in the "Marina Management and Boater Education" chapter (fuel spill, fire, health emergency…).
- Make sure tenants know how to properly secure and store boats during storm events.
- Be sure that tenants are aware of the evacuation plan and their responsibilities during an emergency.
- Provide annual emergency response and evacuation training for staff.

Communications

- Educate and communicate with staff, tenants, boards and on-site businesses on the condition and preparedness of your marina.
- Communicate with external partners to obtain technical assistance and other resources, such as local, state and federal agencies and engineering consultants.

Financial Planning BMPs

Risk Tolerance

- Conduct a risk assessment of financial loss exposure for identified hazards and risks that includes probability of occurrence and maximum loss value for physical assets and revenue loss.
- Determine the marina's acceptable level of risk (or risk tolerance) for various hazards.

Insurance Policy

- Be sure that your facility's insurance policy includes a comprehensive statement of values with replacement costs or actual cash values for its assets.
- Require boaters to carry insurance.

Cost Assessments and Financing

Typical operating costs for marinas will likely increase when dealing with extreme water level variability and increased storm frequency and intensity.

- Run a cost analysis on potential damage repairs, infrastructure updates and increased dredging needs to provide a more accurate financial picture of the impacts of extreme weather events.

- Explore financing opportunities from the local, state and federal governments. This can include grants or loans supported through general fund revenue or bonds or indirectly through taxes.

#1 BMP-R

Complete the Wisconsin Marina Resilience Assessment (wisconsincleanmarina.org/resources/other-resource).*

* If interested in filling this out, please contact Clean Marina coordinator for assistance.

Resources

Water Levels

- Great Lakes Water Level Dashboard. Current, historical and projected water levels, with options for customizing graphs.
- Summary Reports: Six-Month Forecast Bulletins (USACE). Bulletins including hydrographs depicting water levels for the previous year, the current year to date and a projection for the next six months.
- NOAA Lake Level Viewer.
- CoastWatch-Great Lakes (NOAA), Near real-time observation and tracking for a number of physical characteristics in the Great Lakes.

Flooding

- Flood Map Service Center (FEMA). Access to your official flood map and other flood hazard products and tools to better understand flood risk.
- Projected Precipitation Changes in the Midwest: Interactive Map (U.S. Global Change Research Program – Midwest Report). Map showing change in average precipitation, increases in the amount of rain falling in the wettest five-day period over a year; the difference in number of days with heavy precipitation (top 2% of all rainfalls each year) and number of consecutive dry days.
- National Flood Insurance Program: Flood Hazard Mapping (FEMA). High-quality flood maps and information, tools to better assess the risk from flooding, plus planning and outreach support. Through its Flood Hazard Mapping Program, also known as Risk Mapping, Assessment and Planning (Risk MAP), FEMA identifies flood hazards, assesses flood risks and partners with states and communities to provide accurate flood hazard and risk data to guide them to mitigation actions. Each Risk MAP flood risk project is tailored to the needs of each community and may involve different products and services.

Great Lakes Resiliency Resources

- Increasing Resilience at Marinas and Harbors.
- Reinforcing our Waterfronts: Increased Resilience at Marinas and Harbors. (PDF)
- Infrastructure Best Practices. (PDF)
- Dredging Best Practices. (PDF)
- Planning and Financing Best Practices. (PDF).
- Project Report: Helping Marina and Harbor Operators Respond to Climate Change. (PDF)
- Wisconsin Great Lakes Marina Resilience Assessment. (PDF)

Laws and Regulations

This chapter of laws, regulations and permit information is by no means comprehensive. It is meant to provide the following:

- An introduction to the responsibilities of certain federal and state agencies
- An overview of some relevant laws
- A synopsis of information about pertinent permits and licenses

Selected Federal Agencies

Environmental Protection Agency (EPA) is responsible for ensuring that environmental protections are considered in U.S. policies concerning economic growth, energy, transportation, agriculture, industry, international trade and environmental quality. The EPA ensures that national efforts to reduce environmental risk are based on the best available scientific information, and it provides access to information on ways business, state and local governments, communities and citizens can prevent pollution and protect human health and the environment. The Office of Water is responsible for implementing, among other laws, the Clean Water Act, portions of the Coastal Zone Act Reauthorization Amendments of 1990, the Resource Conservation and Recovery Act, and the Marine Plastics Pollution Research and Control Act. Activities are targeted to prevent pollution wherever possible and to reduce risk to people and ecosystems in the most cost-effective manner.

National Oceanic and Atmospheric Administration (NOAA) is an agency within the U.S. Department of Commerce. NOAA's mission is to describe and predict changes in the earth's environment and to conserve and wisely manage the nation's coastal and marine resources to ensure sustainable economic opportunities. NOAA provides a wide range of observational, assessment, research and predictive services for estuarine and coastal Great Lakes regions. NOAA has developed an array of programs to address national-scale estuarine issues and specific problems affecting individual estuarine and coastal Great Lakes systems. In partnership with the EPA, NOAA implements the Coastal Zone Act Reauthorization Amendments of 1990.

U.S. Army Corps of Engineers (USACE) is responsible for ensuring adequate flood control, hydropower production, navigation, water supply storage, recreation, and fish and wildlife habitat. The USACE contracts and regulates coastal engineering projects, particularly harbor dredging and beach nourishment projects. They also review and permit coastal development and restoration projects. The majority of marina development and expansion projects, including dredging, will require a permit from the USACE.

U.S. Coast Guard (USCG), an arm of the U.S. Department of Homeland Security, protects the public, the environment and U.S. economic interests. The USCG promotes maritime safety and marine environmental protection, enforces maritime law, tends all federal navigation aids, and regulates and monitors recreational and commercial vessels and waterfront facilities.

U.S. Fish and Wildlife Service (USFWS is an agency within the U.S. Department of the Interior that is responsible for the management and enhancement of fish, wildlife and natural habitats. The USFWS implements and enforces several environmental laws that affect marinas, including the Endangered Species Act and the Migratory Bird Treaty Act. Along with other federal agencies, USFWS also reviews and comments on permit applications required for marina development and expansion projects.

Selected State Agencies

Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) is the agency responsible for ensuring food safety and animal and plant health; sound use of land and water resources; and a fair marketplace. DATCP licenses and certifies those who apply pesticides and works to ensure that pesticides are properly handled, stored, disposed of, and used according to the label. In addition, DATCP is also responsible for Wisconsin's Public Warehouse Keeper's Program. Marinas are required to be licensed if they provide boat storage, outdoor or indoor. DATCP is responsible for petroleum tank standards for both underground and aboveground tank systems and for Wisconsin's tank registration database.

Wisconsin Department of Natural Resources (WDNR) is dedicated to the preservation, protection, effective management and maintenance of Wisconsin's natural resources. The WDNR is responsible for implementing the laws of the state and, where applicable, the laws of the federal government that protect and enhance the natural resources of our state. It is the one agency charged with full responsibility for coordinating the many disciplines and programs necessary to provide a clean environment and a full range of outdoor recreational opportunities for Wisconsin citizens and visitors.

Selected Federal Laws that Affect Marinas

Clean Boating Act of 2008 was signed into law on July 29, 2008 (P.L. No. 110-288). This law provides that recreational vessels shall not be subject to the requirement to obtain a National Pollutant Discharge Elimination System (NPDES) permit to authorize discharges incidental to their normal operation. It instead directs the EPA to evaluate recreational vessel discharges, develop management practices for appropriate discharges and promulgate performance standards for those management practices. It then directs the Coast Guard to promulgate regulations for the use of the management practices developed by the EPA and requires recreational boater compliance with such practices.

Clean Vessel Act (CVA) provides funds to states to construct, renovate and operate pump-out stations and to conduct boater environmental education. Contact the WDNR for information about receiving grant funding to install a pump-out system.

Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) provide the impetus for the Wisconsin Clean Marina Program. Section 6217 requires states and territories with approved Coastal Zone Management Programs to develop coastal nonpoint pollution control programs. This includes requiring that nonpoint source pollution from marinas be contained. The Wisconsin Coastal Nonpoint Pollution

Control Program was developed by the Wisconsin Coastal Management Program and the Department of Natural Resources, and approved by NOAA and EPA. Through the Clean Marina Program, Wisconsin is promoting voluntary adoption of best management practices to minimize the effect of marinas on surrounding land and water.

Endangered Species Act provides for the conservation of species that are in danger of extinction throughout all or a significant portion of their range. Under this act, a biological assessment is required to determine if endangered species are present before construction activities may commence.

Fish and Wildlife Coordination Act (FWCA) requires a U.S. Fish and Wildlife Service review of potential effects on fish and wildlife from proposed water resource development projects. The FWCA requires that fish and wildlife resources receive consideration equal to other parts of the project. In addition, it also requires federal agencies that construct, license or permit water resource development projects to first consult with the U.S. Fish and Wildlife Service and their state fish and wildlife agency regarding the impacts on fish and wildlife resources and measures to mitigate these impacts.

Marine Plastic Pollution Research and Control Act (MPPRCA) is the U.S. law that implements an international pollution prevention treaty known as MARPOL. The MPPRCA of 1987 (Title II of Public Law 100-220) restricts the overboard discharge of garbage. Its primary emphasis is on plastics—it is illegal to dispose of plastic materials into the water anywhere. Within U.S. lakes rivers, and bays, it is illegal to dump plastic, paper, rags, glass, metal, crockery, dunnage (lining and packing material, nets, lines, etc.) and food. All boats over 40 feet must also have a written waste management plan on board.

Under the national law, ports and terminals, including recreational marinas, must have adequate and convenient "reception facilities" for their regular customers. That is, marinas must be capable of receiving garbage from vessels that normally do business with them (including transients).

Oil Pollution Act of 1990 (OPA) was written in direct response to the Exxon Valdez oil spill. The law primarily addresses commercial oil shipping (e.g., tankers must be double-hulled, and captains may lose their licenses for operating a vessel under the influence of drugs or alcohol). However, some of the requirements are applicable to recreational boating. Most notably, the responsible party for any boat or facility that discharges oil is liable for the removal costs of the oil and any damages to environmental quality; real or personal property; subsistence uses; revenues, profits and earning capacity; and public services like the cost of providing increased or additional public services. The financial liability for all nontank vessels is $600 per gross ton, or $500,000, whichever is greater. In addition, substantial civil penalties may be imposed for failing to report a spill, for discharging oil, for failure to remove oil, failure to comply with regulations and gross negligence.

Refuse Act of 1899 prohibits throwing, discharging or depositing any refuse matter of any kind (including trash, garbage, oil and other liquid pollutants) into waters of the United States. The U.S. Coast Guard shares authority of this law with the U.S. Army Corps of Engineers.

Resource Conservation and Recovery Act (RCRA) provides the legal authority to establish standards for handling, transporting and disposing of hazardous wastes. Hazardous wastes are ignitable, corrosive, reactive and/or toxic materials. Facilities that generate hazardous waste are categorized as a specific type of generator depending upon the quantity of hazardous waste generated and stored on-site. Some requirements laid out in this law apply to all hazardous waste generators, but most are specific to the amount of waste being generated. For a list of these requirements, refer to the "Waste Management and Recycling" chapter of this guidebook.

Water Pollution Control Act (commonly known as the Clean Water Act) addresses many facets of water quality protection. It provides the authority for the National Pollutant Discharge Elimination System (NPDES) permit program for point sources of pollution. The act prohibits the discharge of oil or hazardous substances into U.S. navigable waters. It also prohibits the use of chemical agents like soap, detergents, surfactants or emulsifying agents to disperse fuel, oil or other chemicals without permission from the U.S. Coast Guard.

All boats 26 feet in length or longer are required to display a placard that is at least 5 inches x 8 inches, made of durable material, and fixed in a conspicuous place, such as in the machinery spaces or at the bilge pump control station. The placard must contain the text below (see blue box).

Furthermore, the Clean Water Act prohibits the discharge of raw sewage within U.S. waters and requires that all recreational boats with installed toilets have an operable marine sanitation device on board.

Selected State Laws that Affect Marinas

Aquatic Plant Management (NR 107, Wis. Adm. Code)

Some marinas may choose to conduct chemical treatment for management of aquatic plants or control of other aquatic organisms. Permits are required for such activities.

For additional information, please contact your local WDNR water quality biologist at dnr.wi.gov/lakes/contacts/Contacts.aspx?role=AP_MNGT. For information on aquatic plant management, see dnr.wi.gov/lakes/plants.

Discharge of Oil Prohibited

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon, or discoloration of, the surface of the water, or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a penalty of $5,000.

The Clean Water Act requires that the U.S. Coast Guard be notified any time a spill produces a sheen on the water. Failure to report a spill may result in civil penalties. Report spills to (800) 424-8802.

Criteria for Dredging Projects - Sediment Sampling and Analysis, Monitoring Protocol and Disposal (NR 347, Wis. Adm. Code)

The purpose of NR 347, "…is to protect the public rights and interest in the waters of the state by specifying definitions, sediment sampling and analysis requirements, disposal criteria and monitoring requirements for dredging projects…" NR 347 requires the collection of information on a given project including, where necessary, collection and analysis of sediment from the project site. Over time a marina may be impacted by depositional sediments and have the need to dredge to accommodate their patron's boat slips, or other areas within the marina. Note: Chapter 30 rules also apply to dredging projects (refer to Chapter 30 Section, below).

For information on dredging issues see dnr.wisconsin.gov/topic/Waterways/construction/dredging.html.

Deleterious Substances (Chapter 29.601 (3), Wis. State Stats)

Wisconsin law states that no person may throw or deposit, or permit to be thrown or deposited, into any waters with jurisdiction of the state any lime, oil, tar, garbage, refuse, debris, tanbark, ship ballast, stone, sand (except where permitted by s. 30.12(3)(a)l.), slabs, decayed wood, sawdust, sawmill refuse, planing mill shavings or waste material of any kind, or any acids or chemicals or waste or refuse arising from the manufacture of any article of commerce, or any other substance deleterious to game or fish life. For more information, contact your local conservation marine warden at dnr.wisconsin.gov/emergency.

Environmental Protection, Investigation and Remediation (Spills) (NR 700-750 Wis. Adm. Code)

These Wisconsin rules govern what happens when petroleum products are released into the environment.

For additional information, please contact your local WDNR spills coordinator at dnr.wi.gov/topic/Brownfields/Contact.html.

For information on spills/environmental protection, investigation and remediation, please refer to the following websites:

– dnr.wi.gov/topic/spills

– dnr.wi.gov/topic/Brownfields/RRProgram.html

Flammable, Combustible and Hazardous Liquids (ATCP 93, Wis. Admin. Code)

These Wisconsin rules govern the installation, operation and closing of aboveground and underground petroleum storage tanks. Following these rules should keep petroleum out of the environment. Included within the ATCP 93 rule are requirements contained in the US EPA rule for underground storage tanks, 40CFR 280.

General Solid Waste Management (NR 500, Wis. Adm. Code)

The solid waste program strives to ensure proper management of solid waste and works with local governments, private industry, other organizations and individual citizens to increase waste reduction, reuse and recycling. It is also used in determining dredge spoils disposal (refer to NR 347 Section previously mentioned).

For additional information, please contact your local solid waste specialist at dnr.wi.gov/staffdir/_newsearch/contactsearchext.aspx?exp=solid+waste+requirements.

For additional information on general solid waste management, refer to dnr.wisconsin.gov/topic/Waste/Solid.html.

Hazardous Waste Management: General (NR 600, Wis. Adm. Code)

These Wisconsin rules govern hazardous waste management and may also be used in determining dredge spoils disposal. Refer to "Criteria for Dredging Projects - Sediment Sampling and Analysis, Monitoring Protocol and Disposal," page 5 of this section.

For additional information, please contact your local WDNR hazardous waste specialist at dnr.wi.gov/staffdir/_newsearch/contactsearchext.aspx?exp=hazardous&exptype=contains.

For information on hazardous waste management see dnr.wi.gov/topic/waste/hazardous.html.

Marine Sanitation Devices

The Federal Clean Water Act and Wisconsin state law (State Statute Sec. 30.71 (2)) require that any vessel with an installed toilet be equipped with a U.S. Coast Guard-certified Type I, Type II or Type III marine sanitation device (MSD).

Vessels 65 feet and shorter may have any of the three types of MSDs. Vessels over 65 feet must have a Type II or III system. Additionally, Type I and Type II systems must display a certification label affixed by the manufacturer. This label is not required on Type III systems.

In Wisconsin, Type I and Type II MSDs with "Y" valves that would direct the waste overboard must be secured so that the valve cannot be opened. This can be done by placing a lock or non-reusable seal on the "Y" valve or by taking the handle off the "Y" valve.

Navigable Waters, Harbors and Navigation (Chapter 30, Wis. State Stats)

These Wisconsin rules govern public waters. The program is founded on the Public Trust Doctrine (dnr.wi.gov/topic/waterways/about_us/doctrine.htm), the body of law made by the legislature and the courts that guides how the WDNR protects public rights in navigable waters. For projects in or near a waterway or wetland, the WDNR provides step-by-step instructions regarding the permits required to complete your project activities. Each project may involve one or more activities, so please consider this when you are collecting and submitting permit application materials, and planning your project timeline. Marina projects may include dredging, control of aquatic nuisance species, placement of docks/ piers, bank stabilization and marina breakwater structures—just to name a few.

Visit the WDNR's Waterways Permitting Process at dnr.wisconsin.gov/topic/Waterways/Permits/PermitProcess.html to determine which permits are required for your project and how to reach your local WDNR water management specialist.

Pollution Discharge Elimination

Wisconsin has received delegated authority to administer the National Pollutant Discharge Elimination System (NPDES) program under the Clean Water Act. The implementation of the program is contained in ch. 283, Wis. Stats., and consists, in part, of the Wisconsin Pollutant Discharge Elimination System program.

Pump-Out Stations

Wisconsin law (s. 30.71 (3)) requires marinas that provide berths or moorings to five or more boats equipped with toilets and that are located on any outlying water to provide pump-out stations. Outlying waters are defined in Sec. 29.001 (63) as

Lake Superior, Lake Michigan, Green Bay, Sturgeon Bay, Sawyer's Harbor and the Fox River from its mouth up to the dam at De Pere.

Water Quality Standards for Wetlands (NR 103, Wis. Adm. Code)

New marinas and existing marinas that have future activities in and adjacent to wetlands may require federal and state permits.

For additional information, please contact your local WDNR water management specialist at dnr.wi.gov/topic/Waterways/contacts.html. For more information on wetlands, refer to dnr.wi.gov/topic/wetlands.

Wisconsin Litter and Recycling Laws

Wisconsin state laws (s. 287, Wis. Stats., and NR 544 Wis. Adm. Code) prohibit disposal of certain materials in Wisconsin landfills or incineration facilities and require local jurisdictions to mandate recycling of these materials under local ordinance. These materials include major appliances, lead acid batteries, yard waste, waste oil, used oil filters, waste tires, newspaper, magazines, cardboard, and glass/plastic/aluminum/steel food and beverage containers. Local jurisdictions are further required to implement recycling programs.

Disposal of solid wastes from a marine vessel is prohibited in waters of the state (s. 287). Waters of the state include portions of the Great Lakes within Wisconsin's boundaries (s. 281.01(18)). Because state laws prohibit disposal of waste while on the water, boaters need to comply with state and local recycling requirements when disposing of waste on land (ch. 287, Wis. Stats., and ch. NR 544 Wis. Adm. Code).

Environmental Permits and Licenses

Low-Impact Discharge General Permit (WDNR WI-0066575-01-0)

The general permit is applicable to facilities with low-impact point source discharges to waters of the state, such as boat washing. The discharges must not contain pollutants in concentrations that cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standards or groundwater quality standards. This general permit covers several activities including the outside washing of vehicles, equipment and/or other objects. Facilities are required to meet the applicability criteria and implement the BMPs contained in the permit. For more information, to obtain the permit and to apply for request for coverage please refer to dnr.wi.gov/topic/wastewater/Generalpermits.html.

National Pollutant Discharge Elimination System (NPDES)

Perhaps the most notable goal of the NPDES was the elimination of discharge of pollutants into navigable waters by 1985. This goal was not realized, but it remains a principle for establishing permit requirements. The act had an interim goal to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water" by July 1, 1983. This is more commonly known as the "fishable, swimmable" goal. Discharges incidental to the normal operation of recreational vessels are exempt from obtaining a NPDES permit. These discharges include graywater, bilge water, cooling water, weather deck runoff, oil water separator effluent or effluent from properly functioning marine engines.

Pesticide Application Business License from Wisconsin DATCP

This license is required for marinas that apply anti-fouling paint to boats for hire. This license is in addition to the commercial applicator license for the employees who apply pesticides. For more information on the business pesticide license, please refer to datcp.wi.gov/Pages/Licenses_Permits/Business.aspx.

Pesticide Applicator License from Wisconsin DATCP

This license is required for individuals who apply a restricted-use pesticide or are applying an antifouling paint for hire (regardless if the paint contains a restricted-use or non-restricted-use pesticide). For more information on the commercial pesticide applicator license, please refer to datcp.wi.gov/Pages/Licenses_Permits/CommercialApplicator.aspx.

Soil Erosion and Stormwater Management

Under NR 216, Wis. Adm. Code, landowners of construction sites with one acre or more of land disturbance are required to obtain construction site permit coverage to address erosion and stormwater. Landowners need to submit an application called a Notice of Intent (NOI) to request coverage under the Construction Site Stormwater Runoff General Permit No. WIS067831. More information can be found at dnr.wi.gov/topic/stormwater/construction.

Wastewater from Carriage and Interstitial Water from Dredging Operations General Permit (WI-0046558-5)

This permit is intended to cover dredging operations where carriage water or interstitial water from sediment dredging projects is discharged to surface waters or seepage systems. More information can be found at dnr.wisconsin.gov/topic/Wastewater/GeneralPermits.html.

Wisconsin Pollutant Discharge Elimination System (WPDES) Stormwater Discharge Permit Program

By authority of the Clean Water Act, the WDNR developed the WPDES Stormwater Discharge Permit Program, which is regulated under the authority of ch. NR 216, Wis. Adm. Code. The WPDES Stormwater Program regulates discharge of stormwater in Wisconsin from construction sites, industrial facilities and selected municipalities.

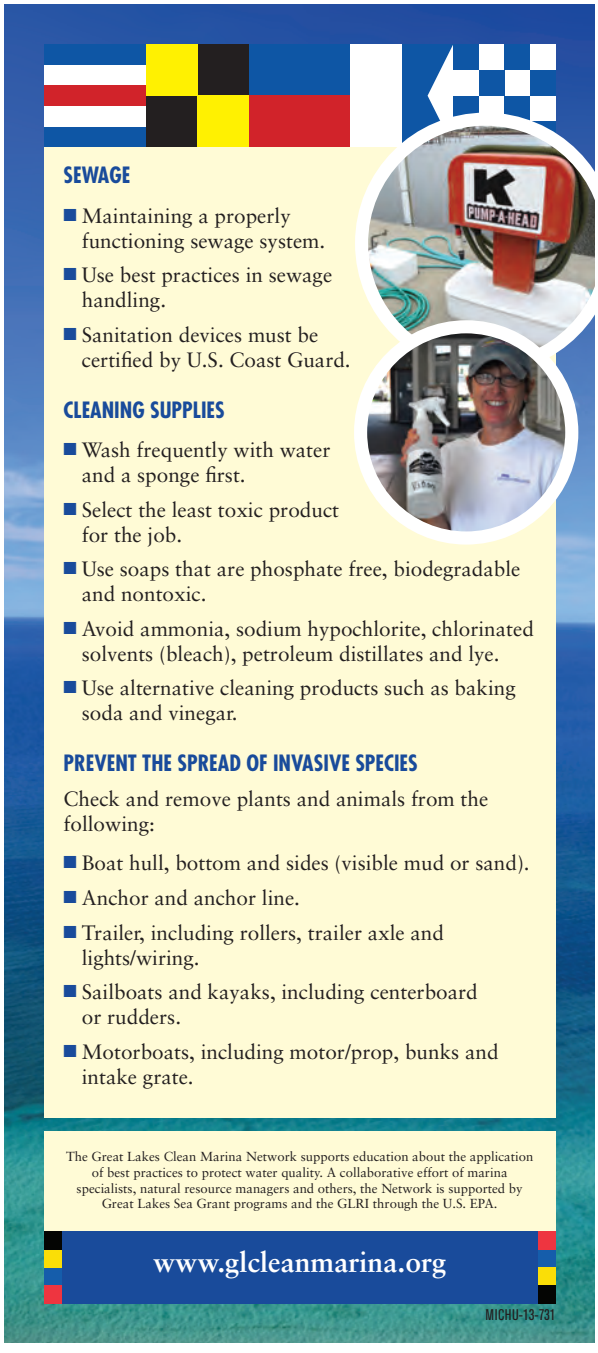
Marinas and boatyards are included in the water transportation category, which requires stormwater permit coverage (Tier 2 Industrial Stormwater Discharge permit) if they are involved in maintenance, rehabilitation, mechanical repair, painting, cleaning, fueling and lubrication to the extent that these activities have the potential to contaminate stormwater. The stormwater permit does not cover non-stormwater discharges of wastewater, such as hull-cleaning wash water.

As a condition of the stormwater permit, marinas must develop a site-specific stormwater pollution prevention plan (SWPPP) and implement best management practices (BMPs) to ensure that stormwater leaving the marina property will not harm the quality of surrounding waters. An example of a SWPPP is provided in Appendix III.

Be a Good Boating Steward

Side 1

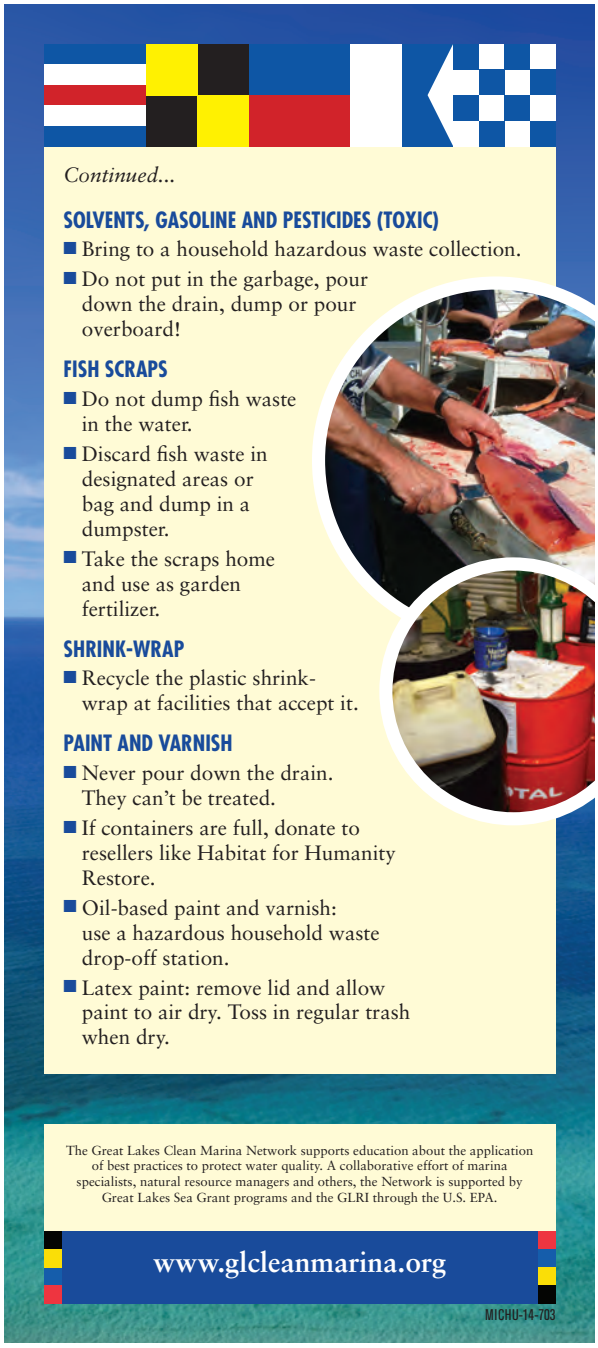
Side 2



Waste Containment and Disposal

Side 1

Side 2



Boat Cleaning Best Practices

Side 1

BOAT CLEANING
BEST PRACTICES

As you clean and maintain your boat, help keep the environment healthy too.

CLEAN CAREFULLY

- Wash frequently with a nonabrasive pad and plain water.
- If using detergent or cleanser, select the least toxic product for the job.
- Use soaps that are phosphate free, biodegradable and nontoxic. Use sparingly.
- Wax the boat.
- Clean teak with a mild soap and abrasive pads or bronze wool.
- Avoid detergents that contain heavy chemicals.
- Try alternative cleaning products (see back side).

BE A CONSCIENTIOUS CONSUMER

Read product labels. Labels reveal the degree of hazard associated with a product.

For example:

- DANGER = extremely flammable, corrosive or toxic.
- WARNING = moderately hazardous.
- CAUTION = less hazardous.

Select products that contain no warnings or which merely caution consumers.

Side 2

ALTERNATIVES TO TOXIC PRODUCTS

Bleach: Borax or hydrogen peroxide

Detergent and Soap: Elbow grease

Scouring Powders: Baking soda; or rub area with 1/2 lemon dipped in borax, then rinse

General Cleaner: Baking soda and vinegar; or lemon juice combined with borax paste

Floor Cleaner: 1 cup vinegar + 2 gallons of water

Window Cleaner: 1 cup vinegar + 1 quart warm water

Aluminum Cleaner: 2 Tbsp. cream of tartar + 1 quart hot water

Brass Cleaner: Worcestershire sauce; or paste made of equal amounts of salt, vinegar and water

Copper Cleaner: Lemon juice and water; or paste of lemon juice, salt and flour

Chrome Cleaner/Polish: Apple cider vinegar to clean; baby oil to polish

Stainless Steel Cleaner: Baking soda or mineral oil for polishing; vinegar to remove spots

Fiberglass Stain Remover: Baking soda paste

Mildew Remover: Paste of equal amounts lemon juice and salt, or white vinegar and salt

Drain Opener: Flush with boiling water + 1/4 cup baking soda + 1/4 cup vinegar

Wood Polish: Olive or almond oil (interior only)

Hand Cleaner: Baby oil or margarine will dissolve grease and dirt

Rug/Upholstery Cleaner: Dry corn starch sprinkled on and vacuumed off

The Great Lakes Clean Marina Network supports education about the application of best practices to protect water quality. A collaborative effort of marina specialists, natural resource managers and others, the Network is supported by Great Lakes Sea Grant programs and the GLRI through the U.S. EPA.

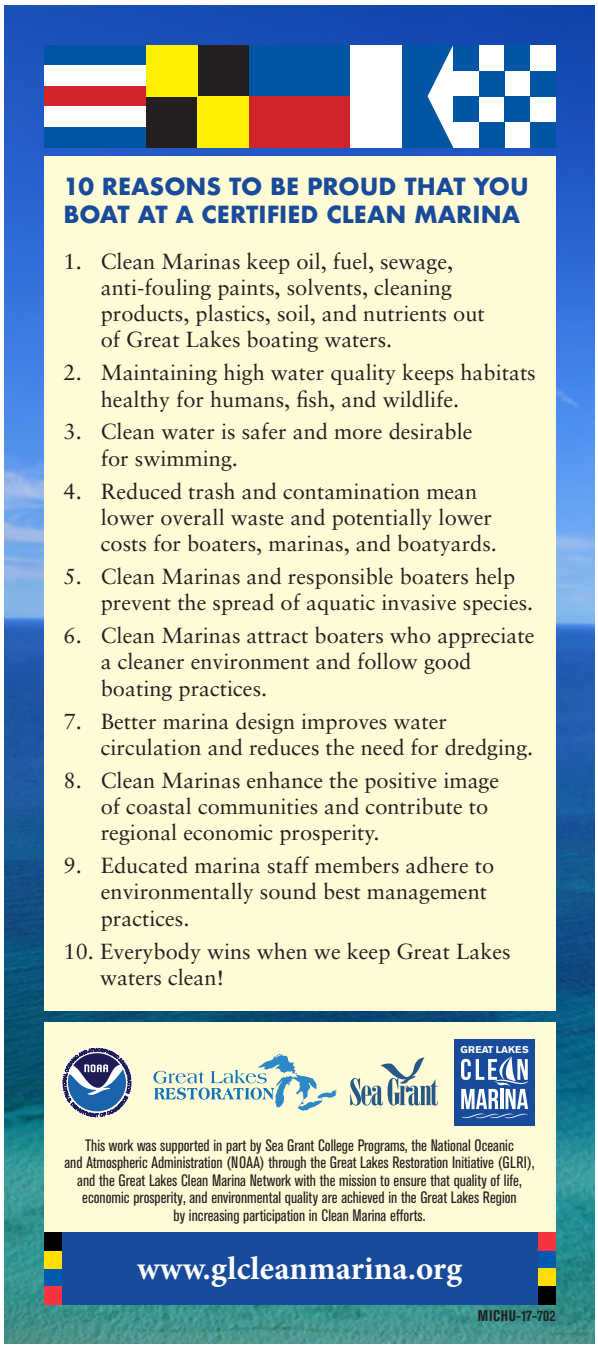
www.glcleanmarina.org

MICHU-14-704

Why Visit a Clean Marina

Side 1

Side 2



Appendices

Appendix I: Recommended Disposal Methods

Table of Recommended Disposal Methods

Waste	Disposal Options (Bold option(s) is preferred.)
Aerosol Cans	• **Put in trash as long as:** – **Aerosol can is as empty as possible.** – **Aerosol cans are at atmospheric pressure.**
Antifreeze • Propylene glycol • Ethylene glycol *Contact your waste hauler to determine if they will accept mixed antifreeze.	• **Recycle.** Hire a waste hauler for recycling or disposal.
Batteries - Lead *Store on an impervious surface, under cover. Protect from freezing. Check frequently for leakage. *Battery retailers and wholesalers are required to accept used batteries for recycling.	• **Recycle** or sell to scrap dealers.
Bilge Booms – used Bioremediating Booms *Do not seal in plastic because the microbes need oxygen to break down pollutants.	• **Discard of in regular trash as long as no liquid is dripping.**
Caulking Tubes	• **Put in trash.**
Fish Waste *Prohibit dumping of fish waste into water.	• **Establish a fish cleaning station and adopt one of the following disposal methods:** – Equip the cleaning station with a garbage disposal connected to the municipal sewer. – Compost the scraps. – Work with a local fish waste collection company. • Instruct boaters to bag scraps in plastic and place in a dumpster or bring home.
Fishing Line (Monofilament)	• **Recycle through a manufacturer or tackle shop**.
Flares - Expired Distress Signal *Store in a well-marked, fire-safe container.	• **Encourage boaters to keep on board as extras.** • **Use expired flares for safety demonstrations.** Conduct the demonstration over the water. • Encourage boaters to bring expired flares to their local fire department.
Gasoline - Stale	• **Add stabilizer in the winter to prevent it from becoming stale or an octane booster in the spring to rejuvenate it. Use the fuel.** • Mix with fresh fuel and use. • Hire a hazardous waste hauler to collect and dispose of the gasoline.
Glue and Liquid Adhesives	• **Catalyze and dispose of as solid waste in trash.**

Waste	Disposal Options (Bold option(s) is preferred.)
Kerosene	• **Filter and reuse for as long as possible, then recycle**. • Dispose of as hazardous waste.
Light Bulbs • Fluorescent bulbs • Mercury vapor lamps • High-pressure sodium vapor lamps • Low-pressure sodium vapor lamps • Metal halide lamps *If not recycled, these materials may be hazardous waste.	• **Recycle as universal waste**. Label as universal waste and ensure that light tubes do not break.
Mineral Spirits	• **Filter and reuse indefinitely.** • Dispose of as hazardous waste.
Oil Filters, Non-Terne Plated (Automotive Type) *It is now illegal to place used oil filters in your regular trash.	• **Puncture and completely hot drain for at least 12 hours. Recycle the oil and the metal canister.**
Oil Filters, Terne Plated (used in heavy equipment and heavy-duty trucks)	• **Drain and recycle the oil. Dispose of filter as hazardous waste (contains lead).**
Oil – Quart Cans	• **Drain completely and dispose of in regular trash.** They cannot be recycled.
Oil – Used Absorbent Material	• If it contains oil or diesel, wring out over recycling bins and reuse. • If it contains gasoline, store it in a fire-proof container and dispose of it as hazardous waste. • For small absorbent pads used to mop up gasoline drips and backsplash at fuel pumps, allow them to air dry and reuse.
Oil – Waste Oil: • Engine oil • Transmission fluid • Hydraulic oil • Gear oil • #2 Diesel *Contact your waste hauler to determine if oils can be collected in one container.	• **Recycle.** • Send the waste to a used oil processor or re-refiner. • Self-transport 55 gallons or fewer to a local collection site. • Use a licensed waste oil hauler to periodically collect stored waste oil.
Paint Brushes	• **Allow to dry completely. Discard in regular trash.**
Paint Cans (empty)	• **Put in trash as long as:** **– Paint can is as empty as possible. Be sure no more than 1" of residue (dry) is on the bottom or inner liner.**
Paint Filters	• **Allow to dry completely in paint booth prior to disposal.** Treat as hazardous waste if paint contains heavy metals.

Waste	Disposal Options (Bold option(s) is preferred.)
Paints and Varnishes • Latex • Water-based • Oil-based	• Water-based: **Allow to dry completely. Dispose of in regular trash.** Oil/Solvent-based: **Dispose of as hazardous waste.** • Water-based and Oil-based: **Use leftover material for other projects, such as an undercoat for the next boat.** Encourage tenants to exchange unused material.
Pesticides	• **Dispose of as hazardous waste**.
Pet Waste *Prohibit dumping of pet waste into water.	• **Establish a pet walk area and provide pet waste bags for disposal.**
Plastic Shrink Wrap	• **Recycle.**
Pressure Washing (Solids and Sludge)	• **Dispose of as solid waste, if nonhazardous.**
Rags Soaked with Hazardous Substances	• **Keep in covered container until ready to discard. Dispose of the solvent that collects in the bottom of the container as hazardous waste.**
Resins - Epoxy and Polyester	• **Catalyze and dispose of as solid waste in trash.**
Sanding, Scraping, and Blasting Dust and Debris *If it contains metals, it is hazardous waste and must be disposed of properly.	• **If nonhazardous, dispose of as solid waste.** • **If hazardous dispose of as hazardous waste.**
Scrap Metal	• **Recycle.**
Solvent - Paint and engine cleaners such as acetone and methylene chloride	• **Reuse as long as possible and then recycle.** • Dispose of as hazardous waste.
Solvent – Hazardous Sludge	• **Dispose of as hazardous waste.**
Solvent – Non-Hazardous Sludge	• **Let sludge dry in a well-ventilated area, wrap in newspaper, and dispose of in garbage.**
Tires - Scrap	• Recycle. You need to register with the WDNR if you will be collecting more than 500 tires. Store them according to National Fire Protection Association Standards.

Appendix II: Sample Signs for Marinas

Suggested Signs Describing Best Management Practices

The following signs are examples and should be tailored to your marina and local regulations:

Do Not Place the Following Items in Any Dumpster in the Marina

- Oil
- Antifreeze
- Paints
- Varnishes
- Solvents
- Lead batteries
- Transmission fluids

Help Keep our Marina Fisherman Friendly

- Do not discard fish scraps with the marina basin.
- Never clean fish on docks or tables.
- Use our fish cleaning station.
- Bag the scraps and dispose of them in the trash bin or at home.
- Don't feed the seagulls.
- Stay clear of occupied slips.
- Keep walkways clear.
- Never leave lines and hooks behind.

1. We Recycle Oil

This container is for:

- Engine oil
- Transmission fluid
- Hydraulic fluid
- Gear oil
- #2 Diesel
- Kerosene

Gasoline is STRICTLY PROHIBITED!

OR

2. We Recycle Oil

Please see the marina office for oil and liquid waste disposal.

1. We Recycle Antifreeze

This container is for:

- Ethylene glycol antifreeze
- Propylene glycol antifreeze

Gasoline, diesel, kerosene and all other material is STRICTLY PROHIBITED!

OR

2. We Recycle Antifreeze

Please see the marina office for oil and liquid waste disposal.

Keep Fuel out of the Water

- Do not top off tank.
- Only fill tank to 90% capacity.
- Listen to anticipate when tank is almost full.
- Wipe up spills immediately.

Rules for Boat Maintenance

- All major repairs must be done in the boat maintenance area.
- All blasting and spray painting must be done within an enclosed booth or under tarps.
- Use tarps or filter fabric to collect paint chips and other debris.
- Use a vacuum sander.
- Use drip pans with all liquids.
- Store waste solvents, rags and paints in covered containers.

Mixed Recyclables

- Paper
- Magazines
- Cardboard
- Glass
- Aluminum cans
- Plastic bottles & containers

Keep the Lake Free of Trash

- Properly stow and secure all trash on your boat.
- Recycle cans and plastic bottles.
- Recycle fishing line to prevent animal entanglements.
- Don't toss cigarette butts overboard. They are made of plastic.
- Collect trash you find and properly dispose of it.

Please do not Feed the Birds

Human feeding can cause:

- Poor nutrition
- Spread of disease
- Inability to escape predators
- Delayed migration
- Water pollution

Birds at this marina are wild, please help us keep them that way.

Growing not Mowing

This marina is allowing certain areas to return to their natural states. This enhances wildlife habitat, improves water quality, and conserves labor, equipment and fuel.

Appendix III: Stormwater Pollution Prevention Plan (SWPPP)

The following template from the Wisconsin Department of Natural Resources (WDNR) can be used to prepare an industrial stormwater pollution prevention plan. Marinas, while regulated for stormwater runoff like other businesses, have different stormwater circumstances than other types of facilities. Notes have been added to this template to assist in adapting it to stormwater runoff for marinas. This template is also available from the WDNR website: dnr.wi.gov/topic/stormwater/documents/sampleSWPPP.pdf.

Sample SWPPP

Note: A DNR stormwater permit does not require use of this particular stormwater pollution prevention plan (SWPPP). This SWPPP is provided solely for voluntary use by industrial stormwater permittees.

TABLE OF CONTENTS

GENERAL FACILITY INFORMATION

Name of Facility: _____

Facility Address: _____

Facility Contact: _____

Name: _____

Title: _____

Telephone: _____

Mailing Address: _____

_____

_____

Owner: _____

Operator: _____

(if different from Owner)

Standard Industrial classification (SIC) Code: **4493**

Permit Information:

Facility Permit Name: _____

Permit Number: _____

Initial Date of Coverage: _____

Number of Storm Water Outfalls: _____

Receiving Waters: _____

Emergency Contact (preferably on-site):

Name: _____

Telephone: _____

1.0 OVERVIEW

1.1 INTRODUCTION

This storm water pollution prevention plan (SWPPP) covers the operations at **insert facility name**. It has been developed as required under Part III of Wisconsin's Pollutant Discharge Elimination System (WPDES) general permit for storm water discharges and in accordance with good engineering practices. This SWPPP describes this facility and its operations, identifies potential sources of storm water pollution at the facility, recommends appropriate best management practices (BMPs) or pollution control measures to reduce the discharge of pollutants in storm water runoff, and provides for periodic review of this SWPPP.

1.2 OBJECTIVES

The primary goal of the storm water permit program is to improve the quality of surface waters by reducing the amount of pollutants potentially contained in the storm water runoff. Industrial facilities subject to industrial storm water WPDES permit (i.e. Tier 1, Tier 2, scrap recycling or vehicle parts dismantling permits) must prepare and implement a SWPPP for their facility.

This SWPPP will:

1. identify sources of storm water and non-storm water contamination to the storm water drainage system;
2. identify and prescribe appropriate "source area control" type best management practices designed to prevent storm water contamination from occurring;
3. identify and prescribe "storm water treatment" type best management practices to reduce pollutants in contaminated storm water prior to discharge;
4. prescribe actions needed either to bring non-storm water discharges under WPDES permit or to remove these discharges from the storm drainage system;
5. prescribe an implementation schedule so as to ensure that the storm water management actions prescribed in the *Stormwater Pollution Prevention Plan* are carried out and evaluated on a regular basis.

2.0 STORM WATER POLLUTION PREVENTION TEAM

The storm water pollution prevention team is responsible for developing, implementing, maintaining, and revising this SWPPP. The members of the team are familiar with the management and operations of **insert facility name.**

Identify by job title the person in charge of all aspects of SWPPP development and implementation. The member(s) of the team and their responsibilities (i.e. implementing, maintaining, record keeping, submitting reports, conducting inspections, employee training, conducting the annual compliance evaluation, testing for non-storm water discharges, signing the required certifications) are as follows:

Name & Title	Responsibility

3.0 POTENTIAL SOURCES OF POLLUTANTS

3.1 SITE MAP

Figure 1 (attached) presents a site map of the facility showing the following features as required by the permit:

- the facility property boundaries;
- a depiction of the storm drainage collection and disposal system, including all known surface and subsurface conveyances, with the conveyances named;

- any secondary or other containment structures;
- the location of all outfalls, including outfalls recognized as permitted outfalls under another WPDES permit, numbered for reference, that discharge channelized flow to surface water, groundwater, or wetlands;
- the drainage area boundary for each storm water outfall;
- the surface area in acres draining to each outfall, including the percentage that is impervious such as paved, roofed, or highly compacted soil and the percentage that is pervious such as grassy areas and woods; existing structural storm water controls;
- the name and location of receiving waters;
- and the location of activities and materials that have the potential to contaminate storm water shall also be depicted on the drainage base;
- map.

3.2 SUMMARY OF SAMPLING DATA

The following is a summary of the chemical outfall sampling data available for **insert facility name**.

Note: Not all facilities will have sampling data available. If there is data available it is to be included in the SWPPP. If there is no data available, please state that in this section.

3.3 INVENTORY OF POTENTIAL SOURCES OF CONTAMINATION

The following have been identified as potential sources of stormwater contamination.

Select and expand as appropriate. Include the ways in which these materials might be exposed to the storm water runoff. And identify the outfalls from which the materials may be discharged if a release should occur.

- outdoor manufacturing areas;
- rooftops contaminated by industrial activity or a pollution control device;
- areas of significant soil erosion;
- industrial plant yards;
- storage and maintenance areas for material handling equipment;
- immediate access roads and rail lines;
- material handling sites (storage loading, unloading, transportation, or, conveyance of any raw material, finished product, intermediate product, by-product or waste;
- shipping and receiving areas;
- manufacturing buildings;
- residual treatment, storage, and disposal sites;
- storage areas (including tank farms) for raw products materials, finished and intermediate;
- refuse sites;

- disposal or application of wastewater;
- areas containing residual pollutants from past industrial activity, spills and leaks;
- vehicle maintenance and cleaning areas;
- any other areas capable of contaminating storm water runoff.

For marinas, typical areas also include:

- Boat maintenance areas
- Boat storage areas
- Waste storage areas
- Fueling areas
- Parking lots
- Septage pumping areas

4.0 OTHER PLANS INCORPORATED BY REFERENCE

The following plan(s) is/are incorporated into the SWPPP by reference.

Examples include: Preparedness, Prevention and Contingency Plan (40 Code of Federal Regulations [CFR] 264 and 256), Spill Control and Countermeasures Requirement (40 CFR 112),National Pollutant Discharge Elimination System (NPDES) Toxic Organic Management Plan (40 CFR 413, 433, 469) and Occupational Safety and Health Administration (OSHA) Emergency Action Plan (29 CFR 1910), Preventative Maintenance Plan

5.0 BEST MANAGEMENT PRACTICES

Storm water management controls, or best management practices (BMPs), will be implemented to reduce the amount of pollutants in storm water discharged from insert facility name.

5.1 SOURCE AREA CONTROL

To the maximum extent practicable, and to the extent it is cost effective, the use of source area control best management practices designed to prevent storm water from becoming contaminated will be used. Source area control best management practices that are either proposed or in place are indicated on the attached drainage base map described in subsection (3.1).

Erosion Control Measures

Areas prone to soil erosion shall be protected, and the soil kept out of the stormwater discharge.

Note: Erosion control measures to be considered are reconstruction of slopes, seeding bare areas, diversion of runoff, paving traveled areas, trapping sediment, protecting inlets and preventing tracking.

Good Housekeeping

Good housekeeping practices are designed to maintain a clean and orderly work environment. This will reduce the potential for significant materials to come in contact with stormwater.

The follow practices are included in our good housekeeping routine. (Examples: keeping the pump area clean, keeping an accurate inventory, sweeping paved areas and floors, picking up repair facilities, etc.)

Area/Equipment	Tasks	Frequency

Preventive Maintenance

Preventive Maintenance involves the regular inspection, testing, and cleaning of facility equipment and operational systems. These inspections will help to uncover conditions that might lead to a release of materials. Thus, allowing for maintenance to prevent such a release.

The following equipment/activities will be included in the preventive maintenance program. (Examples: fuel pumps, storage tanks for waste fluids, all structural controls, etc.)

Area/Equipment	Tasks	Frequency

Quarterly Visual Comprehensive Inspections

The permit requires a quarterly inspection of the stormwater runoff. These inspections must be conducted during a runoff event. Records of the inspections must be kept on file with the SWPPP. The water must be checked for physical properties such as odor, color, turbidity, suspended solids, or foam.

Spill Prevention and Response Procedures

Spills and leaks together are the largest industrial source of storm water pollution. Thus, this SWPPP specifies material handling procedures and storage requirements for significant materials. Equipment and procedures necessary for cleaning up spills and preventing the spilled materials from being discharged have also been identified. All employees have been made aware of the proper procedures.

The following procedures have been developed for spill response for our facility. (Examples of areas to include: pumping station, maintenance and repair areas, wash areas, etc.)

Area	Materials Present	Response Plan Location

Employee Training

Note: Employee training should be a major component in ensuring the success of the facilities SWPPP. The more knowledgeable all employees are about the facility's SWPPP and what is expected of them, the greater the chance that the plan will be successful.

The following is a description of the employee training programs to be implemented to inform appropriate personnel at all levels of responsibility of the components and goals of the SWPPP. (Examples: good housekeeping practices, spill prevention and response procedures, waste minimization practices, informing customers of facility policies, etc.)

Topic	Employees Included	Frequency

Bulk Storage

Bulk storage piles will be managed following the best management practices described in WDNR publication "Storage Pile Best Management Practices" WT-468-96.

5.2 RESIDUAL POLLUTANTS

After the implementation of the non-structural controls, the following significant materials are expected to be present in the storm water discharge. These materials will be addressed through the use of structural controls. The potential for the following chemicals to be present must be evaluated.

- Any pollutant that has an effluent limit in any discharge permit issued to this facility.
- Any pollutant contained in a categorical effluent limit for this facility.
- Any SARA 313 chemicals on the property to contaminate stormwater must be evaluated. The listing of SARA 313 chemicals may be found at epa.gov/ceppo/pubs/title3.pdf
- Any toxic or hazardous pollutant from present or past activity at the site which could be in contact with precipitation or storm water runoff and thus be discharged to the waters of the State and is not regulated by any other environmental program.
- Oil and Grease, pH, total suspended solids, 5 day Biological oxygen demand, and chemical oxygen demand.

After the implementation of non-structural controls the following materials are expected to still be present in the storm water being discharged from the facility. (If there will be no significant materials present after the implementation of nonstructural controls, state that in this section.)

Material	Location	Outfall	Planned Control Measure

5.3 STORMWATER TREATMENT BEST MANAGEMENT PRACTICES

Structural control measures may be necessary to control pollutants that are still present in the storm water after the non-structural controls have been implemented. These types of controls are physical features that control and prevent storm water pollution. They can range from preventive measures to collection structures to treatment systems. Structural controls will require construction of a physical feature or barrier. (If no structural control measures are needed at the facility, state that in this section).

Preventive Measures

Preventive measures are controls that are intended to prevent the exposure of storm water to contaminates.

The following preventive measures have been chosen for this facility. (Examples: signs and labels, safety posts, fences, a security system, coverings over areas of concern, etc.)

Area	Material	Control Measure

Diversions

Diversion practices are structures (including grading and paving) that are used to divert storm water away from high risk areas and prevent contaminants from mixing with the runoff, or to channel contaminated storm water to a treatment facility or containment area.

The following areas are to be protected through the use of diversion structures (Examples: storage areas, processing areas, past spills, , etc.)

Area	Material	Control Measure

Containment

Containment areas are structures designed to hold pollutants or contaminated stormwater to prevent it from being discharged to surface waters. These structures can range from drip pans to large containment areas.

Containment structures will be/have been installed in the following areas (Examples: containment around waste fluid storage areas, drip pans under valves and pipe connections, curbing around dismantling areas or parts storage areas, etc.)

Area	Material	Control Measure

Other Controls

There are other control measures that can be used that may not fit into one of the previously mentioned categories. The use of such controls is encouraged.

The following additional controls have to be used at the facility. (Examples: sumps, oil/water separators, sand filters, vegetative filters, basins [collection, retention, detention], reduce, reuse, and recycle materials, etc.)

Area	Material	Control Measure

5.4 FACILITY MONITORING

Monitoring includes site inspections as well as the collection and analysis of storm water samples. The purpose of monitoring is to: a) evaluate storm water outfalls for the presence of non-storm water discharges , and b) evaluate the effectiveness of the companies pollution prevention activities in controlling contamination of storm water discharges. Monitoring must include:

Non-Storm Water Discharges

All storm water outfalls shall be evaluated for non-storm water contributions to the storm drainage system for the duration of this permit. Any monitoring shall be representative of non-storm water discharges from the facility. Any unauthorized storm water discharges must be eliminated, or covered under another WPDES permit. The following is a list of non-storm water discharges or flows that are not considered illicit (unless identified as a significant source of contamination).

water line flushing, landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, de-chlorinated swimming pool water, street wash water, and fire fighting.

1) Evaluations shall take place during dry periods, and may include either end of pipe screening or detailed testing of the storm sewer collection system.

2) Either of the following monitoring procedures is acceptable:

   a) A detailed testing of the storm sewer collection system may be performed. Acceptable testing methods include dye testing, smoke testing, or video camera observation. A re-test shall be done every 5 years or a lesser period as deemed necessary.

b) End of pipe screening shall consist of visual observations made at least twice per year at each outfall of the storm sewer collection system. Instances of dry weather flow, stains, sludge, color, odor, or other indications of a non-storm water discharge shall be recorded;

The following table summarizes the evaluation results.

Date	Outfall	Method	Evaluator	**Observations** (are there any non-storm water discharges? Authorized or unauthorized?	Date Corrected

If outfalls cannot be evaluated for non-storm water discharges **Identify by job title the authorized representative** shall sign a statement certifying an inability to comply with this requirement, and include a copy of the statement in the SWPPP. In this case, the SWPPP shall be submitted to the department.

Annual Facility Site Compliance Inspection

The **insert position description** shall make an annual inspection to evaluate the effectiveness of the SWPPP. The inspection shall be adequate to verify that the site drainage conditions and potential pollution sources identified in the SWPPP remain accurate, and that the best management practices prescribed in the SWPPP are being implemented, properly operated and adequately maintained. Information reported shall include the inspection date, inspection personnel, scope of the inspection, major observations, and revisions needed in the SWPPP.

Quarterly Visual Monitoring

The **insert position description** shall perform and document quarterly visual inspections of stormwater discharge quality at each storm water discharge outfall. Inspections shall be conducted within the first 30 minutes of discharge or as soon thereafter as practical, but not exceeding 60 minutes. The inspections shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or other obvious indicators of storm water pollution. Information reported shall include the inspection date, inspection personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination.

Annual Chemical Storm Water Sampling *(note this is for tier 1, scrap recycling and vehicle parts dismantling permit facilities only)*

Within 24 months of the effective date of coverage under the storm water general permit, we shall perform annual chemical storm water sampling at each outfall for those residual pollutants listed in Section 5.2 as required under Part III B (2)(g) of the

permit. Chemical monitoring may be discontinued after submitting the second annual facility site compliance inspection report. The following are specific requirements for chemical storm water monitoring:

(a) Storm water samples shall be collected during the period of March through November from rainfall events that produce greater than 0.1 inch of rainfall and occurs at least 72 hours after a previous rainfall of 0.1 inch or greater.

(b) Storm water samples shall be representative of either:

1. The "first flush" of storm water runoff from the outfall. Composite samples are for all pollutants except those for which analytic techniques require grab samples. The composite sample shall be collected during the first 30 minutes of runoff. At least 3 separate samples shall be collected for compositing, and the collection of samples should be evenly spaced throughout the sampling period, or
2. The storm water discharged from a detention pond that has greater than a 24 hour holding time for a representative storm. A grab sample is required for all pollutants. The grab sample shall be representative of the storm water discharge from the pond outfall.

(c) Monitoring samples shall be representative of the volume and nature of the monitored discharge. Analytic testing shall be in conformance with ch. NR 219, Wis. Adm. Code, folio.legis.state.wi.us/cgibin/om_isapi.dll?clientID=75986&infobase=code.nfo&jump=ch.%20NR%20219 unless an alternate procedure is approved by the department prior to the initiation of sampling.

(d) For each storm water measurement or sample taken, the sampler shall record and submit the following information to the Department of Natural Resources. This information which shall be included in the annual facility site compliance inspection report for the respective year must include:

1. The date, exact place, method and time of sampling or measurements;
2. The individual who performed the sampling or measurements;
3. The date the analysis was performed;
4. The individual and laboratory that performed the analysis;
5. The analytical techniques or methods used;
6. The results of the analysis;
7. The estimated duration of the rainfall event, in hours, and the estimated total amount of precipitation falling during the rainfall event, in inches.

(e) Monitoring Waivers. The department may waive specific monitoring requirements for the following reasons:

(1) **Insert Company name** documents that either an employee could not reasonably be present at the facility at the time of the snowmelt or runoff event, or that attempts to meet the monitoring requirement would endanger employee safety or well-being.

(2) **Insert Company name** documents there were no snow melt or runoff events large enough to conduct a quarterly visual inspection at an outfall.

5.5 IMPLEMENTATION SCHEDULE

This SWPPP becomes effective as of **insert date**. The non-structural controls will be implemented by **insert date**. Structural controls will be in place by **insert date**.

6.0 RECORD KEEPING AND REPORTING

The following pages contain blank forms for the record keeping and reporting associated with the SWPPP. All reports and records pertaining to the permit coverage under this general permit shall be retained for the later of 5 years beyond the date of the permit cover letter, or for a minimum of three years. The forms are to be kept on site and shall be made available to the WDNR upon request. In the case of facilities which discharge storm water to a municipal separate storm sewer system, the records must also be made available to the operator of the municipal system.

A current copy of the Stormwater Pollution Prevention Plan Summary must be sent to the WDNR. For tier 1 facilities the first two annual inspections and two annual chemical sampling results must also be sent to the WDNR.

Quarterly Visual Inspection Fact Sheet

Annual Facility Site Compliance Inspection Report

Stormwater Pollution Prevention Plan Summary

Stormwater Chemical Analysis Report Form

7.0 CERTIFICATION OF THE SWPPP

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information contained in the plan. Based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering then information; the information contained in this document is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for providing false information, including the possibility of fine and imprisonment. In addition, I certify under penalty of law that, based upon inquiry of persons directly under my supervision, to the best of my knowledge and belief, the provisions of this document adhere to the provisions of the stormwater permit for the development and implementation of a Storm Water Pollution Prevention Plan and that the plan will be complied with."

_____

(Signature of Plan Preparer)

_____ _____

(Printed Name) (Date)

_____ _____

(Signature of Authorized Representative) (Date)

_____ _____

(Printed Name) (Title)

Appendix IV: Spill Prevention, Control and Countermeasure (SPCC) Plan

Spill Prevention, Control, and Countermeasure (SPCC)

This sample plan was provided by Washburn Marina. The EPA also provides a template for marinas: epa.gov/sites/default/files/2015-05/documents/marina-sample-spcc-plan-200201.pdf.

Marina Name: Washburn Marina
Address: 1 Marina Drive, Washburn, WI 54891
Contact: Michelle Shrider
Phone: 715-373-5050
Fax: 715-373-5117
e-mail: michelle@washburnmarina.com

Self-Certification: I hereby certify that I have examined the facility, and, being familiar with the provisions of 40 CFR part 112, attest that this SPCC plan has been prepared in accordance with accepted and sound industry practices and standards, and with the requirements of 40 CFR §112.3 and §112.6

The facility described herein is qualified to self-certify this Plan in lieu of using a Professional Engineer and is opting to do so. **I attest this facility is a "qualified facility" as defined in 40 CFR Part 112.3 (g) which indicates the facility:** 1) has an aggregate aboveground storage capacity of 10,000 gallons or less and (2) has had no single discharge as described in § 112.1 (b) exceeding 1,000 U.S. gallons or not two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than discharges as described in §112.1(b) that are result of natural disasters, acts of war, or terrorism). www.epa.gov/oilspill/spcc.htm

In self-certifying this plan I also attest that:

(1) I am familiar with the requirements of 40 CFR part 112;

(2) I have visited and examined the facility;

(3) The Plan has been prepared in accordance with accepted and sound industry practices and standards, and with the requirements of 40 CFR §112.6;

(4) Procedures for required inspections and testing have been established;

(5) The Plan is being fully implemented;

(6) The facility meets the qualification criteria set forth under §112.3(g);

(7) The Plan does not deviate from any requirement of this part as allowed by §§ 112.7(a)(2) and 112.7(d), except as provided in paragraph (c) of this section; and

(8) The Plan and individual(s) responsible for implementing the Plan have the full approval of management and the facility owner or operator has committed the necessary resources to fully implement the Plan.

This plan has been self-certified by:

Name: Michelle Shrider
Title: General Manager of Washburn Marina
Address: 1 Marina Drive, Washburn WI 54891
Date of certification: October 12, 2016

FACILITY INFORMATION

Facility Name: WASHBURN MARINA

Mailing Address: PO BOX 482

Physical address, if different: 1 MARINA DRIVE

Owner Name: CITY OF WASHBURN WISCONSIN

Owner Address: PO BOX 638

Primary Contact Name: Michelle Shrider, Marina General Manager

Work Phone Number: 715-373-5050

Home Phone Number: 715-779-3674

Mobile Phone Number: 715-209-7455

Secondary Contact Name: Scott Kluver, Washburn City Administrator

Work Phone Number: 715-373-6160

Date of Initial Operation: 1982

SITE ASSESSMENT

Location:

Adjacent Water Body: Chequamegon Bay of Lake Superior, Wisconsin, USA
Nearest Confluence: NA
Mile Marker: Latitude: 46 40" 14.8764" Longitude: -90 53' 10.3452"
County: Bayfield County, Wisconsin

FACILITY DESCRIPTION

Acres of land: 11 acres

Facilities and Equipment:

Wet slips: 138
Maintenance building: 1 qty – 8500 square feet
Ships store: 1 qty – 2000 square feet
Restrooms: 2 shower rooms with toilet stalls (men and women), 2 public restrooms (men and women), 2 staff restrooms (men & women)
Offices: 1 qty – 1500 square feet

Pavilion/picnic area – 3 qty, 1 covered
Pump-out station: at fuel dock
Commercial fuel dock: gasoline & diesel
Travel lift: 150 ton capacity
Hydraulic trailer – 2 qty - 20 ton each; 1 qty – 35 ton
Crane – 1 qty, 12 ton
Man Lift – 1 qty – 45 feet reach

Services:

Place an X beside all that apply.

X	general maintenance	X	canvas
X	commissioning	X	rigging
X	winterization	X	fiberglass
X	pressure washing	X	blister repair
X	cleaning and waxing	X	carpentry
X	engine repair/tuning	X	air conditioning repair and service
X	propeller repairs	X	refrigeration
X	oil changes	X	electrical
X	parts cleaning	X	plumbing
X	painting		other services. Please list:
X	blasting		
X	sanding		

Fixed Storage:

One 2,000-gallon above-ground tank containing diesel fuel.
One 2,000-gallon above-ground tank containing diesel fuel.

Non-Fixed Storage:

One 200-gallon above-ground tank for waste oil
One 200-gallon above-ground tank for waste antifreeze
One 55-gallon drum for waste oil filters
One 55-gallon drum for waste oil absorbent material

Total quantity of stored materials:

The combined quantity of the materials listed above: 4,510 gallons

OIL SPILL HISTORY

Place an X on the appropriate line and proceed accordingly.

__X__ There has never been a significant spill at the above named facility.

_____ There have been one or more significant spills at the above named facility. Details of such spill(s) are described below.

POTENTIAL SPILL VOLUMES AND RATES

Fill in all applicable blanks. Be prepared to show documentation of flow rates. **Your fuel vendor and the manufacturer of your storage and dispensing equipment should be able to provide this documentation**.

Potential Event	Volume Released	Spill Rate
Complete failure of a full tank*	2000 gallons	instantaneous
Partial failure of a full tank*	2000 gallons	gradual to instantaneous
Tank overflow**	1 to 2000 gallons	up to 40 gallons per min.
Leaking during unloading***	up to 2000 gallons	up to 40 gallons per min.
Pipe failure****	up to 2000 gallons	up to 15 gallons per min.
Leaking pipe or valve****	several ounces to gallons	up to 15 gallons per min.
Fueling operations****	several ounces to gallons	up to 15 gallons per min.
Oil and grease	several ounces to quarts	spotting

* Volume of largest tank

** Calculate using the rate at which fuel is dispensed from the delivery truck into your tank(s).

*** Calculate using the rate at which petroleum would be withdrawn from the tank if it should have to be emptied (e.g., if it was being taken out of service).

**** Calculate based on the specifications of your equipment.

SPILL PREVENTION AND CONTROL

Spill Prevention:

Provide specific descriptions of containment facilities and practices. Include description of items such as double-walled tanks, containment berms, emergency shut-offs, drip pans, fueling procedures and spill response kits. Also, describe how and when employees are trained in proper handling procedures and spill prevention and response procedures.

2000 gallon fuel tanks are double walled and in catch basin. Emergency shut off switch to fuel pumps is visible and near tanks. All fueling is done by marina staff at fuel dock only. Spill response kit is located at head of fuel tank. Employees are trained from custom Emergency Response Procedure Manual in April of each year (see attached). Partnerships have been created with other local marinas for sharing of water deployed boom material when necessary. 200 gallon recycling tanks and 55 gallon drums are in containment basin

Description of where a spill would go:

The 2000 gallon diesel and gasoline tanks are double lined and capable of containing up to 25% of the total volume. A catastrophic spill would release fuel into grass and gravel prior to seeping to water. Containment booms are readily available.
A spill inside the containment of the recycling barrels is capable of holding over 200 gallons. It is sealed to prevent leaking.
Minor spills are prevented by utilization of catch pans equivalent to or greater than the volume involved. Modest spills are quickly absorbed with oil absorbents and handled as hazardous waste.

Describe actions that would be taken in the event of a spill:

See attached Emergency Response Procedure manual for all information.

FACILITY INSPECTIONS

A. Name facilities and the frequency with which they are inspected. For example, "The fuel pumps are inspected daily. The materials storage area is inspected monthly." Name the person who has responsibility to implement preventative maintenance programs, oversee on-site inspections, coordinate employee training, maintain records, update the plan as necessary, and ensure that reports are submitted to the proper authorities.

Fuel pumps and tanks are inspected daily by marina staff, WI state inspection done annually in the spring of each year. Daily fuel records are kept and compared monthly to actual. All logs and records are stored digitally, with secure back up, available for inspection at all times. Preventative maintenance is scheduled on fuel pumps, valve access plate and electrical monthly by Harbor Master.

B. Include a description of annual comprehensive inspections. For example, "A site inspection is also conducted annually by appropriate responsible personnel to verify that the description of potential pollutant sources are accurate, that the map reflects current site conditions, and that the controls to reduce the pollutants identified in this plan are being implemented and are adequate. This annual inspection will be conducted above and beyond the routine inspections done focusing on designated equipment and areas where potential sources are located."

Complete facility inspection, emergency response training records update is done annually in spring of each year by Marina Manager and Harbor Master Records of inspections are reviewed by Washburn Harbor Commission and accompanied by an onsite visit.

RECORD KEEPING

Describe record keeping procedures. For example, "Record keeping procedures consist of maintaining all records a minimum of three years. The following items will be kept on file: current SPCC plan, internal site reviews, training records, and documentation of any spills or maintenance conducted in regards to these sites."

All records are retained permanently in a digital form on the Washburn Marina server, which is backed up daily to a secure site.

MARINA MANAGEMENT APPROVAL

I certify that I have personally examined and am familiar with the information submitted in this document and that, based on my inquiry of those individuals responsible for obtaining this information, the information submitted is true, accurate and complete.

_____ _____

Signature Title

_____ _____

Printed name Date

MAINTENANCE INSPECTIONS

Maintenance Coordinator: _____

Maintenance Coordinator responsibilities include implementation of preventative maintenance programs and oversight of on-site inspections.

Use this table to record inspections:

Facility Inspected	Date of Inspection	Name of Inspector	Result Pass/Fail	Comments

EMPLOYEE TRAINING

Employee Training Coordinator: _____

Use this table to record spill prevention and response training.

Name of Employee	Date of Training	Type of Training/Topics Addressed

RECORD KEEPING OF INCIDENTAL SPILLS

Record Keeper: _____

Record Keeper responsibilities include maintaining records of incidents, updating the SPCC plan as necessary and ensuring reports are submitted to the proper authorities when necessary.

Incident No.	Type of Incident	Date of Occurrence	How it was Cleaned Up

APPENDICES

Site map:

Included: a site map as Appendix A to this plan with the following indicated:

- All facilities within your marina as close proportionately as possible.
- Arrow indicating north.
- Elevation lines to indicate downhill flow of water when it rains.
- Location of any inlets or catch basins that may presently exist on your property.
- Location and general layout of all boat slips associated with your marina.
- All methods of entry to the waterway, i.e., boat ramps, lift well, etc.
- Boat washing areas.
- Location of all fuel containment facilities.
- Location of all in-place spill prevention, control and countermeasure devices.

Appendix V: Emergency Response Plan

Sample Emergency Response Procedure Manual for Washburn Marina. This template is also available on the Wisconsin Clean Marina website at wisconsincleanmarina.org/resources/sample-plans/?_ga=2.112574148.1916571691.1666878749-890144591.1657814580.

Washburn Marina

1 Marina Drive
Washburn, Wisconsin 54891
715-373-5050
boat@washburnmarina.com
www.washburnmarina.com

EMERGENCY RESPONSE PROCEDURE MANUAL

Revised

05/05/2009
01/15/2013
06/26/2013
02/18/2014
04/22/2016
02/23/2018
01/10/2019

EMERGENCY RESPONSE PROCEDURE MANUAL

Table of Contents

INTRODUCTION

The Washburn Marina is located at 1 Marina Drive, in the City of Washburn Wisconsin. The Washburn Marina operates a 143 slip municipal harbor on Chequamegon Bay, Lake Superior with 10.5 acres upland and 6.9 acres of water area within the harbor. Access to the Marina is from Wisconsin Highway 13 from the north or south, via Central Avenue.

The marina harbor is in one basin with 4 primary piers. Pier 1, the southeastern most pier, is the largest with 44 slips ranging from 14′ by 24′ in size to 17′ by 50′. Pier 2, the central pier, has 44 slips ranging from 15′ by 32′ in size to 15′ by 36′. Pier 3, the pier located on the northwest side of the harbor, has 50 slips ranging from 12′ by 24′ in size to 13′ by 28′. On the far northwest bank of the Marina is a public launch ramp, with a concrete approach. It is 39 feet in width, with a concrete bed that goes out 60 feet. Pier 4 is to the northwest of the launch ramp with 5 slips that are 15′ x 30′, for daily and weekly rental only. On the far southeastern side of the Marina is the fuel dock, 90′ x 12′ and deep well 90′ x 35′. The average depth of the marina is between 6′ and 10′.

There is one primary building on the property; it is 140′ x 80′. It houses the Marina's Ship Store, Service Department, Administrative offices, a Boater's Lounge and private and public restroom/shower facility. The Ship Store is open to the public and carries a wide array of marine supplies as well as personal items. Within the Marina's Service Department, technicians provide mechanical, electrical, fiberglass and general boat maintenance repair.

There are 3 additional privately owned heated boat storage buildings adjacent to the property.

EMERGENCY TELEPHONE NUMBERS

ALL EMERGENCIES CALL 911 FIRST

Staff Emergency Numbers:

Tom Mager	Harbor Master	715-373-2809 cell: 715-209-1776
Tom Grupstra	Service Technician	715-373-5205 cell: 715-331-9834
Michelle Shrider	General Manager	715-779-3674 cell: 715-209-7455
Amy Trimbo	Administrative Manager	715-209-4057
Tim Line	Service Technician	715-209-8663
Jake Shrider	Ship Store Manager	715-292-3046

Office Numbers:

Washburn Marina Primary Line	715-373-5050
Washburn Marina Ship Store	715-373-5600
Washburn Marina Fax Line	715-373-5117

Local Emergency:

Washburn City Hall	715-373-6160
Washburn Police Department	715-373-6164 or 911
Bayfield County Sheriff	715-373-6122 or 911
Ashland Memorial Medical Center/Hospital	715-685-5500 or 911

Regional:

U.S. Coast Guard Station Bayfield	715-779-3950
Wisconsin DNR	715-685-2900
Boat US Towing Service – Black Warrior Marine	612-708-1303

National:

MARINE POLLUTION CALL NUMBER	**800-424-8802**

EMERGENCY RESPONSE EQUIPMENT

Washburn Marina owns the necessary equipment to contain a small hazardous materials spill or other similar accident. All spills requiring special boom materials should be immediately reported to the US Coast Guard Station Bayfield and the Wisconsin DNR.

Below is a list of equipment located at the Washburn Marina. The majority of the equipment is located in or near the service bay, with the exception of the containment booms and sorbent pads which are stored in a dock box on the fuel dock.

Containment Booms:

8 qty 5″ diameter x 120′ length

Sorbent Materials:

10 qty – 17″ x 17″ pillows

95 qty – 17″ x 19″ mats

Washburn Marina Service Department Equipment:

(1) Evacuator pump located in the service bay
(1) Pumps located in the service bay
(1) Additional boom materials in blue drum located in service bay

Emergency Response Equipment Partners:

Pike's Bay Marina	715-779-3900
Apostle Islands Marina	715-779-5661
Port Superior Marina	715-779-5360

THE MARINA PIERS DESCRIPTION

Description of Piers 1, 2, 3, and 4.

The piers at the Washburn Marina are an aluminum trussed floating dock system, stabilized by metal piles. The decking on all piers is treated lumber, except pier 4 – which is PVC composite. The floatation system is made up of black, sealed, polypropylene "tubs" arranged under and affixed to the aluminum dock structure.

All boats are moored in a Southeast/Northwest direction with the exception of those few tied along the southeast inside breakwater. All piers are connected to the bulkhead by permanently affixed ramps. The Piers have the following lengths and capacity:

Pier 1: Slips 1 through 44
352' in total length
Primary Pier – 8' width, Finger Piers – 4' width

4 slips, 14' x 24'
2 slips, 14' x 32'
4 slips, 15' x 36'
1 slip, 15' x 40'
1 slip, 17' x 40'
12 slips, 17' x 42'
8 slips, 17' x 46'
2 slips, 17' x 50'

Pier 2: Slips 44 through 88
352' in total length
Primary Pier – 6' width, Finger Piers – 3' width

22 slips, 15' x 32'
22 slips, 15' x 36'

Pier 3: Slips 89 through 139
347′ in total length
Primary Pier – 6′ width, Finger Piers – 3′ width
12 slips, 12′ x 24′
2 slips, 12′ x 28′
36 slips, 13′ x 28′

Pier 4: Slips G1 through G5
167′ in total length
Primary Pier – 6′ width, Finger Piers – vary from 3′ to 6′ width
5 slips, 15′ x 30′

Depending on the level of the Lake, the typical water depth in the marina is 6′ to 10′. The shallowest locations are in the northwestern side of the harbor, the deepest are at the entrance and the deep well/fuel dock area.

Electrical Power:

Electrical power is controlled from one main panel located in the transformer panel on the southeast exterior wall of the public restroom building located at the boat ramp. A key is required to gain access to this panel. The power to Pier 1 is located in a power box at the head of Pier 1 – a key is required for access to the panel. The power to Pier 2 is located in the smaller power box at the head of Pier 2 – a key is required for access to the panel. The power to piers 3 and 4 is located in the box located on the restroom building. The key is available through the General Manager.

Evacuation and Fire Fighting Equipment:

There is a single by foot evacuation route for all Piers at the Washburn Marina that is via the ramps at the bulkhead. In the event of an emergency requiring evacuation, if this route is not available, departure by a vessel located at a minimum of 100′ from the incident is recommended. Boats within the 100′ area should not have their engines started to be moved.

Fire extinguishers are located at the mid-point of each pier or more frequent. The land based fire hydrants are located on the northeast side of the building, outside the ship store and at the head of the public launch ramp.

MARINA PIERS FIRE EMERGENCY ON PIERS (INCLUDES BOAT FIRES AT THE PIER)

1. **PERSON DETECTING THE FIRE ANNOUNCES "I AM IN CHARGE." Immediately assign a particular person to call 911.**

2. **CALL THE FIRE DEPARTMENT – DIAL 911**

   Give the following information:

   "This is __your name__ at the WASHBURN MARINA, 1 Marina Drive, Washburn Wisconsin. The Marina telephone number is 715-373-5050. We have a BOAT FIRE ON A PIER (Identify which pier)."

   Describe the size of the boat and type: power or sail.

   Describe the severity of the fire and if other boats are near the fire.

3. **PERSON IN CHARGE:**

   Notify all staff via personal radio: **"We have a fire on Pier __, Slip __."**

   Assign one person - staff first, customer if needed, to clear the pier of all persons.

4. **LIFE SAFETY:**
   - A. Remove any injured persons away from the fire area IF THERE IS ANY FURTHER DANGER TO THEM FROM THE FIRE.
   - B. Shut off electrical power.
   - C. Evacuate boat owners and guests from affected Pier.
   - D. Assign Staff member to man the driveway to direct incoming fire crews to appropriate area.
   - E. Secure any burning boats to the dock – ONLY IF THIS CAN BE DONE SAFELY.
   - F. Remove adjacent boats – ONLY IF THIS CAN BE DONE SAFELY. Do not start boats that are immediately adjacent to the burning boat. Boat keys to some vessels are located in the lock box in the storage closet between the Ship Store and the Service Bay.

5. **ENVIRONMENTAL SAFETY:**
   - A. Call National Spill Number: 800-424-8802
   - B. Locate fuel and oil spill containment and clean up equipment and deliver to the fire site.
   - C. Use fuel and oil containment equipment (booms) to contain any spilled fuel – ONLY IF THIS CAN BE DONE SAFELY.
   - D. If a major spill event is taking place, boom the entrance to the marina.

6. FOLLOW UP:

Once the area and event are properly secured perform follow up procedures:

A. Complete a Boat on Fire Form
B. Contact General Manager if not on site

THE FUEL DOCK DESCRIPTION

Description:

The Fuel Dock at the Washburn Marina is a 90 foot pier connected to the bulkhead on the southeast end of the harbor. The 12 foot wide pier is constructed on rock filled crib constructed of steel sheet piling. The cap is cement.

The fuel dock is supplied by two above ground tanks located at the head of the dock. Both tanks have a 2000 gallon capacity; one is for unleaded gasoline, the other for diesel. Both tanks are double lined construction. The interior tank is cylindrical and the exterior cubed. The dispenser is a single station located on the fuel dock, with two hoses.

The sewage holding tank pump-out system is also located on the fuel dock. The system pumps directly into the Washburn City sewer system. It is an electric vacuum pump system.

Electrical Power and Emergency SHUT OFF:

Electrical power is controlled by the panel located at the bulkhead of the fuel dock.

There are 3 emergency fuel pump shut-offs; they are colored yellow with a red button. They are located:

- On the fuel dispenser
- On the pump out box
- On the front of the ship store building

The emergency electrical shut off for the fuel tanks is located on the light post at the head of the fuel dock.

In the event of an emergency, personnel should first activate the emergency pump shut off and then proceed to close the gate valves to prevent any gravity flow of fuel.

Fire Fighting Equipment and Emergency Spill Equipment:

The Fuel Dock is supplied with a fire extinguisher located on the dock. The emergency spill equipment is located in the dock box at the head of the fuel dock.

FUEL DOCK FIRE EMERGENCY PLAN

1. **PERSON DETECTING THE FIRE ANNOUNCES "I AM IN CHARGE." Immediately assign a particular person to call 911.**

2. **CALL THE FIRE DEPARTMENT – DIAL 911**

   Give the following information:

   "This is __your name__ at the WASHBURN MARINA, 1 Marina Drive, Washburn Wisconsin. The Marina telephone number is 715-373-5050. We have a FIRE ON THE FUEL DOCK.

   Describe the size of the boat and type: power or sail.

   Describe the severity of the fire and if other boats are near the fire.

3. **PERSON IN CHARGE:**

   Notify all staff via personal radio: **"We have a fire on THE FUEL DOCK."**

   Assign one person - staff first, customer if needed, to clear the ENTIRE AREA of all persons.

4. **LIFE SAFETY:**

   a. Remove any injured persons away from the fire area IF THERE IS ANY FURTHER DANGER TO THEM FROM THE FIRE.
   b. Shut off the fuel pump via emergency shut off.
   c. Shut off electrical power.
   d. Evacuate boat owners and guests from the entire area.
   e. Assign Staff member to man the driveway to direct incoming fire crews to appropriate area.
   f. Secure any burning boats to the dock – ONLY IF THIS CAN BE DONE SAFELY.
   g. Remove adjacent boats – ONLY IF THIS CAN BE DONE SAFELY. Do not start boats that are immediately adjacent to a burning boat or an immediate spill source. Boat keys to some vessels are located in the lock box in the storage closet between the Ship Store and the Service Bay.
   h. Move the Travelift to the back parking lot area.

5. **ENVIRONMENTAL SAFETY:**

   a. Call National Spill Number: 800-424-8802
   b. Locate fuel and oil spill containment and clean up equipment and deliver to the fire site.
   c. Use fuel and oil containment equipment (booms) to contain any spilled fuel – ONLY IF THIS CAN BE DONE SAFELY.
   d. If a major spill event is taking place, boom the entrance to the marina.

6. **FOLLOW UP:**

Once the area and event are properly secured perform follow up procedures:

a. Complete a Fire at or on Dock Form
b. Contact General Manager if not on sight

FUEL DOCK SPILL EMERGENCY PLAN

1. **PERSON DETECTING THE SPILL ANNOUNCES "I AM IN CHARGE". Immediately assign a particular person to call 911.**

2. **CALL THE FIRE DEPARTMENT – DIAL 911**

AND

ALSO THE NATIONAL MARINE POLLUTION HOTLINE – 800 424 8802

Give the following information:

"This is __your name__ at the WASHBURN MARINA, 1 Marina Drive, Washburn Wisconsin. The Marina telephone number is 715-373-5050. We have a SPILL ON THE FUEL DOCK.

Describe the size of the boat and type: power or sail if involved.

Describe the severity of the severity of the spill and if other boats are near the spill.

3. **PERSON IN CHARGE:**

Notify all staff via personal radio: **"We have a spill on THE FUEL DOCK."**

Assign one person - staff first, customer if needed, to clear the ENTIRE AREA of all persons.

4. **LIFE SAFETY:**

a. Remove any boats away from the spill area if possible
b. Shut off the fuel pump via emergency shut off.
c. Shut off electrical power.
d. Evacuate boat owners and guests from the entire area.
e. Assign Staff member to man the driveway to direct incoming fire crews to appropriate area.
f. Secure any AFFECTING boats to the dock – ONLY IF THIS CAN BE DONE SAFELY.
g. Remove adjacent boats – ONLY IF THIS CAN BE DONE SAFELY. Do not start boats that are immediately adjacent to the burning boat. Boat keys to some vessels are located in the lock box in the storage closet between the Ship Store and the Service Bay.

5. ENVIRONMENTAL SAFETY:

a. Call National Spill Number: 800-424-8802
b. Locate fuel and oil spill containment and clean up equipment indock box on fuel dock.
c. Use fuel and oil containment equipment (booms) to contain any spilled fuel – ONLY IF THIS CAN BE DONE SAFELY.
d. If a major spill event is taking place, boom the entrance to the marina.

6. FOLLOW UP:

Once the area and event are properly secured perform follow up procedures:

a. Complete a Fuel Spill Form
b. Contact General Manager if not on sight

GENERAL GUIDELINES FOR FUEL SPILLS

Gasoline:

1) **allow to evaporate**
2) shut off electrical power to the nearest areas
3) guard the area until safe from fumes and fire
4) Report details to local U. S. Coast Guard at 715-779-3950 and the National Marine Pollution hotline at 800-424-8802.

Diesel:

Any quantity that produces a "sheen" over 1 sq. yard

1) Deploy marina spill boom, add pillows as appropriate

   * booms and pillows are located in locker in at head of fuel dock

2) Exclude boats and swimmers from containment zone
3) Report details to local U. S. Coast Guard at 715-779-3950 and the National Marine Pollution hotline at 800-424-8802.

For larger quantities than can be contained in the marina's spill boom:

Contact the Coast Guard Immediately at 715-779-3950 and the National Marine Pollution hotline at 800-424-8802.

GENERAL RESPONSE FOR ALL EMERGENCIES

PERSON FIRST DETECTING ACCIDENT OR FIRST NOTIFIED OF INCIDENT:

Determine severity and if authorities need to be immediately contacted.

IF AUTHORITIES ARE REQUIRED:

1. Person in charge announce that they are "in charge"
2. Appoint one person to call authorities and instruct that person to direct emergency crews to the appropriate area when they arrive.
3. Clear the area of by-standers
4. Via personal radio, contact staff to assist as necessary.
5. Appoint one person to obtain the proper Emergency Response Form and complete as appropriate or possible.
6. Stay on sight until authorities arrive.

DO NOT MOVE OR ASSIST A VICTIM THAT MAY BE INJURED.

IF AUTHORITIES ARE NOT REQUIRED:

1. Complete the proper Emergency Response Form as soon as reasonably possible.
2. Provide affected party with a copy of the completed form.
3. Issue completed form to General Manager to review and file.

AUTOMOBILE ACCIDENT

IF THERE ARE ANY INJURIES OR DAMAGE TO PROPERTY CALL 911 IMMEDIATELY

EMERGENCY SITUATION:

1. The staff member first contacted is in charge and should call 911 immediately.
2. Provide the operator with the pertinent information.
3. Go to the scene of the accident or appoint another staff member to do so.
4. Clear the area of spectators.
5. If there are injured victims, do not move a victim, emergency crews will do so.
6. Stand watch for emergency response.
7. Assist as necessary.
8. Complete "Automobile Accident" Report form and submit to General Manager.

NON-EMERGENCY SITUATION:

1. The staff member first contacted is in charge and should remain calm and unbiased to diffuse any possible tension or confusion that may ensue.
2. As soon as reasonably possible complete "Automobile Accident" Report form and submit to General Manager.
3. Attempt to quickly disperse the public to lessen the appearance of a "scene."

BOAT FIRE AWAY FROM THE PIERS & MARINA

If you are contacted by VHF radio – it is most likely that the US Coast Guard Bayfield station will take over. Stand aside for assistance if requested only.

If you are contact by telephone, obtain the information required on the "Boat on Fire Away From Piers & Marina" form and relay to the US Coast Guard Bayfield Station at 715-779-3950 or VHF Ch. 16.

Complete the "Boat on Fire Away From Piers & Marina" form and submit to General Manager.

BOAT SINKING IN THE MARINA

PERSON FIRST DETECTING SINKING OR SUNK VESSEL: Notify Marina Staff member immediately – DO NOT ATTEMPT TO BOARD VESSEL.

1. **IF THE VESSEL IS FULLY SUBMERSED - CALL THE FIRE DEPARTMENT – DIAL 911 AND THE US COAST GUARD – 715-779-3950**

   Give the following information:

   "This is __your name__ at the WASHBURN MARINA, 1 Marina Drive, Washburn Wisconsin. The Marina telephone number is 715-373-5050. We have a BOAT SINKING/SUNK ON A PIER (Identify which pier).

   Describe the size of the boat and type: power or sail.

   Describe the location of the boat and the status.

2. **PERSON IN CHARGE:**

   Notify all staff via personal radio: **"We have a sinking/sunk boat on Pier __, Slip __."**

   Assign one person - staff first, customer if needed, to clear the pier of all persons.

3. **LIFE SAFETY:**
   a. Shut off electrical power.
   b. Determine if any persons are onboard vessel and provide assistance to offboard if possible.
   c. Evacuate boat owners and guests from affected Pier.
   d. Assign Staff member to man the driveway to direct incoming emergency response crews to appropriate area.
   e. Assign Staff member to retrieve emergency evacuator pump from Service Bay and deploy.
   f. Contact local salvage companies if necessary to refloat vessel.
   g. Remove adjacent boats – ONLY IF THIS CAN BE DONE SAFELY – to provide access for recovery efforts. Boat keys to some vessels are located in the lock box in the storage closet between the Ship Store and the Service Bay.

4. **ENVIRONMENTAL SAFETY:**
   a. Call National Spill Number: 800-424-8802
   b. Locate fuel and oil spill containment and clean up equipment and deliver to the site.
   c. Use fuel and oil containment equipment (booms) to contain any spilled fuel – ONLY IF THIS CAN BE DONE SAFELY.
   d. If a major spill event is taking place, boom the entrance to the marina.

5. **FOLLOW UP:**

   Once the area and event are properly secured perform follow up procedures:

   a. Complete a Boat Sinking in Marina Form
   b. Contact General Manager if not on site

BOATING ACCIDENT

IF THERE ARE ANY INJURIES OR DAMAGE TO PROPERTY CALL 911 IMMEDIATELY

EMERGENCY SITUATION:

1. The staff member first contacted is in charge and should call 911 immediately, followed by a call to US Coast Guard Bayfield 715-779-3950
2. Provide the operator/USCG with the pertinent information.
3. If possible go to the scene of the accident or appoint another staff member to do so.
4. If near shore, clear the area of spectators.
5. If there are injured victims, do not move a victim, emergency crews will do so.
6. Stand watch for emergency response.
7. Assist as necessary.
8. Complete "Boating Accident" Report form and submit to General Manager.

NON-EMERGENCY SITUATION:

1. The staff member first contacted is in charge and should remain calm and unbiased to diffuse any possible tension or confusion that may ensue.
2. As soon as reasonably possible complete "Boating Accident" Report form and submit to General Manager.
3. Attempt to quickly disperse the public to lessen the appearance of a "scene."

BOMB THREAT

ACTION TO TAKE IMMEDIATELY

1. Evacuate the threatened area and do not allow anyone to re-enter once the area is cleared.
2. The staff member first contacted is in charge and should call 911 immediately. Provide operator with all necessary information.
3. Stand watch for emergency response.
4. As soon as reasonably possible complete "Bomb Threat" report and submit to General Manager.

ACTION TO TAKE IF TIME ALLOWED WHILE TALKING TO PERSON MAKING THE THREAT

Ask the caller the following questions and write the answers for future reference:

1. When is it going to explode?
2. Where is the bomb right now?
3. What kind of bomb is it?
4. What does the bomb look like?
5. Why did you place the bomb in this location?

Record the exact words of the caller.

DOWNED POWER LINES & NATURAL GAS LEAK

CALL 911 and
XCEL ENERGY – 800-895-1999

ALL DOWNED POWER LINES AND GAS LEAKS SHOULD BE CONSIDERED SERIOUS. POWER LINES SHOULD BE PRESUMED ENERGIZED.

1. Evacuate the threatened area and do not allow anyone to re-enter once the area is cleared.
2. The staff member first contacted is in charge and should call 911 and Xcel Energy immediately. Provide operator with all necessary information.
3. Stand watch for emergency response.

4. If possible, ribbon off generous area around any downed wires or suspected leak area.
5. As soon as reasonably possible complete "Downed Power Lines & Natural Gas Leak" report and submit to General Manager.

DROWNING REPORT

1. The staff member first contacted is in charge and should call 911 immediately. Provide operator with all necessary information.
2. Stand watch for emergency response.
3. Contact additional staff to clear area of by standers.
4. Attempt rescue only if considered safe for rescuer and proper safety equipment is used. Bring floatation device if rescue is attempted.
5. Assist emergency response as necessary.
6. As soon as reasonably possible complete "Drowning" report and submit to General Manager.

HOLDUP/ROBBERY

Our Organization's Policy Regarding Robbery

"It is this marina's policy to comply with any demands made by a person attempting to rob this business or its staff. No attempts are to be made to safeguard property or money if there is any risk of physical harm to anyone; safeguarding life is the primary concern."

1. The staff member first contacted is in charge and should call 911 immediately. Provide operator with all necessary information.
2. Stand watch for emergency response.
3. Contact additional staff to clear area of by standers.
4. As soon as reasonably possible complete "Holdup/Robbery" report to be submitted to the authorities and to General Manager.
5. Assist emergency response as necessary.

MEDICAL EMERGENCY

1. The staff member first contacted is in charge and should call 911 immediately. Provide operator with all necessary information.
2. Stand watch for emergency response.
3. Contact additional staff to clear area of by standers.
4. If immediate assistance by a trained person is available provide assistance. Do not move victim unless absolutely necessary. A defibrillator is available on the northwest side of the building, near the entrance to the showers. Use only if you are familiar with its use and the circumstances that would require its use.

5. As soon as reasonably possible complete "Medical Emergency" report to be submitted to the authorities and to General Manager.
6. Assist emergency response as necessary.

MISSING PERSON

1. The staff member contacted should immediately refer to the "Missing Persons" report form and complete the information based on that provided by contact.
2. Upon determination of severity of situation, contact the proper parties, including police or emergency response personnel, if necessary.
3. If no immediate action is taken, submit completed form to General Manager or manager on duty.
4. Follow up within 24 hours with person initially filing report. If no update or change has occurred, continue follow up every 24 hours until situation resolved or authorities brought in to take over case. Continue to document follow up calls.

OVERDUE BOATER

1. The staff member contacted should immediately refer to the "Overdue Boater" report form and complete the information based on that provided by contact.
2. Upon determination of severity of situation, contact the proper parties, including police or emergency response personnel, if necessary.
3. If no immediate action is taken, submit completed form to General Manager or manager on duty.
4. Follow up within 24 hours with person initially filing report. If no update or change has occurred, continue follow up every 24 hours until situation resolved or authorities brought in to take over case. Continue to document follow up calls.

POISONING REPORT

1. The staff member first contacted is in charge and should call 911 immediately. Provide operator with all necessary information.
2. Stand watch for emergency response.
3. Contact additional staff to clear area of by standers.
4. As soon as reasonably possible complete "Poisoning" report to be submitted to the authorities and to General Manager.
5. Assist emergency response as necessary.

POWER OUTAGE

Do Not Call 911
Contact Xcel Energy: 800-895-1999

1. Shut off all power switches, lights, especially motors such as refrigerators, air conditioning units, heating units, air compressors, fuel pumps, and sewage lift station.
2. Prepare signs or use preprepared signs, to indicate that the Ship Store and restrooms are closed due to power outage and will be resume use as soon as power is restored. Post on each door.
3. Remain on site until power is restored or normal business hours are over.
4. Once power is restored, remove signs and turn power back on to those items turned off.

SLIP AND FALL INCIDENT

All slip and fall incidents are considered serious and should be treated as such. If a medical emergency exists due to a slip and fall, follow the guidelines for Medical Emergency.

NON-EMERGENCY RESPONSE:

1. The staff member contacted should immediately refer to the "Slip and Fall Incident" report form and complete the information based on that provided by the person filing the report.
2. Upon determination of severity of situation, contact the proper parties, including police or emergency response personnel, if necessary.
3. Submit completed form to General Manager. Provide copy to the person filing report if requested.

EMERGENCY RESPONSE:

Refer to page 19 for Medical Emergency and follow those procedures.

WILD FIRE

1. The staff member first contacted is in charge and should call 911 immediately. Provide operator with all necessary information.
2. Stand watch for emergency response.
3. Contact additional staff to clear area of by standers.
4. Consider fuel cutoff if appropriate.
5. Consider electric service cutoff if appropriate.
6. Consider moving vehicles, boats and other property from hazard if safe to do so.
7. As soon as reasonably possible complete "Wild Fire" report to be submitted to the authorities and to General Manager.

SEVERE WEATHER/NATURAL DISASTERS EMERGENCY RESPONSE

(To be included in your marina's emergency response plan)

Tornado

1. In the event of tornado warning, seek shelter *inside the clubhouse restrooms*.
2. If on fuel dock, shut off fuel pumps.
3. **Remain in the main building until the warning has been lifted.**

High Winds and Waves

1. When possible, the General Manager should email slip holders about forecasts of sustained high wind or wave conditions and the possible need for member concern about their boat's security.
2. If on fuel dock, shut off fuel pumps.
3. If it is safe to be on the docks to perform security rounds, the Dockmaster will call the Club Office to contact the boat owner if the following are observed:
   - Boats sitting unusually low in the water or listing.
   - Lines untied, frayed or broken.
   - Loose rigging, sails, canvas, etc.
   - Damage to docks or finger piers

Flooding

1. If a risk of flooding is predicted, reduce environmental risk by securing all dumpsters, removing or securing all objects that could potentially blow or wash away, and securing waterside sewage pumpouts and/or dump stations.
2. When possible, the General Manager should email slip holders about forecasts of sustained high wind or wave conditions and the possible need for member concern about their boat's security.
3. Consider fuel cutoff if appropriate.
4. Consider electric service cutoff if appropriate.
5. Consider moving vehicles, boats and other property from hazard if safe to do so.

Appendix VI: Sample Contract Language

Sample Contract Language

The following text is based on the Marine Trades Association of New Jersey's Best Management Pledge. The language may be incorporated into slip and lease agreements. **Contact the Wisconsin Clean Marina Program at (920) 264-5031 or** quallst@uwgb.edu **for an electronic copy.**

FOR TENANTS:

I, _____, understand that _____

(name) (marina/boatyard)

subscribes to and enforces pollution prevention procedures. I further understand and agree that in return for the privilege of performing work on a boat at this facility such as hull cleaning, washing, sanding, polishing and/or painting; bottom cleaning, sanding, scraping, and/or painting; opening the hull for any reason, e.g., installation of equipment or engine work; engine and/or stern drive maintenance, repair, painting; etc., it is my responsibility to comply with, at a minimum, the following pollution prevention practices. I understand that this list may not be complete and pledge that I will exercise common sense and judgment in my actions to insure that my activities will not deposit pollution residues in surface waters or elsewhere where they may be conveyed by stormwater runoff into the surface waters. I understand that failure to adopt pollution prevention procedures may result in expulsion from the marina/boatyard (*insert name of facility*) and forfeiture of rental fees. I understand that I may elect to employ the facility to perform potential pollution producing activities on my behalf in which case the responsibility for compliance with the best management practices is entirely theirs.

Signed _____ Date _____

FOR SUB-CONTRACTORS ONLY:

I understand and agree to have my proposed work first authorized by this facility and that I will adhere, at a minimum, to the contents of this document. I further understand that because of the nature of my proposed work, the facility may require that I be supervised by an employee of said facility for which I will pay the normal existing labor rate.

Signed _____ Date _____

POLLUTION PREVENTION PRACTICES:

Repairs and Service (to hull and engine: painting, cleaning, washing, sanding, scraping, etc.)

1. Work on hulls and engines only in designated areas or use portable containment enclosures with approval of marina management.
2. Use tarps and vacuums to collect solid wastes produced by cleaning and repair operations, especially boat bottom cleaning, sanding, scraping, and painting.
3. Conduct all spray painting within an enclosed booth or under tarps.
4. Use dustless sanders and tarps to collect dust and debris. Sweet up any residues from sanding. Dispose of debris in the trash (*specifically state where*).
5. Use non-toxic, biodegradable solvents.
6. Collect debris from boat washing and use only minimal amounts of phosphate-free, non-toxic, and biodegradable cleaners.
7. Use drip pans for any oil transfers, grease operations, and when servicing engines.
8. Obtain management approval before commencing any repair which will open the hull. Clean and pump bilges free of contaminated materials before and after repairs which open the hull.
9. Use spill proof oil change equipment.

Vessel Maintenance Waste

1. Non-toxic residue of sanding, scraping, and grinding: bag and dispose of in regular trash.
2. Toxic and non-environmentally safe solvents and cleaning liquids: seek specific directions from marina management or dispose of with licensed agency.

Fuel Operations

1. Install fuel/air separator on fuel tank vent line(s) to prevent overflow of fuel through vent.
2. Keep oil absorbent pad(s) readily available to catch or contain minor spills and drips during fueling.

Waste Oil and Fuel

1. Recycle used oil and antifreeze. Do not dispose of any fuels, used oil or used filters in the marina's dumpsters.
2. Add a stabilizer to fuel tank in the fall or an octane booster to stale fuel in the spring. Use the fuel or bring it to a household hazardous waste collection site.
3. Absorbent materials soaked with oil or diesel: drain liquid and dispose of in used oil recycling container; double bag absorbent material in plastic and dispose in regular trash receptacle.
4. Absorbent materials soaked with gasoline (flammable): air dry and reuse.
5. Bioremediating absorbent products: dispose in regular trash as long as no liquid is dripping. Because the microbes need oxygen to function, do not seal in plastic.
6. Oil filters: drain and recycle the oil; recycle the filter or double bag and put in regular trash.

Onboard Practices

1. Maintain oil absorbent materials or bilge socks in bilge. Inspect no less than annually.
2. Do not discharge bilge water if there is an oily sheen to it.
3. Use only low-toxic antifreeze (propylene glycol). Recycle used antifreeze (even low-toxic antifreeze will contain heavy metals once it has been used).
4. Discharge of gray water into the marina is strongly discouraged. In addition, the use of soaps, shampoos/conditioners with no phosphorus or low phosphorus and cleaners that lack ammonia bleach and lye are strongly encouraged.

Sewage Handling

1. Discharge of sewage in the marina is strictly prohibited
2. If you have an installed toilet, you must have an approved Marine Sanitation Device (MSD).
3. Do not discharge Type I or Type II MSDs within the marina basin.
4. Use marina restroom facilities when at slip.
5. Do not empty portable toilets overboard; use marina dump facility. Do not empty portable toilets in the restrooms.
6. Do not discharge holding tanks overboard; use a pumpout facility.
7. If you must use a holding tank additive, use an enzyme-based product. Avoid products that contain quaternary ammonium compounds (QACs), formaldehyde, formalin, phenal derivatives, alcohol bases, or chlorine bleach.
8. Live-aboards: place a dye tablet in holding tank after each pumpout. The dye will make any illegal discharges clearly visible.
9. The marina management reserves the right to inspect any marine sanitation devices to ensure compliance.

Organic Waste

1. Fish cleaning is not allowed on the dock. Clean fish only in designated areas.
2. Grind, compost, or bag fish waste and place in the trash (*depending on the services offered by your marina*).
3. Walk pets in specified areas and pet waste mush be picked up, bagged and placed in appropriate receptacles.
4. Feeding of birds in the marina is not allowed.

Solid Waste

1. Recycle plastic, glass, aluminum, newspaper, and used lead batteries (*tailor this section to fit your facility's practices*).
2. Place trash in covered trash receptacles; replace covers.
3. No waste material, discharge waste or other foreign material is allowed in the Marina's Harbor. The Owner must immediately notify the Marina and the appropriate governing authority of any discharge or spill and Owner will be responsible for all fines and costs resulting from such activity. Improper discharge includes but is not limited to garbage, oil, fuel, sewage and pet waste.