



Vessels require a great deal of attention. They must be scraped, painted, and cleaned... Each of these activities has the potential to introduce pollutants into the environment.

WisconsinCleanMarina.org

VESSEL MAINTENANCE AND REPAIR

Environmental Concerns

Legal Setting

-  General Permit for Wastewater from the Outside Washing of Vehicles, Equipment and Other Objects

Vessel Maintenance and Repair Activities of Concern

- | | |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
|  Work Areas |  Boat Disposal |
|  Boat Cleaning |  In-Water Maintenance |
|  Pressure Washing |  Dust from Sanding |
|  Solvents |  Debris from Blasting |
|  Compound Waxing |  Antifouling Paints |
|  Fiberglassing |  Painting |
|  Teak Refinishing |  Painting Operations |
|  Varnishing |  Overspray |
|  Repairing and Maintaining Engines |  Paint Stripping |
|  Winterizing |  Educating Boaters |
|  Battery Storage and Disposal |  Links |

References

Environmental Concerns

Vessels require a great deal of attention. They must be scraped, painted, and cleaned. Their engines need to be lubricated, and they need to be prepared to withstand the cold of winter. Each of these activities has the potential to introduce pollutants into the environment.

Sanding, blasting, and pressure washing are used to remove paint and aquatic growth. In the process, toxic heavy metals such as copper and tin may be released. If heavy metals find their way into the water, they may be consumed by bottom-dwelling creatures and passed up the food chain to fish, birds, and humans. Heavy metals that are not incorporated into living tissue will remain in the sediments, where they may substantially increase the disposal cost of any dredged material.

Paints, solvents, thinners, and brush cleaners generally are toxic. If spilled, they may harm aquatic life and water quality. Additionally, the fumes—known as volatile organic compounds (VOCs)—released by some paints and solvents contribute to air pollution. Likewise, oil and grease from maintenance areas threaten aquatic life.

Many of the cleaning products meant to be used in boat shops are also toxic, and many contain caustic or corrosive elements. They may also contain 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.

Legal Setting

General Permit for Wastewater from the Outside Washing of Vehicles, Equipment and Other Objects

The General Permit for Wastewater from the Outside Washing of Vehicles, Equipment and Other Objects (WI-0059153-2) from the Wisconsin Department of Natural Resources (WDNR) is intended to cover a variety of facilities that wash equipment, vehicles, and other objects outside and cannot direct the wastewater to sanitary sewage facilities. This permit contains best management practices (BMPs) designed to prevent degradation of surface waters and/or groundwater. Facilities are required to meet the applicability criteria and implement the BMPs contained in the permit. For more information please refer to: <http://dnr.wi.gov/org/water/wm/ww/gpindex/gpinfo.htm>.

Vessel Maintenance and Repair Activities of Concern

Work Areas

One of the easiest ways to control waste and runoff pollution is to restrict the area where the maintenance activities may be performed.

-  Perform all major repairs—such as stripping, fiberglassing, and spray painting—in designated areas as far away from the water as possible.
-  Collect all maintenance debris. Clean work areas after completing each operation or at the end of the day, whichever comes first. Remove sanding dust, paint chips, fiberglass, and trash.
-  Locate boat maintenance areas for new marinas upland of a 100-foot shoreline buffer zone.
-  Locate boat maintenance areas on an impervious 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 debris into surface waters.
-  If asphalt or cement is not practical, perform work over filter fabric or over canvas or plastic tarps. Filter fabric will retain paint chips and other debris yet—unlike plastic, or to a lesser extent, canvas—filter fabric will allow water to pass through. Tarps may potentially be reused.
-  Surround the maintenance area (if an impervious surface) with a berm or retaining wall to contain waste and spills. However, this practice is not recommended for pervious surfaces, as it would promote ponding and infiltration of contaminated water.
-  Use vegetative or structural controls cited in the chapter titled “Stormwater Management” to treat 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.
-  Prohibit maintenance or repair work outside of the designated maintenance areas.
-  Clearly mark the work area with signs, such as: “Maintenance Area for Stripping, Fiberglassing, and Spray Painting.”





-  Post signs in the boatyard describing BMPs that boat owners and contractors must follow, such as “Use Tarps to Collect Debris” and distribute your policy of environmental rules to customers.
-  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.

Boat Cleaning

-  Wash boats on land in a contained area where the wash water can be collected and treated.
-  Wash boat hulls above the waterline by hand using a soft sponge and frequently enough so that the need to use cleaners will be reduced.
-  Avoid using caustic cleaners such as bleach, ammonia or lye. Do not use petroleum-based cleaning products.
-  Use cleaning products that are environmentally friendly (e.g., non-toxic and phosphate free). Always follow the instructions on the label and test the product in an inconspicuous area. Use the products sparingly and only when “elbow-grease” is not working. Beware of biodegradable products that may cause water-quality problems.
-  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.

Pressure Washing

Marinas that perform pressure washing are required to implement the BMPs contained in the General Permit for Wastewater from the Outside Washing of Vehicles, Equipment and Other Objects (WI-0059153-2) from the WDNR.

-  When pressure washing ablative/anti-fouling 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.
-  Pressure wash over 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 area, so that solids are trapped by the soil.
-  Visible solids must be removed from wash water before it may be discharged to waterways. At a minimum, allow large particles to settle out.
-  Filtration uses devices such as compost socks, screens, filter fabrics, oil/water separators, sand filters, and hay bales to remove particles for water discharged directly to surface waters.
-  Collect and dispose of boat-washing debris.
-  Other treatment techniques include the following:
 - Chemical treatment relies upon the addition of some type of catalyst to cause the heavy metals and paint solids to settle out of the water.
 - Swirl concentrators are examples of physical treatment that can be used to concentrate pollutants. They are small, compact soil separation devices with no moving parts. Water flowing into a concentrator creates a vortex that centralizes the pollutants. Clean water is then discharged. However,

this process will only remove large particulate material, it does not address the dissolved concentrations present.

- Alternatively, reuse the wash water. For example, recycle it through the power washing system (a closed water recycling operation) or use it to irrigate landscaped portions of the marina. The recycled water may be treated with an ozone generator to reduce odors.
- Collected solids must be periodically removed from settling and filtration areas to ensure continued settling and filtration capacity and to avoid solids carry-over to surface waters during periods of high flow.

Solvents

Refer to the chapter titled “Waste Contaminant and Disposal” for further information about requirements for handling, storing, and transporting hazardous wastes.

- Store containers of usable solvents, as well as waste solvents, rags, and paints in covered, UL-listed approved containers.
- Hire a permitted and registered hazardous waste hauler to recycle or dispose of used solvents.
- 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.
- Use only one cleaning solvent to simplify disposal.
- Use only the minimum amount of solvent (e.g., stripper, thinner) needed for a given job.
- 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.
- Order your spray painting jobs to minimize coating changes. Fewer changes mean less frequent purging of the spray system. Order your work light to dark.
- 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. 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: <http://dnr.wi.gov/permitprimer/air/index.html>.

Compound Waxing

- Check all product material safety data sheets (MSDS) and purchase products that are non-hazardous.
- Conduct compounding and waxing away from the water.
- If possible, use phosphate-free, biodegradable, and 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





Bioremediating parts washer at Washburn Marina. Photo Credit: Gene Clark, UW Sea Grant Institute.

mixed with sawdust and other materials.

-  Store acetone appropriately and refer to the “Waste Containment and Disposal” chapter for more information on handling, storing and disposal requirements.

Teak Refinishing

Teak cleaners, which contain acids and caustics, can be toxic to marine life when spilled in the water.

-  Avoid teak cleaners containing acids (such as phosphoric acid or oxalic acid) or those labeled “caustic, corrosive, or acidic.” 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 problem 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 clean up, 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

-  Store engines and engine parts under cover on impervious surfaces such as asphalt or concrete.
-  Do not wash engine parts over the bare ground or water.
-  Use dry pre-cleaning methods, such as wire brushing.
-  Avoid unnecessary parts cleaning.
-  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. Microbes that are hydrocarbon degrading 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 the collected fluid. Mixed liquids cannot be recycled and must be stored and disposed of as hazardous waste. Do not discharge antifreeze to

drains or surface waters.

-  Use funnels to transfer fluids.
-  Drain all fluids from parts prior to disposal.
-  Clean engine repair areas regularly using dry cleanup methods, e.g., capture petroleum spills with oil-absorbent pads.
-  Prohibit the practice of hosing down the shop floor.

Winterizing

Antifreeze

-  Do not allow any “blow out” of antifreeze directly into the water or onto any surface that would drain to the water. Provide an antifreeze recapture and recycling service.
-  Use only propylene glycol antifreeze for all systems. It is substantially less toxic than ethylene glycol antifreeze.
-  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 (WWTP).
-  Use the minimum amount of antifreeze necessary for the job.

Gasoline

-  Add stabilizers to fuel to prevent degradation. Stabilizers are available for gasoline and diesel fuels and for crankcase oil. These products protect engines by preventing corrosion and the formation of sludge, gum, and varnish. Also, the problem of disposing of stale fuel in spring is eliminated.
-  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. The fuel will expand 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.
-  Inspect bilges prior to extended boat storage. Require boat owners to clean all water, oil, or foreign materials from the bilge using oil-absorbent material.

Covers

-  Promote reusable canvas or recyclable plastic covers. Some manufacturers will clean and store canvas covers during the boating season.
-  Recycle used plastic and shrink wrap covers.

Battery Storage and Disposal

-  Landfilling and burning lead acid batteries is prohibited in Wisconsin (s. 287.01 (1m) (a) and (am), 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.
-  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.
-  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 (5), Wis. Stats.).

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
 - used 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.
-  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

-  If the impacts of in-water cleaning or maintenance activities (regardless of the area involved) cannot be contained or mitigated against, remove the boat from the water. No debris or chemical wastes should be allowed to fall into the water.
-  Keep containers of cleaning and maintenance products closed.
-  Restrict or prohibit sanding on the water. When it is absolutely necessary to sand on the water, use vacuum sanders to prevent dust from falling into the water. Do not sand in a heavy breeze.
-  Plug scuppers to contain dust and debris.
-  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.

Dust from Sanding

-  Do not let dust fall onto the ground or into the water or become airborne.
-  Invest in vacuum sanders and grinders. These tools collect dust as soon as it is removed from the hull. Vacuum sanders allow workers to sand a hull more quickly

than with conventional sanders. Additionally, because paint is collected as it is removed from the hull, health risks to workers are reduced.

-  Require tenants and contractors to use vacuum sanders. Rent or loan the equipment to tenants or contractors.
-  Establish a marina policy to prohibit sanding without vacuum equipment.
-  Conduct sanding in the maintenance area or over a drop cloth.
-  Restrict or prohibit sanding on or near the water to the greatest extent possible.
-  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 debris. Determine if the debris is hazardous or non-hazardous waste. If it is non-hazardous and does not contain free liquids, take it to a municipal solid waste landfill or dispose of in a dumpster.

Debris from 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.
-  If tarp enclosures are used, avoid blasting on wind days. 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.
-  Investigate 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.

Antifouling Paints

Antifouling bottom paints protect hulls from zebra mussels, algae, and other fouling organisms that can interfere with vessel performance. Pesticides and heavy metals within the paints also harm fish and other non-target species. Most paints work by slowly releasing a biocide, generally cuprous oxide (Cu₂O).





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. Because tin is extremely toxic, it must be applied cautiously. Concentrations of TBT as low as a few parts per trillion have caused abnormal development in shellfish (EPA 1993). Tin is easily absorbed by fish through their gills and accumulated to high levels in sediments. For these reasons, Federal law restricts the use of tin-based paints to aluminum vessels, boats larger than 82 feet (25 meters), and outboard motors and lower drive units.

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)).

License Requirements for Painting with Antifouling Paints

For marinas that apply antifouling paints to boats, there are certain licensing and certification requirements by the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP). 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. For more information on the certification process, please refer to: <http://ww2.wisconsin.gov/state/license/app.jsessionid=00011f8fq0j-XilOnpbjKmuZ0Gz:-H91OL?COMMAND=gov.wi.state.cpp.license.command.ShowPermitTypes&selectedLicense=2001010315212523897143>, or contact the DATCP pesticide certification and licensing program manager at (608) 224-4551.

Marinas that apply antifouling paint for hire 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 antifouling paint category) and be licensed as an individual commercial pesticide applicator for hire. This is required regardless of whether the antifouling paint contains a restricted-use or nonrestricted-use pesticide.

At marinas where a person applies a **nonrestricted-use pesticide** containing antifouling paint to his or her boat, or a boat owned by his or her employer, the pesticide applicator licensing requirements **do not** apply. However, if the person is applying a **restricted-use pesticide**, then he or she would need to be a certified pesticide applicator within the antifouling paint category and be licensed as an individual commercial applicator. The business that employs the person applying the antifouling paint to a boat owned by the business would not need to obtain the pesticide application business location license.

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.

Painting

-  Recommend to your customers antifouling paints that contain the minimal amount of toxic ingredient necessary for the expected conditions.
-  Avoid soft ablative paints.
-  Use water-based paints whenever practical.
-  Stay informed about antifouling products like Teflon, silicone, polyurethane, and wax that have limited negative impacts. Inform your customers about such paints.
-  Store boats out of the water, where feasible, to eliminate the need for antifouling paints.
-  Waste 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.

Painting Operations

-  Use brushes and rollers whenever possible.
-  Consider establishing a marina policy that prohibits customer paint spraying.
-  Reduce paint overspray and solvent emissions by minimizing the use of spray equipment.
-  Prohibit spray painting on the water.
-  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.
-  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, solvents, and reducers in a designated area indoors or under a shed and far from the shore.
-  Keep records of paint use to show when excess paint was mixed for a job. Use the information to prevent over-mixing in the future.

Overspray

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

-  Conduct all spray painting on land, in a spray booth, or under a tarp.
-  Use equipment with high transfer efficiency. Tools such as high-volume, low-pressure (HVLP) spray guns 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 base.
-  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

-  Copy the Wisconsin Clean Boater Tip Sheets from this guidebook and distribute them to your boaters. There is room to add the name and logo of your marina to these tip sheets. Applicable Wisconsin Clean Boater Tip Sheets for this section include “Engine Maintenance,” “Hull Maintenance,” “Spring Start-Up: Antifreeze Collection & Disposal” and “Boat Cleaning.”
-  Inform your boaters/clients when and where they can take their recyclable materials as well as any hazardous waste.

Links

-  Publications and forms on used oil, antifreeze, and universal waste (mercury-containing devices) are available from: <http://dnr.wi.gov/org/aw/wm/publications/>.
-  For information on refrigerants: <http://dnr.wi.gov/topic/AirQuality/Refrigerants.html>.

References

United States Environmental Protection Agency. 1993. *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*. Washington, DC: EPA-840-B-92-002.

