OKLAHOMA CLEAN MARINA GUIDEBOOK

The Oklahoma Clean Marina Guidebook is an educational tool to help marina owners and operators understand various actions they can take to help protect Oklahoma's precious water resources and to become a certified Oklahoma Clean Marina. If you need assistance with any of the information in this Guidebook, please contact Cheryl Dirck with DEQ's Office of External Affairs at Cheryl.Dirck@deq.ok.gov or (405) 702-8179.

Contents

This Guidebook is the companion document for the Clean Marina Program Self-Assessment to help marina owners and operators understand the Clean Marina Program, certification process, and the seven areas where they can make an impact protecting Oklahoma's lakes and waterways.

Disclaimer

This guidebook does not constitute a complete reference to local, state, or federal laws, nor does relying on the information in this guidebook provide legal protection. This guidebook may not be relied upon to create a right or benefit substantive or procedural, enforceable at law or in equity by any person.

Emergency Contacts

- **Police:** _____
- **Fire:** _____
- **Ambulance:** _____
- **Marina Emergency Coordinator**
  - **Name:** _____
  - **Phone:** _____
- **DEQ Hotline: 800.522.0206**
- **National Response Center: 800.424.8802**
- **Oklahoma Corporation Commission**
  Petroleum Storage Tank Division: 405.823.0944
- **EPA Region 6:** https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations/contact-us-about-oil-spill-prevention-and
- **Emergency Cleanup Contractor**
  - **Name:** _____
  - **Phone:** _____
- **Others**
  - _____
  - _____
  - _____
  - _____
  - _____

The Oklahoma Clean Marina Program

The Oklahoma Clean Marina Program (CMP) promotes environmentally sound and economically feasible best practices to reduce waste and prevent releases of hazardous substances into Oklahoma waterways. Participation in the CMP is voluntary; however, certified Clean Marinas may receive not only the benefits of the Clean Marina Program, but also the benefits of being recognized as such on Department of Environmental Quality website (https://www.deq.ok.gov) and Oklahoma Marina Association website (http://oklahomamarinas.org/).

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Clean Marina Program Certification Process

Becoming a certified Oklahoma Clean Marina is a four-step process:

- **STEP 1:** Complete the Oklahoma Clean Marina Pledge form, committing to protect Oklahoma's water resources. The pledge form can be downloaded from https://www.deq.ok.gov/wp-content/uploads/deqmainresources/CMPPledge-NEW.pdf.
- **STEP 2:** Complete a self-assessment of your current environmental protection practices to help you identify what you are already doing well and where you can make improvements. The self-assessment can be downloaded from https://www.deq.ok.gov/wp-content/uploads/deqmainresources/CMPMarinaSelfAssessment-FINALfillable.pdf.
- **STEP 3:** Schedule a site assistance visit (SAV) after you have completed the self-assessment and any improvements you make. Contact Cheryl Dirck with DEQ's Office of External Affairs at Cheryl.Dirck@deq.ok.gov or (405) 702-8179 to schedule the SAV. She will evaluate your marina using the same self-assessment and can provide you with guidance and resources to help you achieve your goals. You must achieve a minimum score on the SAV for each area applicable to your marina to be certified as an Oklahoma Clean Marina; however, it is not required that you achieve all recommended practices to be certified.
- **STEP 4:** Adopt one or more environmental improvement goals to demonstrate your commitment to maintaining clean waters for all Oklahomans.

Once certified as an Oklahoma Clean Marina, the certification will be valid for three years. You will need to submit a report annually to DEQ outlining the steps taken during the preceding year to continue meeting the standards outlined in the self-assessment guide.

Clean Marina Program Self-Assessment & Environmental Goals

The self-assessment covers seven areas where marinas can make an impact protecting Oklahoma's water resources:

Area 1: Stormwater Runoff & Erosion Control
Area 2: Boat Maintenance and Repair
Area 3: Fueling Activities and Petroleum Control
Area 4: Waste Recycling, Disposal and Storage
Area 5: General Marina Operations
Area 6: Boat Pump Outs and Sewage
Area 7: Boater Best Management Practices

The following sections will help you understand best management practices for each Area. These can be used to assist you with your self-assessment and selecting environmental goals. You are not limited to the goals described. If you are interested in pursuing another goal, contact Cheryl Dirck with the Clean Marina Program at Cheryl.Dirck@deq.ok.gov to discuss your idea.

AREA 1. STORMWATER RUNOFF & EROSION CONTROL

Goal: Minimize the amount of pollutants reaching the waterbody from stormwater runoff and protect shorelines from erosion.

Stormwater is rainfall or snow melt that flows across impermeable surfaces, or flows across the land at a rate faster than can be absorbed into the ground. **Pollutants** are substances that can be harmful to the air, land, or water, or living creatures that may come into contact with them. The goal for this area is to minimize runoff from stormwater, which will help prevent pollutants from reaching waterbodies and help protect shorelines from erosion.

Stormwater can pick up a variety of pollutants from sources such as boat or vehicle fuel and fluid leaks, litter, pet waste, paint drippings, excess fertilizers, pesticides, herbicides, and other chemicals. When these are carried into adjacent waterbodies during rainfall or snow melt events, they can adversely impact the marine environment, causing fish kills, algal blooms, excessive aquatic plant growth, depletion of dissolved oxygen, or water quality degradation to the point it is unsafe for swimming. Even the soil particles collected as stormwater flows across the surface can adversely impact adjacent waters through excessive siltation or increased turbidity. These are examples of **Non-Point Source Pollution** – pollution that cannot be attributed to a specific source such as a discharge pipe.

Did you know?

Many Oklahoma lakes serve as public water supplies. If contaminants reach the water supply intake, the treatment plant may not be able to treat the water adequately to remove harmful contaminants.

Shoreline erosion is another way in which waterbodies can be adversely impacted by stormwater. When stormwater flows at unnaturally high volumes and speeds, such as from heavy rain events over large paved surfaces, shoreline erosion can be the result. Other causes of erosion are excessive wave action or influences such as removing vegetation, which eliminates the natural erosion control plants and trees offer. Erosion can also cause excessive siltation and increased turbidity in waterbodies, and can lead to other adverse consequences such as loss of property or damage to wildlife habitats.

OPDES Multi-Sector General Permit for Industrial Activities (OKR05 Permit)

Many types of businesses perform a portion of their activities in outdoor areas exposed to the weather. Stormwater runoff from these activities picks up pollutants and discharges them directly into nearby waterbodies or indirectly via storm sewer systems. Accidental spills and leaks, improper waste disposal, and illicit connections to storm sewers may also lead to contaminants in stormwater.

Compliance Alert!

Marinas with maintenance shops or equipment cleaning operations generally have an SIC Code of 4493 and are required to obtain an OKR05 Permit under Sector Q!

In general, OKR05 permits are required for stormwater discharges associated with activities operating under a Standard Industrial Classification (SIC) Code identified in Table 1-3 of the 2017 OKR05 permit (https://www.deq.ok.gov/wp-content/uploads/water-division/2017_OKR05-Permit.pdf). Failure to obtain a Permit when required is a violation of Oklahoma Statutes (27A O.S. § 2-6-205). Additional information about the OKR05 Permit can be found on the DEQ's website at

https://www.deq.ok.gov/water-quality-division/wastewater-stormwater/stormwater-permitting/okr05-industrial-stormwater/.

How to Apply

1. Download and review both the OKR05 Permit from the link above and the OKR05 Fact Sheet (https://www.deq.ok.gov/wp-content/uploads/water-division/2017_OKR05_FactSheet.pdf). The fact sheet explains many of the OKR05 Permit requirements.
2. Complete DEQ Form 606-002B, Notice of Intent (https://www.deq.ok.gov/wp-content/uploads/water-division/Notice-of-Intent-NOI-1.pdf). Instructions for completing the form are included with the form.
3. Prepare a Stormwater Pollution Prevention Plan (SWP3). Marinas are required to have the SWP3 before submitting the NOI to DEQ. Guidance for preparing the SWP3 can be found in the OKR05 Permit and the Permit Fact Sheet.
4. Submit the NOI to DEQ by mailing or emailing to the Stormwater Unit of ECLS. The mailing/email addresses are included with the form. A copy of the SWP3 must be submitted to DEQ with the NOI if the marina is located in Sensitive Waters or Watersheds, or in a Scenic River Watershed identified in Part 1.9.5 of the OKR05 Permit.
5. The NOI application fee is $100 and the annual fee is $347.71. If mailing the NOI, a check for the full fee of $447.71 should be included with the NOI. If emailing, please wait until after DEQ has issued an authorization number, then payment can be made by Visa or MasterCard by calling DEQ's finance office at (405) 702-1130. Please reference the authorization number that will be emailed to you when contacting the finance office.
6. NOI processing time is approximately 14 days from the date of receipt. If you are required to submit the SWP3 with the NOI, the processing time will be approximately 30 to 45 days.

Stormwater Pollution Prevention Plan (SWP3)

All marinas that are required to have an OKR05 Permit are also required to develop, maintain, and implement an SWP3. If you are not required to have an OKR05 Permit, developing an SWP3 is still a good management practice to help reduce pollutants entering adjacent waterbodies.

By developing an SWP3, you will evaluate site activities to identify those that may cause pollutants to enter adjacent waterbodies, then implement mitigation practices to reduce or prevent the pollutants from doing so. Part 4 and Part 11, Sector Q of the OKR05 Permit, and the associated fact sheet, contain information to help you develop your SWP3. At a minimum, the SWP3 must contain the following elements:

- Identity of the Stormwater Pollution Prevention Team;
- A site description, to include activities conducted at the marina, name of the receiving waterbody, a general location map, and a site map with various features identified;
- A summary of potential pollutant sources (e.g. list of pollutants, locations of potential spills or leaks, identification of allowable and unauthorized discharges, any stormwater sampling data you may have, etc.);
- A description of stormwater controls in place or will be put into place;
- Procedures that are or will be put into place to control or prevent discharges of pollutants (e.g. housekeeping measures, spill prevention and response procedures,

preventative maintenance measures, erosion/sediment control measures, runoff management, employee training, etc.);
- Documentation of compliance with other federal laws such as endangered and threatened species, critical habitat protection, sensitive waters or watersheds, and historic properties;
- Proper signatory as outlined in Section 9.16.1 of the OKR05 permit.

EPA has also published a couple of guidance documents. One is specific to Sector Q (https://www.epa.gov/sites/production/files/2015-10/documents/sector_q_watertransportation.pdf). The other is Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators, February 2009 (EPA 833-B-09-002).

Integrated Pest Management Practices

Because of your marina's proximity to the water, pesticide/herbicide use in marina landscaping projects can be especially problematic in stormwater runoff. Adopting integrated pest management practices (IPMPs) is a great way to minimize the amount of these harmful chemicals entering marina waters. IPMPs avoid toxic pesticides and herbicides to the greatest extent possible while employing preventive, biological, and less-harmful chemical methods to control weeds and pests. This minimizes adverse impacts to non-target species, wildlife, and water quality.

- Work with your local agricultural extension office to select landscaping grasses and plants that are disease and insect resistant, that will out-compete common weeds, and that can thrive on your property.
- Pull weeds by hand to reduce reliance on herbicides.
- Boost your own tolerance for weeds and other pests. If they are not actually harming anything, consider leaving them alone.
- Foster natural predators such as praying mantis, dragonflies, lacewings, soldier beetles, birds, bats, frogs, lizards, and certain snakes and toads.
- Use organic alternatives. Apply directly to problem areas to reduce the amount needed to control the problem.
- Use chemical pesticides and herbicides only after all other options have been exhausted.
- Treat only serious or threatening intolerable pest infestations.
- Do not use pesticides or herbicides just before a rainfall or on a windy day.
- Apply insecticides during the evening when honeybees and other beneficial insects are less active. Do not apply pesticides near the shore.

Helpful Online Resources

There are several resources online that may help you understand how to protect marina waters from contamination and to reduce or prevent shoreline erosion. Please note that DEQ does not endorse any of these resources; they are provided for informational purposes only. If there are any conflicts between the information in these resources and DEQ requirements, DEQ requirements will prevail.

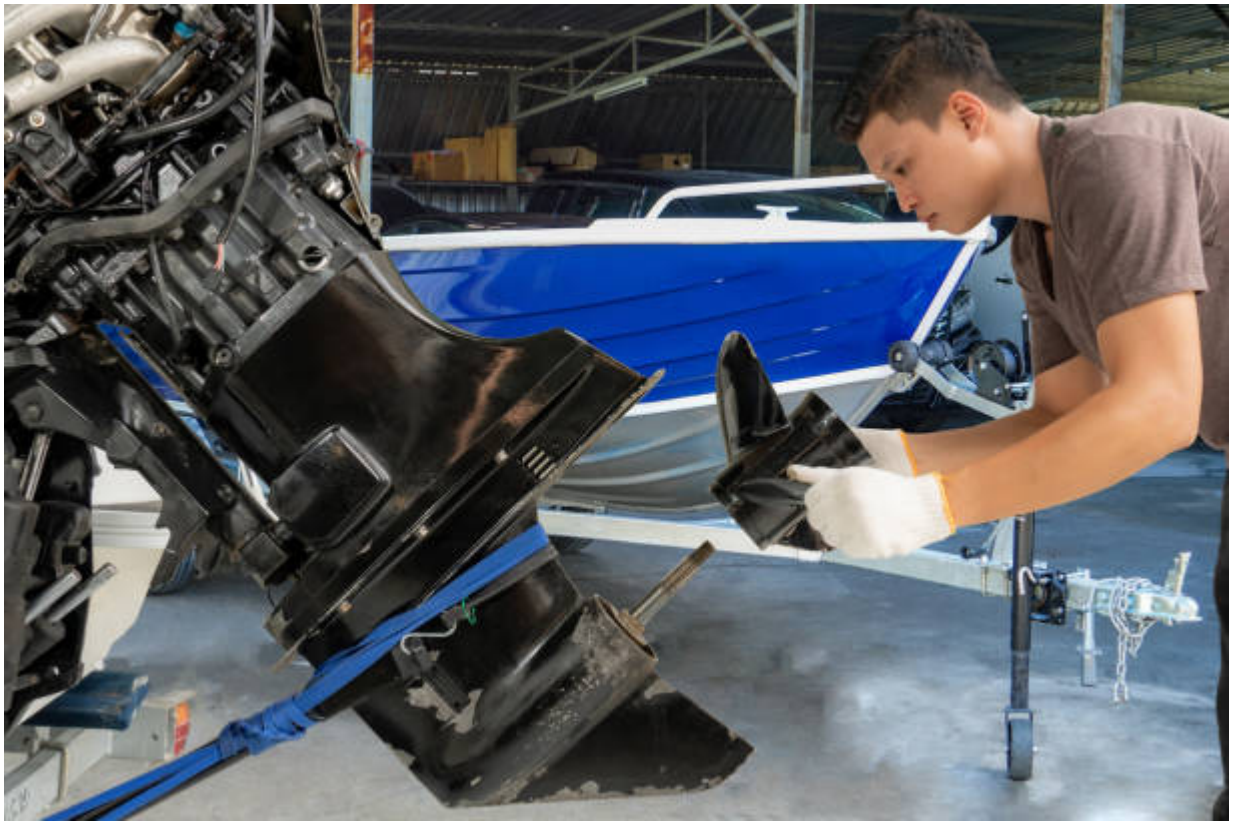
- Natural Resources Defense Council – Water (https://www.nrdc.org/issues/water)
- EPA – Basic Information about Nonpoint Source (NPS) Pollution (https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution)

- Low Impact Development Center (https://lowimpactdevelopment.org/resources/publications/)
- Center for Watershed Protection (https://www.cwp.org/)
- EPA – Marinas and Boating: National Management Measures (https://www.epa.gov/nps/marinas-and-boating-national-management-measures)
- Oklahoma Department of Wildlife Conservation – Aquatic Vegetation Control (https://www.wildlifedepartment.com/lands-and-minerals/farm-ponds/aquatic-vegetation-control)
- Watershed Council – Understanding, Living With, and Controlling Shoreline Erosion: A Guidebook for Shoreline Property Owners, Third Edition (https://www.watershedcouncil.org/uploads/7/2/5/1/7251350/shoreline_erosion_3rd_edition.pdf)
- Michigan Inland Lake Shorelines – Shoreline Erosion (http://www.shoreline.msu.edu/shorelinemgt/erosion/)
- North American Lake Management Society – Your Lake & You! Simple, Concrete Steps You Can Take in Your Home, Yard, and Community to Protect Your Lake (https://www.nalms.org/product/your-lake-you-2nd-edition/)
- Burnett County Land and Water Conservation Department – Controlling Runoff and Erosion from Your Waterfront Property: A Guide to Landowners (https://www.burnettcounty.com/DocumentCenter/Home/View/119)

AREA 2. BOAT MAINTENANCE AND REPAIR

Goal: Reduce pollutants from boat maintenance and contain pollutants at the source.

Boats require a great deal of attention year-round – cleaning, painting, engine maintenance, winterizing. Routine maintenance can create several highly toxic pollutants that can be released to marina waters – sanding wastes, paints, oil and fuel, antifreeze, solvents, soaps. While a little fuel or oil, a little dust from sanding, or a little soap from cleaning may not seem like much, the cumulative effect from many boats over time can be detrimental to marine habitats and wildlife.



Marina owners and operators should understand that any hazardous wastes generated at the marina, whether by marina operations or individual boat owners, must be handled in accordance with DEQ's hazardous waste regulations and disposed at a facility permitted by DEQ to accept hazardous waste.

There are several steps marinas can take to help prevent pollutants from boat maintenance and repair from entering the marina waters. In addition to ensuring marina employees are aware of your policies, be sure to post signs in several locations around the marina and dock areas to remind boaters of your policies on boat maintenance and repair.

Did you know?

Hazardous waste includes, but is not limited to, such things as solvents, oil-based and/or metal-containing paints, waste oil and fuel, and many chemicals.

Fluorescent bulbs that may be used in marina buildings also require special handling.

Prohibit or Restrict Do-It-Yourself Maintenance

Most marina operators and boat owners want to maintain clean waters for boating, fishing, swimming, and skiing, but may not fully understand how just a little pollution can greatly impact the water. The best way to make sure pollutants do not enter marina waters is to prevent them from being created in the first place. The easiest way to do this is to enforce a marina policy that do-it-yourself boat maintenance is prohibited entirely or must be performed in dedicated, onshore locations. If boat maintenance must be performed in a boat slip, it is best if the maintenance is performed by a professional who has the tools and training to capture any waste generated and ensure proper disposal. Make sure your employees know what activities are allowed in the marina. If significant boat repairs are allowed, your marina may be subject to more stringent stormwater management requirements.

Provide Dedicated Maintenance Areas

Enclosed Buildings. The most effective way to prevent pollutants from entering marina waters is to provide a maintenance building for such activities. Performing maintenance inside a building contains leaks, spills, and other maintenance wastes produced during the work so they are not captured by wind or rainfall and discharged into the water. Post a list of boater responsibilities and rules for use.

Did you know?

Many contaminants in wastes from boat maintenance, if discharged into septic systems, can kill beneficial bacteria in the system causing the system to malfunction, or can pollute the groundwater that may be used as the drinking water supply for the marina!

Floor drains from the maintenance area should not discharge into septic systems, nor should the drains discharge directly onto soils outside the building or into marina waters. Be sure to clean the maintenance building each day. Provide receptacles for waste collection – regular trash and recyclables (plastics, aluminum cans, glass, uncontaminated paper, cardboard, etc.), used oil and filters, used parts for recycling, etc. A separate area for collection of hazardous wastes, such as solvents or caustics, should be maintained.

Outdoor Maintenance Areas. If an enclosed building is not available, a curbed, concrete area on marina property may be provided for maintenance activities. Curbing should be designed to either prevent runoff from discharging onto adjacent soils or into marina waters, or to direct runoff into a lined catch basin where the collected wastewater can be periodically pumped for proper disposal. The area should be located well away from marina waters and clearly marked as a maintenance-only area. A list of boater responsibilities and rules for use should be visibly posted in the maintenance area. Prohibit any maintenance or repair work outside the designated area. To the extent possible, have the maintenance area in a location on the marina property that is protected from wind and rain. Even better, cover the maintenance area with a roof. Provide separate receptacles for waste collection – regular trash and recyclables (plastics, aluminum cans, glass, uncontaminated paper, cardboard, etc.), used oil and filters, used parts for recycling, etc. A separate area for collection of hazardous wastes, such as solvents or caustics, should be maintained. Clean the maintenance area daily to minimize the buildup of contaminants.

Used Oil and Filter Management

Even small quantities of used oil entering marina waters can be detrimental. Provide containers in which used oil can be collected for recycling. Be sure to label the used oil containers with the words, "Used Oil" to ensure no other wastes are deposited into the container.

> ***Did you know?***
>
> Used oil can be contaminated with arsenic, cadmium, chromium, lead, flammable liquids, and compounds containing fluorine, chlorine, bromine, and iodine.
>
> If you collect used oil, be sure to follow DEQ's used oil management standards.

Used oil filters can be another source of pollution because, after use, the filter media can retain a significant quantity of used oil, which can eventually be released into the environment if the filters are not properly disposed. There are two general classifications of oil filters, terne-plated and non-terne plated. Terne-plated filters contain lead and are generally used in heavy machinery. Non-terne plated filters do not contain lead, and are the filters generally used in boats and automobiles. Used non-terne plated filters can be disposed in the regular trash after the oil in the filter has been removed using one of the following techniques:

- Puncture the filter's anti-drain back valve or the filter dome end and hot drain;
- Hot drain, then crush the filter;
- Dismantle the filter and hot drain; or
- Use any other hot draining technique that will remove the oil.

(Be sure to drain the filters over a container to capture any used oil draining from the filters. EPA recommends hot draining filters for approximately 12 hours at a temperature above 60° F)

EPA has developed an excellent FAQ page about used oil management (https://www.epa.gov/hw/managing-used-oil-answers-frequent-questions-businesses).

Boat Cleaning

Just like their cars, boat owners want to keep their boats clean. If boat cleaning is performed either in the water or onshore adjacent to marina waters, wash water can easily end up in marina waters. Unfortunately, many cleaners contain chlorine, ammonia, detergents, and other chemicals that can be toxic to aquatic life. There are some simple actions you can take to help ensure chemicals and debris from boat cleaning activities do not enter marina waters.

Restrict in-water boat cleaning. The best way to keep harmful boat cleaners out of the water is to make sure they are not introduced in the first place. Restrict in-water boat cleaning to only handwashing the hull with water supplied by the marina. Engine cleaning should not be performed in a boat slip as this may introduce harmful solvents or corrosives to marina waters. Encourage boat owners to wash their boats often to prevent buildups that will require the use of harsh chemicals.

Provide on-shore boat-washing stations. Like a car wash, boat-washing stations provide a great way for boat owners to pressure wash their boats while preventing contaminants from entering marina waters. Provide an impermeable surface that is sloped to drain the wash water into a lined sump to allow solids to settle.

If steps are taken to ensure only boat hulls are cleaned in the station, the collected sediments can be used as fill material around the marina in accordance with DEQ's Car Wash Sludge fact sheet (https://www.deq.ok.gov/wp-content/uploads/deqmainresources/CarWashSludge_01-2020.pdf). The collected water can be recycled back into the boat wash or used for landscape irrigation, provided there is no discharge into marina waters.

If the boat washing stations are used for engine cleaning, cleaning of chemical containers, tank cleaning, or cleaning of any other items beside the exterior of boats, the collected water and sediments will be subject to more stringent disposal requirements, such as landfill disposal.

Routine hull waxing. Remind boat owners that routinely wax hulls with a quality wax will help prevent dirt and grime from adhering to the hull, making cleaning much easier!

Boat Painting

Boat sanding, stripping, and painting can introduce toxic contaminants into the environment. Heavy metals will remain in marina soils or waterbody sediments and may eventually be consumed by worms, mussels, and other bottom-dwelling creatures, to be passed up the food chain into fish, birds, and people. Paints, solvents, thinners, and brush cleaners are generally toxic to both people and wildlife. For these reasons, it is imperative that you take steps to ensure marina soils and waters are not contaminated with paint wastes.

Compliance Alert!

Many wastes generated from boat painting activities are hazardous. They must be managed according to DEQ's hazardous waste regulations and disposed at a facility authorized by DEQ to accept hazardous waste!

Prohibit boat painting. Boat painting involves several activities that can introduce contaminants into the environment – stripping, sanding, fiberglassing, spray painting, generation of solvent and paint contaminated rags, etc. Without taking special precautions, it can be very difficult to control the release of these into the environment.

Additionally, because many painting wastes are hazardous, it will be necessary for you to be familiar with DEQ's hazardous waste management regulations and ensure customers adhere to those regulations. Therefore, it is best to prohibit any boat painting activities at the marina, and direct customers to off-shore, boat painting businesses.

Use enclosed buildings. If boat painting will be allowed at the marina, the most effective way to prevent pollutants from entering marina waters is to prohibit all outdoor painting activities and provide an enclosed building for such activities. This will ensure the contaminants generated during painting activities are not captured by wind or rainfall and discharged into the water. Post a list of boater responsibilities and rules for use.

Compliance Alert!

Since many wastes generated from boat painting activities are hazardous, a dedicated area for collection of paint wastes must be maintained and other provisions must be made to ensure compliance with DEQ's hazardous waste regulations.

Provide vacuum sanders and require their use. When operated correctly, they will collect sanding dust as it is removed from the hull, reducing risks to persons operating the sanding equipment and the need for cleanup afterward.

Floor drains from the building should not discharge into septic systems as contaminants can get into groundwater or kill beneficial bacteria that will cause the septic system to malfunction. Additionally, floor drains should not discharge directly onto soils outside the building or into marina waters.

Be sure to clean the maintenance building each day.

Provide receptacles for waste collection – regular trash and recyclables (uncontaminated plastics, aluminum cans, glass, paper, cardboard, etc.). A separate area for collection of hazardous wastes, such as solvents or caustics, paint and stripping wastes, and contaminated rags must be maintained and managed according to DEQ's hazardous waste regulations.

Alternatives to Toxic Products

For many routine cleaning and maintenance activities, encourage boaters to use less-toxic products. While wastes generated from using these products should still be captured, they will be less harmful to the environment in the event of accidental releases.

Product	Option
General cleaner	Make a paste composed of baking soda and vinegar OR lemon juice with borax
Bleach	Hydrogen peroxide
Scouring powder	Baking soda or salt
Floor cleaner	Mixture of one cup white vinegar to two gallons of water
Window cleaner	Mix one cup white vinegar in one quart of warm water
Varnish cleaner	Mix one-half cup vinegar with one-half cup water
Shower cleaner	Wet surface, sprinkle with baking soda, and rub with scouring cloth
Aluminum cleaner	Mix two tablespoons of cream of tartar in one quart hot water
Chrome cleaner/polish	Use apple cider vinegar to clean and baby oil to polish
Fiberglass stain remover	Clean with a baking soda paste
Mildew remover	Make a paste using equal parts of lemon juice and salt
Wood polish	Mix three parts olive oil with one part white vinegar

AREA 3. OIL/FUEL ACTIVITIES & CONTROL

Goal: Reduce the risk of oil and gasoline leaks and spills, and strengthen recovery efforts in the event of a spill.

Background

Under federal law, it is illegal to release oil or fuel into the water in any quantity, even if the quantity is so small, it only creates a sheen. It is also illegal to add any dispersal agents, emulsifiers or coagulants to spills. With such strict laws, it is important for you to take steps to minimize the potential for releases of fuel or oil into marina waters.

Did you know?

According to EPA, a spill of one gallon of oil can contaminate one million gallons of water!

Beside potential violations, even small oil/fuel spills can have an impact on marina operations. Petroleum will deteriorate polystyrene used in floats and docks. Fuel and oil can discolor boat hulls, woodwork and paint. All of these cost money to repair. There is also a potential fire risk due to the flammability of gasoline.

Fuel and oil spills also are detrimental to the environment. Gasoline is toxic to marine life and can upset wildlife reproduction. Even though these compounds float on top of the water, over time, they can sink to the bottom where they may be ingested by bottom dwellers and passed up the food chain, ultimately ending up in game fish that are consumed by humans.

Most fuel dock spills result from overfilling boat fuel tanks or while transferring the fuel nozzle from the boat back to the fuel pump. These spills are usually small and can be minimized by taking some precautionary steps. Another potential source of fuel leaks is damaged pipes and hoses from fuel storage tanks.

Spill Prevention, Control, and Countermeasures[1]

Federal regulations (40 CFR Part 112) require marinas that meet certain criteria to have a Spill Prevention, Control, and Countermeasure (SPCC) plan in place to prevent releases of oil and fuel into marina waters, and outline response measures in the event of a discharge. SPCC applies to marinas that:

- store, transfer, use or consume oil or oil products; and
- have an aggregate above-ground oil storage capacity greater than 1,320 U.S. gallons or a completely buried storage capacity greater than 42,000 U.S. gallons;[2] and
- where there is a reasonable expectation of an oil discharge into or upon marina waters.

Even if your marina does not meet these criteria and is not subject to the SPCC rule, it is still highly advisable to have some sort of spill prevention and cleanup plan in place to help protect marina waters in the event of an oil spill. EPA's Tier I SPCC template (https://www.epa.gov/sites/production/files/2014-05/documents/tier1template.pdf) may be beneficial to help you develop your spill control plan if you are not subject to the SPCC rule.

Did you know?

Under SPCC, "oil" refers to: petroleum; fuel oil; sludge; oil refuse; oil mixed with wastes other than dredged spoil; fats, oils or greases of animal, fish, or marine mammal origin; vegetable oils, including oil from seeds, nuts, fruits, or kernels; and other oils and greases, including synthetic oils and mineral oils.

Throughout the remainder of Area 3, the term "oil" will include all of these examples.

General Marina Responsibilities.

In general, if you fall under the SPCC rule, you must take steps to prevent discharges of oil to marina waters and implement cleanup measures if a discharge occurs. There are also reporting requirements to consider.

Prevent discharges. Operational errors and equipment failures are the primary causes of unintended discharges. Operational errors can be minimized through personnel training, an awareness of the importance of preventing discharges, adequate supervision of procedures, and management commitment to prevention. Equipment failures can be minimized by proper selection of equipment and construction of retaining structures, routine maintenance, and frequent inspection.

Specific steps that can be taken to prevent discharges include:

- making sure oil storage tanks and containers are suitable for the material being stored (e.g. gasoline is stored in tanks/containers designed for flammable liquids);
- providing overfill prevention for the storage containers (e.g. a high-level alarm);

[1] Much of the following discussion regarding SPCC plans is derived from EPA's Spill Prevention, Control, and Countermeasure (SPCC) Regulation, EPA 540-K-09-001, June 2010 (https://www.epa.gov/sites/production/files/documents/spccbluebroch.pdf, accessed April 16, 2021).

[2] Note that storage capacity is used to determine SPCC requirements, not the actual quantity in storage.

- providing secondary containment around above-ground tanks, of adequate volume to hold the full capacity of the tanks plus possible rainfall;
- providing general secondary containment (e.g. sorbent materials, drip pans or curbing) in areas of likely oil discharges, such as container-to-container transfer areas or fueling stations;
- periodically inspecting and testing pipes and storage tanks/containers. Visually inspect above-ground pipes and fuel/oil containers according to industry standards. Make sure buried pipes are leak tested when they are installed or repaired. Include a written record of inspections in the plan; and
- training marina employees on the SPCC plan and procedures to contain and cleanup releases when they are discovered.

REMEMBER: Under SPCC, "oil" includes oil and grease from cooking! Marinas that offer cooking services must make sure their waste cooking oil is handled according to SPCC requirements! Containers of used cooking oil for collection by a collection service should be counted in the aggregate above-ground storage capacity.

Implement cleanup measures. While cleanup measures must be tailored to the material that was spilled, proper training of marina employees to rapidly address releases is imperative to minimize harm that may be caused by releases. Deployment of absorbent booms is an excellent first step to preventing oil released from above-ground tanks or containers from reaching marina waters, or preventing them from spreading further if marina waters were reached.

Reporting. The following table summarizes state and federal reporting requirements for releases of fuel or oil at marinas.

Quantity of Release	Notification
Any quantity into marina waters	NRC, DEQ
≥ 25 gallons onto the land	DEQ
> 1,000 gallons to marina waters in a single event	NRC, EPA, DEQ
> 42 gallons in each of two events to marina waters during any 12-month period	NRC, EPA, DEQ

Note: Reporting requirements do not apply for *de minimis* quantities, such as drips into marina waters at fueling stations when transferring a fueling hose between the boat and the fuel pump.

- Reports to the National Response Center (NRC) can be made at 800.424.8802.
- Reports to EPA Region 6 can be made to the Region 6 contacts listed at https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations/contact-us-about-oil-spill-prevention-and.
- Reports to DEQ can be made at 800.522.0206.

SPCC Plan

If your marina is covered under the SPCC plan requirement, you must develop and implement an SPCC plan. It is to be based on good engineering practices and describe oil handling operations, spill prevention practices, and the personnel, equipment and resources available to

prevent oil spills from reaching marina waters. While your SPCC plan should be tailored to your specific marina, there are certain elements that must be included:

- operating procedures at the marina to prevent oil spills;
- control measures (such as secondary containment) installed to prevent oil spills from entering marina waters; and
- countermeasures to contain, cleanup, and mitigate the effects of an oil spill that has impacted marina waters.

General Requirements for SPCC Plans

- In Oklahoma, SPCC plans must be prepared, signed, and sealed by a professional engineer licensed in Oklahoma.[3]
- The plan must have the full approval of marina management at a level of authority to commit necessary resources.
- A complete copy of the plan must be maintained at the marina and made available to DEQ for on-site review during normal operating hours.
- The plan must be submitted to DEQ or EPA upon request.

Actions in Response to Large Releases

In the event of a release of oil to marina waters in excess of 1,000 gallons in a single discharge or in excess of 42 gallons in each of two discharges in any 12-month period, the following information must be submitted to EPA Region 6 and DEQ:

- name of the marina;
- name of individual making the report;
- location of the marina;
- maximum storage or handling capacity of the marina and normal daily throughput;
- corrective action and countermeasures taken, including a description of equipment repairs and replacements;
- an adequate description of the marina, including maps, flow diagrams, and topographical maps, as necessary;
- the cause of the release, including a failure analysis of the system or subsystem in which the failure occurred;
- additional preventive measures taken or contemplated to minimize the possibility of recurrence; and
- such other information as the EPA Regional Administrator may reasonably require pertinent to the plan or discharge.

[3] Federal SPCC rules authorize streamlined requirements for marinas meeting Tier I or Tier II Qualified Facility criteria, including self-certification of SPCC plans in lieu of certification by a professional engineer. Per an April 16, 2021 email from Rachel Singer with the Oklahoma Board of Licensure for Professional Engineers & Land Surveyors, there was a declaratory ruling several years ago stating that all SPCC plans have to be prepared, signed, and sealed by a professional engineer licensed in Oklahoma; thus, the streamlined process under the federal SPCC rules is not available in Oklahoma.

Fueling Stations and Dispensing

"'It was a tragic accident': Fatal Vancouver Island marina fire believed to have started on boat."[4] "Lake Texoma boat explosion update."[5] "Highport Marina says fire started from man pouring out gas tank."[6] All three of these headlines have one thing in common – they happened at marinas during some kind of fueling-related activity. Though rare, serious accidents can occur during marina fueling activities.

https://www.gettyimages.com/detail/photo/marina-fuel-station-royalty-free-image/91617341

Because fueling mishaps at marinas can easily cause fires or inadvertent discharge of fuel into marina waters, safe fueling requires clear communication between boaters and marina staff. You have a responsibility to educate boaters about general safe fueling practices and any specific practices employed at your marina. Boaters have a responsibility to understand and adhere to your requirements. Be sure to post signs in conspicuous locations around the fueling dock to inform boaters of your requirements.

Safe fueling at marinas involves three elements: inspection and repair, safe dispensing, and spill cleanup. It is like a three-legged table – if any one is missing, disaster can happen. There are several easy steps you and your customers can take to ensure fueling mishaps do not occur or are quickly mitigated. This is not an all-inclusive list, and other requirements may be prescribed by law or set by organizations such as the National Fire Protection Association.

Inspection and repair.

- Routine inspections and prompt repair of all hoses, pipes, above-ground tanks/containers and other marina equipment that contain oil or fuel will go a long way to preventing releases to the environment.
- Inspect fuel pumps and dispensing nozzles daily for leaks and proper operation. If leaks or improper operation are found, remove from use until repairs can be made.
- Inspect secondary containment around oil/fuel storage tanks for leaks or deterioration. Make prompt repairs, if needed.
- If rainwater has collected inside secondary containment, pump the water into an appropriate container for disposal – never onto the ground or into a storm drain or septic system.

[4] https://vancouverisland.ctvnews.ca/it-was-a-tragic-accident-fatal-vancouver-island-marina-fire-believed-to-have-started-on-boat-1.4934415
[5] https://www.kten.com/story/19446415/lake-texoma-boat-explosion-update
[6] https://www.kxii.com/content/news/Highport-Marina-says-fire-started-from-man-pouring-out-gas-tank-436840283.html

Safe dispensing.

- Prohibit fueling at night, except in an emergency and with adequate electric lighting.
- Require all passengers to leave the boat before fueling.
- Locate fueling docks away from boat slips.
- Prohibit smoking on the fuel dock and when fueling.
- Ensure boats are securely tied to the fuel dock and the motor is off before fueling.
- Encourage boaters to not top off or overfill boat fuel tanks.
- Fill portable fuel tanks on the dock, not in the boat.
- Only use fuel dispensing nozzles that do not have latch-open devices to ensure the nozzle will close when the operator's hand is removed.
- Consider allowing fueling to be performed only by marina staff who are training in proper fueling and spill cleanup.
- Make sure the emergency fuel shut-off is conspicuously located near the fuel pumps.
- Encourage boaters to have working fire extinguishers at all times on their boats.
- Provide Class 40B:C fire extinguishers in conspicuous locations on the fuel dock.
- Provide absorbents to catch drips and small spills from fueling and promptly clean up any spills.
- Provide a knife and push pole at the fuel dock so that in the event of a boat fire, mooring lines can be cut and the boat shoved away from the dock.

Did you know?

According to Boatus.com, temperatures of 100 degrees can make gasoline expand by as much as 10%, causing a fully-topped off tank to leak just from expansion!

Spill cleanup.

- Keep absorbent booms or other absorbent materials readily available at the marina and on the fuel dock.
- Train marina employees in the proper use of booms and absorbents.
- Hold periodic spill cleanup exercises to ensure marina employees remain competent to quickly respond to spills at the dock or releases from above ground fuel/oil storage tanks.
- Keep emergency contact information readily available.
- Have a current map or diagram of the location of important shutoff valves.

Did you know?

Soaps and detergents should not be used to clean up oil/fuel spills? They tend to break up the oil and send it lower into the water column, harming aquatic life and rendering absorbent booms and similar cleanup methods ineffective. Detergents also bind oxygen so it is not available to fish. Phosphates in detergents can cause algal blooms, further reducing oxygen in the water.

Additional Tools

Several online websites provide additional information to assist you.

Oklahoma Corporation Commission Information on SPCC Plans
(https://oklahoma.gov/occ/divisions/oil-gas/pollution-abatement-department/information-on-spcc-plans.html)

Safe Boater Training Program: Refueling & Handling
(https://www.safeboater.com/learn-the-rules/refueling-and-handling.html)

Boat Safety Scheme: Petrol Safety
(https://www.boatsafetyscheme.org/stay-safe-advice/petrol-safety/)

Tips & Hints for Preventing or Dealing With Oil and Fuel Spills
(https://captnmike.com/2015/07/28/free-small-oil-spill-prevention-kits/)

National Fire Protection Association (NFPA)
(https://www.nfpa.org/)

AREA 4. WASTE RECYCLING, DISPOSAL, AND STORAGE

Goal: Properly manage chemicals used at the marina and properly contain, recycle, and dispose of solid waste, liquid waste, and hazardous waste generated at the marina.

Background

Solid waste is a broad term that includes most anything that is discarded – paper, plastic, cardboard, food waste, aerosol cans, construction/demolition debris, and liquid wastes such as oils, paints, and old chemicals. Not only is improperly disposed solid waste an eyesore, it can be extremely harmful. Chemicals that make their way into marina waters can kill wildlife, cause large algal blooms, damage habitats, or get into public water supplies. Preventing solid waste from entering marina waters is the right thing to do!

Reduce, Reuse, Recycle – Dispose as a Last Resort

The three R's for best managing solid waste are Reduce, Reuse, Recycle. Send your waste to the landfill only when something is not amenable to one of the three Rs. Let's unpack each of these.

Reduce. The easiest way to get control of the amount of solid waste you have to handle is to reduce how much raw material you purchase. In other words, don't buy what you don't need!

For example, if you need three gallons of paint for a job, but purchase a five-gallon bucket because it is less expensive per gallon, what will you do with the other two gallons? There is a cost associated with storing it until needed (if it's ever needed). There is a cost for disposal if it becomes so old it can't be used. If there is a mishap, there is a cost to clean up the mess. These "hidden" costs arising from purchasing excess materials ultimately result in a higher cost than purchasing the smaller quantity to begin with. A similar argument can be made for all raw materials purchases. Only purchase what you need now, or in the short term, and reduce the amount of waste you have to deal with later!

Reuse. Many items thrown in the trash can be reused. Reuse cardboard shipping boxes for storage, or give them away to marina patrons. Reuse glass jars for holding small items such as nuts and bolts. Reuse food waste and grass clippings by composting into a rich, organic soil amendment for marina landscaping projects. Reuse that two gallons of left-over paint, or other raw materials from a construction project, by giving to another marina.

Recycle. For those materials that you cannot reuse, recycle if you can. Paper, plastic, glass, cardboard, tin and aluminum cans are the most common candidates for recycling. Used motor oil and lubricants, fluorescent bulbs, and scrap metal can also be recycled. Fishing line can be made into plastics to make other fishing gear.

To make recycling easier, be sure to maintain separate, clearly-marked bins for each type of item to be collected.

In addition to recycling materials generated by marina operations, offer to recycle appropriate materials for your customers.

Did you know?

According to Bassmaster, fishing line can take up to 600 years to break down in the environment! See Boatus.org/monofilament for additional resources to set up a fishing line recycling area at your marina!

Special Note. Some materials that can be recycled require special handling, most notably used oil and lubricants, and fluorescent bulbs. The following are a few pointers for recycling these items.

Used motor oil. Used motor oil includes engine oil, synthetic oil, transmission fluid, hydraulic fluid, and similar materials. You can collect used oil on-site for recycling provided a few management practices are met.

- Containers or above-ground tanks in which used oil is collected must be in good condition, not leaking, and marked with the words, "Used oil."[7]
- If any used oil is spilled or released, it must immediately be collected.
- Contract with a used oil recycler to ensure the used oil is properly managed.
- Maintain records showing how much used oil is collected and when the used oil is picked up for recycling.
- If your marina provides food service, be sure to have a separate container for used cooking oil. If used motor oil and used cooking oil are mixed, the mixture is not recyclable.

Compliance Alert!

Do not use used oil, or offer it to a third party, for road oiling or as a dust suppressant! It is against the law in Oklahoma!

Fluorescent bulbs. Some older fluorescent bulbs contain mercury as a level high enough that the bulbs are considered hazardous waste when disposed, and therefore, cannot be thrown in the trash. If fluorescent bulbs are sent for recycling, however, less-stringent handling requirements will apply.

- Store waste bulbs in closed, structurally sound packages, marked with the words "Universal Waste Lamps" or "Used Lamps."
- Maintain appropriate records showing when the blubs were placed into storage and make sure they are sent for recycling within one year.
- Train employees on proper handling and cleanup, and promptly clean up any broken bulbs.
- Make sure the used bulbs are sent to a facility that can recycle them.

Because nearly all businesses have fluorescent bulbs, DEQ has prepared a very informative guidance document on how to handle those bulbs. That guidance can be found at https://www.deq.ok.gov/wp-content/uploads/deqmainresources/WasteFluorescenetBulbManagement_02-2020.pdf.

Disposal. Marina dumpsters should be located well away from the shoreline within an enclosure that can be locked whenever the marina is closed. The enclosure will help prevent wind dispersal of waste, while locking will help prevent unauthorized disposal into the dumpster when your marina is closed.

- Post a sign at the dumpster informing users what can go into it.
- Post a sign of items that are prohibited from being placed into the dumpster, e.g. oil, antifreeze, gasoline, paint waste, solvents, pesticides, lead-acid batteries, hazardous waste, etc.

[7] Remember that used oil containers with a capacity greater than 55 gallons must be counted in the aggregate oil accumulation limit to determine whether or not the marina falls under the SPCC rule discussed in Area 3.

- Post a sign directing people to the marina recycling area, if equipped.
- Place the dumpster within a concrete, secondary containment area to capture any liquids that may be released from the dumpster.
- Maintain recycling bins next to the dumpster to encourage recycling of appropriate materials.

Special Waste and Materials Management Considerations

Hazardous Wastes and Hazardous Substances. The term "hazardous waste" is a very broad term, but in general, any waste that is ignitable, corrosive, reactive, or toxic will be subject to DEQ's hazardous waste management regulations. As noted in Area 1, because many wastes generated from boat maintenance are considered hazardous and require special handling and disposal, if your marina has a maintenance shop or equipment cleaning operations, you are required to obtain an OKR05 Permit under Sector Q from DEQ. This permit requires you to control pollutants from boat maintenance and wash areas. Even if your marina doesn't have a maintenance shop or equipment cleaning operations, many wastes commonly generated at marinas fall into the "hazardous waste" category. It is, therefore, important to understand the requirements that may apply to you. EPA has prepared a very informative guide for small businesses on proper handling of their hazardous wastes. That guide can be found at https://www.epa.gov/sites/production/files/2019-10/documents/10008_managingyourhazwaste_508pdf_october_16_2019.pdf.

"Hazardous substances" are a broader category than hazardous wastes and are defined by the Occupational Health and Safety Administration (OSHA) as anything that poses a health and/or physical safety hazard. Because of the many nuances in federal regulations, many raw materials are "hazardous substances" because they can be harmful to human health but, when disposed, are not regulated as a "hazardous waste." Therefore, it is important to understand what these materials are and what your requirements are if you have them.

Under OSHA's Hazard Communications Standard, you are required to have a Safety Data Sheet (SDS) for all hazardous substances used at the marina and make them available to your employees. Usually, the SDS is provided by the manufacturer. If you have SDS sheets and if you store quantities in excess of the following, then you also need to file a Hazardous Chemical Inventory Report (commonly called "Tier II Reports") with DEQ by March 1st of each year:

- Extremely Hazardous Substances (EHS): over 500 lbs. or the Threshold Planning Quantity, whichever is lower;
- gasoline (all grades combined): over 75,000 gallons, if stored underground;
- diesel (all grades combined): over 100,000 gallons, if stored underground; or
- all other hazardous materials for which an SDS is required: over 10,000 lbs.

You can refer to DEQ's Chemical Reporting and Preparedness webpage for additional information about Tier II reporting and how to file (https://www.deq.ok.gov/land-protection-division/chemical-reporting-and-preparedness/).

What can you do to help prevent releases of hazardous substances and wastes into marina waters?

- Develop and maintain a hazardous materials business plan outlining marina policies for how these materials will be handled, and train employees so they will know and understand the plan.
- Post signs to inform marina customers of proper disposal of hazardous substances they may have.
- Store hazardous substances and wastes off the ground and covered.
- Keep hazardous substance containers in good condition and securely closed.
- Clean up and dispose of spills and leaks, promptly and properly.
- Provide spill control material and empty containers for emergency clean up in accessible locations and train employees in their use.
- Make sure containers are clearly labeled with contents to prevent inadvertently mixing incompatible materials.
- Designate an emergency coordinator and train your employees in proper management procedures and emergency response actions in case of a fire or spill.
- Post the emergency contact list found at the beginning of this Guidebook in conspicuous locations around the marina.

Fish Scraps. Marinas are typically located in sheltered areas to protect the marina and boats from wind and waves during a storm. This feature also limits the exchange of marina waters with the rest of the lake waters. The result is that wastes finding their way into marina waters may tend to remain for a long period of time. If large amounts of fish scraps are disposed into marina waters, it can lead to water quality problems. As the fish scraps decompose, bacteria consume oxygen in the water, leading to foul odors and, in extreme cases, fish kills. Aesthetically, the sight and smells of decomposing fish scraps in marina waters or onshore is extremely unattractive to patrons.

Prohibiting fish cleaning at the marina is the best way to prevent these issues in marina waters; however, if you wish to allow patrons to clean their fish at your marina, consider the following options.

- Install fish cleaning stations utilizing the standards in Table 1, which is adapted from U. S. Army Corps of Engineers Manual No. EM 1110-1-400, and require their use.
- Post signs and otherwise educate patrons on fish waste protocols adopted by the marina.
- Encourage patrons to freeze fish parts and reuse them as bait on the next fishing trip.
- Add fish waste to the marina compost pile.
- Double bag fish waste and dispose in the regular trash.

Table 1. U. S. Army Corps of Engineers recommendations for fish cleaning stations.

Potable water available	Required
Interior light levels from 500 to 700 lux	Required
Exterior lighting illuminates the area within a 50-foot radius, with an our edge minimum of 5 lux, increasing to 50 lux next to the structure	Required
Located away from other user activities	Recommended
Ties into the marina septic system or a municipal sewer system	Recommended
Allows ease of access for pumping if a holding tank is used	Recommended
Provides adequate parking	Recommended
Uses timers, motion detectors, and/or photocells to control interior lighting	Optional

Pet Waste. Pet wastes at the marina can provide nutrients and pathogens to stormwater discharging into marina waters. Excess nutrients can encourage algae growth, which can sap marina waters of oxygen. The pathogens in pet wastes can result in excessive amounts of harmful bacteria in marina waters, harming fish and other aquatic life. Aesthetically, the odors and sight of excessive pet wastes will be unattractive to patrons. Consider the following to help control pet wastes at your marina.

- Establish a dedicated area, away from the shoreline, for pet walks, or install an enclosed dog park.
- Post educational signs, provide pet waste collection bags, and provide pet waste receptacles.
- Encourage cat owners to maintain a litter box on their boat and dispose of pet waste in the trash, not in marina/lake waters or surrounding grounds.
- If you provide boat slips for rent, specify pet waste rules in rental contracts.
- Every few days, clean marina grounds of accumulated pet waste.

Do not dispose of pet waste in a marina compost pile. The bacteria in pet waste can prevent the composting process from working properly, resulting in foul odors and incomplete composting.

AREA 5. GENERAL MARINA OPERATIONS

Goal: Have general operational protocols in place to reduce the likelihood of environmental contamination.

A clean marina increases the pleasure of boating experiences, is good for your business, and reinforces the public image that boating is clean and fun. Once you have adopted some of the guidelines in this book, be sure to let people know!

Land management decisions, marina operating procedures, and structural improvements may all contribute to, or detract from, the quality of the land and water surrounding your marina. Roads and parking areas may convey polluted stormwater directly into marina waters. Hazardous chemicals may be leached into the water from piers and other similar structures. Broken or degraded floats may release buoyant debris, which birds and fish mistake for food. The location and installation of shore side and in-water structures may lead to accelerated shoreline erosion.

The two biggest steps you can take to make sure your marina does not contribute to pollution of marina waters is to have a well-trained staff to implement marina practices and inform marina patrons and contractors how they can protect the quality of marina waters. With a trained staff and knowledgeable patrons and contractors, there are several other simple things you can do to further show your commitment to protecting our lakes.

Staff Training

Training marina staff about best management practices will go a long way to making sure your marina operates in a way that does not contaminate adjacent waters. While understanding what do to in emergency situations is vital, how your staff conducts themselves in routine, daily activities is a vital component of the clean marina message you are trying to convey. Seeing staff adhere to best management practices will encourage marina customers and contractors to do the same. After all, why should customers and contractors care if your own employees do not seem to care?

While there is no prescribed staff training for the Clean Marina Program, there are four areas of training that will help ensure your activities protect the land and water around your marina.

Stormwater Runoff (as applicable to your marina)

- Used oil management
- Spent solvent management
- Proper disposal of spent abrasives
- Spill prevention and control
- Fueling procedures
- General good housekeeping
- Painting and stripping procedures
- Used battery management
- Use of dustless sanders and paint spray guns

Emergency Response Actions

- Review emergency response plans with staff at the beginning of each boating season.
- Train employees in the use of containment measures, firefighting equipment, and other emergency situations.
- Inspect fire extinguishers annually. Replace as needed.
- Have emergency response drills with employees twice annually.
- Invite the local fire department to evaluate your marina for compliance with fire codes and demonstrate emergency response actions.
- Keep a readily-accessible list of emergency phone numbers.

Be Watchful

Train marina employees to watch for activities that may harm the environment, such as:

- sheen on marina waters,
- sewage discharges,
- litter and other waste scattered about the marina property or in marina waters,
- pet waste not being collected by pet owners,
- contractors not following marina policies,
- unauthorized maintenance or maintenance performed outside of designated areas, or
- use of environmentally harmful cleaning products.

Approach Customers

Decide ahead of time who will address marina customers or contractors who are performing activities that are harmful to the environment or violate marina policies. Generally, this should fall to the manager, but marina employees should have this authority for especially egregious problems.

- Consider inserting environmental protection clauses in contracts.
- Implement a dockwalker program where employees are trained to recognize problems and help customers understand best management practices.
- Politely inform customers or contractors how their activity is harmful to the environment or violates marina policy, and offer suggestions for doing things in a more environmentally protective way.
- Take additional steps, as necessary, up to and including non-renewal or cancelation of contracts for repeated violations.

Educate Marina Patrons and Contractors

Educating marina patrons and contractors is one of the most effective ways to reduce contamination of the land and marina waters. Because they have a vested interest in wanting to maintain a clean marina, individuals who know what to do are far more likely to take those steps.

Contracts

- Incorporate best management practices into marina contracts (e.g. boat slip rentals, contractors, etc.). Have them specifically acknowledge they have read and understand expectations.
- Include consequences for failing to adhere to best management practices and marina policies.

Signs

Signs can be one of the most effective tools for helping marina customers and contractors understand your policies and expectations. Make judicious use of them across the marina.

- Post signs at the fuel dock, pump-out station, along piers, at marina dumpsters and recycling stations, in boat maintenance areas or buildings.
- Make sure all signs are easily visible.
- Make sure signs are made of a durable material, are eye catching, and appropriately sized.

Distribute Informational Brochures or Flyers

Keep a set of informational brochures or flyers available to inform marina customers of steps they can take to help you keep your marina and surrounding waters clean. You can make your own, use those developed by DEQ for the Clean Marina Program, or offer free copies from organizations such as BoatUS Foundation (https://www.boatus.org/).

Seek Publicity

- Today, nearly everyone has a Facebook or Twitter page. Set up a page for your marina and use that vehicle to let your followers know what you are doing, not only to help protect the environment but to advertise other activities going on.

- Ask local news outlets to visit your marina and run a story on your activities. Alternatively, develop your own news releases to submit to media outlets.
- Advertise on billboards near your marina to let the public know you are an Oklahoma Certified Clean Marina.

Seek Input!

- Your customers may have ideas that can improve marina operations to better protect the environment. Ask for their ideas! Post a few suggestion boxes in heavy traffic areas of the marina.
- Consider offering incentives, such as discounted slip rental or free fishing bait, for ideas that are adopted and let people know who had the idea! It may be rewarding to discover how useful customer suggestions can be!

Other Environmental Protection Measures

- Implement purchasing practices to only purchase the amount of materials needed.
- Use eco-friendly chemicals.
- Purchase recycled materials locally, when practical.
- Use rain barrels to capture rainfall for landscape irrigation.
- Direct rooftop runoff onto vegetated areas, rather than across concrete, asphalt, or dirt parking areas.
- Construct a compost pile and use your compost for landscaping.
- Host cleanup events, not only for your marina but camping areas, swimming areas, etc. near your marina.
- Educate other marina owners/operators about the Clean Marina Program.
- Implement a routine sweeping/cleaning program for the marina, parking lots, and adjacent areas.
- Provide direct support to, and promote, local initiatives to cleanup waterways, shorelines, and beaches (Adopt-a-Shoreline, Adopt-a-Beach, etc.)

AREA 6. BOAT PUMP-OUTS AND SEWAGE

Goal: Reduce the release of sewage into Oklahoma lakes.

> ***Did you know?***
>
> One gallon of sewage from a boat has as much bacteria as 10,000 gallons of treated municipal wastewater? (https://maritimesanitation.com/Vital-Info/The-Law)

Sewage discharges from recreational boats is harmful to human health and water quality. While individual boats may only release small amounts of treated and/or untreated sewage, the cumulative effect of boater sewage discharges can make a difference. Human wastes contain disease-causing bacteria, viruses, and parasites, all of which may be passed directly to people who swim in contaminated waters. High fecal coliform bacteria counts may close waters to swimming and other primary contact recreational activities, hurting tourism and deteriorating the quality of life for us all.

Sewage is also harmful to water quality. Because the microorganisms within sewage need oxygen, any effluent discharged to waterways reduces the amount of oxygen available to fish and other forms of aquatic life. Furthermore, the nutrient load in sewage can promote excessive algal growth. As the algae multiply, they prevent sunlight from reaching subsurface vegetation. When the algae die, they create another problem: the algae are decomposed by bacteria, which further reduce levels of dissolved oxygen.

Marine Sanitation Devices (MSDs)

Larger craft on Oklahoma lakes may be equipped with an onboard toilet; however, for the reasons noted above, it is against the law to discharge raw sewage from a boat into Oklahoma's lakes. The Federal Clean Water Act requires all boats with an onboard toilet have one of three types of Coast Guard-approved marine sanitation devices attached to the toilet.

- **Type I** is an onboard holding tank in which sewage is treated by maceration and chlorination such that there are no floating solid and the fecal coliform count is no greater than 1,000 per 100 milliliters.
- **Type II** is an onboard holding tank in which sewage is treated by biological or aerobic digestion such that total suspended solids is no greater than 150 milligrams per liter and the fecal coliform count is no greater than 200 per 100 milliliters.
- **Type III** is an onboard holding tank that does not treat sewage, but may use enzyme deodorizers.

Type I and II MSDs are equipped with a means to empty the tank via discharge to lake waters or pumping at a pump-out station. Type III MSDs do not have a means for direct discharge of sewage, and so they always must be pumped out. In Oklahoma, since it is illegal to discharge sewage of any type into our lakes, the tanks for all three must be emptied at a pump-out station. Additionally, some marine toilets are equipped with a Y-valve to allow direct discharge of untreated sewage, bypassing the holding tank. In Oklahoma, if the toilet is equipped with a Y-valve, it must be locked in a closed position to prevent direct discharge.

Best Management Practices

What can you do to help make sure raw sewage is not disposed into your lake? Here are some best management practices you can implement.

Inform Customers

- Provide educational brochures and tip sheets to inform marina customers about the impacts of boat sewage and how to manage it.
- Post signs to let your customers know that discharging sewage into Oklahoma lakes is illegal
- Post signs to inform your customers of your requirements for proper management of boat sewage.
- Have no-discharge clauses in your boat slip rental agreements.
- Train staff to recognize sewage discharges and give them the authority to direct boaters to stop such discharges, if found.

Install Pump-out Station[8]

- Select the type of pump-out system that meets the needs of your marina and customers. Options include:
    - a pump-out permanently fixed to the dock,
    - mobile, hand truck, or trailer mounted units, or
    - a pump-out boat.
- Choose an appropriate location that is convenient and accessible to the greatest number of boats.
- Train staff to operate the pump-out.
- Test pump-out equipment regularly with a vacuum gauge or bucket test.
- Advertise that your marina offers pump-out services.
- Install signs providing clear instructions for pump-out use, the times your pump-out services are available, and any associated fee for use.
- Provide a list and/or map of other marinas with pump-out stations to your customers. Include their hours of operation, emergency phone number, and any fee for use.
- Allow pump-out boats from other marinas to service customers at your marina.

[8] Be sure to apply for Clean Vessel Act grant funds to greatly defray the cost for installation and maintenance of a pump-out station.

AREA 7. BOATER BEST MANAGEMENT PRACTICES

Goal: Educate boaters about practices they can implement to reduce pollution or environmental contamination.

Making sure Oklahoma's beautiful lakes remain attractive and inviting to visitors is a partnership between marina owner/operators, boaters, and regulatory agencies. While each marina can do a lot to make sure the waters around the marina are not contaminated, all of that work can be negated if boaters do not understand what they can do. By helping to educate boaters about activities that can harm the environment and what they can do to alleviate that harm, you are showing your commitment to protect one of Oklahoma's most valuable resources – our lakes.

Here are some easy-to-do tips you can pass along to your customers!

Contain Trash

- Don't let trash get thrown or blown overboard.
- Retrieve trash that blows overboard.
- Pack food in reusable containers.
- Buy products without plastic or excessive packaging.
- Don't toss cigarette butts overboard. They take years to decompose and may be mistaken for food by large fish and other wildlife living in or near the water.
- Purchase refreshments in recyclable containers and recycle them.
- Dispose of trash properly by placing into marina dumpsters or taking home.

Recycle

- Recycle cans, glass, newspaper, antifreeze, oil, oil filters, and lead-acid batteries. Place items in marina-supplied recycle bins, if available.
    - If not available, check DEQ's community recycling list at https://www.deq.ok.gov/wp-content/uploads/land-division/CommunityRecyclingList_CurbsideDropoff.xlsx to see if there is a dropoff location near you and what the center will accept.
- Recycle used fishing line. Place in marina-supplied bins, if available. If not, see if other marinas or nearby tackle shops can recycle.

Fish Scraps

As previously noted, because marinas are generally located in sheltered areas, wastes released into marina waters can tend to remain for a long time. Fish scraps can be particularly unsightly as they decompose and smell, not to mention the detrimental effects to marina waters. If you allow fish cleaning at your marina, have your patrons follow these tips.

- Insist on use of fish cleaning stations, if you have them available.
- Post signs to let your customers know of your fish-cleaning protocols.
- Prohibit disposing of fish scraps into marina waters.
- Encourage customers to take fish scraps home to freeze and reuse on their next trip.
- Double bag fish scraps and dispose in the marina dumpsters.

Boat Maintenance (if allowed by the marina)

- Choose less toxic cleaning products, such as, non-phosphate, biodegradable cleaners.
- Use canvas boat covers to keep the boat clean between trips and reduce the amount of cleaning you need to do.
- During maintenance, contain spills and debris with tarps or plastic sheeting.
- Collect debris using vacuums or brooms.
- Mix paints, varnish, epoxy and other products over a tarp or in a drip pan to catch spills and drips.
- Tightly seal product containers when not in use to reduce spills.
- For small jobs conducted in-water, attach tarps or plastic sheets from boat to dock to catch debris.
- Use oil absorbent pads in the bilge to prevent oil discharge from the bilge pump.
- Never use a sewage pump-out for the bilge.
- For a large oily mess in the bilge, use a steam cleaning service.
- Dispose of maintenance waste according to the following recommendations.

Waste Product	Disposal Method
Oil	Recycle
Oil filters	Puncture & hot drain for 12 hours. Recycle oil and filter
Antifreeze	Recycle
Paint & varnish	Give to the marina to use on other projects or give to another boater. Allow to fully dry, then dispose in regular trash.
Solvents, gasoline, lawn & garden or pest control chemicals	Take to a household hazardous waste collection event.
Human waste	Pump-out station

Fueling Tips

- Fill tanks slowly to prevent overflows.
- Don't top off the tank. When it is 100 degrees, gasoline can expand by as much as 10% and overflow into marina waters.
- Use absorbents to catch spills from the nozzle, and clean up spills immediately.
- Prevent fires by shutting off motors and electrical equipment, and ventilating the boat before fueling.
- Keep fuel and fuel-soaked absorbents away from sources of ignition.
- Fuel on land whenever possible.
- Use funnels to fill portable tanks.
- Prevent stale gas by leaving outboards empty during long periods of inactivity.

Additional Resources

- DEQ Clean Marina Program
  (https://www.deq.ok.gov/external-affairs-division/for-business/pollution-prevention/oklahoma-clean-marina-program/)

- BoatUS Foundation provides links to state Clean Marinas Programs
  (https://www.boatus.org/clean-boating/clean-marinas/)

- Shipshape Shores and Waters: A Handbook for Marine Operators and Recreational Boaters
  (https://www.epa.gov/sites/production/files/2015-09/documents/marinashdbk2003-2_0.pdf)

- Clean Texas Marina Guidebook
  (https://marinaassociationoftexas.starchapter.com/images/downloads/Clean_Marinas/guidebook.pdf)

- Clean Marina Washington
  (https://www.cleanmarinawashington.org/resources/)

- Clean Marine, Marina Program Manual
  (https://cleanmarina.org/program-manual-marina.html)

- Oregon State Marine Board
  (https://www.oregon.gov/osmb/Pages/index.aspx)

- DEQ Hazardous Waste Management Program
  (https://www.deq.ok.gov/land-protection-division/waste-management/hazardous-waste/)