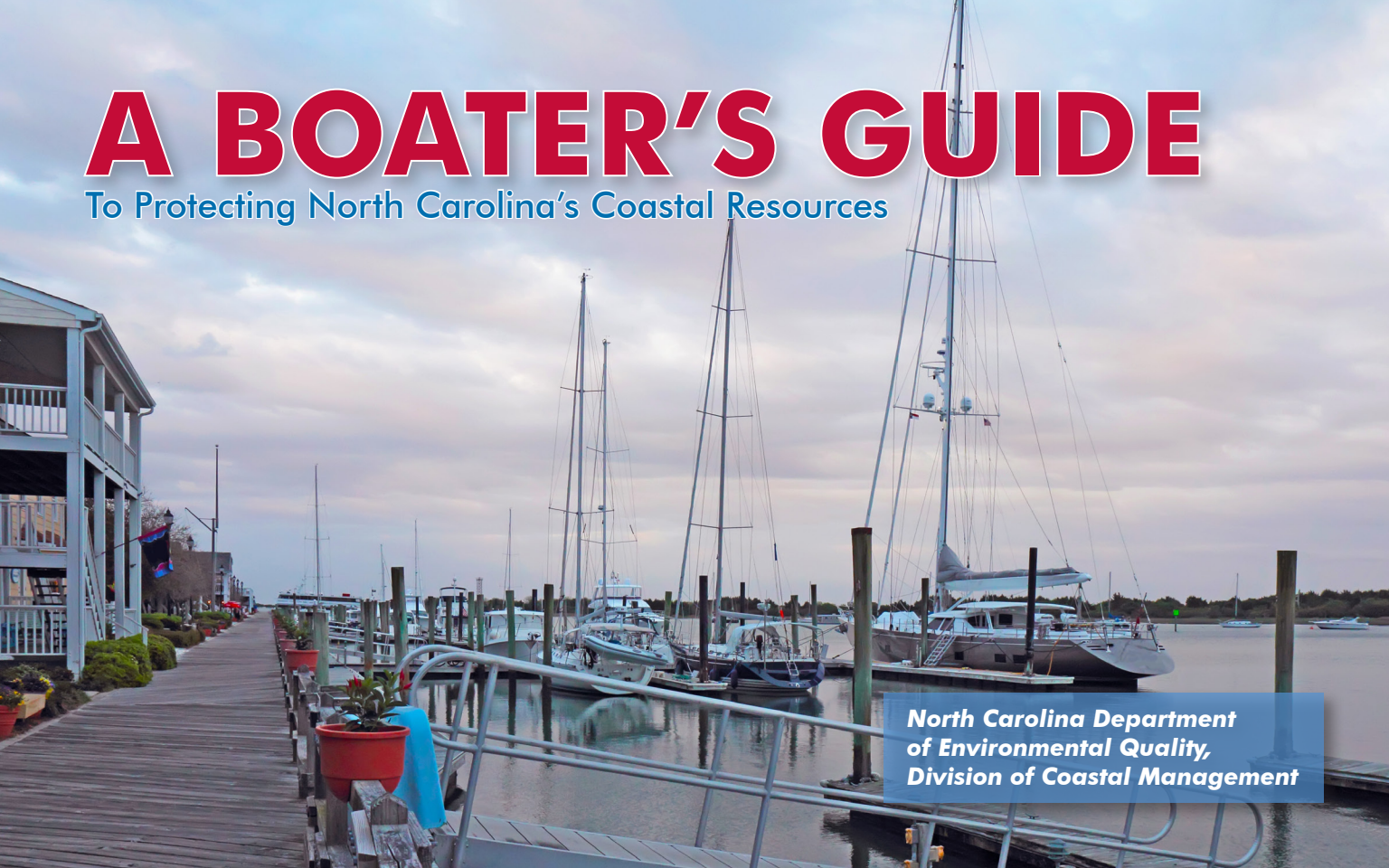
A BOATER'S GUIDE

To Protecting North Carolina's Coastal Resources



North Carolina Department of Environmental Quality, Division of Coastal Management

N.C. DIVISION OF COASTAL MANAGEMENT

NOAA
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SOUTHEAST ATLANTIC MARINE DEBRIS INITIATIVE

NORTH CAROLINA CLEAN BOATER

Introduction

There are more than 320,000 commercial and recreational vessels on North Carolina's waterways.

Clean water is important to all of us. Yet many of our water-based activities may contribute to water pollution including trash, fuel and sewage in our coastal waters.

All boaters have a responsibility to protect our waterways by minimizing our impact on the aquatic environment. The N.C. Division of Coastal Management has created this guide to assist recreational boaters in protecting the coastal region's fragile environment and the economic prosperity it supports.

Be A North Carolina Clean Boater!

The North Carolina Clean Boater Program is an important part of the N.C. Clean Marina Program, which is designed to assist marinas and boatyards in protecting our environment using best management and operation practices. Both programs are voluntary, but they show that marinas and boaters care about the environment.

Why Should You Be A North Carolina Clean Boater?

By adopting pollution prevention measures and using best management practices, North Carolina Clean Boaters can take satisfaction in knowing that they are doing their part in:

- Keeping North Carolina waterways and shores clean.
- Making sure their watercraft is properly registered and meets state requirements for safety.
- Preserving our waterways for future generations.
- Learning and teaching clean and safe boating habits.

How Do You Become A North Carolina Clean Boater?

Read this guide and learn how to:

- Commit to clean boating by signing the attached pledge card.
- Mail your pledge card located at the back of this booklet to the North Carolina Clean Boater program office and receive your N.C. Clean Boater sticker.
- Display your North Carolina Clean Boater sticker on your vessel.
- Use the services of North Carolina Clean Marinas when possible.

Marine Debris: Let's Keep It Clean

Our waters support a diverse number of aquatic species which are important to our coastal ecosystem. In the past, our waterways were used as a convenient dumping ground for wastes, and this practice caused a steady decline in the quality of our coastal waters. Due to regulation and increased educational outreach, this practice is declining. As boaters, we must be good stewards of the environment and do all we can to protect our waterways. How we handle our trash, boat cleaners, and sewage can make an enormous impact on our environment. It is up to everyone to do their part to protect our precious waterways for generations to come.

Contain Your Trash

Trash can cause serious problems when thrown overboard. In addition to being unsightly, trash in the marine environment can trap, injure, or kill wildlife. It can also foul boat props and clog engine intake fittings. While you are out on the water, be sure to:

- Stow all loose items, plastic bags, bottles, drink cans and other articles so that they don't blow overboard. If it should blow overboard, retrieve it if you can do so safely!
- Pack your food in reusable containers.
- Buy products that do not have plastic or excessive packaging material.

- Keep cigarette butts with you and do not toss them overboard.
- Purchase refreshments in recyclable containers and recycle them.
- Recycle your monofilament line.
- Properly dispose of all trash onshore. Bring it home, or dispose of it in a dumpster at the marina.
- Remember the "PLUS ONE BOATING RULE": Bring back all of your own trash, plus something you find.

Cigarette Litter

- According to the International Coastal Clean-up, since 2009, cigarette butts were the most common item found on the world's beaches.
- Many people assume cigarette butts are made from paper and will break down over time. However, the filters can be made from plastic and when they are tossed overboard or thrown onto the ground, they end up in storm drains, creeks, and waterways where they can last for decades. Properly dispose of cigarette butts on shore.

Fishing Line Recycling

- Improperly discarded fishing line is a hazard to wildlife, marine turtles and marine mammals. It can also be a hazard to boaters and swimmers. Monofilament line can last up to 600 years in the environment. Ask if your marina has a collection bin for your discarded line. If they don't, encourage them to get one.
- Marinas that would like to assemble their own outdoor collection can find directions at the N.C. Clean Maria website at: https://files.nc.gov/ncdeq/Coastal%20Management/documents/PDF/monofiliment%20instructions.pdf.
- Marinas with collection bins can recycle their line by contacting Berkley fishing at 1-800-237-5539 to request a prepaid postage box.

As A Clean Boater, How Can You Help?

As a boater, you have a new tool available to help track marine debris. The Marine Debris Tracker is a mobile application which enables you to collect standardized data on marine debris quickly, efficiently and on a global scale. It provides a unique way for you to get involved in collecting marine debris monitoring data in your community. The Marine Debris Tracker originated in 2010 from a partnership of the NOAA Marina Debris Program and the Southeast Atlantic Marine Debris Initiative (SEA-MDI).

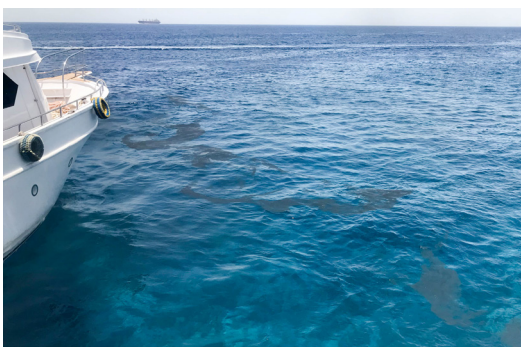
To download the Marine Debris tracker, go to: http://www.marinedebris.engr.uga.edu/

PET WASTE: Our pets have become more like family members and we see more and more animals joining their families on boating outings. Pet waste, like human waste, has the potential to contain harmful bacteria. If left on the ground, pet waste may eventually enter the water, which causes contamination of the water and shellfish beds. The nutrients in pet waste may also encourage algae growth, which can adversely affect oxygen levels in the water and harm aquatic life. Be a responsible pet owner. Carry doggie litter bags, pick up after your pet and dispose of it properly.

SEWAGE: When you pump or dump sewage directly into the water, you introduce disease-carrying microorganisms into that water and shellfish beds posing a serious health hazard. In addition, as bacteria and other microorganisms break down the sewage, they use up oxygen that fish and other marine life need to survive. For vessels with holding tanks, the presence of chemical additives such as formaldehyde, para-formaldehyde, quaternary ammonium chloride and zinc sulfate are toxic to marine life. Remember, it is illegal to dump raw sewage overboard.

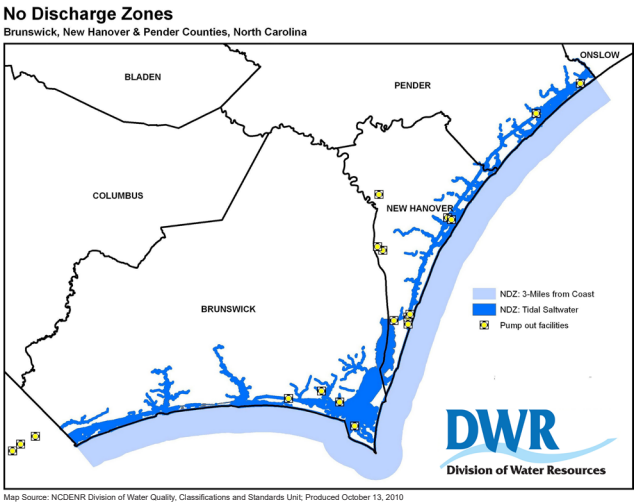
Follow these rules:

- Use pumpout facilities.
- Use the restrooms on shore.
- Properly maintain your marine sanitation device.
- Empty portable toilets at dump stations or at home.
- Avoid using disinfectants containing harsh chemicals to clean holding tanks.
- Use non-formaldehyde based deodorizers in your holding tank.



No Discharge Zones

A No Discharge Zone (NDZ) is an Environmental Protection Agency (EPA) designation that prohibits the discharge of sewage from all vessels into coastal waters. This includes treated sewage from marine sanitation devices (MSDs), but does not apply to gray water from showers or sinks. Through-hull fittings for disposal of sewage are required to be closed while transiting a NDZ, and appropriate methods to dispose of sewage must be implemented.



How can boaters comply?

MSDs Type I, Type II and Type III must be secured to prevent discharge when operating in a NDZ. This can be done by closing the seacock and padlocking it using a non-releasable wire tie, or removing the seacock handle (with the seacock closed).

Type I and Type II can also be secured by locking the toilet door handle. Porta-potties that do not discharge waste may still be used but must be emptied on shore as is required.

The waters of Pender, New Hanover and Brunswick Counties are designated as NDZs by the EPA. (see insert) You can find sewage pumpout facilities throughout the NDZ. A list of marinas with pumpout stations can be found at: http://www.nccoastalmanagement.net/Marinas/pumplist.htm. Some marinas may charge a fee for their pumpout services.

Aquatic Invasive Species Prevention

Aquatic invasive species are plants and animals introduced into new ecosystems. Why worry about them? These new species can displace native species and reduce biodiversity, resulting in economic and ecosystem impacts. How can I help? There are several things you can do as boaters to help protect our native ecosystems if you travel between waterbodies:

- Remove plant debris from your boat when you take it out of the water, and dispose of the debris in the trash. Do not throw it back into the water.
- Inspect your hull and remove any attached organisms.
- Never release unused bait into the water.

Vessel Maintenance

Many products used to wash boats contain toxic chemicals such as chlorine, phosphates and ammonia. Cleaning a boat can leave many of these toxic chemicals in the water where they can poison marine life. The best way to keep them out of the water is to not use them at all. In many cases, a little "elbow grease" will go a long way.

- Use less soap and frequently clean decks with fresh water.
- Ask your ship's store to stock biodegradable cleaners.
- Wax your boat to prevent surface dirt from sticking to the hull.

If your vessel is stored in the water, do not allow underwater work. Allowing the scraping of algae, barnacles and other organisms where paint residue can be released into the water can cause a plume. Cloudy water or the presence of a plume during scrubbing indicates the possible release of anti-fouling paints. Do not use abrasive materials while cleaning the hull and use only a soft cloth or fleece mitt. You can also run the vessel occasionally to keep slime growth at a minimum.

Here Are Some Alternative Cleaning Solutions That You Can Use:

Bleach	Borax or hydrogen peroxide
Wood Polish	Three parts olive oil and one part white vinegar (for interior unvarnished wood)
Copper Cleaner	Lemon or lime juice and salt
Chrome Cleaner	Apple cider to clean, baby oil to polish
Fiberglass Stain Remover	Baking soda paste and a scrub pad
Window Cleaner	One cup vinegar in one-quart warm water
Mildew Remover	Lemon juice and salt paste
Head Cleaner	Baking soda and a brush
Floor Cleaner	One cup white vinegar in two gallons of water
Varnish Cleaner	Wipe with ½ cup vinegar and ½ cup water solution

Antifoulant Coatings

Antifoulant coatings on boat hulls are, by design, toxic to marine life. These coatings contain compounds such as copper that kill marine organisms that grow on the underside of a boat. These coatings also leach, or release, toxic compounds into the water. Ablative, or soft coatings (self-polishing), release copper into the marine environment. Hard, antifouling coatings have extended antifouling properties, but limit the amount of toxic metals leached into the water. Hard coatings also release less material into the water when they are cleaned.

- If possible, perform hull maintenance out of the water. Collect all paint residue, sanding dust and chips and dispose of them properly.
- Consider alternatives to toxic bottom paints, such as silicon, polyurethane, and Teflon. These alternatives rely on a slick surface to discourage the growth of marine organisms rather than killing them.
- Wait 90 days to clean a newly painted hull, as it will release more toxins when new.
- Clean only running gear and anodes of boats with soft ablative coatings.
- Use only a soft sponge or cloth to wipe the hull. Clean gently to avoid creating a “plume” or cloud of paint and antifoulant in the water.
- Consider storing your boat out of the water to prevent fouling.
- When working on land, be sure to move the boat upland away from the water’s edge and place a tarp under the boat.
- Use sanders with vacuums attached to minimize paint residue from entering the water.

Petroleum And Oil Handling

Gasoline, diesel and other petroleum products can have serious effects on the marine environment. One quart of oil will create an oil slick more than two acres in size. A single gallon of fuel can contaminate more than a million gallons of water. Gasoline and oil entering our waterways is a serious problem. Two stroke engines can release up to 30 percent of their gas/oil mixture unburned directly into the water.

Ways to minimize petroleum and oil-handling problems:

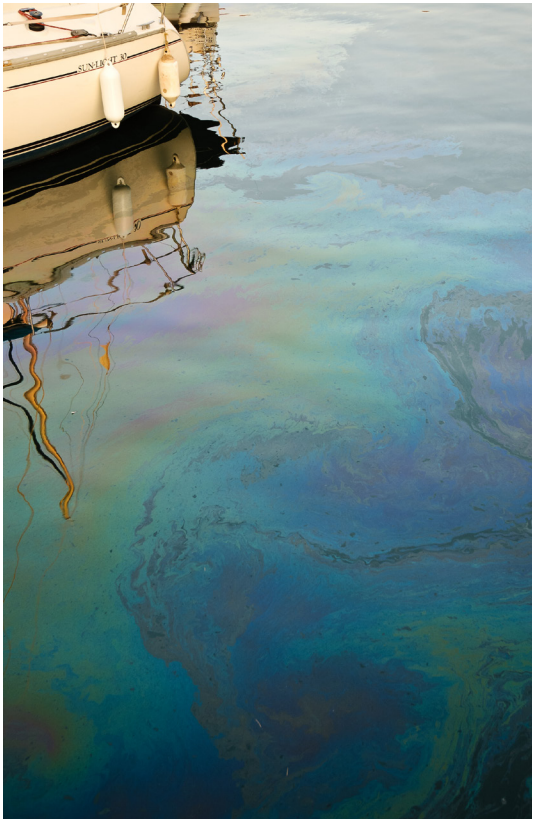
- Fuel your boat slowly and carefully. Listen for a gurgling sound before the tank is full.
- Attend to the fuel nozzle at all times (do not use the fueling clips).
- Fill portable gas tanks on shore, not on the dock.
- Use a splash-absorbing fuel collar to catch drips from the fuel nozzle.
- Use a vent collecting device to catch overflow.
- Know the capacity of your fuel tank.
- Use your hand to check for air escaping from the vent. When the tank is nearly full, you will feel an increase in airflow.
- If you have a spill, wipe it up; don't hose it off into the water.
- When it's time to re-power your vessel, consider a more efficient four-stroke engine.

- If fuel is spilled into the water, do not use soap or dish detergent to disperse it. Doing so spreads out the problem and the detergent is toxic to marine life. It is also a violation of federal law.
- If a spill occurs in a marina, notify the marina management immediately.

Bilges are also a major source of pollution since they tend to collect engine oil, fuel, antifreeze and transmission fluid. When an automatic bilge pump is activated, these fluids are pumped overboard. While bilge cleaners may seem like a good solution, they only break down the oil into tiny droplets, which are spread out over a greater volume of water. Oil absorbent "bilge pillows," however, will absorb petroleum products but not water. When soaked with oil, they can be disposed of by wringing the oil out, letting them dry and disposing of them in the trash.

Ways to help:

- Use drip pans with absorbent pads to catch oil in the bilge.
- Keep the engine tuned and check for leaks.
- Use oil absorbents or water/oil separators before pumping the bilge.
- Trailer your boat to a containment area before draining the bilge.
- Recycle used motor oil, antifreeze and other engine fluids.
- Encourage your marina to offer oil recycling.



Fueling

Proper fueling procedures are important in preventing onboard fires. Gasoline vapors are heavier than air and can spread rapidly into enclosed spaces and can cause explosions. Check the bilges and all closed compartments for gasoline vapors.

When fueling your vessel, you should:

- Secure your boat to the dock.
- Switch off the engine(s).
- Extinguish all open flames.
- Do not use electrical switches.
- Do not smoke.
- Close ports, hatches and doors.
- Refuel portable tanks onshore.
- Make certain all passengers are ashore.
- Determine the quantity of fuel required.
- Hold the hose nozzle firmly against fill pipe opening.
- Do not overfill.
- Wipe up all spillage.
- Open ports, hatches, and doors to ventilate.
- Turn blower on for a minimum of four minutes.
- Do the sniff test for fuel vapors.

Fish Cleaning

Excessive fish waste deposited directly into marina basins can produce foul odors and impair water quality through increased bacteria levels and decreased dissolved oxygen. It also causes an unsightly mess. In small quantities, fish waste is scavenged by crabs and other marine animals. However, in an enclosed marina basin, decomposition of the fish waste can deplete the water of oxygen, which can lead to fish kills.

What can you do to help?

- Use fish cleaning stations with trash receptacles.

Swimming Safety

Sometimes, as boaters, we want to jump in the water at a marina to cool off. Before you do, be aware of a hazard that may be lurking near marinas. Electrical currents from the boat, or the marina's wiring could be present in the water, potentially putting anyone in the water at risk of electric shock drowning.

How to avoid:

- Obey all "No swimming" signs.
- NEVER swim near a marina.
- NEVER swim near a boat while it is running.
- If you feel any tingling sensations while in the water, tell someone and swim back in the direction from which you came. Immediately report it to the dock or marina owner.

If you suspect someone is in distress:

- Do not enter the water! Turn the power off.
- Throw a life ring.
- Call 911 or VHF Channel 16 immediately.

UNDER WAY Boat traffic (including personal watercraft) through shallow-water areas and in nearshore areas, can stir up bottom sediment, uproot submerged aquatic vegetation, erode shorelines and harm marine life. Re-suspended sediment and erosion along shorelines increases turbidity in the water column. Turbid waters cannot support submerged aquatic vegetation to the same depths as clear waters because sunlight cannot penetrate as deeply. With photosynthesis limited to the upper foot or so of water, less dissolved oxygen is produced.

Fish that locate prey primarily by sight have a harder time finding prey in turbid waters. Plant leaves can become coated with fine sediment, and bottom-dwelling organisms may be continually covered by sediment that has resettled. Re-suspended sediment can also contain harmful chemicals that once in the water column, are more likely to be ingested by fish and shellfish, work their way up the food chain, and possibly make it to someone's dinner table.

Uprooted, submerged aquatic vegetation can no longer provide habitat for fish and shellfish or food for waterfowl. Instead of recycling nutrients, the vegetation adds more nutrients as it decomposes. It also cannot reduce wave energy at shorelines, which may increase the rate of erosion.

As you are boating:

- Always be aware of your wake.
- Obey posted no-wake zones.
- Distribute your passengers equally. A heavy stern creates a larger wake.
- Be aware of low tide when seagrass beds, marshes and bottom organisms are more exposed and susceptible to damage.
- Operate as far from shore as possible to avoid disturbing wildlife.
- Operate in main channels to avoid disturbing bottom habitats.

N.C. Clean Marina

N.C. Clean Marina is a voluntary program where marina operators complete an application form indicating their use of specific best management practices. If a marina meets the criteria developed by the N.C. Division of Coastal Management, it will be designated as a Clean Marina. Such marinas are eligible to fly the Clean Marina flag and use the logo in their advertising. The Clean Marina flag is a signal to boaters that the marina cares about the cleanliness of area waterways.

Boaters can find clean marinas listed on the Coastal Boating guide map that can be downloaded from the N.C. Wildlife Resources Commission: https://www.ncwildlife.org/Boating/Boaters-Guides and on the N.C. Division of Coastal Management's website at: https://deq.nc.gov/about/divisions/coastal-management/coastal-management-recognition.

Boating Regulations And Safety Checklist

Make sure the operator of your watercraft is properly licensed or meets the necessary pre-requisites to operate the specific craft. It is also important that your watercraft is properly registered and meets state requirements for safety.

- After May 1, 2010, any person under 26 must successfully complete a National Association of State Boating Law Administrators approved boating education course before operating any vessel propelled by a motor of 10 horsepower or greater on public waters in North Carolina. These courses are offered for free by the N.C. Wildlife Resources Commission. Go to www.ncwildlife.org for more information.
- All recreational vessels must have one Type I, II, or III portable floatable device (PFD) of a suitable size for each person aboard and each skier being towed. In North Carolina, children under 13 must wear a portable floatable device while the boat is underway unless they are below deck or in an enclosed cabin.
- Throwable PFDs are required on boats 16 feet in length or greater.
- Some vessels are required to carry a whistle or power horn and a bell on board.
- U.S. Coast Guard-approved fire extinguishers are required on certain boats.

Additional information can be found at: https://www.ncwildlife.org/Portals/0/Boating/documents/VOG.pdf.

North Carolina Boating Checklist

Subject	Personal Watercrafts (PWCs)	Boats Less Than 16 Feet	Boats 16 Feet to Less Than 26 Feet
Float Plan (PDF)*	✓	✓	✓
Boater Education Certificate On Board	✓ 1 & 2	✓ 2	✓ 2
Certificate of Number Registration On Board	✓	✓	✓
Validation Decals Displayed	✓	✓	✓
PFDs: Type I, II, or III for each person on board	✓ 3	✓ 4	✓ 4
PFD: Type IV	n/a	n/a	✓
Type B-I Fire Extinguisher	✓	✓	✓
Ignition Safety Switch	✓ 5	✓ 9	✓ 9
Backfire Flame Arrestor	✓	✓ 6	✓ 6
Ventilation System	✓	✓	✓
Muffler	✓	✓	✓
Horn, Whistle, or Bell	✓	✓	✓
Daytime Visual Distress Signals	n/a	n/a	✓ 7
Nighttime Visual Distress Signals	✓ 8	✓ 7	✓ 7
Navigation Lights	✓ 8	✓	✓

Related Information

1. **Required for PWC operators 14 years of age or older. No person under 14 years of age may operate a PWC. Persons 14 years of age or older may also operate without a boating education certificate if physically accompanied on the PWC by an adult at least 18 years of age and meets the requirements of G.S. 16.2 .**

2. In North Carolina, any person born on or after January 1, 1988 must complete a NASBLA approved boating education course before operating any vessel propelled by a motor of 10 HP or greater on public waterways. *G.S. 75A-16.2*

3. **Those on personal watercraft (PWCs) must wear an approved personal flotation device (life jacket) at all times.**

4. **Children under 13 years of age must wear an approved life jacket while underway. ****

5. Safety kill switch lanyard must be attached to operator.

6. Required on inboards and stern drives only.

7. **Required only when boating on federally controlled waters.**

8. **Certain items are not applicable to PWCs because PWCs are not allowed to operate between sunset and sunrise.**

9. Safety kill switch and lanyard not required but recommended.

*** Adobe Acrobat Reader is required to view PDF files.**

**** Definition of underway.**

Preparing And Filing A Float Plan

Remember to file a float plan before you leave on a boating trip. Give the following information to a friend or relative who can call for help if you do not return as scheduled:

- A complete description of your vessel, including the registration number.
- Names of all people on board.
- Information about where you are going.
- Expected return time.

For more information about required equipment on motored vessels, check out the N.C. Wildlife Resource Commission's Vessel Operators Guide at: www.ncwildlife.org and the U.S. Coast Guard Office of Boating Safety Guide at: www.uscgboating.org.

SEWAGE PUMPOUT LOG (Required when traveling in designated NDZ zones)

Vessel Name: _____ **Vessel #** _____

Owner Name: _____ **Type of MSD:** _____

DATE	LOCATION/Name of Marina	Approx. # of gallons

N.C. DIVISION OF COASTAL MANAGEMENT

PUMP OUT STATION

KEEP OUR WATER CLEAN

NORTH CAROLINA CLEAN BOATER

Contacts

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