



NORTH
CAROLINA

Wildlife

RESOURCES
COMMISSION

A BOATER'S GUIDE

To Protecting North Carolina's Inland Waters



NCWILDLIFE.ORG

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Introduction

There are approximately 350,000 registered boaters that use North Carolina's waterways. Their numbers are increasing every year.

Clean water is important to all of us. Yet many of our water-based activities contribute to water pollution. These activities can leave trash, gasoline and sewage in our waterways.

All boaters have a responsibility to protect our natural heritage by minimizing our impact on the aquatic environment. The North Carolina Wildlife Resources Commission has created this guide to assist boaters in preserving the Inland water region's fragile environment and the economic prosperity it supports.

LET'S KEEP IT CLEAN BOATERS


Our waters support an extremely diverse ecosystem and wildlife which must be protected. In the past, our waterways were seen as a convenient dumping ground for wastes, and this practice has caused a decline in the quality of our waterways. As boaters, we must be good stewards of the environment and do all we can to protect our waterways. How we handle our trash, cleaners and sewage, and operate our boats can make an enormous difference in our environment. It is up to everyone to do his part to protect this finite resource.



CIGARETTE LITTER

Many people assume cigarette butts are made from paper that will break down over time, and don't think of them as litter. However, they are 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, and leave an unsightly mess and harm fish and other wildlife.

- Boaters keep an ashtray on your vessel. Keep your butts out of the water!
- Ask your marinas to provide cigarette butt receptacles.



CONTAIN YOUR TRASH

Trash, when thrown overboard, can cause serious problems. In addition to being unsightly, trash in lakes and rivers can trap or kill aquatic life and birds. It can also foul props, clog intake fittings and damage fishing nets. 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.
- Do not toss cigarette butts overboard.
- Purchase refreshments in recyclable containers and recycle them.
- Recycle your monofilament line.
- Properly dispose of all trash on shore. Bring it home or dispose of it in a dumpster at the marina.
- Remember the "**PLUS ONE** rule" bring back all of your own trash plus something you find.



FEDERAL LAW PROHIBITS ANY VESSEL FROM DISCHARGING
PLASTIC OR GARBAGE CONTAINING PLASTICS INTO ANY WATERS.

SEWAGE

When we pump or dump sewage directly into the water, we can introduce disease - carrying microorganisms into that water. As bacteria and other microorganisms break down the sewage, they use up oxygen that fish and other marine life need to breathe. 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 and these rules:

- Use pumpout facilities for holding tanks.
- Use the restrooms on shore.
- Maintain and use 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.





FISHING LINE RECYCLING

Improperly discarded fishing line is a hazard to wildlife and 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 bin should visit the NCWRC - Clean Marina Website: ncwildlife.org/Boating/Marina-Resources/Clean-Marina-Program. For a materials list and assembly instructions.



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 and contaminate the water and the shellfish beds. The nutrients in pet waste may also encourage algae growth, which can adversely affect oxygen levels in the water. Be a responsible pet owner. Carry doggie litter bags and pick up after your pet and dispose of it properly.

WHAT IS A NO DISCHARGE ZONE?

It is a designation that prohibits the discharge of sewage from all vessels into waterways. This includes chemically treated sewage from marine sanitation devices (MSD's), but does not apply to gray water from showers or sinks. Through-hull fittings for disposal of sewage are required to be closed, 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 currently required.



Boaters must use sewage pumpout facilities to empty MSDs. Records of the pumpouts within the state's No Discharge Zone must also be kept. You can find sewage pumpout facilities throughout the NDZ. A list of marinas with pumpout stations can be found at ncwildlife.org/Portals/o/Boating/documents/NC-Inland-Marinas.pdf.

SOME MARINAS MAY CHARGE A FEE FOR THEIR PUMPOUT SERVICES.



WHAT ARE AQUATIC INVASIVE SPECIES ANYWAY?

They are aquatic and terrestrial organisms and plants 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:

- 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

Hydrilla verticillata



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 pollutants in the water where they can poison Lake habitat's 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.

HERE ARE SOME ALTERNATIVE CLEANING SOLUTIONS THAT YOU CAN USE:

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

COATINGS

Coatings on boat hulls are, by design, toxic to Lakes habitats. These coatings contain compounds such as copper that is toxic to fish and other organisms. These coatings also leach, or release, toxic compounds into the water. Ablative or soft coatings (self-polishing), release copper into the Lakes 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, Teflon and other antifouling coatings. 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 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 and place a tarp under the boat.
- Use sanders with vacuums attached to minimize paint residue.

PETROLEUM AND OIL HANDLING

One quart of oil will create a slick more than two acres in size. Gasoline, diesel and other petroleum products can have serious effects on the lake's habitats. A single gallon of fuel can contaminate more than a million gallons of water. Gasoline and oil entering our waterways is a major problem because most outboard motors use inefficient two-stroke engines, which release up to 30 percent of their gas/oil mixture unburned directly into the water. If you own a two-stroke outboard motor, for every 10 gallons of gas you use, more than two gallons of gas and oil may go directly into the water in the form of the familiar rainbow sheen you see when the motor is idling.



WAYS TO MINIMIZE PETROLEUM AND OIL-HANDLING PROBLEMS:

- Fuel your boat slowly and carefully. Listen for a gurgling sound before the tank is full.
- Fill portable gas tanks on shore, not on the dock.
- Use a splash-absorbing fuel collar to catch drips from the fuel nozzle.
- Attend the fuel nozzle at all times (do not use the fueling clips).
- 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.
- If fuel is spilled into the water, do not use soap or dish detergent to disperse it. It only spreads out the problem, and the detergent is toxic to Lakes habitat. It is also a violation of federal law.
- If a spill occurs in a marina, notify the marina management immediately.
- If you use your boat infrequently, add fuel stabilizer to the tank.





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. Absorbent “bilge pillows,” however, will absorb petroleum products but not water. When soaked with oil, they can be disposed of properly.

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.

FISH CLEANING

Excessive fish waste deposited directly into lake water 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 birds, fish 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 SHOULD I DO TO HELP?

- Dispose of fish waste and unwanted bait offshore.
- Use fish cleaning stations with trash receptacles.





AS YOU ARE BOATING

- Always be aware of your wake.
- Observe posted No-Wake Zones.
- Distribute your passengers equally.
A heavy stern creates a larger wake.
- Be aware of low tide when seagrass beds, other delicate vegetation and bottom organisms are more exposed.
- Operate away from shore as much as possible to avoid disturbing wildlife.
- Operate in main channels to avoid disturbing bottom sediments.

UNDER WAY

Boat traffic (including personal watercraft) through shallow-water areas and in nearshore areas at wake-producing speeds can stir up bottom sediment, uproot submerged aquatic vegetation, erode shorelines, and harm marine life. Re-suspended sediment and erosion along shorelines increase turbidity in the water column. Turbid waters can't support submerged aquatic vegetation to the same depths as clear waters because sunlight can't penetrate as deep. 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 are continually covered by resettling sediment. Re-suspended sediment can also contain harmful chemicals that have been trapped in the sediment. Once in the water column, these chemicals are more likely to be ingested by fish and shellfish, and work their way up the food chain, possibly 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 released from matter decomposing in the water body, the vegetation adds more nutrients as it decomposes. It also cannot reduce wave energy at shorelines, which increases the rate of erosion.



N.C. INLAND CLEAN MARINA

NC Inland Clean Marina is a voluntary program where marina operators who choose to participate must complete an application form indicating their use of specific best management practices.

If a marina meets the criteria developed by the NC Wildlife Resources Commission, 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 flag is a signal to boaters that a marina cares about the cleanliness of area waterways.

Boaters can find Clean Marinas listed on the NC Wildlife Resources Commission's Website. "Clean Marinas" must be re-certified every two years.

When possible, patronize marinas that are flying a Clean Marina flag.

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 to make sure that your watercraft is properly registered and meets the state requirements for safety.

- After May 1, 2010, any person under 26 must successfully complete a NASBLA -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 ncwildlife.org or call (919) 707-0030 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 PFD's 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
- Fire extinguishers are required on certain boats

For more information on required equipment on motored vessels, check out the NCWRC website and the Vessel Operators Guide at: ncwildlife.org/Portals/o/Boating/documents/VOG.pdf



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 people on board
- Information about where you are going
- Expected return time

MAKE SURE BEFORE YOU GET UNDERWAY THAT YOU HAVE WITH YOU:

- Anchor and line
- Basic tools and spare parts
- Flares or other visual distress signals
- Lights and flashlight
- Compass and chart
- First aid kit
- Paddle and bailer
- VHF radios
- Enough fuel to get to and from your destination

OUR MISSION

To conserve North Carolina's wildlife resources and their habitats and provide programs and opportunities that allow hunters, anglers, boaters; other outdoor enthusiasts to enjoy wildlife-associated recreation.



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Photographs by Shabnam Nassir & Melissa McGaw / NCWRC.

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