



# *Boating and Habitat*

*by Steve Whinham*

***This article is the fourth in a series on the Commission's theme, "Habitat." The author examines how boaters and boating affect habitat.***

One thing all boaters have in common is that they operate their boats in aquatic habitats. An aquatic habitat is a place where distinctive types of aquatic life are found as the result of what the habitat has to offer. Life in a habitat is not limited to fish and what fish like to eat. An aquatic habitat also includes plants growing in the water, stream banks, and trees and vegetation near the water. As the number of boat-



ers increases, the chance of damaging habitats also increases. An aquatic habitat can be protected and preserved only with the help of boaters. Identifying how boaters harm habitats is important. Recreational water users like boaters and anglers and the life within a habitat all benefit when we understand the relationship between habitat and boating.

Pennsylvania boaters can have a beneficial effect on a habitat while their boats are still on land. Many boaters use antifouling paint to prevent unwanted marine critters from attaching to the hull of their boats. Antifouling paint is toxic, often containing copper, zinc, tributyltin and other toxic compounds. These chemicals are damaging to bottom-dwellers such as shellfish. If you need antifouling paint, check with marine paint professionals. They can help you choose legal and habitat-friendly products. An example is Teflon® hull paint. Teflon relies on a slick surface instead of toxic chemicals to inhibit marine growth on a hull.

### **Engine maintenance**

Boat and engine maintenance is also important to keeping a habitat healthy. Whenever possible, a boat should be removed from the water before cleaning or sand-

ing. If routine upkeep must be performed in the water, use a dust containment bag when sanding. Sweep or vacuum all dust and debris. Plug all scuppers (open areas leading to the water) and paint or sand on days with little wind. In addition, regular inspections and making proper repairs can prevent fuel leaks.

Four-cycle engines pollute less than two-cycle engines. Newer engines also tend to burn fuel more cleanly. Direct fuel-injection engines produce 80 percent less hydrocarbons and use 50 percent less lube oil. Furthermore, a well-tuned engine burns less fuel and causes fewer problems to the marine habitat.

With your boat in the water and you are ready to leave the launch area or pier, make sure to take it slow and easy. All boats produce a wake when moving in the water. This

wake is the wave behind your boat. Wake waves approaching a shoreline can cause sedimentation and erosion. Sedimentation occurs when soil mixes with water. This decreases oxygen in the water and raises the water temperature by absorbing light. Sediment in the water can also damage a fish's gills and make breathing difficult.

### **Wakes**

Wakes can also cause erosion. This erosion may eventually damage or kill plants and trees near the shoreline. Shoreline erosion caused by wakes also adds to sedimentation of our lakes and rivers.

Strong wakes washing a shoreline can also uproot shallow-water plants and agitate the lake or river bottom.

The shoreline is one of the most important areas of an aquatic habitat. Many fish enjoy the warm shallow waters. Plants rooted to the bottom near the shoreline provide shelter for fish. Plants also attract macroinvertebrates to the shoreline to live and lay their eggs. Fish feed on macroinvertebrates.

Trees and plants are also part of the shoreline habitat. They provide needed shade, and their falling leaves provide nourishment for other plants and animals. Trees and plants on the banks also help stop runoff and erosion. Shoreline habitats are also home to many of our state's amphibians and reptiles.



Remember that it is illegal in Pennsylvania to create a wake within 100 feet of any shoreline. Here is a tip when in shallow waters: When surrounded by water plants, try paddling to deeper water instead of using your motor. While underway, check for a white prop wash. Color in your wash means you are going too fast and causing damage. A white wash also means that you're operating at a proper water depth.

### **Litter and trash**

Now that you are underway and enjoying the day, take a moment to consider what to do with litter and garbage. In Pennsylvania it is illegal to dump plastic, paper, rags, glass, food, garbage, metal or crockery into the water. Don't throw anything in the water that did not come from the same water. Plastic products take hundreds of years to decompose. Fishing line can become entangled in some fish's gills. Six-pack rings can entangle fish and birds.

Rags and metals can release toxic materials into the water. Here's some tips relating to litter and garbage: Take a garbage bag with you when boating. When you return to shore, properly dispose of the bag. When litter blows overboard, reduce your speed, safely come about, and pick it up. Tell others in your boat about the importance of not littering. Lead by example. Join a volunteer organization that offers time and resources to pick up litter that others have left behind.



Oil or gas entering an aquatic habitat is a devastating pollutant. Pennsylvania law states that discharging oil or gas into our waterways is illegal. The effect oil and gas have on habitats is considerable. For example, a small lake of 50 acres with 10 gallons of oil spilled in it is in serious trouble. The oil will reach the shoreline and kill most plant and macro-invertebrate life. This means the fish will not have adequate food or shelter. Oil that remains on top of the water will eventually mix with the water column and harm fish and bottom-dwellers. One significant oil or gas spill can change a habitat

in less than 24 hours and leave the habitat with little chance to support aquatic life.

To prevent oil or gas from entering the water, use a rag to remove oil from the bilge, and keep a containment pan under the engine. Never pump bilge water overboard if it contains oil. Inspect lines and hoses for leaks and deterioration. When washing engine parts, use a bucket or parts washer. Boats with removable gas tanks should be filled on land and not over the water. If you see oil, gas or sewage in the water, report it to the regional Fish & Boat Commission law enforcement office, Department of Environmental Protection (1-800-541-2050), or the regional office of the U.S. Coast Guard, found in the phone book's government listings.

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## *Boaters spread nuisance species most often without even realizing it.*

Raw or treated sewage released into the water also damages the marine habitat. Sewage can spread disease, contaminate shellfish beds and lower oxygen levels in the water. When shellfish filter sewage and we eat the shellfish, we are at risk from hepatitis and other diseases. The effect that sewage has on a habitat is severe. To prevent sewage from entering our waters, ask all passengers to use restrooms on shore before getting underway. Should your boat have a portable toilet or marine sanitation devise (MSD), use the nearest pumpout station.

### **Exotics**

After a day of safe boating, you're ready to pull the boat and head for home. There is something else you can do to help protect the marine habitat: Stop the spread of nuisance species.

A nuisance species is any plant or critter that naturally belongs in one habitat and is transported to another habitat where it is not usually found. Boaters spread nuisance species most often without even realizing it. Bacteria, plants and animal life from one habitat will attach themselves to the hull of a boat. When that boat is placed into a different habitat, it now gives that species access to a habitat in which they may not belong. Some nuisance species can reproduce rapidly without competition and exhaust resources needed by others in the habitat.

The good news is that boaters can stop nuisance species. While in the water, drain all bilge water, live wells, bait buckets and other water from your boat and equipment. Left-over bait should not be put back in the water unless it came from that water. Inspect your boat's hull, drive unit, prop guards, anchors and anchor ropes. Don't forget the trailer. Scrape off ma-

rine animals and remove water plants that are clinging to the boat or trailer.

Back home, wash your boat and trailer with a hard spray of water and detergent. Flush the engine cooling system with clean water. When possible, allow your boat and trailer to dry in the sun as long as possible (at least two hours).

At dockside or at a launch, run the boat frequently, even if you do not take it out. This helps remove nuisance species that require still water to thrive. Occasionally, operate your boat safely at a high speed on the water to scour the hull. Store outboards and outdrives in the "up" position. Periodically pump hot water through the engine's intake. Finally, use a hull wax with a high silicone content. This makes it difficult for exotics to attach to your boat.

The number of boats registered and used in Pennsylvania continues to rise. This means we must all become smarter boaters. Taking a boating class can make us safer boaters. Knowing the effect that boating can have on a habitat allows us to reduce the potentially harmful effects. This is one way to ensure future generations have the same resources that we enjoy now as responsible boaters.

To take a Fish & Boat Commission boating class, and earn a Boating Safety Education Certificate (required for all personal watercraft operators), log on to our website at [www.fish.state.pa.us](http://www.fish.state.pa.us). Our website also explains the Commission's new Internet and video/correspondence long-distance learning boating safety courses. ☐

