

TAR-PAMLICO RIVER BASIN



The Tar River and Pamlico River are actually two ecologically distinct pieces of the same river. The 180-mile river rises as a freshwater stream (the Tar) in the Piedmont near Roxboro and changes to brackish water (the Pamlico) as it travels from Washington to the Pamlico Sound. Major tributaries in the upper basin are Swift, Fishing and Tranters creeks and Cokey Swamp. The 30-mile Pungo River is the main tributary in the lower basin.



U.S. FISH AND WILDLIFE SERVICE

Tar River Spiny mussel

The Tar-Pamlico River Basin is one of just four river basins contained entirely within North Carolina, and it is the fourth largest in the state. It is a diverse region with many valuable wetlands and creatures. Twelve rare freshwater mussels live in waters of the upper basin. One of these, the federally endangered Tar River spiny mussel, is endemic to this region, which means it has been found nowhere else on earth. The spiny mussel lives in only five short sections of the Tar River and its tributaries. It is one of only three freshwater mussels in the world that has spines. Juvenile mussels may have up to 12 of these tiny projections on their outer shell.

The basin also contains the state's largest natural lake, Mattamuskeet, likely a product of a gigantic fire that burned through the organic soils of peat bogs and left a shallow depression. The 40,000-acre lake, which is 18 miles long and 6 miles wide, is the showpiece of Mattamuskeet National Wildlife Refuge, one of three national refuges in the basin.

Lake Mattamuskeet

GREATER HYDE COUNTY CHAMBER OF COMMERCE



profile:

Total miles of streams and rivers:
2,335 miles

Municipalities within basin: 50

Counties within basin: 16

Size: 5,571 square miles

Population: 414,242 (2000)

fast FACTS:

The National Wildlife Refuge System is a national network of lands and waters for the conservation and management of fish, wildlife and plants and their habitats. The U.S. Fish and Wildlife Service manages the 93-million-acre system, which includes more than 530 individual refuges, wetlands and special management areas.

LAKE
MATTAMUSKEET:

*Rhythm
of the
Swans*



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Thousands of tundra swans migrate annually to winter in the shallow waters of Lake Mattamuskeet. Canada and snow geese, pintails, black ducks and mallards also flock to the lake during winter.

fast **FACTS:**

Neptune's Nursery

Estuaries are partially enclosed areas where freshwater from inland rivers mixes with salty water from the sea. Although influenced by tides, estuaries are generally protected from the full force of ocean waves, winds and storms. Estuaries are often referred to as "nurseries" because so many species of juvenile fish and shellfish rely on these sheltered, food-rich areas.

MELISSA MCGAW, NCWRC



Blue crabs

The lake has one of the largest breeding populations of osprey in the state and is a major winter stopover for thousands of Canada and snow geese, whistling swans and ducks.

At another refuge in the basin, Pocosin Lakes National Wildlife Refuge, several agencies are working together to restore an 18,000-acre bog containing Atlantic white cedars (juniper) and bald cypress. The Atlantic white cedar ecosystem is a globally endangered ecosystem, according to The Nature Conservancy.

A gateway to the coast, the Tar-Pamlico River basin feeds into a highly productive estuary that is a nursery for more than 90 percent of all the commercial seafood species caught in North Carolina. The Albemarle-Pamlico is the second largest estuary system in the United States. Blue crabs are an important fixture in the local economy. In the past, vast runs of river herring, shad, striped bass and sturgeon also contributed to the region's culture. These anadromous fish live in the ocean but swim up freshwater rivers to spawn and breed.

The Swan Quarter and Juniper Bay areas in the eastern part of the basin near Pamlico Sound are designated by the state of North Carolina as Outstanding Resource Waters. Such waters receive extra protection due to excellent water quality and exceptional ecological or recreational significance.

The region also is steeped in a rich tradition of farming. It contains the state's largest tobacco-producing county (Pitt) and the number one producer of corn, wheat and sorghum (Beaufort County).

Unfortunately, the Pamlico River has been plagued with environmental problems. This region began to attract public concern in the 1980s. The excessive growth of algae and increasing numbers of diseased and dying fish began to suggest a decline in water quality. Many municipal treatment plants were discharging wastewater into rivers and streams. Runoff from “nonpoint” sources—such as farmland, timber operations and urban storm-water drains—also contributed pollution.



Bald cypress “knees”

G.B. PARDUE

All of these sources increase levels of the nutrients nitrogen and phosphorus in the watershed. These nutrients can be beneficial to aquatic life in small amounts. But large amounts can contribute to excessive plant growth and low levels of dissolved oxygen in the water. Both of these situations can be harmful to fish and other aquatic life.

In 1989, the state called for measures to reduce nutrient pollution in the watershed. With public and private support, an association of point source dischargers—the Tar-Pamlico Basin Association—developed an innovative program to accomplish the reductions. They formed a coalition, and each municipality agreed to do the following: either reduce the nutrient levels in the wastewater discharged by its treatment plant or offset its share of pollution by investing in farming practices that reduced nutrient runoff in the basin by an equal or greater amount. This “nutrient trading” system, the only one of its kind in North Carolina, was one of the first such systems in the country.

Now new rules for reducing nutrient runoff are being implemented in the basin. One important rule requires that existing strips of trees and other plants along the edges of waterways be protected. In these “buffer” areas, the roots of plants prevent soil from eroding, and they help to filter out nutrients. Other rules provide guidelines for applying fertilizer and managing storm-water. For more information, visit the following Web site: <http://h2o.enr.state.nc.us/nps/tarp.htm>.

What’s ahead? The population in the basin is expected to increase. Government officials and citizens will be challenged to reduce existing sources of water pollution. And they will have to ensure that population growth does not contribute to new water quality problems.

The Pamlico Sound is the largest body of water behind barrier islands in the world. It covers more than 2,000 square miles.



KEN TAYLOR, NCRWC



You may have noticed “Tar-Pamlico River Basin” signs posted along highways throughout the basin. The signs are part of a statewide educational program to raise public awareness that we all live in a river basin and that our individual actions affect the quality of its waters. Signs in all 17 river basins of the state are made possible by a partnership between the North Carolina Department of Environment and Natural Resources and the North Carolina Department of Transportation and funds from the Federal Transportation Enhancement Program.



Tar River

KEN TAYLOR, NCWRC

WHERE SHOULD I GO ?

What makes the Tar-Pamlico River Basin special? See for yourself. The basin contains all or part of three national wildlife refuges (Lake Mattamuskeet, Pocosin Lakes and Swan Quarter). Visit these Environmental Education Centers to discover more about your ecological address.

- Goose Creek State Park in Washington
- Medoc Mountain State Park in Hollister
- The North Carolina Estuarium on the Pamlico River in Washington
- Lake Mattamuskeet Lodge in New Holland
- River Park North (Walter L. Stasavich Science and Nature Center) in Greenville
- Rocky Mount Children’s Museum in Rocky Mount

For more information about all the Environmental Education Centers in North Carolina, call the Office of Environmental Education, Department of Environment and Natural Resources, at (919) 733-0711, or check out the Web site at <http://www.ee.enr.state.nc.us>.

WHAT CAN I DO ?

- Do your part to positively influence water quality in the Tar-Pamlico River Basin.
- Get involved in basinwide planning or a local organization interested in rivers and streams in the river basin.
- Take the time to become more knowledgeable about the environmental consequences of your actions.

WHO SHOULD I CONTACT ?

The following contacts can provide information:

- North Carolina Office of Environmental Education, Department of Environment and Natural Resources, (800) 482-8724 or (919) 733-0711, Web site <http://www.ee.enr.state.nc.us>
- Pamlico-Tar River Foundation, (252) 946-7211, <http://www.ptrf.org>
- Stream Watch Program, Division of Water Resources, Department of Environment and Natural Resources, (919) 733-4064, Web site <http://www.ncwater.org>
- Soil and Water Conservation Districts, Division of Soil and Water Conservation, Department of Environment and Natural Resources. Go to <http://www.enr.state.nc.us/DSWC/files/dos.htm> for a listing of all county offices, call (919) 733-2302 or check your local phone book in the county government blue pages.

To find out more about water quality in the Tar-Pamlico River Basin, contact the Division of Water Quality’s Basinwide Planning Program, Department of Environment and Natural Resources, at (919) 733-5083, Web site <http://h2o.enr.state.nc.us/basinwide/>.