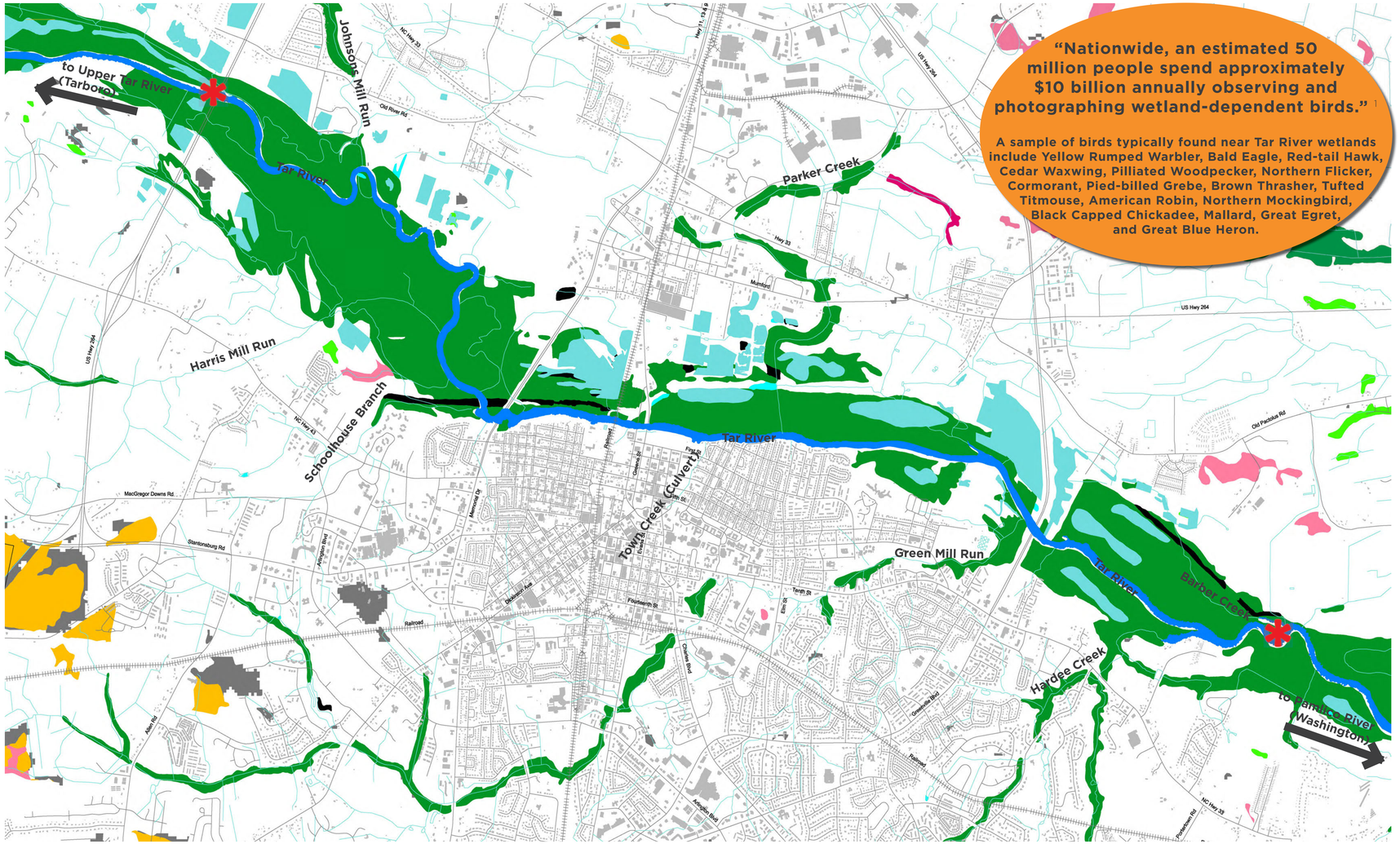

"Nationwide, an estimated 50 million people spend approximately $10 billion annually observing and photographing wetland-dependent birds." [1]

A sample of birds typically found near Tar River wetlands include Yellow Rumped Warbler, Bald Eagle, Red-tail Hawk, Cedar Waxwing, Pilliated Woodpecker, Northern Flicker, Cormorant, Pied-billed Grebe, Brown Thrasher, Tufted Titmouse, American Robin, Northern Mockingbird, Black Capped Chickadee, Mallard, Great Egret, and Great Blue Heron.

KEY

- Wetland: Bottomland Hardwood and Riverine Swamp
- Wetland: Depressional Swamp Forest
- Wetland: Freshwater Marsh
- Wetland: Headwater Swamp
- Wetland: Hardwood Flat
- Wetland: Human Impact
- Wetland: Managed Pine
- Wetland: Pine Flat
- Study Area Limits

What are wetlands? [2]

Wetlands are areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted for life in saturated soil. Wetlands include swamps, marshes, bogs and similar areas.

What do wetlands do?

Habitat: nesting, spawning, rearing and resting sites for aquatic and land species, food chain production

Hydrology: protection of other areas from wave action and erosion, storage areas for storm water and flood water, ground and surface water aquifer recharge

Water Quality: water quality protection, water filtration /purification, treatment of nonpoint source runoff

Example of Human Impacted Area Wetlands at Utility Easement

Example of Riverine Swamp Forest at River Park North

Example of landscape north of the Tar River

Types of Wetlands (shown on map)

- Bottomland Hardwood and Riverine Swamp Forest: Riverine forested or occasionally scrub/shrub communities usually occurring in floodplains, that are semi-permanantly to seasonally flooded.
- Depressional Swamp Forest: Very poorly drained non-riverine forested or occasionally scrub/shrub communities that are semi-permanantly to seasonally flooded.
- Freshwater Marsh: Herbaceous areas that are flooded for extended periods of time during the growing season.
- Headwater Swamp: Forested systems along the upper reaches of first order streams. Seasonally saturated by high water table or poor drainage.
- Hardwood Flat: Poorly drained instream flats not associated with rivers or estuaries. Seasonally saturated by a high water table or poor drainage.
- Human Impacted Area: Areas of human impact have physically disturbed wetland, but the area is still wetland. Impoundments and cutovers are included, as well as other disturbed areas, such as power lines.
- Managed Pine: Seasonally saturated, managed pine forest (usually loblolly pine) occurring in hydric soils. These wetlands may also contain non-managed pine forest occurring on hydric soils.
- Pine Flat: Palustrine, seasonally saturated pine communities on hydric soils that may become quite dry for part of the year. Generally occur in flat or nearly flat areas that are not associated with a river

Sources:
1. "Wetland Types, Functions, and DCM's GIS Wetland Data". North Carolina Department of Environment and Natural Resources Division of Coastal Management
2. NC Division of Coastal Management Wetland Type Descriptions for DCM GIS Wetland Type Data

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WETLANDS

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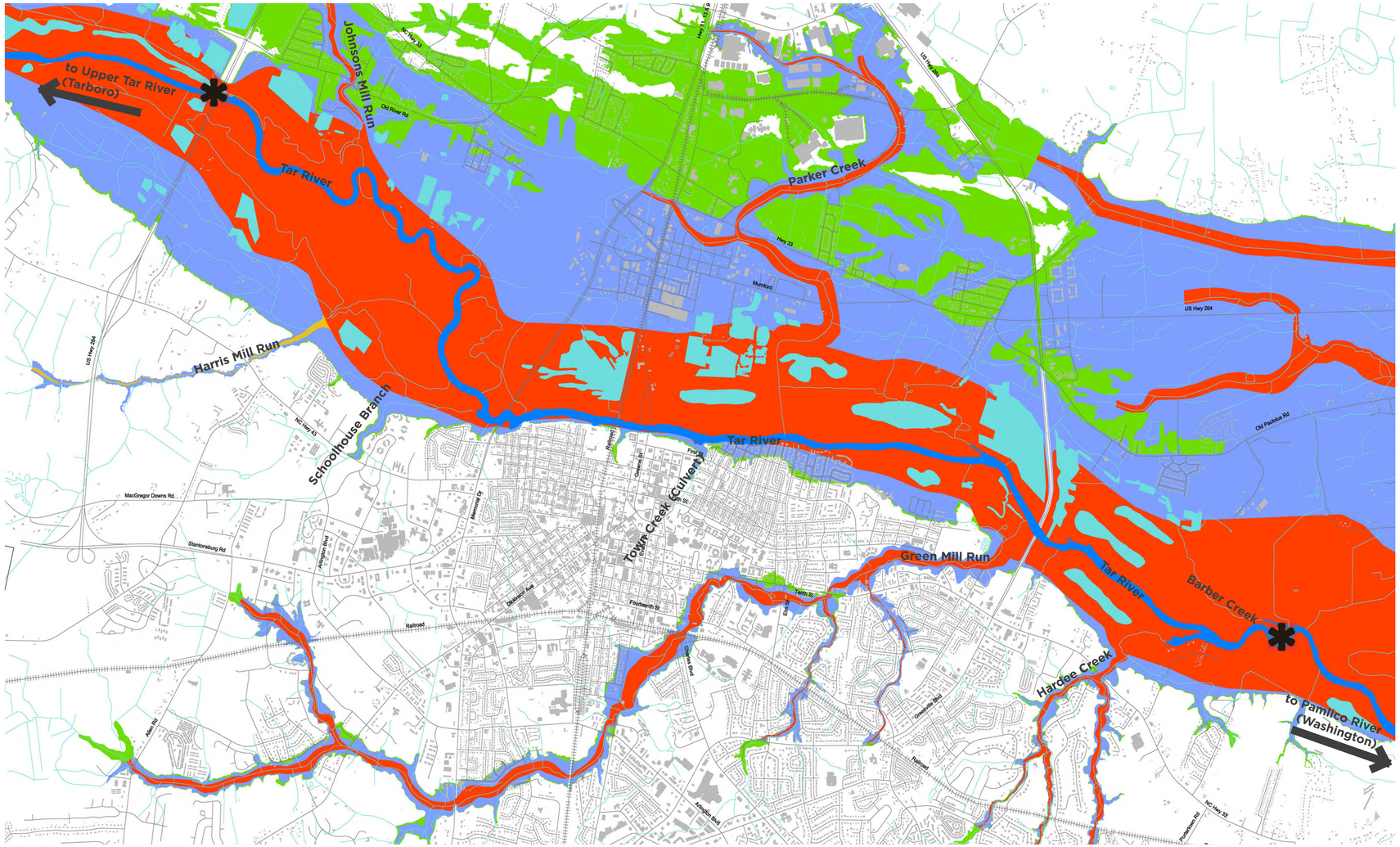

KEY

- Floodplain: AEFW
- Floodplain: AE
- Floodplain: X (SHADED)
- Floodplain: NEA
- Surface Water
- Study Area Limits

FEMA Floodplain Classifications

AEFW: Floodway: The floodway is the channel of a stream plus any additional floodplain areas that must be kept free of encroachment so that the 1% annual chance flood (100-year flood), can be carried without substantial increases in flood heights. This area is shaded red on the map.

AE: An area inundated by the 1% annual chance flood (100-year flood), for which Base Flood Elevations (BFE) have been determined. This area is shaded blue on the map.

X (SHADED): An area inundated by 0.2% chance flood (500-year flood). An area inundated by the 1% annual chance flood (100-year flood), with average depths of less than one foot, or with drainage areas less than one square mile, or an area protected by levees from the 1% annual chance flood (100-year flood). This area is shaded light green on the map.

NEA: Non Encroachment Area: The Non Encroachment Area is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report. This area is regulated as a Floodway.

Tar River at the 500-year Flood Level

Tar River at U.S. Highway 264 west of Greenville, Sept. 18, 1999
(Photo taken by Jerry Ryan http://www.ausgs.gov)

Flooding at Cypress Glenn Retirement Community in Greenville, Sept. 18, 1999
(Photo taken by Jerry Ryan http://www.ausgs.gov)

Flooded residential area in Greenville, Sept. 18, 1999
(Photo taken by Jerry Ryan http://www.ausgs.gov)

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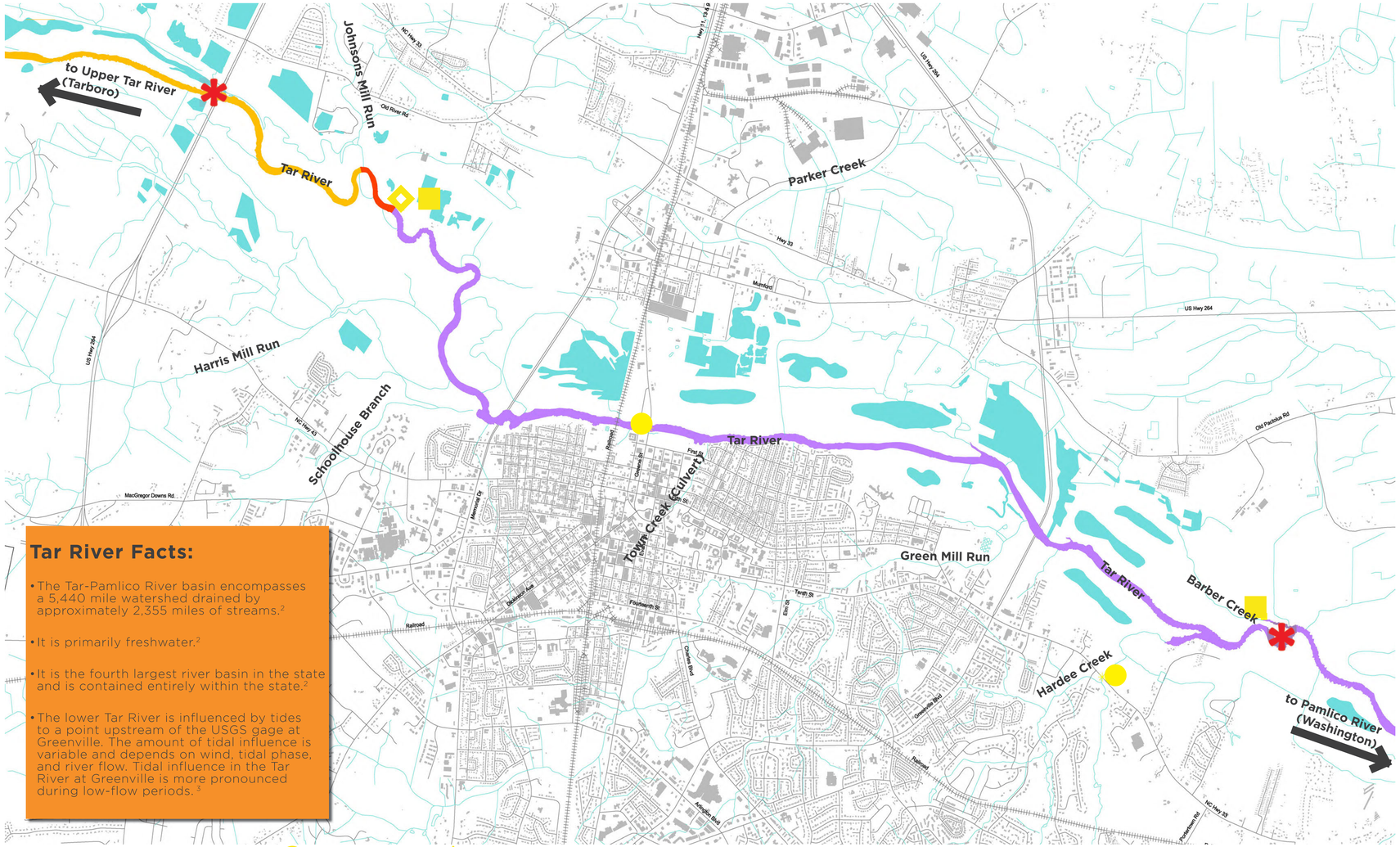


Tar River Facts:

- The Tar-Pamlico River basin encompasses a 5,440 mile watershed drained by approximately 2,355 miles of streams.[2]
- It is primarily freshwater.[2]
- It is the fourth largest river basin in the state and is contained entirely within the state.[2]
- The lower Tar River is influenced by tides to a point upstream of the USGS gage at Greenville. The amount of tidal influence is variable and depends on wind, tidal phase, and river flow. Tidal influence in the Tar River at Greenville is more pronounced during low-flow periods.[3]

KEY

- Water Quality: WS-IV; NSW
- Water Quality: WS-IV; NSW; CA
- Water Quality: C; NSW
- USGS Stream Gauge
- NPDES Site (National Pollutant Discharge Elimination System)
- Public Water Supply Site
- Study Area Limits
- Surface Water

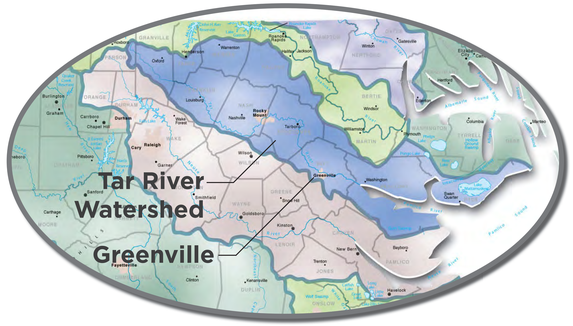
Water Quality Classifications

Nutrient Sensitive Waters (NSW)
Supplemental classification intended for waters needing additional nutrient management due to their being subject to excessive growth of microscopic or macroscopic vegetation.

Water Supply IV (WS-IV)
Waters used as sources of water supply for drinking, culinary, or food processing purposes where a WS-I, WS-II or WS-III classification is not feasible. These waters are also protected for Class C uses. WS-IV waters are generally in moderately to highly developed watersheds.

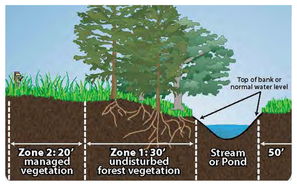
Class C (C)
Waters protected for secondary recreation, fishing, wildlife, fish consumption, aquatic life including propagation, survival, and maintenance of biological integrity, agriculture and other uses suitable for Class C. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized or incidental manner.

Critical Area (CA)
1/2 mile and draining to water supplies as measured from the normal pool elevation for reservoirs, or 1/2 mile and draining to a river intake.



Riparian Buffers [1]

A riparian buffer is a strip of forested or vegetated land bordering a body of water. The vegetation and root systems in a riparian buffer stabilize the streambank, preventing soil from eroding into the water. Riparian buffers also act as a filter to remove pollutants. Preserving riparian buffers is critical to protecting our water resources. The riparian buffer must remain undisturbed, regardless of property size or type of land use, unless the use is listed in the rules as exempt, potentially allowable or potentially allowable with mitigation.



Sources:
1. North Carolina's Riparian Buffer Protection Rules brochure for the Neuse River Basin and Tar-Pamlico River Basin.
2. Basinwide Assessment Report: Tar River Basin, NC DENR / DWQ, April 2008.
3. Greenville Utilities Commission, "Technical Memorandum #1: Tar River Flow Study", 2009

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WATER QUALITY

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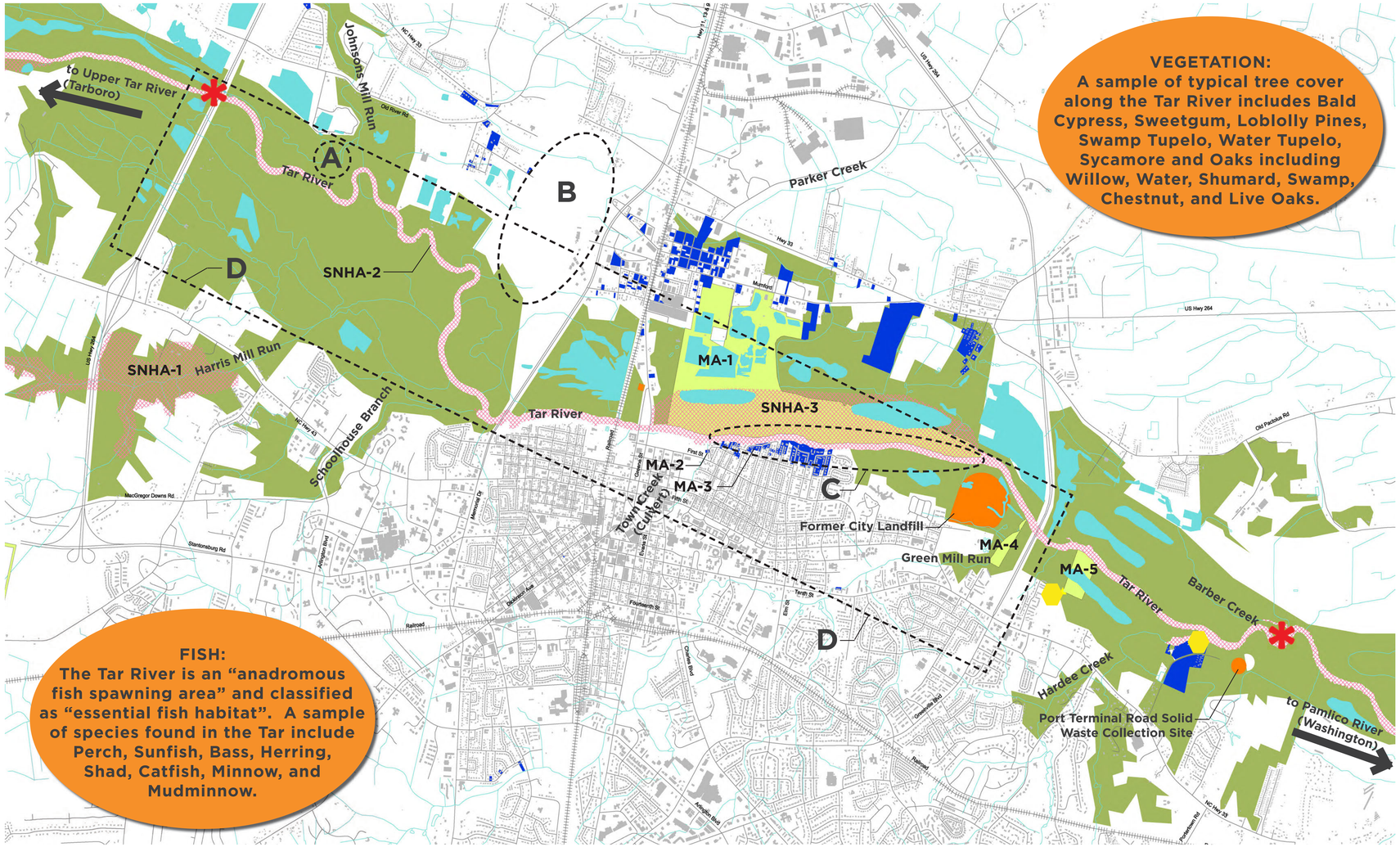

Rare Species (Aquatic and Terrestrial)[1]

A Current habitat location of Bald Eagle (State Threatened/BGPA)

B Historic habitat location of Southern Hognose Snake (State Special Concern)

C Sighting of West Indian Manatee (Federal/State Endangered), a transient species, in 1983

D Current habitat of the following rare aquatic species:
- Yellow Lampmussel (State Endangered)
- Roanoke Slabshell (State Threatened)
- Triangle Floater (State Threatened)
- Tidewater Mucket (State Threatened)
- Eastern Lampmussel (State Threatened)
- Neuse River Waterdog (State Special Concern)
- North Carolina Spiny Crayfish (State Special Concern)
- Banded Sunfish (Natural Heritage Significantly Rare)
- Armored Mayfly (Natural Heritage Significantly Rare)

Definitions:

Endangered:	Any native or once native species of wild animal whose continued existence as a viable component of the State's fauna is determined by the Wildlife Resources Commission to be in jeopardy or any species of wild animal determined to be an 'endangered species' pursuant to the Endangered Species Act.
Threatened:	Any native or once native species of wild animal which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, or one that is designated as a threatened species pursuant to the Endangered Species Act
Special Concern:	Any species of wild animal native or once native to North Carolina which is determined by the Wildlife Resources Commission to require monitoring but which may be taken under regulations adopted under the provisions of this Article.
Significantly Rare:	Any animal species which has not been listed by the Wildlife Resources Commission as an Endangered, Threatened, or Special Concern species, but which exists in the state (or recently occurred in the state) in small numbers and has been determined by the Natural Heritage Program to need monitoring
BGPA:	Protected by the Bald and Golden Eagle Protection Act

Bald Eagle
(http://www.allaboutbirds.org)

West Indian Manatee
(Photo by USGS; www.fws.gov)

Banded Sunfish
(Photo by John Bunnell; www.nj.gov)

NC Natural Heritage Program

Significant Natural Heritage Areas

Identifies terrestrial and aquatic sites that are of special biodiversity significance. SNHA significance may be due to the presence of rare species, exemplary natural communities, or important animal assemblages. These conservation targets are referred to collectively as "elements" of biodiversity. (The boundaries are drawn by Natural Heritage Program staff, based on field surveys conducted by NHP staff and other professional biologists. Conditions on the ground may have changed since the boundaries were drawn, and areas outside of boundaries do not necessarily fail to qualify for SNHA status; they simply may not have been surveyed. Thus, the boundaries are considered approximate.)

- SNHA-1 Harris Mill Run Slopes (229.17 acres)
- SNHA-2 Lower Tar River Aquatic Habitat (2,082.38 acres)
- SNHA-3 River Park North Floodplain Forest (349.82 acres)

Managed Areas

Primarily a collection of fee simple properties and easements where conservation is one of the management goals. It does include a number of properties and easements that are not primarily managed for conservation, but that are of conservation interest. This conservation interest ranges from properties and easements which support rare species and intact, high-quality natural communities to those that are open spaces in places where open space is scarce.

- MA-1 City of Greenville River Park North (487 acres)
- MA-2 NC Clean Water Management Trust Fund Easement (0.2 acres)
- MA-3 City of Greenville Open Space (0.13 acres)
- MA-4 NC Clean Water Management Trust Fund Easement (9.42 acres)
- MA-5 NC Clean Water Management Trust Fund Easement (21.59 acres)

Sources:
1. North Carolina Natural Heritage Program

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NATURAL AREAS AND HABITATS

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