



LYNCHES

Scenic River Water Trail Guide

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The Lynches River

The Lynches River is an outstanding recreational resource for fishing, hunting, camping and boating. The information provided in this guide is designed to assist the public with accessing and traveling the river by boat to promote appreciation, conservation and protection of the river's resources. The

Lynches River has its headwaters in Union County, North Carolina, and is free flowing for its entire length, almost 175 miles, until it meets with the Great Pee Dee River in southeastern Florence County, South Carolina. The



river section that is the subject of this guidebook is the South Carolina-designated Lynches Scenic River which flows roughly 111 miles from U.S. Highway 15 Bridge in Lee County to its confluence with the Great Pee Dee River, another South Carolina State Scenic River. Along its course, the river flows through a varied natural and cultural landscape, including Piedmont uplands, deep swamp Coastal Plain floodplain forests, farms, rural crossroads and urban cities. The land surrounding the river supports traditional agriculture and forestry practices, such as farming, raising livestock, hunting and managing timber for harvest.

The river's channel width varies from four feet around tight meander bends to nearly a hundred feet in lake-like sections. Downstream views can range from 10 feet to 800 feet. On certain short sections, the river anabranches into multiple small streams and then returns again to one channel only to be blocked with fallen trees. This natural variability enhances the fish and wildlife habitat and adds to the experience of those willing to explore the river. Indeed, these natural features may be the river's most valuable asset.

At normal water levels, all sections of the river are accessible to paddle and most sections are accessible to small motor-boats. The only exception is the last six miles of the Lynches River, below Johnsonville, prior to the confluence with the Great Pee Dee River. This lower reach of the Lynches is clogged with fallen trees (strainers) and large log jams, making navigation very difficult, especially in low water conditions. The preferred water route during low flow is down Clark's Creek and out to the Great Pee Dee River.

Note to users: The Lynches is a natural river which offers river travelers a scenic, backcountry experience with all the inherent dangers of a wilderness. Users of the river and this boating guide are responsible for their own safety and actions and should follow recommended practices for safe boating and backcountry travel such as those presented in this guide.

The South Carolina Scenic Rivers Program

The Scenic Rivers Program, established by the South Carolina Scenic Rivers Act 1989, is designed to protect South Carolina's unique and outstanding river resources. To accomplish this purpose, a cooperative, voluntary management program involves landowners, community interests and the South Carolina Department of Natural Resources (SCDNR) who work in a partnership to achieve common river-conservation goals. The partnership is formed through local advisory councils created for each scenic river; and for Lynches River, the Lynches River Advisory Council was created.

Designating a State Scenic River requires legislative action by the South Carolina General Assembly. The designation process begins at the local level and requires the support of local citizens, landowners and elected officials. The upper section of the Lynches River was designated a State Scenic River on March 24, 1994, while the lower section was designated on June 11, 2008. The Lynches River designated stretch is approximately 111 miles.

The SCDNR and the Lynches Scenic River Advisory Council prepared and published the Lynches Scenic River Management Plan in 1997 and published a second edition in 2003. The management plan presents information goals and recommendations to address community interests and concerns related to water quality, wildlife, fisheries, land stewardship and recreational access to the river.



River Conservation

We can all contribute to river conservation efforts by learning about the problems and solutions needed to manage a healthy river system. The choices we make while on and off the river can potentially affect rivers, lakes and streams, both positively and negatively. If you own or manage property, home, yard, automobile, boat, pet, livestock, industrial land, commercial land, a building, a parking lot, forest land, farm land, or undeveloped land, the following information may give you the opportunity to promote river conservation.

Reducing polluted runoff

- Properly use and dispose of all chemicals and oil.
- Properly control animals and their waste.
- Repair leaking vehicles and boat motors.
- Do not use storm drains for disposal.
- Inspect septic systems and pump them out regularly.
- Properly dispose of human waste while camping along the river.
- Pick up trash, do not litter and volunteer to help with river sweep events.
- Seek better environmental laws and enforcement.



Managing stormwater flow

- Capture runoff and let the water soak into the soil before reaching the river.
- Follow best management practices to protect water, soil and wildlife.

Using better building practices

- Reduce unnecessary pavement or use permeable materials where possible.

Using riparian or stream-side buffers

- Encourage property owners and developers to retain vegetative riparian buffers because they serve us all in these ways:
 - Provide wildlife habitat
 - Improve water quality
 - Reduce riparian erosion

- Provide effective flood control
- Increase property values
- Reduce maintenance and restoration costs
- Enhance recreation



If you encounter a water quality violation while you are on the river, please inform the local authorities by calling South Carolina Department of Health and Environmental Control (SCDHEC) or SCDNR. You can become involved in river conservation by volunteering to help the Lynches Scenic River Advisory Council and your county's soil and water conservation organizations. Your good choices will affect this river and our stewardship of our natural resources, which, in turn, will directly affect future generations.

Facts about the Lynches River

The Lynches River meanders through a wide flood plain as it flows across the Coastal Plain of South Carolina. While it is a flatwater river, **the Lynches River does have a zippy current and is not recommended for beginning boaters.** It is a physically and mentally challenging river and better-suited for experienced boaters, who can safely maneuver in river currents and meandering channels that contain fallen trees and logs, commonly referred to as strainers. The river can be utilized year round, but river passage may require portage around fallen trees and logs that can obstruct the channel. Generally, water levels (which are measured in stage feet) and river flows (measured in cubic feet per second) will be higher

during the late winter and spring and lower in the late summer and fall.

Caution is advised in hunting season (August 16 through May 1) when river users may want to wear a hat of bright orange.



Landings and River Miles

River miles between landings and approximate travel time at normal water levels along the Lynches Scenic River are listed below.

<i>Landing Name</i>	River Mile	Time in Hrs
Highway 15 Landing	Start: 111	
Lee State Natural Area Throw-In	106-105	2-4
Highway 401 Landing	96	8-9
Highway 76 Landing	86	6
Highway 403 Sardis Baptist Church Landing	75	8
Highway 301 Throw-In	67	4
Highway 55 Throw-In	60	4
Lynches River County Park Canoe Launch	55	2
Highway 52 Landing	50	2
Jeffords Road Landing	47	1
Highway 46, Anderson Bridge Landing	43	2
Indigo Landing	39	1-2
Highway 378 Landing	34	2-3
Riverside Cemetery Road Landing	30	1-2
Half Moon Landing	20	6-7
Highway 41/51 Venters Landing	8	5-8
N. Persimmon Bluff Road Landing	4	1-2

From N. Persimmon Bluff Road Landing the boater has three choices of travel:

- 5 miles to Snow Lake Landing on Mill and Muddy Creeks.
- 13 miles down Clark's Creek to Staples Lake Landing on the Great Pee Dee River.
- 6 miles on the Lynches River to Dunham Bluff Landing on the Great Pee Dee River.

(The other public landings along the Lynches River are Syrup Mill Road Landing, Catfish Road Landing, Bunk Road Landing, Cockfield Road Landing, Courtney Point Road Landing, Lee Landing Road, Bennie Landing Road, New Landing Road, Mack's Lake Road Landing, N. Pitch Road Landing, Bartell Landing Road and Glen's Bluff Road Landing.)

Streamflow Information

Streamflow measurements are taken daily from two gages along the Lynch River: the Bishopville Gage (02131500), located near Highway 15 Landing, and the Effingham Gage (02132000), located near the Highway 52 Landing. For streamflow information, check the daily papers, the SCDNR website or the USGS website (www.waterdata.usgs.gov/sc/).

Historic Streamflow Data Levels (as of 2008)

Gage	Minimum	Maximum
Bishopville	33 cfs and 3.66 ft stage Recorded on August 13, 2002	29,400 cfs and 22.35 ft stage Recorded on September 9, 1945
Effingham	69 cfs and 0.72 ft stage Recorded on August 13, 2002	25,000 cfs and 21.21 ft stage Recorded on September 22, 1945



Highway 15



Highway 15 - Bishopville gage

The river may be traveled when water levels are between 2 to 9 feet stage as shown on the Effingham Gage. In high-water conditions, the main river channel may be hard to determine, and near the confluence with the Great Pee Dee River water may back flow up from the Great Pee Dee River into the Lynch River. If you choose to go boating during high water take a GPS, map and compass to navigate your route and a phone for emergency calls. At lower water levels, boaters will encounter more portage opportunities around fallen trees. Generally, water levels will be higher during the late winter and spring and lower in the late summer and fall.

Water temperature in the Lynch River ranges between 45-50 degrees Fahrenheit during the winter and between 65-72 degrees Fahrenheit during the summer.

Approximate One-Way Shuttle Information

Highway 15 Landing to Lee State Natural Area Throw-In

Road distance:	6 miles	Road time:	10 minutes
River distance:	6-8 miles	River time:	2-4 hours

Directions: Turn right onto Highway 15/34; take the first right onto Highway 22 which is Lee State Park Road. Follow this road until you see the entrance to the park on your right. Follow the park entrance road, which is called Loop Road according to the Internet mapping websites, into the park until you reach a stop sign. Turn left at the stop sign, to reach the park office or turn right and the campground will be on your right. Continue past the campground to reach the river. This Loop Road is located in the floodplain and may be closed during periods of high water. Paddle craft may be thrown in at four points along this road.



Highway 15 Landing

Highway 15 Landing to Highway 401 Landing

Road distance:	14 miles	Road time:	22 minutes
River distance:	16 miles	River time:	8-9 hours

Directions: Turn left onto Highway 15/34 and proceed to the heart of Bishopville. Turn left onto Highway 341, also known as East Church Street. Proceed over I-20 and continue on Highway 341 which becomes Wisacky Road. At the crossroads in Wisacky, yield or turn to the left staying on Highway 341, which then becomes North Lynchburg Highway. Turn left onto Highway 401 and take another left at the entrance to the landing before reaching the river. The Evelyn and Rivers Scarborough Camping Platform is on this river segment.

Highway 401 Landing to Highway 76 Landing

Road distance:	9 miles	Road time:	15 minutes
River distance:	10 miles	River time:	6 hours

Directions: Turn right onto Highway 401 and left at the crossroads onto Highway 341, which is also called North Lynchburg Highway. Stay on Highway 341 until you reach Lynchburg where the name of Highway 341 will change to Church Street. At Highway 76 (also known as Potts Street and Florence Highway) turn to the left and proceed to the entrance to the landing that will be on your left before crossing the river.



Highway 401 Landing

Highway 76 Landing to Highway 403 Sardis Baptist Church Landing

Road distance: 11 miles Road time: 20 minutes
River distance: 11 miles River time: 8 hours

Directions: Turn right onto Highway 76 towards Lynchburg and then turn left onto Highway 341 (Church Street and Lynchburg Highway). After crossing over I-95, Highway 341 becomes known as Lynches River Road. Follow Lynches River Road to Hobbs Crossroads and take a left turn onto Highway 403, also known as Amwell Church Road. After crossing the river, turn right onto a dirt road entrance to the unpaved landing and parking area.



Highway 76 Landing

Highway 403 Sardis Baptist Church Landing to Highway 55 Throw-In

Road distance: 11 miles Road time: 20 minutes
River distance: 8 miles to 301 and 7 more to 55 River time: 8 hours

Directions: Turn left onto Highway 403, cross the river and head towards Hobbs Crossroads. At Hobbs Crossroads, continue on Highway 403, which turns to the left. At Highway 301, turn left and before crossing the river take a right turn onto Highway 84, known as Old Creek Road. (Please note there is not a public landing at the Highway 301 Bridge. If you need to get off the river at this point please keep to the SC DOT right-of-way as you pull your paddle craft up the road bank. Do not park your car on the side of the road for an extended period of time.) Continue on Highway 84, Old Creek Road, to its end and turn left onto Highway 147, Old Number Four Highway. Turn left onto Highway 55, known as McAllister Mill Road, and head towards the river. The pull-over area is next to the road before crossing the bridge. You will see a path to the river and sandbar area. This is a throw-in landing for paddle craft only.



Sardis Baptist Church Landing

Highway 55 Throw-In to Lynches River County Park Canoe Launch

Road distance: 5 miles Road time: 7 minutes
River distance: 5 miles River time: 2 hours

Directions: Return to Highway 147 via McAllister Mill Road, Highway 55. Turn left onto Highway 147 also known as Old Number Four Highway. Turn left onto the County Park Road which is the entrance to Lynches River County Park and follow the signs to the canoe launch parking area which will be on your left after



Lynches River County Park Landing

passing the park gates. This park has camping and cabin facilities that can be reserved by calling the park reservation system.

Lynches River County Park Canoe Launch to Highway 52 Landing

Road distance:	3 miles	Road time:	5 minutes
River distance:	5 miles	River time:	2 hours

Directions: Turn right from the parking area of the canoe launch onto the County Park Road. At Highway 147 (Old Number Four Highway) turn left and proceed to Highway 52. Turn left onto Highway 52 and take another left into the landing before reaching the bridge at the river.



Highway 52 Landing

Highway 52 Landing to Highway 46, Anderson Bridge Landing

Road distance:	10 miles	Road time:	15 minutes
River distance:	7 miles	River time:	4 hours

Directions: Turn right onto Highway 52. At New Hope, turn left onto Highway 72, Old Georgetown Road. Pay careful attention and turn left on Jeffords Road. A landing on an oxbow of the Lynches River is located here that can be used during normal to high water periods. The Jeffords Road Landing is a small sand/gravel parking lot. Otherwise, stay on Old Georgetown Road, Highway 72, until you reach a stop sign where you will turn left onto Highway 46, also known as Friendfield Road/Francis Marion Road. After crossing the bridge, turn right onto a dirt road called Farrell Drive, which leads to a dirt landing with limited parking. There is a shorter route if you are not going to the Jeffords Road Landing. From Highway 52 Landing turn right onto Highway 52 and go to Coward. In Coward turn left on Highway 46 and go to the river. After crossing the river turn right on Farrell Drive.

Highway 46, Anderson Bridge Landing to Indigo Landing

Road distance:	4 miles	Road time:	7 minutes
River distance:	4 miles	River time:	1-2 hours

Directions: Turn right onto Highway 46 (Francis Marion Road) towards Friendfield and take the next right onto Highway 34 (Friendfield Road). Turn right onto Indigo Landing Road and follow it to the river. This is a small landing with limited parking. At the time of this printing, River Rat Outfitters is located next to this landing.



Anderson Bridge Landing

Indigo Landing to Highway 378 Landing

Road distance: 5 miles Road time: 9 minutes
River distance: 5 miles River time: 2 hours

Directions: Follow Indigo Landing Road back to Highway 34 (Friendfield Road) and turn right onto Highway 34. Turn right onto Wicklow Road before reaching Highway 378. Follow Wicklow Road to the river. This is a sand landing with limited parking.

Highway 378 Landing to Half Moon Landing

Road distance: 11 miles Road time: 15 minutes
River distance: 14-15 miles River time: 8 hours

Directions: From the landing take Wicklow Road back to Highway 34. Turn right onto Highway 34 and then left onto Highway 378. For a shorter trip distance on this river section, a landing can be accessed at the end of Riverside Cemetery Road, a right turn off of Highway 378. Otherwise follow Highway 378 and proceed through Hannah; turn right onto Highway 66, which is Half Moon Road. The landing will be on your left after you cross the bridge.



Highway 378 Landing

Half Moon Landing to Highway 41/51 Venters Landing

Road distance: 9 miles Road time: 15 minutes
River distance: 12 miles River time: 6-7 hours



Half Moon Landing

Directions: Turn left onto Highway 66, Half Moon Road, and take the immediate left onto 2nd Neck Road, which is Highway 543, which changes to Highway 736. Turn left onto Highway 341 and follow it into the town of Johnsonville. In Johnsonville, Highway 341 is named Broadway Street. Turn left onto Highway 41/51 and take a right turn

before the bridge which is the entrance to Venters Landing. This is a large landing with plenty of paved parking and a picnic shelter.

Highway 41/51 Venters Landing to N. Persimmon Bluff Road Landing

Road distance: 4 miles Road time: 6 minutes
River distance: 4 miles River time: 1-2 hours

Directions: Turn left onto Highway 41/51 towards Johnsonville.

Turn left onto East Broadway Street, Highway 121, which becomes Possum Fork Road. Drive about one mile. After passing a fence on your left, take a left turn onto a dirt road named N. Persimmon Bluff Road.

Follow it to the large sand parking area at the end of the road. Persimmon Bluff Landing is the river entrance that offers three water trail choices. The water trail

you choose will determine your next downstream landing. Your choices actually begin downstream of Persimmon Bluff Landing where the Lynches River branches into distributary channels.



Odel Venters Landing

The choices include:

- Mill Creek and Muddy Creek to Snow Lake Landing
- Clark's Creek to Staples Lake Landing on the Great Pee Dee River
- Lynches River to Dunhum Bluff Landing on the Great Pee Dee River

N. Persimmon Bluff Road Landing to Snow Lake Landing on Muddy Creek

Road distance: 8 miles Road time: 15 minutes
Creek distance: 5 miles Creek time: 2-4 hours

Directions: Exit the landing and

turn left onto Possum Fork Road, Highway 121. Drive for about one mile. Turn right onto S. Deep Woods Road, Highway 137. Turn left onto South Persimmon Ford Road, Highway 445 in Florence County and Highway 120 in Williamsburg County. Turn right onto Gasters Road, Highway 444. Turn left onto Muddy Creek Road, Highway 34,



N. Persimmon Bluff Road Landing

and travel about one mile. Turn left onto Snow Lake Road, Highway 488, and follow signs and the road to the landing. This is a paved landing with plenty of parking.

N. Persimmon Bluff Road Landing to Staples Lake Landing on the Great Pee Dee River

Road distance: 15 miles Road time: 20 minutes
Creek/river distance: 13 miles Creek/river time: 6-7 hours

Directions: Exit the landing and turn left onto Possum Fork Road, Highway 121. Drive for about one mile. Turn right onto S. Deep Woods Road, Highway 137. Turn left onto South Persimmon Ford Road, Highway 445 in Florence County and Highway 120 in Williamsburg County. Turn left onto Gasters Road, Highway 444. Turn left onto Muddy Creek Road, Highway 34, and continue on this road as it becomes a dirt road and you cross a wooden bridge. Proceed to a stop sign and crossroads; turn left onto a dirt road named County Line Road, Highway 513. Follow County Line Road to the paved landing with plenty of parking.



Staples Lake Landing

N. Persimmon Bluff Road Landing to Dunham Bluff Road Landing on the Great Pee Dee River

Distance: 27 miles Road time: 35 minutes
River miles: 6 miles River time: 6-7 hours

Directions: Exit the landing and turn right onto Possum Fork Road, Highway 121, toward Johnsonville. Turn right onto Highway 41/51 in Johnsonville and cross the Lynches River and proceed to Highway 378. Turn right onto Highway 378, cross the Great Pee Dee River and drive about five miles. Turn right onto Dunham Bluff Road and follow it to the landing at the end of the road. This is a large paved landing with a large parking area.



The landings listed in this guide are easy to find and have at least 3 to 5 river miles between them. Other landings are located along this river, some are private and a few are public. Public landings are shown both on the map section of this guide and by blue scenic river markers along the river as pictured. Public roads with landings have green-colored road signs with the name of the landing or road.



Natural History

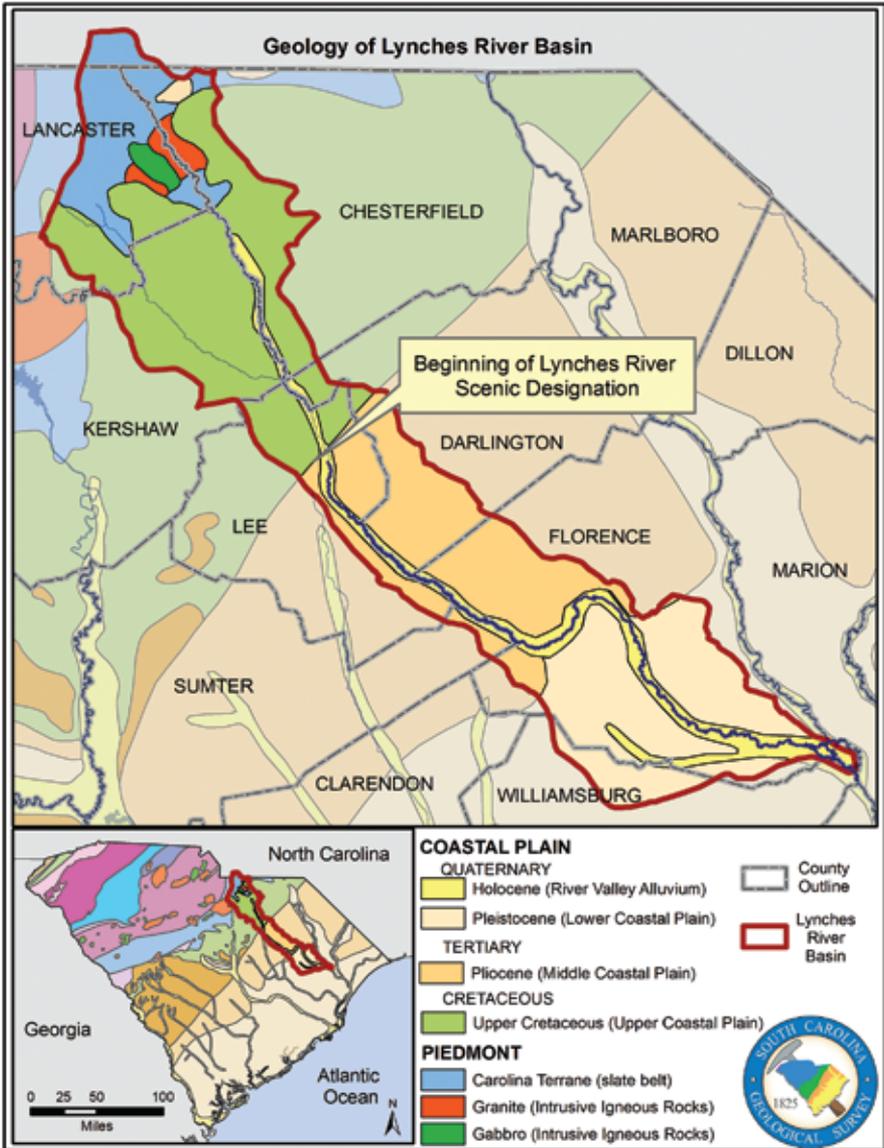
Geology and Fluvial Geomorphology

The Lynches River Basin drains a diverse geologic and geomorphic landscape that heads in metamorphic and igneous rocks of the Piedmont and flows through the sedimentary rocks of the Coastal Plain before joining the Great Pee Dee River. The Lynches River Basin contains a variety of landforms including ancient marine terraces and scarps, river terraces, aeolian sand dunes and extensive flood-plain deposits. The Lynches River flood plain is characterized by a mosaic of individual features including natural levees, infilled and abandoned meander bends, oxbow lakes, backwater swamps and sloughs. The flood plain also contains a variety of tributary and distributary streams that connect surface and ground-water flows between the river and flood plain. The following overview includes a brief description of the geomorphology and geology of the Lynches River Basin. Specific points of interest, such as geologic outcrops, landforms or fossil localities, are marked on the guide maps and annotated with supplemental descriptions.

The Lynches River heads in the Piedmont of North Carolina, just above the South Carolina border, where the headwaters drain metamorphic slate rocks and intrusive igneous granitic rocks. The upper reach of the Lynches River Basin is divided by the Fall Line, which is a geologic zone that marks contact between crystalline metamorphic rocks of the Piedmont and sedimentary rocks of the Coastal Plain. The Fall Line also marks the downstream extent of waterfalls and crystalline bedrock along the channel bed. Below the Fall Line, the Lynches River flows out of the Piedmont and onto the Coastal Plain. The Coastal Plain formations are deposited on the bedrock basement of Piedmont rocks that dip gently to the southeast and the sea. Coastal Plain sedimentary depths are thinnest near the Fall Line and progressively thicken towards the modern coastline. The scenic designation of the Lynches River begins in the Coastal Plain and continues for approximately 110 river miles to the confluence with the Great Pee Dee River (see figure on page 14).

Coastal Plain Geology

The Coastal Plain is divided into three parts on the basis of ancient marine terraces and scarps, which generally coincide with the ages and elevations of geologic units. The upper Coastal Plain is the region from the Fall Line to the Orangeburg Scarp (elev. ~220 ft), the middle Coastal Plain extends from below the Orangeburg Scarp to the Surry



Generalized geology of the Lynchses River Basin. For more information, visit the South Carolina Geological Survey of the SCDNR at www.dnr.sc.gov/geology.

Scarp (elev. ~90 ft) and the lower Coastal Plain extends from below the Surry Scarp to the present coastline. Marine scarps and terraces represent positions of high sea stands that are a function of changing sea-level elevations responding to either one or both, regional tectonic movement and climate change. Marine scarps are erosional features carved by wave action along the coast during the higher sea-level stands.

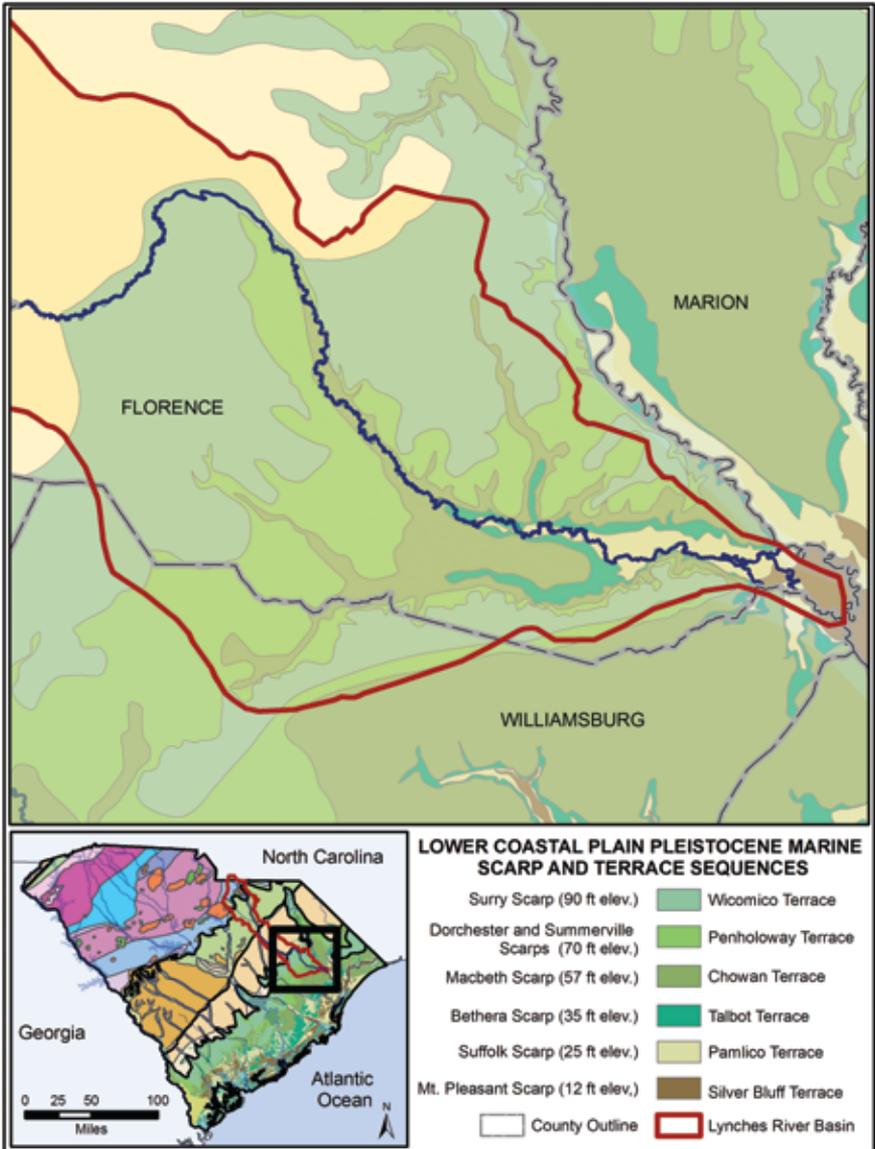
Marine terraces are relatively flat surfaces, extending away from the base of the scarp, resulting from the deposition and erosion of sediments at or near the maximum sea level in that area at the time of their formation.

The upper Coastal Plain marine sediments of the Lynches River valley began forming ~85 million years ago during the upper Cretaceous Period. The upper Coastal Plain consists primarily of two geologic units, the Black Creek and Peedee Formations. The Black Creek Formation is a deltaic plain deposit, consisting of fine sands, silts and clays. The Peedee Formation is a calcareous (lime-rich) and siliciclastic (quartz-sand) deposit with interlayers of dark, sticky marine clays. The Peedee Formation contains beds of impure limestone and oyster fossils (*Exogyra costata*) intermittently throughout the unit.



The middle Coastal Plain began forming ~65 million years ago during the Tertiary Period, and is composed of the Duplin and Bear Bluff Formations. The Duplin Formation extends from below the Orangeburg Scarp, halfway across the middle Coastal Plain. The Duplin Formation is a shell-rich, quartz sand deposit that is very similar to modern coastal, beach environments. The Bear Bluff extends from below the Duplin to the boundary of the Surry Scarp. The Bear Bluff Formation is similar to the Duplin, except that it contains more clay sediments, typical of a back-barrier beach environment, and it also contains localized extensions of poorly-sorted fluvial (river-related) sand and gravel deposits.

The lower Coastal Plain sediments are relatively young from a geological perspective, and have been deposited over the last ~1.8 million years during the Pleistocene and Holocene Epochs of the Quaternary Period and continue today. The lower Coastal Plain sediments are generally well preserved and record several marine scarp and terrace sequences, allowing geologists the opportunity to make detailed measurements regarding sea-level changes over the last two million years. In the lower Coastal Plain, a series of nine individual marine terraces and scarp associations have been identified, six of these pairs are projected to occur within the lower Coastal Plain region of the Lynches River Basin (see figure on page 16). The terrace deposits are typically shell-rich sand silt and clay marine sediments.



Projected boundaries for Pleistocene marine terrace and scarp sequences in the Lower Coastal Plain area of the Lynchies River Basin.

The upper, middle and lower Coastal Plain boundaries are not always as straight forward as described, and in the river valleys the terrain may be eroded by the down-cutting river, exposing older, buried geologic units. The Lynchies River valley contains extensive outcroppings of Upper Cretaceous Peedee Formation which is exposed as a lime-rich rock along the channel bed and riverbank in several locations throughout the

middle and lower Coastal Plain areas. This geologic unit is buried below a complex and interlayered mix of marine and fluvial terrace deposits; however, incision along the river valley exposes the otherwise buried Peedee Formation. The Peedee Formation contains an abundance of Mesozoic-aged oyster fossils (*Exogyra costata*) where the river is eroding into this Cretaceous age bedrock. Several outcrops of Peedee Formation occur along the Lynches River scenic trail, and during low flows are ideal locations for fossil collection. Such localities are marked as points of interest on the guide map section of this book.

Lynches River Valley and Flood Plain Geomorphology

The present day Lynches River valley and modern flood plain were deposited over the last 1.8 million years during the Pleistocene and Holocene Epochs of the Quaternary Period. Many of the older geomorphic valley features, such as river terraces, riverine dunes and oxbow lakes are Pleistocene to early-Holocene age. The modern flood plain is the relatively flat landform immediately adjacent to the channel that is directly influenced by modern flood processes either through active sedimentation or hydrologic connectivity to the river. Modern flood-plain deposits of the Lynches River, deposited over the late-Quaternary period, can be described as a mosaic of landform features, including pointbars, cutbanks, abandoned meanders, sloughs, natural levees and backswamps. This mosaic of flood plain features supports a unique riparian ecosystem that contains a diversity of plant and animal communities, each adapted to specific geomorphic and hydrologic conditions. This diverse relationship is necessary to maintain the physical and biological integrity of flood-plain ecosystems such as the Lynches River. A short definition for common Lynches River flood-plain landforms is listed below; however, many of these features are identified and described in greater detail in the guide map section.

Flood plain deposits consist primarily of mineral-rich alluvial sediments deposited on a flood plain by flowing water. Flood plains may also contain organic-rich peat deposits, which are accumulations of decayed leaf litter and other vegetation debris. Alluvial sediments are the product of weathering, erosion and transportation of soil and sediments from the surrounding landscape. Such sediments are transported downstream from their origin and deposited in the river valley. Once deposited, alluvial sediments are temporarily stored, remobilized and transported further downstream. In general terms, the particle size of sediments decreases with increasing transport distance,

and the volume of sediments transported increases downstream. On the Lynches River, the upper reaches contain coarse gravel and sand-sized sediments and fewer flood plain deposits, while the lower reaches contain fine sand, silt- and clay-sized sediments and more extensive flood plain deposits. Flood plains may also contain organic peat deposits, which are accumulations of leaf litter and other vegetation debris. Organic-rich deposits often form in semi-permanently flooded areas, such as oxbows or back swamps within the flood plain.

River Terraces are older, higher elevation, abandoned flood-plain deposits that represent previous environmental conditions. The modern river and flood plain are often carved into older river terraces, and it is common for the older terraces to form the boundary of the active flood plain. River channels erode and cut downwards into their former flood-plain deposits, forming abandoned river terraces for a variety of reasons. In the Lynches River valley, river terrace abandonment is likely tied to a combination of processes including tectonic uplift, river slope and base-level adjustments related to sea-level changes and climate change. The time scale of these processes ranges from a hundred years to hundreds of thousands of years. River terraces are often sandy, well-drained deposits that frequently support upland pine assemblages.

Cutbanks are erosional features that form along the outer convex margin of meander bends. Cutbanks are steep erosional, collapse structures formed by the lateral movement of the channel as it migrates across the flood plain. The erosive action of the river's flow undercuts the cutbank below or near the mean waterline, and the surface deposits slump into the river under the force of gravity. Flood-plain sediments eroded from the cutbank are deposited on pointbars downstream of the eroding cutbank. Cutbanks are interesting ecological niches. Within the river channel, catfish often swim into underwater dens hollowed out in the cutbank where they rest. Above the water line, riparian birds, including kingfishers, nest in burrowed cavities within the cutbank, and can be observed flying into and out of small holes carved into the sediments.

Pointbars are concave, depositional landforms opposite to the eroding cutbanks and are generally formed from sediments eroded from upstream cutbanks. Pointbars are typically composed of gravel, sand, silt and clay deposits that form arcuate meander-scroll, ridge and swale topography that increases in height away from the river. Meander-scroll

topography is an undulating pattern of ridge and swale features that form in concert with the forward-advancing pointbar surface. The ridges are often occupied by trees and the swales are often void of vegetation. Pointbars are topographically low features which flood frequently, supporting specific flood-tolerant plants such as willow, red maple and water elm.

Natural levees are depositional landforms formed from the vertical accumulation of sediments deposited during flood events. Natural levees form topographically higher flood plain surfaces adjacent to the river channel consisting of stratified, well-sorted sand, silt and clay. The deposits of natural levees are thickest and coarsest close to the channel, becoming progressively thinner and finer away from the channel. Natural levees do not flood very frequently and often contain less flood-tolerant hardwoods such as sweet gums, sugar hackberry and a variety of oaks.

Abandoned meanders form when a meander bend is cut off from the main river and abandoned in the flood plain. Abandoned meanders can be observed in various stages of formation and range from oxbow lakes to paleo-channels completely filled by alluvial deposits. Location, orientation, proximity to the active channel and hydrologic connectivity of the active channel to ground water all affect the rate at which abandoned meanders fill with mineral and organic sediment deposits. In some cases, abandoned meanders can persist in the flood plain for hundreds to thousands of years if they are isolated from the active channel but receive recharge from ground water. Many of the abandoned meanders in the lower Lynches River flood plain exhibit these characteristics and thus are preserved as oxbow lakes. Abandoned meanders generally contain moist, hydric soils which flood frequently, and thus support flood-tolerant forests dominated by cypress and swamp tupelo.

Yazoo streams are tributaries that enter the flood plain but the natural levee prevents them from flowing into the river. As a result, the yazoo tributary flows parallel to the main river before reaching a breach in the levee or occupying the course of an abandoned meander that allows the stream to cross the levee deposits and drain into the river.

Sloughs and guts are colloquial terms for describing various flow paths through a flood plain. Sloughs and guts may or may not contain water year-round but are often flooded seasonally or during high flow

events. These features may be local topographic depressions present during the final stages of abandoned meander infilling, or they may be segments of former yazoo streams. Sloughs and guts are often lined along either bank with flood-tolerant trees such as cypress and swamp tupelo. During high flows, sloughs and guts are important pathways for fish to migrate onto the flood plain and spawn in the various flood-plain lakes.

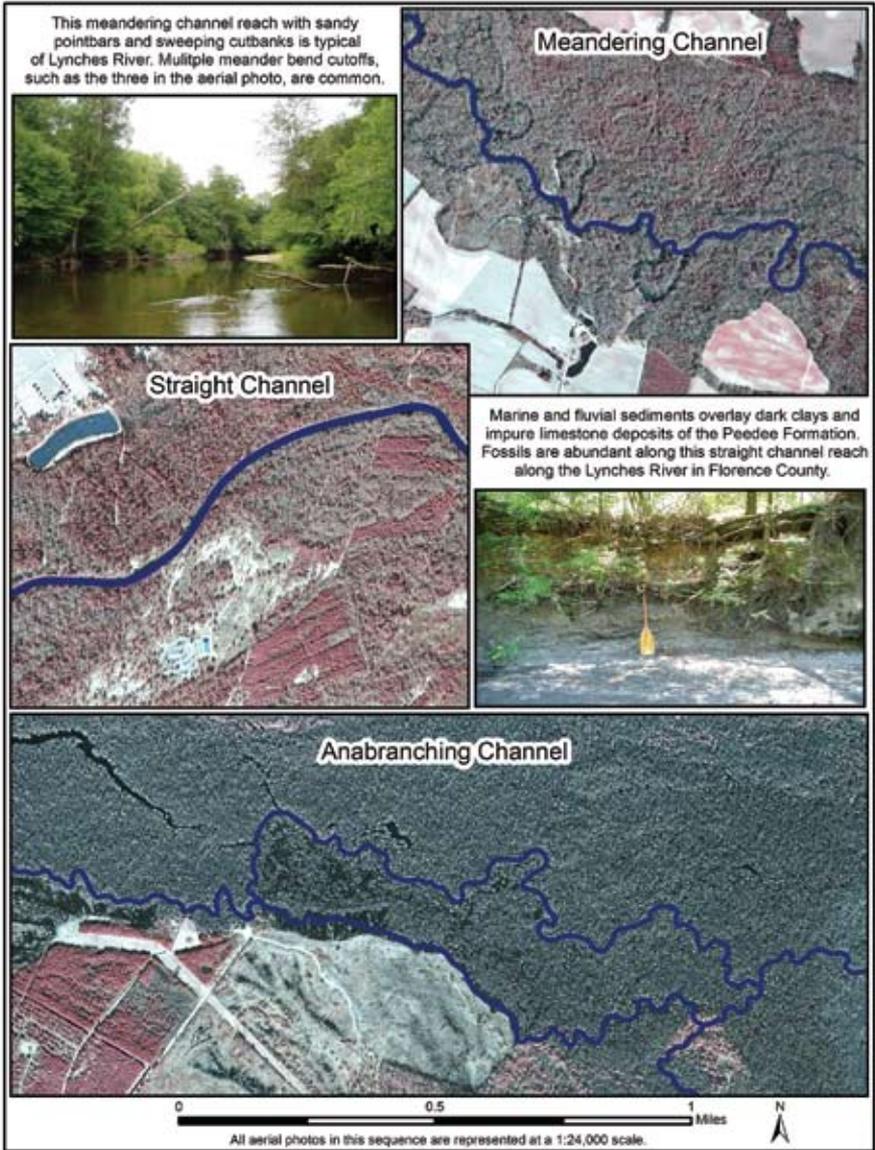
Backswamps are topographically low-lying areas of the flood plain beyond the natural levee deposits. Backswamps contain the finest textured flood-plain deposits and may even develop organic-rich soils from the forest litter. They commonly form at the margins or edges of the flood plain, and are usually influenced by connections to the ground water. Oxbow lakes commonly occur as permanent waterbodies in backswamp environments because of their connection to ground water.

Riverine Sand Dunes are unique aeolian depositional features that rise 10-30 feet above the flood plain and are composed of thick homogenous (uniform) deposits of well-sorted fine to coarse sands, often sourced from the river bed and surrounding landscape. Most dune ridges are oriented from the northwest to southeast, and in many cases they parallel river channels. Their orientation and shape suggest that most are transverse dunes formed by prevailing southwest-northeast winds that blew over this landscape 15,000-30,000 years ago when the valley was a barren environment, much colder than today. Similar sand dunes occur in river valleys throughout the Carolinas and Georgia.

Lynches River Channel Classification

The channel form of the Lynches River varies throughout the basin and includes three basic channel types: meandering, anabranching and straight (see figure on page 21). The Lynches River is classified primarily as a meandering channel, meaning that river flow is confined to a single channel that migrates laterally within the flood-plain valley. This lateral migration process, known as meandering, is responsible for the creation and maintenance of depositional point bars on the inner-concave side of the meander bend and erosional cut banks on the outer-convex side of the meander bend. During low-water flows, the point bar deposits provide ideal places for picnicking or overnight camping.

Between extensive stretches of meandering channel, short segments of the Lynches River are classified as anabranching channel. In anabranching streams, discharge in the river is divided among



Aerial photo examples of the different channel classifications.

channel segments, often forming figure-eight patterns that flow around semipermanent, forested islands. Overnight paddlers may find these midchannel islands to be ideal camping spots because they are often higher elevation surfaces than point bars and less likely to flood should the river rise suddenly.

In addition to meandering and anabranching channel types, one reach of the Lynches River is classified as a straight channel. This segment occurs near the boundary between the middle and lower Coastal Plain where the Lynches River is incised below the middle Coastal Plain deposits and into the older Peedee Formation that makes up portions of the upper Coastal Plain.

Along this segment, the Lynches River is geologically controlled by a large bend that follows an abrupt north-northeast trend before turning back to the southeast. In this location, the river channel is confined by the Peedee Formation, which crops out as a limestone rock along both sides of the river and the channel bed. Numerous fossilized oyster shells (*Exogyra costata*) are weathered from the Peedee Formation and are found perched along limestone rock ledges jutting into the river channel. Immediately upstream and downstream of this unique straight reach, the Lynches River is classified as meandering.

The entire length of the river, from the headwaters to its confluence with the Great Pee Dee River, contains multiple, active meander-bend cutoffs in various stages of infilling. The channel also contains numerous coarse woody debris snags or logjams, commonly referred to by paddlers as “strainers,” that interfere with water flowing in the channel. These obstacles add to the challenge of swiftly-flowing water and may require rapid decision-making regarding the best navigable float paths. The Lynches River should be approached with caution. It is a very dynamic and unpredictable river and the flow conditions can change rapidly. The description below provides a brief summary of river channel and flow characteristics for the scenic-designated river section of the Lynches River.

Upper Reaches of Scenic Lynches River

The upper reaches of the Scenic Lynches River section are characterized by a narrow channel with a steep gradient and swiftly-flowing water around sinuous meander bends. The flow is characteristic of a brown-water, sediment-laden discharge that is muddy and chocolate milk-colored following rainfall events, but otherwise relatively transparent in low-water conditions. The channel is primarily meandering with occasional anabranching segments. The flood plain is narrow, and the channel and pointbar sediments are primarily composed of coarse sand, gravel and cobble deposits. The river channel contains a lot of coarse woody debris, but navigation or portage around strainers is very possible.

Middle Reaches of Scenic Lynches River

The middle reaches of the basin contain a combination of alternating river segments that range from wide and shallow channels to highly-sinuuous, narrow and deep channels. The channel form alternates between meandering and anabranching, containing numerous meander bend cut-offs in various stages of infilling. Pointbars along the middle segment are primarily composed of coarse- to medium-sized sands; however, in the vicinity of a recent meander-bend cutoff, the pointbar may contain extensive gravel deposits as a result of the steepened gradient and shortened channel reach. This reach also contains numerous strainers and should be navigated with caution.

Lower Reaches of Scenic Lynches River

The lower reaches of the Lynches River exhibit a flooded, swamp-like setting with a shallow, narrow black-water channel that anabranches into multiple channels around semi-permanent forested islands. Along some segments, the Lynches River flows through older oxbow lakes (paleochannels), and the river is wide, deep and slow moving. The flood plain is wide, relatively flat and contains numerous yazoo streams, sloughs, guts and paleo-channels formed by former courses of the Lynches River and its tributaries. Paddlers can become disoriented in this section because it contains multiple stream networks in the flood plain that flow both into and out of the Lynches River. Pay close attention to the maps and be aware of your geographic location at all times in this section. The channel bed contains medium- to course-grained sands, with occasional clayey slack-water deposits. Paddlers wishing to take a swim in this section will notice that their feet and legs sink into the mucky bed materials of the channel in many locations.

Lynches River and Great Pee Dee River Confluence

The confluence area of the Lynches River with the Great Pee Dee River is unlike any other part of the Lynches River Basin. The channel and flood-plain geomorphology create a complex network of distributary channels that provide multiple paths for Lynches River discharge to flow into the Great Pee Dee River. Viewed from above, the confluence area is reminiscent of a delta-like pattern with multiple, divergent flow paths. Paddlers have the option to choose multiple courses through the confluence area. During high-water flows on the Great Pee Dee River, discharge from the Great Pee Dee River back-floods upstream into the Lynches River, creating localized flow reversals in the confluence area. This complex flow pattern creates massive log

jams, filled with all types of natural and artificial debris, hundreds of feet wide and tens of feet thick in the vicinity of the confluence. This area should be approached with extreme caution as there is potential for paddlers to get lost or stranded by changing flow conditions.

For more information on the geology and geomorphology of the Lynch River Basin, please contact the South Carolina Geological Survey, a division of the South Carolina Department of Natural Resources (www.dnr.sc.gov/geology).

Flora

Flora Species

The vegetative communities of the Lynch River and adjacent land are typical of brownwater/blackwater rivers and flood-plain swamplands of the Coastal Plain in South Carolina. The natural communities with high resource value include cypress-gum swamps, bottom-land hardwood forests and fluvial sand ridge communities. The



Confluence of Clark's Creek and Muddy Creek

dominant trees along the river's edge, in oxbow lakes and sloughs and throughout the adjacent swamps, are bald cypress and tupelo. Other common species along the river include red maple, sycamore, sweetgum, black gum, overcup oak, water oak, laurel oak, water hickory, American holly and green ash. Loblolly pine occurs on some of the higher banks and along older river terraces and sand dune ridges found within the river's floodplain. These very sparse but picturesque habitats are home to trees and shrubs not usually associated with flood plains and include longleaf pine, turkey, live and post oaks and low bush blueberries. River birch trees overhanging the water and black willow trees along exposed sandbars are common views along the Lynch River.

Aquatic Invasive Species

Problems with aquatic invasive species are caused primarily by boaters and fishermen who unknowingly spread invasive aquatic plants and animals from one waterbody to another. Aquatic invasive species also are spread by homeowners who dispose of water garden and aquarium plants or animals in public waters and private ponds. You can help control the spread of invasive aquatic species by doing the following:



STOP AQUATIC HITCHHIKERS!

Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net

When you leave a body of water:

- Remove any visible mud, plants, fish or animals before transporting boats or equipment.
- Discharge water from any type of equipment before transporting.
- Clean and dry anything that comes into contact with water (boats, trailers, equipment, clothing, dogs, etc.).
- Never release plants, fish or animals into a body of water unless they came out of that body of water. Please do not empty the water from your live well into the river.
- Report aquatic weed problems in public waters to the Aquatic Nuisance Species Program via email: Invasiveweeds@dnr.sc.gov or phone: SCDNR (1-803-755-2872).

Aquatic invasive species of the Lynch River include:



Alligatorweed (*Alternanthera philoxeroides*)



Water hyacinth (*Ludwigia uruguayensis*)

Water primrose (*Eichhornia crassipes*)



Fauna

Aquatic Species

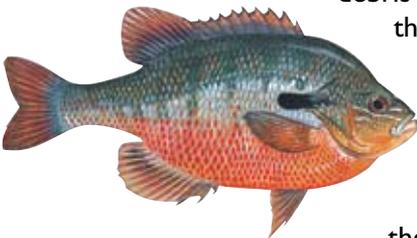
The Lynches River corridor provides a unique blend of high quality Coastal Plain, Piedmont and Sandhills fish habitats that sustain a rich diversity of fish species. The Lynches River supports five species of diadromous fishes (American shad, American eel, striped bass, hickory shad and blueback herring) which migrate between freshwater and saltwater habitats for the purpose of spawning. Additionally, several other species are undocumented in the Lynches, but confirmed from the Great Pee Dee River near its confluence with the Lynches. For example, the shortnose sturgeon, a federally-endangered species that inhabits coastal rivers of South Carolina, occurs, as well as Atlantic sturgeon. Both species are of state concern. The Lynches harbors one of the best populations of thinlip chub, which is rare and restricted to a half-dozen streams in the Carolinas. The equally or more rare broadtail madtom may also be in the Lynches River.



American Shad

Along portions of the Lynches River, shad nets hang from poles and wires that stretch across the river channel. The season to catch shad is from February through April. Historically, American shad and hickory shad landings were on the magnitude of several thousand pounds, but have decreased over time. Natural resource agencies are collecting data that may be used to address declining populations in South Carolina's rivers. At one point along the river, wires may be seen across the river as well as poles on either side of the river awaiting nets to be placed during the shad season.

The Lynches River also provides a distinctive recreational angling experience due to its high quality fish habitat such as forested riparian zones, undercut streambanks, large woody debris and the lack of impoundments. Of the 14 species harvested by anglers, redbreast sunfish and bluegill are the most abundant. Channel catfish and largemouth bass are not as numerically abundant, but comprise an important portion of the recreational harvest by anglers.



Redbreast Sunfish

Flathead catfish are found between US Highway 401 and the confluence with the Great Pee Dee River. Five species of catfish occur in significantly lower numbers in the lower reaches of the Lynches River. Other fish occurring in the Lynches River include fieryblack shiner, redbreast sunfish, silver redhorse, brassy jumprock and whitefin shiner.



Flathead Catfish

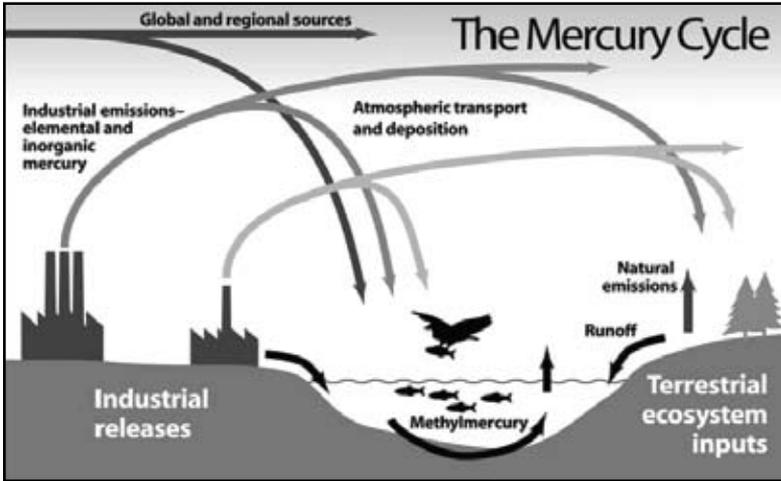
Fish and Mercury Contamination

The South Carolina Department of Health and Environmental Control (SCDHEC) has recorded elevated mercury levels in some species of fish collected from the Lynches River. Elevated tissue mercury in seafood is of worldwide concern and levels in fishes of the Coastal Plain of the Southeast are high enough to warrant consumption advisories. Mercury can be released into the atmosphere by natural causes, such as volcanic eruptions and forest fires, or human-made causes such as the burning of fossil fuels. Once released into the atmosphere, mercury can travel far from its source and return to earth in precipitation where it can contaminate waterbodies and the

landscape. Biological and chemical processes in certain types of waterbodies can transform inorganic mercury to methyl-mercury. This form of mercury can bioaccumulate in fish tissue, meaning that the amount of mercury increases in progressively larger predators up the natural food chain. Large predatory fishes, such as largemouth bass and bowfin, have higher levels of tissue mercury than smaller pan fish. Conditions such as low pH and high levels of organic matter make many southeastern Coastal Plain rivers efficient at converting inorganic mercury to



methyl-mercury. SCDHEC tests fishes every year and releases an annual consumption advisory. For more information on this issue, see the SCDHEC website (www.scdhec.gov/fish).



Terrestrial Species

The Lynch River supports many mammal species such as river otters and beavers. Signs of their activity can be seen along the river by viewing mud slides for the otter and tree or root dens for the beaver. Many dens are piled up twigs and logs behind a tree root along the edge of the river. White-tailed deer, grey squirrels and foxes can be seen along the edges of the river. When camping, take care not to leave food where raccoons, opossums or black bears can wonder off with it during the night. Also while camping along the river, you may see bats fly up and down the river corridor in search of moths and mosquitoes. Some bat species that occur here include Seminole bats, southeastern myotis, big brown bats and eastern pipistrelles.

Boaters may see brown water snakes or banded water snakes sunning in low-hanging bushes or glimpse a water moccasin in a clump of emergent aquatic vegetation. Be careful gathering firewood when you camp along the river as copperhead snakes may lie in wait for a mouse in



the leaf litter near dead wood. Many species of lizards, snakes and frogs live in the bottomland forests and wetlands that lie along the Lynches River. Observing these species may be difficult while boating, but they can be seen occasionally, either running up a tree trunk (lizards) or hopping in the water (frogs). One may see the Eastern fox squirrel or the river horn snail, both of which are species of state concern.

Alligators occur along the Lynches River, but they are shy and will avoid boaters if they can. During courtship and breeding, from April to May, alligators prefer open waters. During the remainder of the year, males prefer open and deep waters while females seek out nesting habitat in secluded areas with shallow water and heavy vegetation.



Avian Species

Most of the lands adjacent to the river are privately owned and maintained as large parcels of contiguous flood-plain forest, which results in less fragmentation and improved wildlife habitat. Wood ducks thrive in the wooded flood plain and inhabit the area year-round. The American black duck, mallard, green-winged teal, ring-necked duck and hooded merganser are all winter residents. Other winter bird species that can be observed along the river include the American woodcock, Swainson's warbler, wood thrush and the white-throated sparrow. During the spring and summer, keep an eye out for these warblers: Kentucky, prothonotary and worm-eating. One can also see the yellow-billed cuckoo, the red-eyed and white-eyed vireo. Ruby-throated hummingbirds are usually heard instead of seen as they drink from the trumpet and cross vines; they commonly nest in bottomlands. Birds of prey that might be seen or heard include the red-shouldered hawk, red-tailed hawk, osprey, bald eagle and Mississippi kite, and possibly the swallow-tailed kite. Owls are also seen and heard along the Lynchs, and the most common owls are the barred, great horned and eastern screech owl. In the upland longleaf pine forests along the Lynchs River, one may glimpse the federally-endangered red-cockaded woodpecker. You will hear and see the large pileated woodpecker. Wading birds such as the great blue heron, the great egret and others are a common site. As you travel, you may want to use the check list on pages 31-36 to record the wildlife you see and hear.



Great blue heron



Wood duck



Snowy egret



Barred owl



Swallow-tailed kite



Prothonotary warbler