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THE LAKE

As Facilities Improve, Its Condition Declines

Framed by moss draped trees, White Lake, filling one of Bladen County's bays, is a sparkling jewel fashioned in the earth. However, changes within this clear, sparkling lake and along the shore have concerned people who love the lake and have an economic interest in it.

As man-made facilities for using White Lake have advanced, the condition of the lake has declined. Each alteration made by man has acted upon the environment of the natural spring-fed lake, which inherently is crystal clear and supportive of plant and wildlife.

THE CHANGES
The two obvious changes

This is the first of a two-part package on White Lake written by long-time lake resident Helen Sharpe. The stories, which analyze government reports and other studies of the lake, include some opinion of the writer. Dissenting opinions can be sent to The Journal as letters to the editor.

are the lower water level and pollution in the water and at the shoreline. This past spring the lake was 23½ inches below the mean high water level. In other words, it lacked about two feet of being full. When it is full, additional water drains into two channels on the northwest side of the lake.

For a lake with a maximum depth of 10.6 feet and an average depth of 7.5 feet, even loss of a

few inches matters. Since heavy rains in late summer the lake is up, lacking about 13 inches of being full. For this time of year it is some 9 inches below normal height.

Lack of rainfall and extreme summer heat causing excessive evaporation can be blamed in part for the low water level.

The worrisome fact is that observers fear the springs which traditionally fed

clean, clear water into the lake no longer function, doubtless because the underground water table is lower.

POLLUTION

The pollution has to do with cloudiness of the water and fragmented vegetation mixed with peat washed ashore by the water movement. There obviously is some discharge into the lake of petroleum products, and

always the trash thrown out by people.

On a calm day the lake is like a mirror. That's when people like to fish or canoe.

The serenity often is broken when high-powered boats roar through the relatively shallow waters pulling skiers. These boats direct a tremendous amount of thrust toward the bottom, stirring up clouds of peat, and breaking up water plants.

The uprooted sediment and plant life become unsightly debris which is washed ashore by wave motion.

Where little children used to spend their days playing, splashing in the water and digging the white sand, often can be found black, unpleasant smelling organic matter. The young children used to practice putting their

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Lake from Page One

heads under, and it didn't matter if they got a mouthful of water. Because the water was soft and clean, most swimmers never bothered to shower after coming out. Now adults swimming far from shore may encounter drifting plants, broken loose by the churning motors.

White Lake is most picturesque when the breezes stir the waters, and the waves roll upon the shore gently, or at other times with frothy vigor. That's when the sailboats come out, their colorful sails flung across the horizon of the tree-rimmed blue lake and sky.

Sensitivity to the life which the lake fosters can bring pleasure. Sometimes a school of fish swims past. A few lucky anglers get a good catch now and then. Little turtles, as well as the adults of the species, can be spotted coming up for air or sunning themselves on old stumps or wide cypress trunks. Ducks glide through the water, the females sometimes leading their

young. Both turtles and ducks appear to be less numerous than they once were.

Along the shore the birds continue to hold their concerts, but not as prolifically. No longer can be seen families of quail marching through the trees.

The hardwoods, hollies, bays, myrtles, and most romantic of all the graceful cypress trees and knees are at home on the water's edge; except in a few places where developers have hauled in huge quantities of sand, disturbing the natural system and causing death to the shore plant life.

The poetry of this white watered semi-tropical lake lingers, and you can enjoy it a lot. Still you have to wonder, when you compare it to times past, if the lake will some day die. When you think how it was twenty or thirty years ago,

you may wonder if its demise will be soon, before your grandchildren or great grandchildren can learn a great love for the special life of a lake, playing, swimming, exploring in it.



Sewer Lines Draw Off Water

By HELEN SHARPE
A News Analysis

At White Lake the sewer system carries thousands of gallons of ground water each day to the treatment site and then to nearby Colly Creek.

During a 32-day testing period in August and September of 1979 from 2 to 12 times the amount of sewage water was treated than actually was used by the homes and businesses served by the system.

On September 12 water use was 62,700 gallons with 753,600 gallons treated. On August 21, water use was 149,800 gallons; sewage treated was 327,600. On August 27, water use was 138,700 gallons; sewage treated was 430,400.

In September, though water use declined, heavier rainfall caused the groundwater table to rise, thus increasing water flow into the system.

The lower flow data of August could indicate that the open joints in the pipes were actually allowing the flows to exfiltrate, according to a study entitled "Section 201 Wastewater Facilities Plan" prepared by F. T. Green & Associates of Wilson.

The 201 plan provides information about the condition of the sewer system at White Lake and recommendations for rehabilitation of the system, as well as proposals for improvement and expansion to meet federal standards. Pollution of Colly Creek, and ultimately of the Cape Fear River into which it flows, endangers wildlife, the study says.

PIPE JOINTS EXPOSED

Rodney Marshburn, who was mayor at the time of the study, recalled the problems caused by high groundwater during the installation of the sewer lines about 20 years ago. He said the contractors' efforts to pump water out of the trenches met with little success. With water partially covering the pipe, the hot sealer used on the joints would reach the water and gel, leaving the bottom of the joints exposed.

Marshburn recalled that flows from the system were three to five inches before the services were

connected. With so much infiltration existing after the new installation, 20 years later a far more serious condition can be expected, the study suggests.

Phyllis McKeithan, who maintained the records on a daily basis during the 1977-79 study, noted that water usage during the winter drops off sharply, while the wastewater flow remains at high levels.

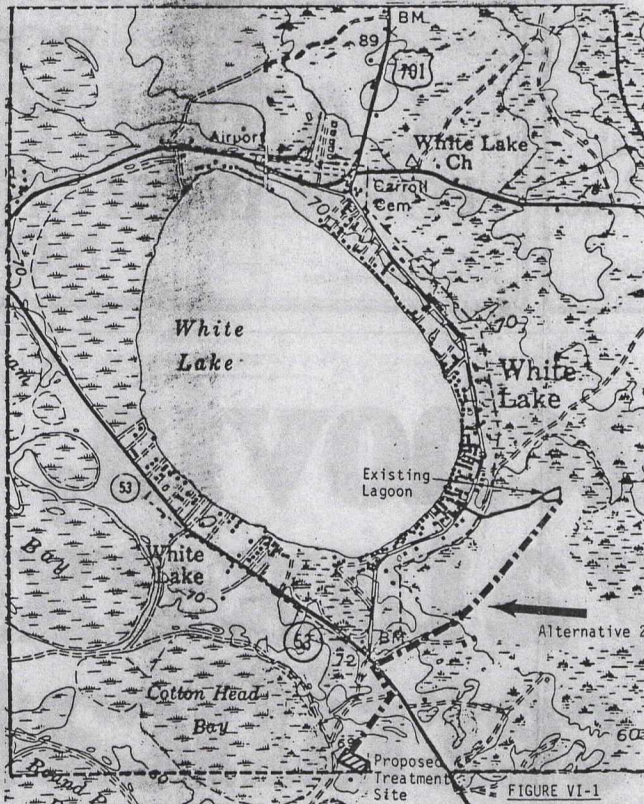
Bill Corbett, who died in August, was mayor during early efforts to obtain a sewer system. Later serving as a member of the town board, he reported that the pipes were not being correctly joined and recalled becoming angry to the point of resigning from the board.

In a conversation just weeks before his death, Corbett expressed concern that the sewer line running from the White Lake Marina to Carolina Avenue has many poorly joined pipe lengths. He worried about the thousands of gallons of groundwater being lost through this line, and believed it affects White Lake water level.

Water from this line is electrically pumped to a line on higher ground near the highway, which transports the sewage water by means of gravity. Corbett was disturbed about the cost to the taxpayers of electricity used to pump the infiltrated groundwater.

In addition to groundwater flow through the main sewer lines, sand and groundwater infiltrate into manholes and sewer connections to homes and businesses. The 201 report states some of the manholes remain flooded at all times. For example, a manhole that should carry a flow of one to two inches will have flows up to five inches.

Testing of the sewer system still is in process. Rehabilitation, the end goal, should have considerable effect on conservation of groundwater. However, since a high percent of the sewer mains are below the groundwater table, inflow of groundwater is expected to remain a problem, the study indicates.



Proposed plan for improved sewer system from "201 Wastewater Facilities Plan" by F. T. Green & Associates of Wilson.

Alternative 2

White Lake 201 Facility Planning Area

The preliminary cost estimate of White Lake sewer rehabilitation is \$327,375. This is only part of the cost estimate for the wastewater facilities proposal now in the works. The sewer rehabilitation was scheduled to be completed in 1984, but the Reagan budget may cut or reduce expected federal funding.

In the meantime the wastewater system will continue to transport thousands of gallons daily out of the ground, the loss of which probably affects the lake. The relationship between the White Lake sewer system and the lake itself is just one example of man-made agencies affecting the health of the lake.

Bladen Journal
Oct. 29, 1981

Swamps Important To Lake's Welfare

Many people think extensive drainage in the area has contributed to lower water level in White Lake during the last two years. Drainage affects the groundwater table. The town also utilizes groundwater by means of deep wells.

People who know the lake no longer can find white, sandy bottomed places which marked the location of springs, and they fear the flow of spring water has stopped or is severely reduced.

Observers of White Lake environment think the underground water table and the lake water level are related, since in addition to rainfall, sources of water are lake bottom springs and probably groundwater seepage.

A current study of the White Lake area says that swamps and marshlands serve important functions the groundwater system. During heavy precipitation the swamps retain a certain amount of water not immediately absorbed and continuously keep the groundwater system recharged.

Despite the need for swamps at White Lake, surrounding land that

once was swampy is being drained by ditches and filled with hauled-in dirt. The canals carry the water to Colly Creek which empties into Black River, a tributary of the Cape Fear.

Examples of loss of lowlands are numerous: Some years ago Tilden Walker of Fayetteville filled in land on the north side of the lake, and he recently has developed acreage on the northwest side in an area called Watergate.

Timberlodge Swamp, formerly Melvin Swamp, where Clearwater Campgrounds are located, was filled with earth to provide suitable sites. Additional clearing and filling is in process there now.

Across the road from Clearwater is a catch basin and tiled drain constructed by the state to carry water to the Colly Creek system. This was meant to tie in with drainage at Clearwater which was never installed because a local citizen called attention to a statute which prohibits cutting a ditch below 66.2 feet above sea level on the lake side of the road. The facility across from

Clearwater drains both surface water and groundwater.

On Carolina Avenue, at a campsite across the road from the lake, additional drainage ditches carry water from land traditionally marshy and swampy. Even deeper channels located behind the now empty Quick-Way Foods and across from Silver Sands Motel drain the land.

RAINFALL RUNOFF

Around the lake development continues, with the hauling in of dirt, the construction of roadways, paving, and new buildings. All of this construction covers earth which once absorbed rainfall.

The rainfall rapidly runs off the pavement and buildings into drainage systems. It is gone forever, except what little bit comes back in rain clouds developed by evaporation from the bodies of water into which the systems eventually drain.

Drainage construction is not only in the immediate environs of the lake. Within 10 miles near N.C. 53 in an area called Lagoon and in the vicinity of N.C. 41 near Bay Tree Lake, farming enterprises have installed extensive drainage systems.

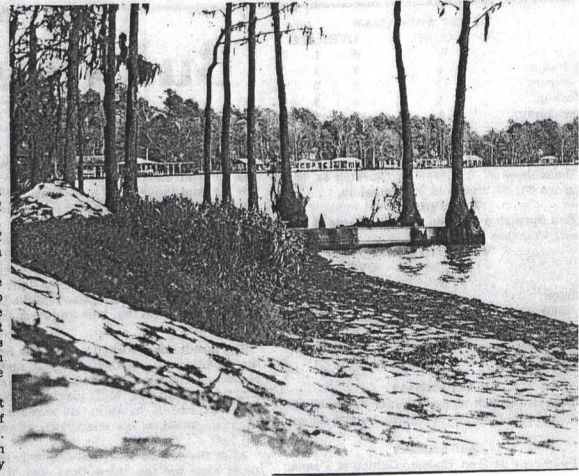
DEEP WELLS

In addition to the effect of drainage on groundwater, most Bladen County residents obtain their water from ground sources. For example, the Town of White Lake utilizes two deep wells to fill a 75,000 gallon elevated storage tank. Of course, after the water is used it is collected in the wastewater disposal system and eventually ends up in the streams.

In the water section of North Carolina's Environment, 1981 Report, from the Department of Natural Resources and Community Development, it is stated that groundwater is the principal source for municipal supplies on the coastal plain. "Once withdrawn, however, groundwater is replaced very slowly," the report says.

There is a tremendous amount of surface water in Bladen County which, if used for commercial and residential purposes, could be recycled. In fact, so much water has been available that it is doubtful anyone ever thought a lower water table might endanger White Lake.

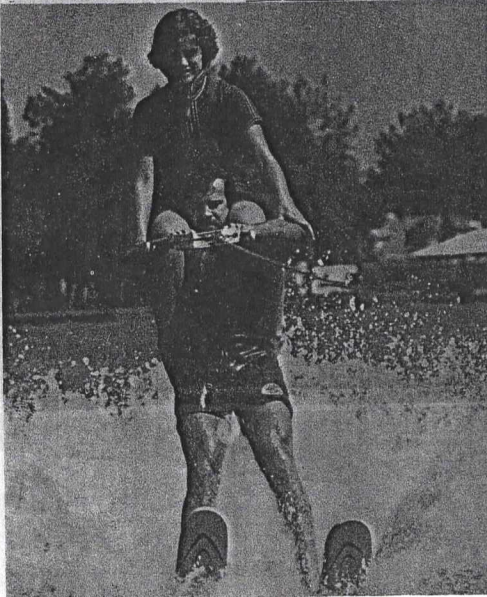
Numerous swamps and streams feed into the, the Cape Fear River and the Black River. In addition, there are the lakes and bays, the most well known of which is White



Lake. Overall there are more than 10,000 acres of existing waters, including 200 miles of rivers and 250 miles of creek banks.

Obviously, less rainfall during the past several seasons has influenced White Lake's water level. Also, drainage of lowlands, extensive use of groundwater, and rapid runoff of rainfall contribute in varying degrees to the present lake environment.

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