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Bob Brown checks oxygen content of water in a recent test.

Photo by Mark Hannan

Water quality still high at lake

By SABIAN WARREN
News Herald Staff Writer

Not so long ago, area residents tell of quenching their thirst by drinking straight from Lake James, so pure was the water.

Few visitors to the lake today would think of drinking from it, but the water is still exceptionally clean. Water quality studies consistently show that Lake James is far and away the cleanest impoundment on the Catawba River chain. "Lake James is an incredible resource," said Darlene Kucken, a water quality specialist with the N.C. Division of Water Quality. "I would hope the local governments would recognize that and maintain the quality of the lake."

Experts say the reasons for the lake's purity are obvious: Lake

James is the uppermost impoundment in the Duke Energy system of lakes, fed by cold, clear streams that originate in the Blue Ridge Mountains. Much of the land along those streams is made up of dense mountain forests untouched by development.

"There are a lot of areas above

it that are protected," said Kucken. And most of the shoreline of the lake itself is still undisturbed, a factor that greatly aids water quality, officials say. Development definitely can impact water quality.

"As you get a lot of development along the shoreline, there's a potential of degrading the resource that attracted people to it to begin with," Kucken said.

One obvious sign of Lake James' purity is its clarity; the lake is startlingly clear. A look over the side of a pier in 10 feet of water, for example, can reveal the bottom in remarkable detail.

Because of its purity and rela-

At The Crossroads Lake James

tive coldness, Lake James is the only impoundment on the Catawba River that supports populations of smallmouth bass, walleye and trout, making it unique from a fisheries standpoint, fisheries biologists say.

Water quality monitoring is an ongoing process on Lake James and throughout the Catawba River basin. The Division of Water Quality, Western Piedmont Council of Governments and Duke Energy regularly conduct tests to gauge the health of the streams and lakes in the basin.

As expected, the tests show Lake James is easily the cleanest lake around. A study earlier this year by the Council of Governments found only small traces of fecal coliform bacteria. All the other lakes in the chain had considerably higher levels of the harmful bacteria.

Samples were taken at Lake

James State Park and at the Linville Access Area. At the state park, 9 colonies per 100 milliliters of water were measured, while at the access area there were 6 colonies.

Under state standards, anything under 200 colonies per 100 milliliters is considered acceptable.

Downstream, levels of the bacteria were generally much higher, in some areas measuring up to 515 colonies, well above the acceptable level.

High levels of fecal coliform are often an indicator of the presence of other types of pollutants.

"If the bacteria levels are consistently high, it's an indication that you probably have other problems in a body of water," said Mike Struve, water quality administrator with the Council of Governments.

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from human and animal waste and can pose health hazards in high enough concentrations. Ailments may include diarrhea, ear infections and skin sores.

The bacteria enters streams and lakes from livestock operations, urban runoff, failed septic tanks, malfunctioning waste treatment plants and even from wildlife (a large flock of geese, for example). There are other types of pollutants as well, and most are attributed to "nonpoint" sources — agricultural runoff, construction activities and urban stormwater runoff. Sedimentation is the most widespread cause of pollution, officials said.

"Sediment is the most problematic pollutant not only in this region but across the state," Struve said.

Lake James is relatively free of sediment compared with other lakes in the chain, hence the clarity of the water.

High sedimentation can drive up treatment costs for drinking water and harm fisheries. Sediment, which comes from timber and agricultural operations and construction, also serves as a carrier for other undesirable pollutants.

Other pollutants include nutrients like phosphorus and nitrogen, which comes largely from animal waste and fertilizers. Too much phosphorus and nitrogen can cause an overabundance of algae, which depletes water of oxygen.

Lake James has very low levels of harmful nutrients, Kucken said, particularly the Linville arm of the lake.

When waterfront development does occur, it's extremely important to maintain natural buffers between construction and the