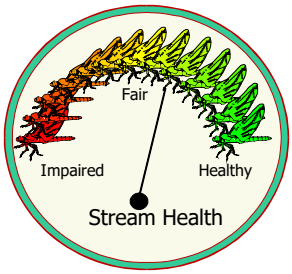


EcoSummary

Ichetucknee River
05/09/00



Chemistry Only

Background

The Ichetucknee River is the county line between southwest Columbia and southeast Suwannee Counties and joins with the Santa Fe River at the Gilchrist County line (see Figure 1). This Floridan Aquifer-dominated system is known for its recreational and aesthetic qualities.

In 1996, a baseline study was conducted to document water quality conditions in the Ichetucknee River. On May 9, 2000, the Ichetucknee River was sampled at eight locations for nitrate-nitrite, total phosphorus, metals, and organic pollutants for comparison with previous data. The sampling locations were: Blue Hole Spring, Cedar Head Spring, Coffee Spring, Devil's Eye, Grassy Hole Spring, Ichetucknee Head Spring, Mill Pond Spring, and Mission Spring. Coffee Spring site was sampled twice for duplicate testing.

Results

Nitrate-nitrite concentrations were higher than those found in 80% of other Florida streams at all eight sites sampled; see Figure 2. NO_3-NO_2 concentrations found at Ichetucknee Head Spring and Blue Hole Spring were slightly but not significantly higher than levels found at those two sites during the 1996 sampling event. A trend toward increased nitrate-nitrite levels in springs is generally associated with nutrient enrichment (e.g. fertilizer application) in recharge areas. Total phosphorus values were at or lower than concentrations typically found in 30% of other Florida streams at all eight sites; see Figure 3. TP values for Ichetucknee Head Spring and Blue Hole Spring were slightly higher than were found in early 1996. There were no standards exceedances for metals detected at any of the locations in this sampling event.

There was only one organic pollutant detected across all eight sites; a trace amount of hexazinone (0.035 µg/L) was detected in the sample collected at Ichetucknee Head Spring. This concentration was below the quantitation limit for the low level detection method that was used. Hexazinone is an organo-nitrogen pesticide that is used for the removal of weeds and woody plants in non-cropland areas. The level detected was below the groundwater guidance concentration of 231 µg/L by four orders of magnitude. Thus, the detection of a trace amount of hexazinone at Ichetucknee Head Spring was not cause for ecological concern, nor was it a threat to human health. It does, however, illustrate the susceptibility of the springs to contaminants from surrounding areas.

Figure 1: Overview Map of the Ichetucknee River Area



Figure 2: Nitrate-Nitrite Concentrations

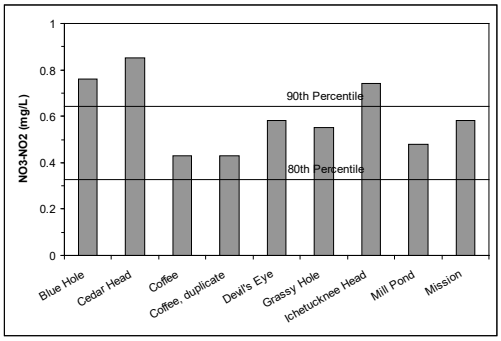
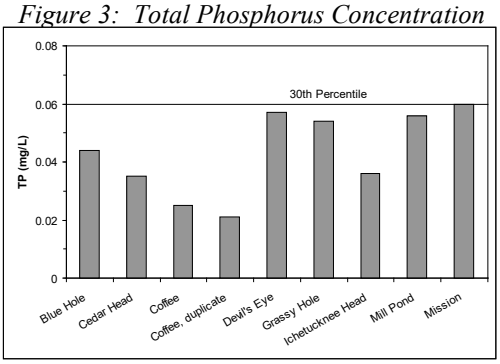


Figure 3: Total Phosphorus Concentration



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