

"When they learn the facts as they are, the people of Polk County will really raise hell."

From his home on the hillside leading to Bok Tower, Johnson pointed a finger towards Big Lake Wales, outlining where the water line of the beautiful body of water used to be—"it has fallen 10 feet in the past 7 years."

"When Dick Pope starts water skiing on mud flats at Cypress Gardens, we will have something done," the engineer commented.

Johnson conceded that his views on the ultimate disappearance of the lakes of Polk would shock the people, but he said the time has come when the people need to be shocked.

Johnson will retire on June 1 from the Peace River Basin Board of the Southwest Florida Water Management District. He has served since 1959.

Before becoming an independent consultant, he was the chief engineer for the Central and Southern Florida Flood Control District, and prior to that assignment, he was the chief engineer for the old Everglades Drainage District.

The Lake Wales water specialist isn't alone in his grave concern over Polk County's dwindling water supply.

The United States Department of the Interior Geological Survey reported this year that the water supply situation in Imperial Polk is the most critical of any area in Florida.

In its 1968 analysis, the USGS said that the groundwater levels compared with January average levels in the Florida aquifer are 20 to 40 feet below normal.

Johnson says that the USGS report is charitable—that in actuality the groundwater levels are down 50 or more feet since 1934.

How many years of life do lakes of Lakeland and Polk have remaining before they become mud flats and sand beds?

The engineer said he could not give a precise answer. Heavy rains will lift the lake levels by several feet but in time the tables will resume their gradual decline. The rate of pumping from the underground aquifer will be the all-important factor. Tremendous gallonage is now being pumped from the underground reservoir, and the rate of consumption by industry and agriculture is rising substantially. Nature cannot replenish the aquifer as fast as the water is being pumped out.

But Johnson points out that the death process is already advanced for some lakes in Polk. He mentioned specifically Stall Lake and several smaller lakes at Alturas and Lake Bonny and Crystal Lake in the Lakeland area. He said:

"Stall Lake once was one of the most beautiful lakes in the county. The last time I was over there, several years ago, it was nothing more than a couple of mud holes. The smaller lakes are gone."

The heavy pumping of the phosphate industry is a prime reason for Johnson's contention or prediction that, without drastic conservation measures, the lakes of Lakeland and Polk in an undertermined number of years will disappear.

He said that the phosphate industry states that it uses 10 per cent "fresh" water and 90 per cent recirculated water in its mining and processing operations. "Fresh" water is water pumped from the aquifer, and Johnson says that the industry's 10 per cent figure represents 200 million gallons per day.

That's 73 billion gallons of water in a 12-month period.

Johnson notes, however, that the U.S. Bureau of Mines reports in its official publications that the phosphate industry uses 30 per cent "fresh" water in its operations.

If the federal agency is correct, the phosphate industry pumps from the underground reservoir 600 million gallons per day—219 billion gallons of water per year.

"I can't prove whether the 10 per cent or the 30 per cent figure is correct," the engineer said. "In either case that kind of pumping creates a tremendous hole in the ground."

The "hole in the ground" is the area underneath the surface which was filled with water before the advent of heavy pumping. In technical language, the hole is called a "cone of depression."

The "cone of depression" in Polk, Johnson said, was begun in the Bartow-Mulberry-Ft. Meade area. In time it extended under Greater Lakeland and then eastward to the Ridge section.

The "cone" already extends into Hardee, De Sota and Hillsborough Counties, Johnson said, and it is working its way into Northeast Polk, little affected to date because of its nearness to the Green Pond recharge area.

On the "cone of depression" existing under the citrus-rich Ridge district, Johnson pointed anew to Big Lake Wales, where the water line has far receded from its position of a decade ago.