

# Hydrology - SCWRC Report 129

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## Report on the Ground-Water Resources of Horry and Georgetown Counties, South Carolina

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### SUMMARY

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The use of ground water in the Grand Strand area has developed to a degree that it now requires coordination and regulation, and the replenishment of ground water is threatened. Therefore, it is recommended that Horry and Georgetown Counties and a section of Marion County be declared a Capacity-Use area under the provisions of the South Carolina Ground Water Use Act.

Ground-water withdrawals have caused both a regional water-level decline and the local overdevelopment of the Black Creek aquifer system. Evidence indicates that ground-water pumpage is continually increasing and similar problems are likely to occur in other areas. Provisions to well depth, spacing and design, proper testing of aquifers during test drilling, and ground-water pumpage are needed to help solve or alleviate these problems. Ground-water pumpage in a quarry has caused problems for local residents in southwestern Georgetown County. Such dewatering constitutes a ground-water use and should be subject to regulatory provisions to protect other water users against adverse effects of such operations.

The potential for saltwater encroachment and intrusion has been documented, and provisions to limit ground-water pumpage near areas of movement should be established.

Well construction and abandonment standards should be established to prevent saltwater contamination of freshwater aquifers by improperly constructed or abandoned wells.

The most troublesome chemical constituent is fluoride in ground water from the Black Creek aquifer system. Excessive concentrations of chloride and dissolved solids in ground water from the black Creek aquifer systems are troublesome problems in parts of the study area. The use of alternative aquifers or mixing ground water from shallower aquifers with ground water from the Black Creek aquifer system should be encouraged in the northeastern Grand Strand where all Black Creek aquifers contain salty water.

There appears to be no local, State, or federal law capable of providing appropriate remedies for all of the ground-water use and management problems addressed in this report. While certain voluntary and public information programs would assist in the implementation of a ground-water management program, many problems are sufficiently serious and/or regional in nature to require regulatory action.

It is recommended that a permanent field office be continued at Conway. Personnel assigned to this office will be responsible for continuing research on saltwater encroachment and other ground-water problems, data collection, information transfer, and ground-water management in Horry and Georgetown Counties. The responsibilities of this field office should be expanded to include Williamsburg and Marion Counties and southern Florence County.

Copies of this report are available in the SCDNR's Columbia office.