GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2009

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HOUSE BILL 1743*
Committee Substitute Favorable 5/26/10
Committee Substitute #2 Favorable 6/9/10
PROPOSED SENATE COMMITTEE SUBSTITUTE H1743-PCS50955-SB-99

Short Title: Improve River Basin Modeling. (Public)

Sponsors:

Referred to:

May 18, 2010

A BILL TO BE ENTITLED

AN ACT TO DIRECT THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES TO DEVELOP BASINWIDE HYDROLOGIC MODELS, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 143-350 reads as rewritten:

"**§ 143-350. Definitions.**

As used in this Article:

(1) "Commission" means the Environmental Management Commission.

(2) "Department" means the Department of Environment and Natural Resources.

(2a) "Ecological flow" means the stream flow necessary to protect ecological integrity.

(2b) "Ecological integrity" means the ability of an aquatic system to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to prevailing ecological conditions and, when subject to disruption, to recover and continue to provide the natural goods and services that normally accrue from the system.

(3) "Essential water use" means the use of water necessary for firefighting, health, and safety; water needed to sustain human and animal life; and water necessary to satisfy federal, State, and local laws for the protection of public health, safety, welfare, the environment, and natural resources; and a minimum amount of water necessary to ~~maintain~~ support and sustain the economy of the State, region, or area.

(3a) "Groundwater resource" means any water flowing or lying under the surface of the earth or contained within an aquifer.

(4) "Large community water system" means a community water system, as defined in G.S. 130A-313(10), that regularly serves 1,000 or more service connections or 3,000 or more individuals.

(4a) "Prevailing ecological conditions" means the ecological conditions determined by reference to the applicable period of record of the United States Geological Survey stream gauge data under existing conditions,

including data reflecting the ecological conditions that exist after the construction and operation of existing flow modification devices, such as dams, but excluding data collected when stream flow is temporarily affected by in-stream construction activity.

(4b) "Surface water resource" means any lake, pond, river, stream, creek, run, spring, or other water flowing or lying on the surface of the earth.

(5) "Unit of local government" means a county, city, consolidated city-county, sanitary district, or other local political subdivision or authority or agency of local government.

(6) "U.S. Drought Monitor" means the national drought map that designates areas of drought using the following categories D0-Abnormally Dry, D1-Moderate, D2-Severe, D3-Extreme, and D4-Exceptional. The U.S. Drought Monitor is developed and maintained by the Joint Agricultural Weather Facility, the Climate Prediction Center, the National Climatic Data Center, and the National Drought Mitigation Center with input from the United States Geological Survey, the National Water and Climate Center, the Climate Diagnostics Center, the National Weather Service, state climatologists, and state water resource agencies.

(7) "Water shortage emergency" means a water shortage resulting from prolonged drought, contamination of the water supply, damage to water infrastructure, or other unforeseen causes that presents an imminent threat to public health, safety, and welfare or to the environment."

SECTION 2. G.S. 143-355 is amended by adding a new subsection to read:

"(o) Basinwide Hydrologic Models. – The Department shall develop a basinwide hydrologic model for each of the 17 major river basins in the State as provided in this subsection.

(1) Schedule. – The Department shall develop a schedule for basinwide hydrologic model development. In developing the schedule, the Department shall give priority to developing hydrologic models for river basins or portions of river basins that are experiencing or are likely to experience water supply shortages, where the ecological integrity is threatened or likely to become threatened, or for which an existing hydrologic model has not been developed by the Department or other persons or entities.

(2) Model. – Each basinwide hydrologic model shall:

a. Include surface water resources within the river basin, groundwater resources within the river basin to the extent known by the Department, transfers into and out of the river basin that are required to be registered under G.S. 143-215.22H, other withdrawals, ecological flow, instream flow requirements, projections of future withdrawals, an estimate of return flows within the river basin, inflow data, local water supply plans, and other scientific and technical information the Department deems relevant.

b. Be designed to simulate the flows of each surface water resource within the basin that is identified as a source of water for a withdrawal registered under G.S. 143-215.22H in response to different variables, conditions, and scenarios. The model shall specifically be designed to predict the places, times, frequencies, and intervals at which any of the following may occur:

1. Yield may be inadequate to meet all needs.
2. Yield may be inadequate to meet all essential water uses.
3. Ecological flow may be adversely affected.

c. Be based solely on data that is of public record and open to public review and comment.

(3) Ecological flow. – The Department shall characterize the ecology in the different river basins and identify the flow necessary to maintain ecological integrity. The Department shall create a Science Advisory Board to assist the Department in characterizing the natural ecology and identifying the flow requirements. The Science Advisory Board shall include representatives from the Divisions of Water Resources and Water Quality of the Department, the North Carolina Wildlife Resources Commission, the North Carolina Marine Fisheries Commission, and the Natural Heritage Program. The Department shall also invite participation by the United States Fish and Wildlife Service; the National Marine Fisheries Service; representatives of organizations representing agriculture, forestry, manufacturing, electric public utilities, and local governments, with expertise in aquatic ecology and habitat; and other individuals or organizations with expertise in aquatic ecology and habitat. The Department shall ask the Science Advisory Board to review any report or study submitted to the Department for consideration that is relevant to characterizing the ecology of the different river basins and identifying flow requirements for maintenance of ecological integrity. The Department shall consider such other information, including site specific analyses, that either the Board or the Department considers relevant to determining ecological flow requirements.

(4) Interstate cooperation. – To the extent practicable, the Department shall work with neighboring states to develop basinwide hydrologic models for each river basin shared by North Carolina and another state.

(5) Approval and modification of hydrologic models. –

a. Upon completion of a hydrologic model, the Department shall:

1. Submit the model to the Commission for approval.
2. Publish in the North Carolina Register notice of its recommendation that the Commission approve the model and of a 60-day period for providing comment on the model.
3. Provide electronic notice to persons who have requested electronic notice of the notice published in the North Carolina Register.

b. Upon receipt of a hydrologic model, the Commission shall:

1. Receive comment on the model for the 60-day period noticed in the North Carolina Register.
2. Act on the model following the 60-day comment period.

c. The Department shall submit any significant modification to an approved hydrologic model to the Commission for review and approval under the process used for initial approval of the model.

d. A hydrologic model is not a rule and Article 2A of Chapter 150B of the General Statutes does not apply to the development of a hydrologic model.

(6) Existing hydrologic models. – The Department shall not develop a hydrologic model for a river basin for which a hydrologic model has already been developed by a person or entity other than the Department, if the Department determines that the hydrologic model meets the requirements of this subsection. The Department may adopt a hydrologic model that has been developed by another person or entity that meets the requirements of this subsection in lieu of developing a hydrologic model as required by this

subsection. The Department may make any modifications or additions to a hydrologic model developed by another person or entity that are necessary to meet the requirements of this subsection.

(7) Construction of subsection. – Nothing in this subsection shall be construed to vary any existing, or impose any additional regulatory requirements, related to water quality or water resources.

(8) Report. – The Department shall report to the Environmental Review Commission on the development of basinwide hydrologic models no later than November 1, of each year.

SECTION 3. The first report required by G.S. 143-355(o), as enacted by Section 2 of this act, is due no later than November 1, 2011.

SECTION 4. This act is effective when it becomes law.