

History of Water Conservation in Indiana

C. H. BECHERT, Indiana Department of Conservation

Before the turn of the century, water conservation in Indiana was a rather nebulous thing. The many grist and saw mills utilizing the water power of our streams and the early canals constructed to provide water transportation, in a broad sense, might be classified as conservation practices even though their prime purpose was not to conserve water. When we consider that there were more than 2200 mills in Indiana in 1840, most of which impounded water and created small ponds and lakes, we must admit that those early pioneers did use our waters wisely, which is the essence of conservation.

Attempts were made, from time to time, in the early history of our state to collect information on the state's water resources and to prohibit certain practices that would adversely effect these resources. These efforts were the forerunner to water conservation as it is understood today. Before the conservation of water can be wisely practiced, it is essential to know something about the water that is available, and any study of these resources can rightly be classed as conservation.

The earliest measurements of stream flow in Indiana were made by Captain Howard Stansbury in 1835 and river stages were recorded as far back as 1883. It was not until 1902, however, that regular discharge measurements were started by the United States Geological Survey. The earliest reports on ground waters in the state were also made by the U. S. Geological Survey. In 1899, two reports, one on the wells of northern Indiana and another on the wells of southern Indiana, both by Frank Leverett were published by the Geological Survey. Another paper by Mr. Leverett on, "Water Resources of Indiana and Ohio" was published by that Survey in its 18th Annual Report. Stephen Capps, an employee of the Geological Survey, made a survey of the ground waters of 19 counties in north central Indiana in 1907, and the results of this study were published in 1910. The 1906 report of the Indiana State Board of Health, as well as others, contain considerable information on the public ground water supplies of the State. Other scattered references to the underground water conditions of Indiana occur in the various annual reports of the Indiana Department of Geology and Natural Resources and the Indiana Academy of Science. A general state-wide report on the ground waters of Indiana was compiled by Marshall Harrell and published by the Department of Conservation in 1935.

The first legal action taken to conserve water in the state was in 1905 when the State Legislature passed a law to preserve the fresh water lakes of the state and protect them from danger of being injuriously affected or destroyed by lowering the water. This law made it unlawful for anyone to construct a drainage ditch, having a bottom

depth lower than the level of the lake, within forty rods of the lake, or to cut into or around any dam, bank or levee which might lower the waters of the lake. Prior to the completion of the dredging of the Kankakee River and the draining of the Grand Marsh in 1917, an unsuccessful effort was made by sportsmen and conservationists to prevent the loss of these thousands of acres of water.

It was not until 1919, when the law creating the Conservation Department was enacted, that water conservation, on a state wide basis, was given official recognition. This law states that the Department of Conservation shall have the power to investigate, compile and disseminate information and make recommendations concerning the natural resources of the state and their conservation including drainage, flood prevention, and development of water power, in addition to numerous other items. Two years later the Division of Engineering was created within the Department. Its chief duty, at that time, was to make surveys, investigate, compile and disseminate information and to make recommendations relative to the drainage and reclamation of lands so that conservation work could proceed more intelligently.

In 1922, one year after the Division of Engineering was established, a stream gauging program for the state was started with the establishment of 15 gauging stations. This project was carried on as one of the functions of the Division of Engineering until 1930 when an agreement was made with the Water Resources Branch of the U. S. Geological Survey to continue the work on a cooperative basis. This arrangement has continued to the present time. When the cooperative program was first started, the state's share of the program was mostly in the nature of services in lieu of cash, since no state funds had been specifically appropriated for a state-wide stream gauging program. However, in 1943 the legislature passed a law authorizing the Conservation Department to conduct a comprehensive study of the water resources of the State.

In 1935 the Division of Geology entered into an agreement with the U. S. Geological Survey to conduct a cooperative ground water investigational program in the state. Like the surface water program, this program was financed with services and whatever monies the Division could spare for that work until it was incorporated in the state study in 1943.

An examination of the annual reports for the Department from the time of its inception to the present reveal numerous activities in water conservation. As early as 1922 the Division of Engineering made a comprehensive investigation of drainage conditions of the Kankakee River Basin. A series of 165 shallow ground water wells were installed and water level data were collected for the years 1923 to 1927, inclusive. Problems relating to our natural lakes, such as the maintenance of normal water levels, relationship of lake levels to drainage of adjacent farm land, construction and operation of control dams and the protection of the natural features of the lake have been brought to the Department for solution throughout the years. The annual reports also make numerous references to the many investigations of drainage projects,

problems related to ground water and surface water supplies, stream pollution abatement and other matters pertaining to the conservation of water.

In May, 1933, the Federal Civilian Conservation Corps started a program generally called the CCC program, and the Department under its authorization immediately established camps in many of its properties to carry out conservation projects. Similar camps were established under the Resettlement Administration program. Many water conservation projects were constructed during the existence of these programs, the major ones being large artificial lakes. Eighteen lakes, varying in size from a few acres to more than eight hundred acres, were built in state parks, game preserves and forests by conservation and resettlement camp employees. Under another made work program, the Department, through the Works Progress Administration or, W.P.A. constructed hundreds of small dams in the streams of the state and fifty or sixty large artificial lakes. Before these lakes were built, the land owner was required to sign an agreement with the State and Federal Government permitting public access and use of the lakes.

During the decade before the outbreak of World War II, the public's interest in water conservation became more and more evident. Before that time, the Department experienced little difficulty in keeping pace with the demands placed upon it for assistance in this field. However, with the passage of the Water Resources Act which provided funds for the state-wide water resources investigation, the passage of Chapter 279 authorizing the Department of Conservation to establish the water level of all the natural and artificial lakes within the state, and with the passage of Chapter 292 requiring the Department to review drainage projects affecting the level of the natural lakes, all of which were enacted in 1945, water conservation work was greatly expanded. Because of these new laws and with the demand for more specific information on ground water supplies, an increase in the number of requests for technical assistance on the construction of artificial ponds and lakes, and additional legislative proposals pertaining to the state's water resources, it was deemed necessary to create a new division within the Department to administer these programs. As a result, the Division of Water Resources was created in 1945.

In 1947 the Conservation Department sponsored a bill in the legislature to conserve the ground waters of the State. This bill was passed (Chapter 154 Acts 1947) and it marked the first attempt in Indiana to control any of the state's water resources by statute. Previously, common law prevailed in Indiana as far as the use of either surface or underground waters were concerned. This law made it unlawful for anyone to remove more than two hundred gallons of water per minute from the ground and use it for air conditioning or cooling purposes unless the water was returned to the ground, circulated through cooling devices and reused, or a permit obtained from the Department of Conservation to do otherwise. This law was repealed in 1951 and the present ground water control law, Chapter 29, which is much more comprehensive, was passed to replace it. Several other water conservation bills

were sponsored by the Department in the 1947 legislative session and, two were enacted (Chapters 181 and 301). Under these it became unlawful for anyone to despoil the public fresh water lakes of the state by lowering their water level, filling in with soil or other substances or otherwise altering their beds and shore lines. A more comprehensive bill concerning the establishment of the water level of the lakes of the state was also passed in 1947. This law is Chapter 350. In 1951 the Department sponsored another piece of water conservation legislation which was enacted into law. Chapter 290 provides the necessary procedure by which property owners on a lake may raise the water level and construct a control structure for maintaining the established level.

In 1945 the General Assembly created the Flood Control and Water Resources Commission. It is charged with the responsibility of establishing a master plan for flood control of the State and to make plans and recommendations for the further development, protection and preservation of the water resources of Indiana. The Department and this Commission have worked closely together on water conservation measures.

During the past ten years water conservation has progressed more than in any period in the history of Indiana. According to the 1954 U. S. Agriculture Census there were more than 37,000 farm ponds in Indiana, most of which were built in the prior ten years. Cagles Mill Flood Control Reservoir, which has a conservation pool of 1400 acres, was completed in 1952. Ground breaking ceremonies were held on October 5 of this year for a similar reservoir on Raccoon Creek near Mansfield, which will have a conservation pool of approximately 1200 acres. The U. S. Engineers have approved three additional reservoirs on the Upper Wabash, two of which will have large conservation pools. The Indiana Flood Control and Water Resources Commission is studying several other sites for flood control reservoirs and is presently making a study of a multiple purpose reservoir on Salt Creek near Harrodsburg as authorized by the legislature in 1955. If this reservoir is constructed it will be the largest body of water in Indiana. The Conservation Department is presently buying land for a 1200-acre lake on Mud Creek at Glendale.

Under the cooperative program of the Department and the U. S. Geological Survey, considerable progress has been made in appraising the State's water resources although, because of limited funds, the work has not progressed as rapidly as would be desirable.

One of the most significant actions taken recently concerning the conservation of water was the passage in 1955 of the Indiana Water Resources Law. Under section one of this act, it states that the general welfare of the people of the State of Indiana requires that surface water resources of the State be put to beneficial uses to the fullest extent and that non-beneficial uses be prevented.

Increased attention is being focused on such water conservation measures as artificially recharging ground water aquifers, returning cooling water through diffusion wells, curtailing the flow from artesian wells, the replugging of old oil wells to prevent the loss and contami-

nation of fresh ground waters, discouraging the use of potable ground water for the secondary recovery of oil, to say nothing of the soil conservation practices directed toward retarding run-off and holding as much rainfall as possible on the land where it falls.

The progress of water conservation in Indiana may have been somewhat slower since the turn of the century but from all indications, the progress in the future will be much faster because of the awareness of the public for the need of sound water conservation.