

A Brief History of the Conservation of Natural Resources in Indiana

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The early geological surveys in Indiana before the Civil War were conducted largely as investigations for exploring the possibility of developing the use of the natural resources like coal, limestone, gas, and oil. An act of the State Legislature, approved February 6, 1837, provided for a geological survey of Indiana. Dr. D. D. Owen was appointed as the first State Geologist and published a report on a "Geological Reconnaissance of the State of Indiana" for the year 1837.

Similar geological studies were continued for several decades by Dr. Owen and later by his brother, Dr. Richard Owen, who in his report for 1859-1860 included an analysis of the soils, a survey of the coal fields, and topographical work of the state.

In 1869, the Forty-sixth General Assembly of the state of Indiana created the office of the State Geologist, to act in connection with and under the control and management of the State Board of Agriculture, for the purpose of collecting information designed to promote the interests of agriculture, arts, manufactures, and minerals. Mr. E. T. Cox was appointed to the first office as State Geologist.

In the introduction to the first annual report of the State Geologist, Mr. Cox says, "Soon after receiving the appointment of State Geologist from his Excellency, Conrad Baker, Governor of Indiana, I proceeded to pack my large and valuable collection of minerals, fossils, shells, and other objects of natural history, also my chemicals and chemical apparatus, etc., etc., preparatory to making my residence in Indianapolis, and with a view of arranging them in the Geological Department of the State House.

"On arriving at the Capitol with this collection, it was soon made manifest that the room set apart for the use of the State Geologist was totally inadequate to hold the natural history specimens and chemical apparatus, and to be used at the same time, as office and laboratory.

"The State Officers, with one accord, decided to have a small addition, suitable for a chemical laboratory, built on the east side of the State House, adjoining the rooms of the Indiana Board of Agriculture.

"Thereupon began investigations of iron smelting and ores and fluxes used in the blast furnaces of Indiana. Other duties of the office included acting as counsellor and informant to people interested in investing capital for manufacturing enterprises in Indiana."

From the first and in the years following there were numerous accounts in the annual reports of the flora and fauna, especially of the timber resources, of the various counties of the state. Much attention was also devoted to the agricultural crop potential of the land.

A few examples are included at this point to emphasize the heavy impact of the early settlers on our natural resources and also the early recognition of the necessity of good farm conservation practices.

The first annual report for the year 1869 in a list of the birds and mammals of Franklin county says, "It is only within the last ten to fifteen years that the red fox has been observed in this county. Previously, none but the gray fox was seen." The wildcat was mentioned as rare, the raccoon abundant, the black bear was last seen about thirty years ago, (1839), although claw marks were still plainly visible on the beech trees. There were no more deer. The Parakeet and Ivory-billed woodpecker had not been seen for many years. The Passenger Pigeon was still found in large numbers although they were regarded as having been constantly reduced in the preceding forty years. The Wood Ibis occasionally visited the White River valley. Such were the original evidences of disappearing wildlife, nearly eighty years ago, caused by the early influence of clearing land for agriculture.

The 1872 Geological Report on Dearborn, Ohio, and Switzerland counties in practical suggestions on farm husbandry recognized the loss of soil fertility. It reads as follows: "The farmer's habits of observation enable him quickly to detect a field of natural fertility that has been worn out. By bad management it has been so changed that it will produce but one-half or one-third the crop that was raised on the virgin soil. The soil may lose its fertility by taking the products off the farm each year, leaving less plant food in the ground for the next crop. Some of the upland has been exhausted by raising corn so that it now is difficult to get grass well set."

Practices of good husbandry recommended (1) Sowing clover and turning under the green crop, (2) Sowing a crop of rye in the fall, clover in the spring, and turning in hogs in September for pasture, (3) Plowing in green manure and pasturing was insufficient so that additional fertilizer was needed, (4) Stable manure and rotten straw was highly recommended, (5) Experiments with lime were encouraged as results of this practice were not well known, (6) Crop rotation, and (7) the use of artificial fertilizers, it was suggested, should be used with caution.

The quite modern question, except for the figures, asked was, "But if a farm nets \$10.00 per acre when a profit of \$20.00 to \$30.00 is within reach, is this not poor management?"

The 1875 report on the agriculture of Jefferson county says, "The potash and phosphates taken up by the crops as food must be returned to the soil, or the land will be impoverished to the amount abstracted from it." Again in 1881, speaking of the soil of Bartholomew county, the author says, "will the farmer husband this heritage or dissipate it by the slovenly methods of working his land and non-rotation of crops? A soil once exhausted, can only be brought back to fertility at great cost, and at the expense of some other locality that must furnish the necessary organic matter, or else wait years for it to be renewed by the slow processes of nature."

The 1876 report includes a record of the "Flora of the Lower Wabash Valley" by Schneck that is worthy of note. The circumference of trees measured three feet above ground were tabulated. The list included:

	Circumference
Pecan -----	16 feet
Bur Oak -----	22 feet
Black Walnut -----	22 feet
Mulberry -----	10½ feet
Sycamore -----	33½ feet
Tulip -----	25 feet
Cottonwood -----	22 feet

Of these trees the author made the following comments: "The measurements can only be regarded as those of a remnant of a once extensive, luxuriant and exceedingly massive growth of forest trees. Could they be compared with those that might have been taken fifty to seventy five years ago, they would doubtless be far surpassed. One cannot suppress a sigh of regret over the many prostrate and decaying bodies of those grand old monarchs of the forest, whose venerable lives have been sacrificed, when in their fullest manhood and grandeur, by the indefatigable frontiersman, for a hive of honeybees or a raccoon that has sought refuge and a home in the hollows of their bodies or massive limbs.

While the wasteful destruction of timber has been great, yet it can in no way be compared with the amount annually taken from the woods for useful purposes. Scattered through the country, and at almost every bend in the river, will be found saw mills; some of which have been almost daily doing the work of destruction for the last fifty years. And of late, the more ravenous, portable saw mills have gone to the more inaccessible localities, until there is scarcely to be found a spot from which the best timber has not been culled. Judging from the past, it is safe to say: the time is not distant when there will scarcely be left a sample of these monuments of centuries growth."

Such were the ravages of the land that were well known and obviously were the concern of the conservationists in the last half of the nineteenth century in Indiana.

For many years the office of the State Geologist functioned primarily as the only agency of the state government concerned with natural resources. In the early part of the present century, numerous laws appeared for the protection of resources and the separate offices of Entomologist, the State Board of Forestry, the State Park Commission, and Superintendent of Fisheries and Game were added.

In 1919 the state legislature established the present Indiana Department of Conservation. The law provided a non-partisan Conservation Commission of four members, a Conservation Director responsible to the Commission and Directors for each of the Divisions of the Department. Richard Lieber, as first director, served until 1933. The original state owned lands totalled 2,766.11 acres including Clark County

State Forest; Riverside, Tri-lakes and Wawasee Fish Hatcheries; Turkey Run and McCormick's Creek State Parks. By comparison, state owned properties today include sixteen State Parks, sixteen State Forests, four State Game Reserves, fourteen State Memorials, and nine State Fish Hatcheries.

The aim of the Department of Conservation as expressed in a publication in 1919 entitled, "The Why and Wherefore of Conservation in Indiana" was "to make every Hoosier a conservationist, who believes in the state and the laws which are in force to conserve its natural resources for the benefit, education and recreation of all Hoosiers now and to come."

Some important strides in connection with the Indiana Department of Conservation have been made since 1919. The Forest Land Classification Act of 1921 has become one of the state's most potent vehicles for better forest protection, management and utilization on privately owned lands. Lands thus classified are designated by the state forester as eligible for the special assessment of only one dollar evaluation per acre. This tax savings inducement plus a more intelligent interest in forest conservation by 1946 was responsible for 120,000 acres of classified woods by twenty-two hundred private owners.

However, there are still approximately 800,000 acres of the state in need of reforestation. This is land unsuitable for farming and must be in trees to be productive. The annual nursery stock of about 4,500,000 trees is inadequate to supply the demand for foresting both public and private land. Present nurseries should be developed to provide 15,000,000 trees annually and the magnitude of the task is emphasized by the fact that fifty years would be required to reforest the land even at this annual production figure.

Wildlife research is made possible in Indiana, under the Pittman-Robertson Act (1937) through the cooperation of the United States Fish and Wildlife Service and the Indiana Division of Fish and Game. The act provides the states with aid in wildlife restoration projects, from funds obtained through a ten percent excise tax on the sale of sporting arms and ammunition. Seventy five percent of the funds used by these projects in the state (allocated to the states on the basis of the number of hunting licenses issued), are provided by the Federal Government and twenty five percent by the state.

Indiana has participated in this program since December 1, 1940. Provided that, in each case, the primary purpose is wildlife restoration, the funds may be used for three kinds of projects: (1) purchase of land, (2) development of land, and (3) research studies.

In Indiana, Pittman-Robertson funds have been used to help purchase the Hovey Lake State Game Preserve and additional acreage at the Jasper-Pulaski State Game Preserve. White-tailed deer have been bought for release in southern Indiana. Wildlife habitat areas on private lands have been developed and a continuous program of research has been in progress since 1940. Progress reports of this work are issued quarterly.

The County Forest Law, created to authorize county commissioners to acquire lands to establish county forests, the work of the Indiana Stream Pollution Control Board in cooperation with the State Board of Health, the Indiana Flood Control Commission and the excellent investigations of the more recent Division of Water Resources of the Department of Conservation should be mentioned as evidence of the growing demand on the part of the people for the conservation of the state's natural resources.

Not all of the influence for improved conservation practices have emanated from the Department of Conservation. During the thirties, the Land Use Planning Committees, composed of local farmers in every county of the state, were a potent force in developing the need for state-wide land conservation. These committees evaluated the farm land on the basis of the best use to which the farms of the county should be put and made recommendations as to the kind of crops that could be grown most advantageously.

The Soil Conservation Districts Law was passed by the Indiana legislature in 1937, amended in 1941 and 1945. Its purpose is expressed in the Declaration of Policy: "It is hereby declared to be the policy of the general assembly to provide for the conservation of the soil and the soil resources of this state, and for the control and prevention of soil erosion, and thereby preserve natural resources, control floods, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, preserve wildlife, protect the tax base, protect public lands and protect and promote the health, safety and general welfare of the people of the state."

Twenty five or more landowners (a large number is preferred) of a given area petition the State Soil Conservation Committee asking that a district be organized. A district may be county-wide, part of a county, or parts of more than one county. Most of them are organized on a county-wide basis.

After the State Committee examines and approves the petition, it conducts a public hearing, giving opportunity for all interested parties to be heard. If the hearing shows that a district is desirable, the boundaries are established and a referendum is held. Landowners may vote "for" or "against" the creation of a district. If sixty percent or more vote in favor, the State Committee may declare the district legally created.

There are now forty-one soil conservation districts in Indiana representing over seven thousand individual farm conservation plans, or about eight hundred and fifty thousand acres. These farms are exercising good land use through corrective farm practices like (1) contouring, (2) strip cropping, (3) terracing, (4) vegetated waterways, (5) improved crop rotations, (6) cover crops, (7) pasture improvement, (8) tree planting, (9) woodland management and, (10) use of farm ponds.

Considerable progress has been made in scientific research and public education. The Lake and Stream Studies conducted by Indiana University and the research in forestry and wildlife by Purdue Uni-

versity in cooperation with the State Department of Conservation have made possible many improvements in conservation practices. The results of research in good soils management, agronomy, and forestry and wildlife management have been made available to the farmer through the Agricultural Extension Service. Education in conservation for rural youth has been stimulated through the 4H Club projects and the annual 4H Club Conservation Camp at Versailles State Park.

A special program in conservation education for public schools was initiated in 1945. Through the cooperation of the State Office of Public Instruction, the Indiana Department of Conservation and Purdue University the program for the schools has included: (1) bulletins about soils, water, plants and wildlife conservation, (2) counselling with teachers and administrators and (3) a six weeks field course in conservation for teachers at Versailles State Park.

Several private industries and many non-profit organizations like the Women's Garden Clubs, Izaak Walton League Chapters and others have taken an active part in promoting this work in the schools and in giving financial support for local teachers to attend the summer camp.

Reference to past proceedings of the Indiana Academy of Science reveals that numerous papers have been devoted to native resources and their conservation, especially in geography, geology, botany, and zoology. The Academy, in some states, has seen fit to schedule a separate section on resource use. The Indiana Academy has not yet pooled its conservation interests in this manner, but as an effective force in molding scientific pursuit and thinking, such a move might be worthy of consideration.