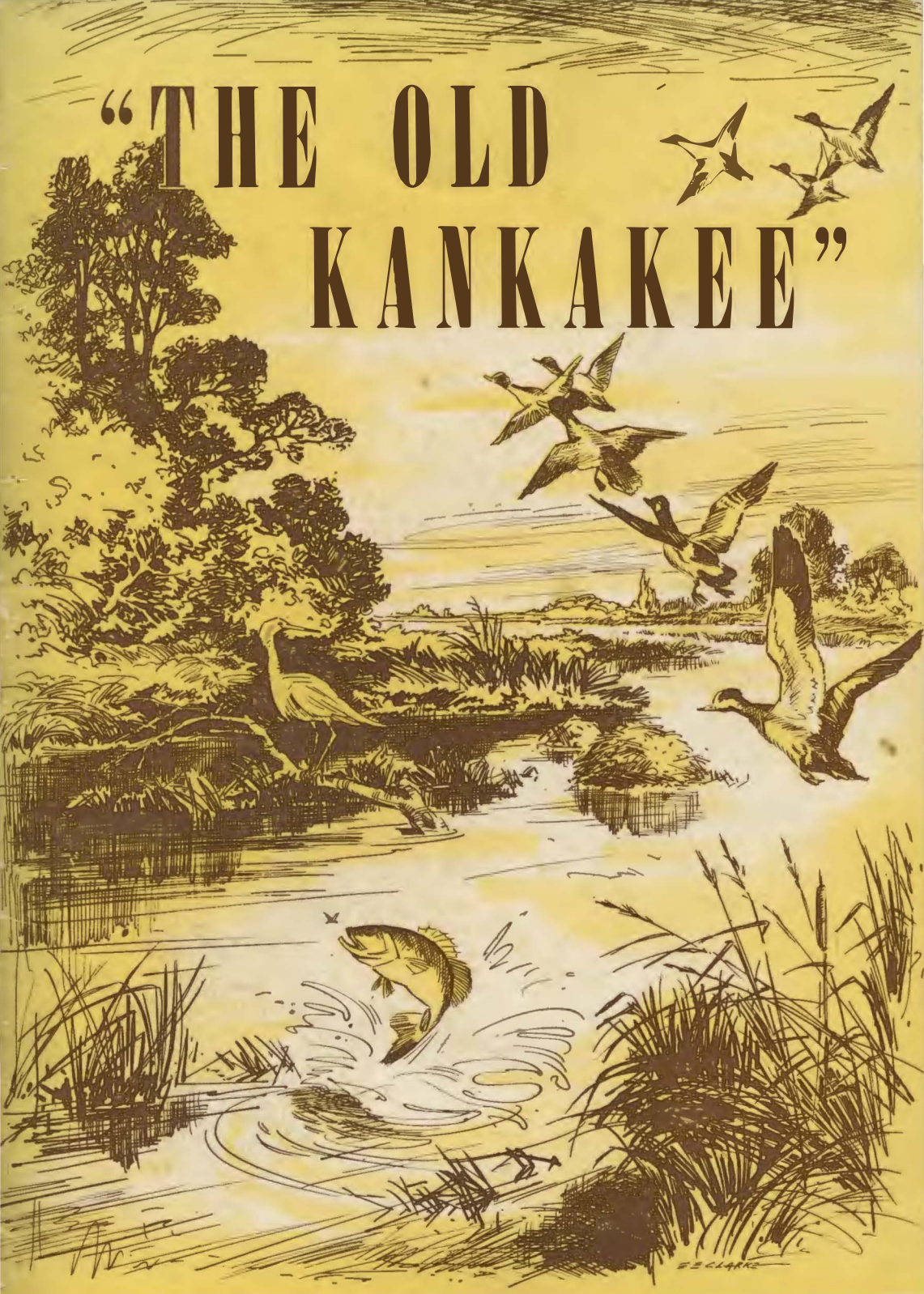


"THE OLD KANKAKEE"



The Dream of 100,000 Hoosiers Can Come True

Foreword

THE fabulous Kankakee Valley of old has become a legend among American sportsmen. In the march of civilization and development the famous "Old Kankakee" was doomed by the theory that all marsh land should be good agricultural land. Experience has proven the fallacy of this theory as an infallible gauge for determination of land capabilities and possibilities. Experience has demonstrated that all too often we have destroyed real and valuable resources in pursuit of other values which all too often failed to materialize. Too, changing values have given us a greater appreciation of the resources we have destroyed in the relentless march of "development". In all too many instances we failed to weigh the values to be destroyed against the expected new values to be created.

Such was the case of the Kankakee. Much of the land reclaimed for agricultural pursuits proved to be good agricultural land indeed; much proved well nigh valueless for farming. But to make this discovery we destroyed one of the greatest waterfowl concentration areas in the world, one of the greatest fishing areas of the Middle West and one of the most efficient flood control reservoirs in the Upper Mississippi watershed. As a result of our mistakes in management we lost an increasingly valuable wildlife resource, we contributed to increasingly disastrous floods in the Mississippi watershed, and we have seen countless thousands of tons of rich topsoil lost by erosion of both wind and water.

When a realization of these consequences began to dawn on many of us, we commenced to speculate on the possibility of bringing back at least a portion of that which had been lost to Indiana, to the nation and to the entire continent. For indeed the destruction of the Grand Marsh of the Kankakee was felt throughout the North American continent.

Back in 1933, the Izaak Walton League of America, assembled in national convention at Chicago, adopted a resolution which "favors the establishment of a Federal Migratory Bird Refuge in the Kankakee River bottoms, and that this convention favors the restoration of some of the former beauty of the once famous Kankakee River." The resolution continued, "In view of the change in conditions regarding the agricultural use of lands, and other factors affecting the possibilities of restoration, we request that the Bureau of Biological Survey make a resurvey of this area with the view of locating desirable areas for a Migratory Bird Refuge in the Kankakee Valley."

Such a resurvey was made by the Bureau of Biological Survey, now the U. S. Fish and Wildlife Service of the Department of the Interior. Other surveys and reports have been made and compiled by the Senate Wildlife Committee and the Indiana Department of Conservation. In addition to the work involved in making these surveys, a great amount of research and investigation has been done by H. P. Cottingham, leader of the Indiana Pittman-Robertson Wildlife Habitat Restoration Project, and William B. Barnes, leader of the Indiana Pittman-Robertson Wildlife Investigation Project. The final draft of an action plan for the partial restoration of the Kankakee Grand Marsh has been submitted by Harrell F. Mosbaugh, Director of the Division of Fish and Game, Indiana Department of Conservation. This plan, which we take pleasure in presenting as a public service, visualizes not only a program of refuge development but the development of a greater part of the areas involved as a great public recreational area for the pursuit of such sports as hunting, fishing, photography and nature study. As such, we believe this plan to be of vital interest to every resident of Indiana and the Nation.

We unhesitatingly recommend this program for primary consideration as a post-war public works project for the state of Indiana and suggest that it be undertaken as a coordinated activity of the U. S. Soil Conservation Service, the U. S. Fish and Wildlife Service and the Indiana Department of Conservation.

INDIANA DIVISION, IZAAK WALTON LEAGUE OF AMERICA

Len Hofmann, President.

The Kankakee Basin Plan

By

The Indiana Department of Conservation

Wildlife Section

Wildlife of all kinds native to northwestern Indiana and northeastern Illinois was once abundant in the famed Kankakee Valley. Over much of the basin, at the present time, human uses of both the land and the water have dispossessed the once fabulous wildlife population of its habitat. In certain areas this transformation of the Valley's characteristics and use has meant enrichment and security for many of Indiana's citizens; in other areas this transformation has resulted in impoverishment of both the land and the people involved, and a loss of wildlife resources for both State and Nation. These experiences would appear to justify the conclusion that certain present day uses are indeed higher uses, but that for much of the basin its restoration to the natural or primitive state will result in the greatest good for the greatest number of our citizens.

A return to the primitive condition is possible to a limited extent. For much of the basin industrial and agricultural uses can exist side by side with the wildlife use. It is this possibility which is considered in this plan.

Most of the recent discussions of the Kankakee have been concerned with the Kankakee marshes—the "Grand Marsh". This is the largest area of good wildlife habitat and is unquestionably the most important. The wildlife plan, however, must consider the basin as a whole. Good fishing in the Kankakee Marsh, for example, will not be of primary importance to the residents of areas far downstream, to whom this fishing is not readily accessible; but, the conditions that create good fishing in the upstream areas are of utmost importance, for downstream residents have a right to expect something from their section of the river, too. For this reason a wildlife survey of the rest of the river should be made. The appropriate agencies to do this are the Natural History Survey, the Conservation Departments of Illinois and Indiana and the U. S. Fish and Wildlife Service. The migratory waterfowl problem should have the special attention of the Fish and Wildlife Service because of the national and even continental importance of the Kankakee Basin in the North American flyways pattern.

Until such information for the river proper is complete the emphasis in this plan will necessarily be on the Kankakee Marsh area which has been investigated and for which a number of reports and surveys are available. These are cited in the bibliography. The three most comprehensive reports are the War Department Survey reported in House Document No. 784 (1931), the U. S. Biological Survey Report (1932) and the Indiana Department Report (1934). Most of the material in this plan is based on these three reports.

Background

The following description of the Kankakee is quoted from Forbes and Richardson (1920). Conditions described are prior to 1908.

Kankakee River

"The Kankakee River rises in a large marsh about three miles southwest of South Bend, St. Joseph County, Indiana. It flows in a southwesterly direction to the southern boundary line of LaPorte County, and then more westerly, crossing the Indiana-Illinois line in southern Lake County, Indiana. It then flows a little south of west to within a few miles of Kankakee, where it receives the Iroquois from the south. Thence it proceeds almost due northwest to near the northeast corner of Grundy County, where it unites with the Des Plaines to form the Illinois.

"The Kankakee is about 140 miles long; 85 miles lying in Indiana. Its drainage basin covers about 5,300 square miles, of which 3,140 square miles are in Indiana. The basin has its northern limits in the Valparaiso morainic system, and all of the important northern tributaries find their sources in the same system. Its southern limits, in the portion below the mouth of the Iroquois are found in the Marseilles moraine. The Iroquois rises in a somewhat distinct area, draining basins south of the Iroquois and Marseilles moraines and passing through a gap in the latter moraine to enter the Kankakee. The eastern limits of the Kankakee basin are mainly in the Maxinkuckee moraine and the Saginaw lobe.

"Probably the whole of the Kankakee basin was formerly an old lake called now by geologists Lake Kankakee, and, at the same time that the old "Chicago Outlet" was full, it may have been a line of discharge for the St. Joseph River, now a tributary to Lake Michigan, carrying also a great amount of drainage from the Saginaw and Lake Michigan lobes.

"The basin of the Kankakee is generally level, but near the state line, at Momence, occurs the first limestone outcrop in the bed of the river. This ledge or arch has so prevented the wearing down of the river bed that a very large part of the drainage area in Indiana is one vast swamp. From its source to the state line there is a direct distance of only 75 miles, but within this distance the stream makes 2,000 bends and flows a total length of 240 miles. The difference in level between its source and the state line is but 97.3 feet, showing a fall of but 1.3 feet to the mile. (Indiana Geological Survey.) The winding of the river reduces the fall to only 5 inches to the mile. Above its junction with the Yellow River the amount of water is insufficient to form a well-defined channel. The water has an almost imperceptible flow and in many places wild rice, rushes, lily-pads and aquatic grasses so choke the channel as to cause the flooding of the marshes during summer freshets. Below this point, however, there is quite a definite open channel, although

the small tributaries are usually lost in the marsh before reaching the main stream. On the immediate border of the river there is a strip ranging in width from one-fourth to one and one-half miles which is heavily timbered. The only other timber is found on so-called islands whose surfaces rise 10 to 20 feet above the general level of the marsh. The open marsh is covered with a rank growth of wild grasses, bull-rushes, sedges, reeds, wild rice, and other semi-aquatic vegetation. Between the woodland bordering the river-bank and the marsh, as well as around the margin of most of the islands, there are dense thickets of elbow brush, willows, etc. In 1882 there were about 500,000 acres of marshland within the valley of the Kankakee. It resembled an immense sponge, slowly absorbing the water during the wet season and as slowly giving it forth during the dry, so that the flow throughout the year was quite regular and uniform in amount. At present, on account of the drainage of a large part of this marsh, the water flows off much sooner after it falls and consequently the river is higher during the autumn and spring floods and lower at other seasons than formerly. In general the soil of the marsh is a dark, sandy loam, very rich in organic matter. It is very porous, but has the power to take up and retain large quantities of water.

"In the 14 miles below Momence, Illinois, to its junction with the Iroquois, there is a descent of 25 feet. In the 33.5 miles from the mouth of the Iroquois to the head of the Illinois, the Kankakee falls 103 feet, or an average of 3 feet to the mile. There are rapids near Altorf and Wilmington, where sudden descents of 20 feet are made. In Indiana, as stated above, the bed of the river is composed mainly of sand and fine gravel, but at Momence it begins to flow over limestone, and from that point to its mouth it has a rock bottom, affording good foundations for dams for utilizing water-power and for purposes of navigation. The inner valley of the river is but little wider than the stream, and outside this there is a broad bottom averaging about 2 miles in width".

*History **

Originally the Grand Marsh supported dense stands of typical marsh vegetation broken up in places by ridges, eskers and wooded islands. The marsh was the resting place of vast flocks of waterfowl and it was also the breeding and nesting place for many of them; here it was said that the abundant crops of acorns and lush stands of wild rice formed the most important sources of duck food. Muskrat and beaver were found in abundance throughout the area. Wild turkeys and deer were two of the important larger game animals mentioned in early reports as being most numerous. Until after the return of the century the area supported dense populations of raccoons and squirrels.

The Kankakee was early famous as a hunting, trapping and fishing paradise. The game and fur was exploited until the larger game and the beaver

*Most of the historical material has been taken from "Kankakee River Survey to Determine Areas for Restoration, State of Indiana, Department of Conservation, 1934."

disappeared. Later the pioneer farmers cleared the higher areas, leaving the marsh proper as a nationally famous hunting and fishing area for sportsmen. Indeed, the Kankakee was such a fine hunting ground that even the British nobility came this far in order to hunt.

As the agricultural possibilities in sections of the valley became apparent, the first attempts to drain some of the land were made. Drains were built in the higher land, discharging their collected waters into the broad flooded plain below. As more land was reclaimed for agriculture the demand for more efficient outlets increased and the first work was done in the river channel at the upper end by straightening it and cleaning out obstructions. These first efforts were individual ones. Under the Indiana State Drainage Law, dredging farther downstream was done until it had reached the Indiana-Illinois state line by 1917.

Contemporary with the dredging and deepening of the channel was the formation of drainage districts for reclaiming more of the marsh land for agricultural use. The demand for land during the World War I provided much of the impetus for this work.

Today the former Kankakee, once noted for its lowlands, its sluggish current and meandering channel is gone. It has been replaced by the straight, deep Kankakee River Ditch. The new straight channel has cut the river in many places, leaving many oxbows. A great deal of the drainage has been successful but erosion silt has filled many of the ditches and in these cases drainage has not been so continuously successful. In 1925 it was necessary to clean out 23 miles of one of these ditches in order to maintain drainage. There is a wide variation in the present condition of the tributary ditches; some are functioning efficiently, while others are not.

Prior to 1931 the War Department surveyed the Kankakee River (House Document No. 784-1931). As a result of this survey the army engineers concluded, among other things, that further work for the control of floods, reclamation of marsh lands and improvement of drainage were justified. It concluded that certain levee construction was also justified. It concluded that improvement for navigation was not economically justified and, last of all, the report concluded that since the benefits of drainage would be entirely local, justification for Federal participation in the project could not be found.

The Bureau of Biological Survey, now the U. S. Fish and Wildlife Service, has investigated the Kankakee Marsh portion of the basin. In a report dated January 14, 1932, the Bureau concluded that physical restoration of much of the Marsh was possible but that it was not within the financial ability of the Bureau to do the job at that time.

Now, however, the situation has been altered considerably. Under the Federal Aid to Wildlife program, there is the possibility for coordination of activities of the Department of the Interior and Department of Agriculture

with the Indiana Department of Conservation. For there are several phases to any proposed restoration, including the construction of diversion channels important in the development of the basin as a huge flood control reservoir, and which could properly fit into the program of the Soil Conservation Service; also, there will be extensive wildlife habitat restoration work which is a function of the Fish and Wildlife Service as well as the Indiana Department of Conservation. This project, therefore, could be an important unit in any post-war plans of these three agencies and is recommended as such. Its importance to the entire nation further recommends it is a desirable project for coordinated activity by these agencies.

The Indiana Department of Conservation has likewise surveyed the area under discussion and reported its findings in the report dated March, 1934. This report recommends the restoration of the marsh as being within the realm of both physical and economical possibility. No sweeping recommendations are made for restoration of the Marsh to its original condition but rather a plan is presented for partial restoration taking into consideration present land uses.

The Senate Wildlife Committee in its 1940 report also mentioned the Kankakee as one of the still unrestored waterfowl areas which could be restored.

Waterfowl

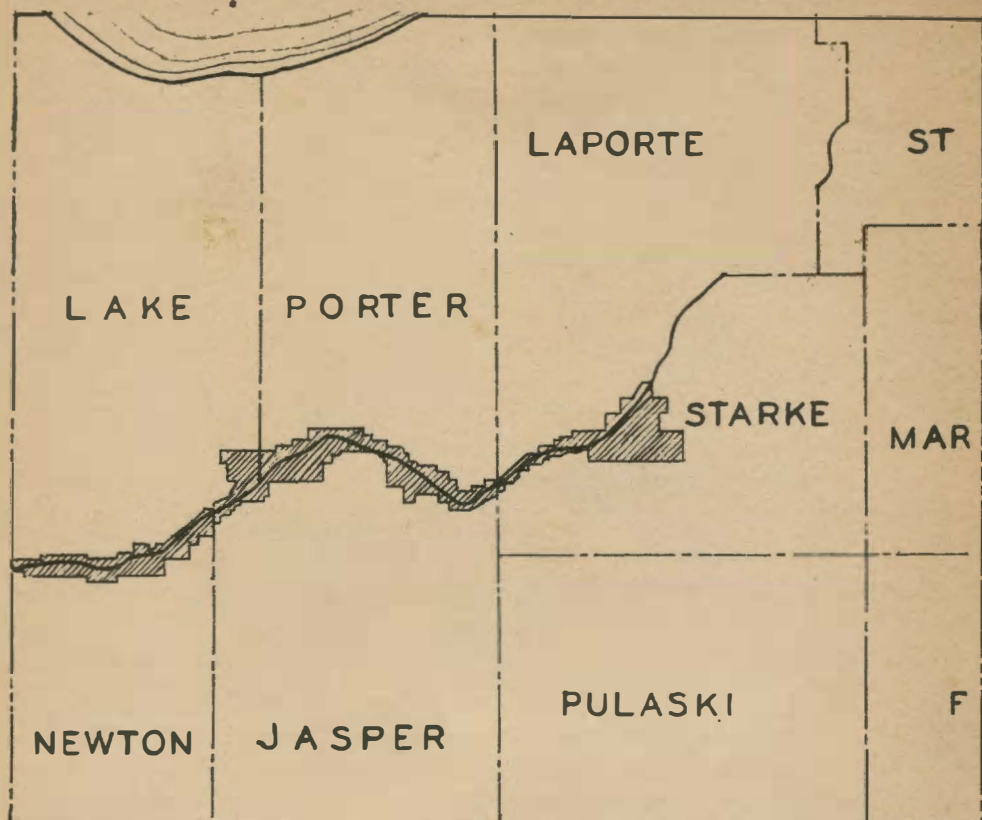
Waterfowl—ducks, geese and shore-birds—are migratory and, as is well known, these birds fly thousands of miles in their fall migration from northern nesting areas to southern wintering areas and in their return trip in the spring to the nesting areas. In its simplest terms the conservation of this great natural resource involves the provision of three things: (1) adequate nesting areas, (2) reasonable protection during the migration flight and (3) adequate wintering areas.

The Kankakee Marshes can contribute to Items (1) and (2):

As a nesting area (Item 1) it formerly contributed to the waterfowl crop four principal species: Canada geese, blue-winged teal, wood duck and mallard. The Kankakee is shown by McClanahan (1940) to be part of the original breeding range of these species. The restoration of the marsh should insure the production of these birds in that area again. In addition, the black duck, a species whose range has been expanding, can also be produced there. This will mean nesting and production of five of the best species of sporting waterfowl plus the several species of aquatic birds less important from the sporting viewpoint, but extremely important from the economic point of view.

Of greater significance than its function as a production area is the value as a stop-over on the flight lane of migratory waterfowl. There are four recog-

Within Reach of Fifteen Million People



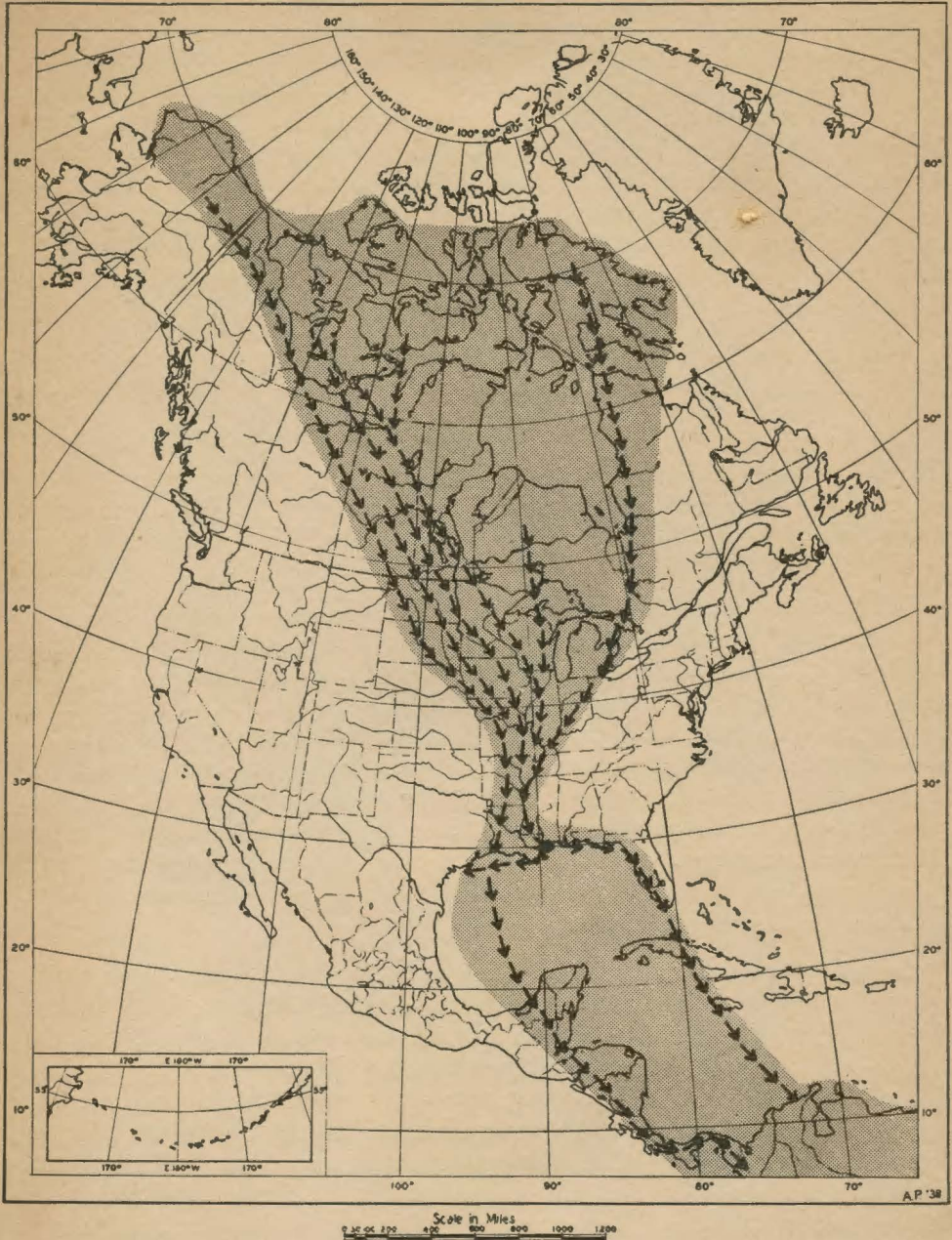
MAP OF NORTHERN INDIANA
SHOWING PROPOSED
KANKAKEE MULTIPLE LAND USE AREA

PREPARED BY
DEPARTMENT OF CONSERVATION
STATE OF INDIANA

SCALE 1 in. = 8 mi.

This map shows the relatively narrow strip of land on other side of the Kankakee involved in the proposed restoration, except the Beaver Lake area in Newton County. General soil conditions are described as principally low swamp land, black deep sandy loams, dark-shallow acid sandy loams and light colored droughty sands. This is the area of the Plainfield and Newton sandy soils which are sub-marginal for agricultural uses. Drainage and cultivation of the better soils in other sections of the Kankakee Basin will not be adversely affected but will actually be improved.

The Great Mississippi Flyway



This map of the Mississippi migratory bird flyway shows the national and even continental importance of the Kankakee as a resting, nesting and feeding area of migratory waterfowl, and one of the reasons why the Grand Marsh in years gone by was one of the world's greatest waterfowl concentration areas. The indispensability of the Kankakee as a part of the plan for North America is the true estimate of its value.

nized flyways in North America. (Flyway map, page 9). Of these the Mississippi fly-way is the most important. This huge funnel-shaped flyway and tributary migration routes are shown on the map. The manner in which Kankakee fits in as a part of the Mississippi flyway can be clearly seen by reference to the map. The program of natural refuges for waterfowl has been planned according to the needs of the flyways. There has long existed a need for refuges in the east central portion of the Mississippi flyway. This is the region of which Indiana is the center and it includes the lower peninsula of Michigan as well as portions of Ohio, Kentucky and Illinois. The flyway map (page 9) illustrates the situation. While it is true that any suitable refuge in this general area would be helpful, the fact is that suitably large areas are not to be found and the Kankakee is unquestionably the best there is.

The report of the Senate Wildlife Committee (1940) in speaking of migratory waterfowl refuges has to say on page 134:

"It will be noted that there are still a number of large scale breeding areas that may be restored. Among the largest of these, and the most important, are the Horicon Marshes in Wisconsin and the Kankakee Marshes in Indiana."

At the present time (1942), Horicon Marsh is well on the road to restoration as a joint Federal-State project. Kankakee is not.

What of the relative values of land uses in the Kankakee? Detzer, in the February, 1942 "Readers' Digest", paints a glowing picture of the potato production on Kankakee muck lands. But present marsh restoration proposals do not involve the better muck soils. Those lands are to be protected for farming in connection with proposed flooding of the narrow strip along the river. Detzer's characterization of "bottom lands heretofore barren" and "being left to the bull-frogs" is unfortunately devoid of any concept of land use planning. It is unfortunately devoid, too, of any understanding of the importance of marshlands as the source of many products equally as valuable as potatoes, and their importance as natural water impoundments controlling both flood and drought conditions.

Probably a thorough study of the far-reaching economic effects of the wildlife restoration alone in this area would reveal that this value exceeded by many times the value of the single cash crop singled out by Detzer. Just to mention a few of the many industries, big and small, that comprise the group dependent upon recreation, either partially or completely, there are sporting goods manufacturers, transportation systems, hotels and camps, manufacturers of automobiles, boats and motors; the oil and gasoline industry, and literally dozens of others. Add to all this the economic value of these marshlands in preventing the widespread destruction wrought by increasingly frequent and disastrous floods and the result is far different than a more superficial concept reveals. These are the possibilities of sub-marginal land, for which there is no doubt but that its highest use is restoration to marsh-land.

For the good agricultural land there is little doubt but that the highest use

is agriculture and the adoption of good agricultural practices on such lands will contribute greatly to the importance of the lands to be restored to a natural condition.

For the somewhat borderline areas the decision as to highest use will be a difficult one, and will depend greatly upon the ability of the farmer to keep his drainage ditches open at a cost not inconsistent with the productive capacity of the land.

From the waterfowl standpoint, however, it should be clear that the approach to the solution of these problems cannot be on a purely local basis. Important as the waterfowl marsh may be to residents of Indiana, its function as a part of the national and even continental pattern is even greater. This broad consideration is illustrated by the passage in 1918 of the Migratory Bird Treaty with Canada and the passage in 1937 of a similar treaty with Mexico. These treaties recognize and provide for a continental treatment of the waterfowl problem.

The indispensability of the Kankakee as a part of the plan for North America is the true estimate of its value.

Fish

The fish resource of the Kankakee is potentially very important in the river proper as well as in the marsh if restored. The oxbows, chutes, bayous and sloughs in the present marsh furnish some fishing now. These areas can be immeasurably improved for fish life.

Considerable information on fish and fishing, past and present, is known to exist. Unfortunately, there has not been an opportunity to assemble this information for inclusion in this report. This information should be gathered at the earliest opportunity.

Forbes and Richardson list 128 species of fish for the Illinois River and its tributaries. All or a majority of these species should occur in the Kankakee since no physical or geographical barriers originally existed between the two streams. The above-mentioned authors state that about three dozen of these fish species have a marketable value for food and that about a dozen more are edible but not abundant enough to be important. In the year 1901 the Illinois and tributaries produced \$342,445.00 worth of commercial fish. Presumably, however, only a small percentage of this amount came from the Kankakee. More information is needed on this point and much of it may be already available.

If the Marsh is restored, at least in part, definite fish management measures can then be put into effect. These must necessarily be based upon a biological survey of conditions as they actually are. The possibilities are enormous for management, favoring the better sport species as well as commercial or rough fish. Based upon previous experience in similar areas, it is almost

certain that steps must be taken to prevent an over-population of carp. Such carp control will be in the interest of better fishing as well as increased water-fowl production.

In the river proper, especially downstream from Momence, Illinois, further progress in pollution abatement will improve conditions for fish.

Also, in connection with present and proposed power dams on the river, a study should be made as to their effect upon fish. In the event that operation of these dams and reservoir levels is not in the best interests of fish, there may be possibilities for minor modifications which will serve both resources without interfering with the major purpose of power production.

From the standpoint of the numbers of people who participate, fishing is the most important of the wildlife sports. Fishing is the universal sport of young and old, and in the densely populated region bordering the southern tip of Lake Michigan better fishing and more places to fish will answer part of the recreational problem.

Fur-Bearers

Muskrats and beaver have been mentioned as original inhabitants of Kankakee Marsh. The beaver was exterminated but has recently been re-introduced in small numbers. The muskrats, however, still remain wherever conditions are suitable. The beaver population cannot reach its former levels; the muskrats will increase to numbers limited only by the amount of suitable marsh created. This prolific and valuable species will be the most important and economically profitable fur producer. Well-managed marshes similar to Kankakee may produce five muskrats per acre annually as a crop. This is the annual harvestable surplus and not the reserve breeding stock. If only 10,000 acres of the restored marsh are ideal for muskrats, a 50,000 pelt annual harvest could be expected. At \$1.50 average price per pelt, this crop amounts to \$75,000.00. Add to this the probable additional acreage over 10,000 which would produce muskrats, plus whatever production is realized from the remainder of the river, and it represents a very real income to the trappers and farm boys of the communities.

Mink, skunk, red fox, opossum and raccoon are other fur-bearers which are found in the Kankakee basin. Specific figures on the potential yield and value of these species are not available. There is, however, a record of sustained fur yield under natural conditions on a Mississippi farm (Yeager, 1937) which gives some clue. The average annual catch of mink there was one per eight acres. At an average value of \$8.00 to \$10.00 for a mink pelt, this income will be considerable.

It is not feasible at this time to attempt to estimate present and potential production of all fur-bearers. It is not known now how much habitat could be made available for the different species. The raccoon, for example, will be limited largely to the timbered areas, the skunk and fox limited to the marsh

margins and islands. It will not be very difficult to make a survey to determine what the facts are, both for the marsh and for the remainder of the river valley.

Upland Game

Anomalous as it may seem upon superficial consideration, it is true that marsh restoration also creates a great deal of upland game habitat. Marsh margins are irregular, but the land is generally acquired along regular legal sub-division lines, the result being many corners and marginal borders of unflooded land well suited to rabbit, squirrel, grouse, quail, pheasant, and in some cases, deer as well.

The possibilities for deer in the Kankakee are limited. The possibilities for cotton-tail rabbits, pheasants and quails are great. Sharp-tail grouse will be limited to the prairie and brushy areas. The fox squirrel and ruffed grouse will be limited largely to the timbered areas.

Abundant species will furnish recreation for the hunter with a gun. Both abundant and rare species will furnish recreation for the camera hunter and in this ever-expanding group it is well to include those students of nature who neither hunt nor fish but nevertheless find their greatest enjoyment in the out-of-doors.

Wildlife Values

Any attempt to evaluate the benefits of a restoration such as proposed, on a dollar basis, must obviously be subject to some inaccuracy. Nevertheless, we know from actual experience with other developments of somewhat similar nature that a definite direct cash return may be expected from furs, fishing and hunting licenses, taxes on hunting and fishing equipment, grazing rentals, hay cut along borders of marsh and share-cropping on certain elevated portions of land. In addition, there are indirect returns to the surrounding community from hunters and other visitors in the form of hotel bills, sale of gasoline and oil to motorists and boatmen, wages of guides and rental of boats. The following estimate is very rough but extremely conservative:

	<u>Annual Return</u>
Muskrat skins (on basis outlined above)	\$ 75,000.00
Mink skins (on basis outlined above)	12,500.00
Other skins, such as fox, skunk and raccoon	17,500.00
Fishing and hunting licenses (1,500 @ \$4.00)	6,000.00
Taxes on hunters' equipment	4,000.00
Grazing, hay sales and share-cropping	10,000.00
	<hr/>
Total estimate of direct return	\$125,000.00

This amount, \$125,000.00, is 5% on an investment of \$2,500,000.00. This means that the principal of an investment of \$2,500,000.00 might be paid in twenty years by direct cash returns. It seems reasonable to believe that indirect returns would be sufficient to pay the interest on the investment.

While no accuracy is claimed for the above figures, they do indicate that a large scale marsh restoration of the Kankakee would have a real cash value to the community and to the state. The \$2,500,000.00 is not necessarily the amount which should be expended for the development; it does indicate, however, the amount which might profitably be expended.

Action Plan

The feasible plan of action which can be recommended at this time involves the restoration of a relatively narrow strip along the Kankakee River, plus an area known as the Beaver Lake district which drains into the river from the south near the Illinois state line.

For purposes of clarity, the restoration project may be divided into three main areas. These are shown on the map (Page 8). These areas are as follows:

Eastern Area: Area east of English Lake and termed by the Indiana Report, Projects 1, 2 and 3.

Middle Area: Between English Lake and the Illinois state line. This is identified by the State as Project 4.

Beaver Lake Area: Lying south of the Kankakee River and listed by the State as Project 5.

The Eastern Area perhaps has first priority, should be acquired first for the people of Indiana, and developed first. The Indiana State Game Refuge now splitting the area already provides the first step in this direction, being right in the heart of the area. Full development would amount to an expansion of this present refuge area. The additional acreage that has to be purchased is relatively small and construction costs would not be excessive.

In the Middle Area a strip of land from English Lake to the Illinois state line directly adjacent to the old river channel should likewise be acquired in the name of the people of Indiana. This would include all of the present uncultivated and brushy area within about two miles of the present Kankakee Ditch. Control of the old river channel oxbows would provide some wildlife habitat. Plans for a considerably larger area, including the acquisition of submarginal land for development as upland game habitat, in addition to the strip described above, have been outlined in the 1934 Indiana report. Much greater marsh acreage could be provided under this plan. This more expanded proposal should receive consideration after the strip along the river has been restored.

Acquisition of and development in the Beaver Lake Area, lying south of the river proper and a part of the Kankakee basin, should logically follow the work along the river proper. Beaver Lake, however, would provide the greatest acreage for wildlife with the least construction cost and these priorities as here outlined may be subject to reconsideration.

It is not possible at this time to determine the maximum acreage which could be devoted to waterfowl use. Some rough approximation of possible flooded areas can, however, be made. For the Eastern Area, it would amount to about 6,000 acres, for the Middle Area about 18,000 acres, and for the Beaver Lake Area about 24,000 acres (actually this would be 24,000 acres of wet marsh, perhaps only 2,000 acres of which would be actually flooded). The actual pool would be below elevation 663 only. This means 48,000 acres of waterfowl area with a likelihood that twice this acreage might be devoted to wildlife when border marsh and lands suitable for growing wild feed, plus the several higher knolls, are included. Perhaps a figure of about 100,00 acres could be used as the ultimate size of the Kankakee Basin Public Lands Area.

The primary wildlife area described above should be held in public ownership for public use under suitable control and regulation. It will make little difference to the ducks, muskrats and black bass whether this is State or Federal or a cooperative Federal-State administration. The important thing is that it should be done as soon as circumstances will permit, and the entire project is recommended for primary consideration as a major post-war project in the State of Indiana, for the benefit of Indiana and the entire nation.

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