

## THE BEAVER IN ILLINOIS

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Though beaver were once thought to have been permanently denied a place among the wildlife of Illinois, by 1946 they were again common enough to require considerable attention. Land owners were demanding that certain bothersome beaver colonies be controlled. Thus, in the fall and winter of 1946-47, game biologist Clayton C. Swears initiated investigations of troublesome beaver and live-trapped and transplanted the animals, where warranted.

At the time, the need for an appraisal and compilation of suitable points of release for beaver was apparent. In addition, there were no accurate data on populations and distribution of beavers. To fill these needs, the Illinois Natural History Survey and Illinois Department of Conservation entered into cooperative beaver research as of April 1, 1947. They established Federal Aid Project No. 33-R under terms of the Federal Aid in Wildlife Restoration Act. This paper is based upon the findings of Project No. 33-R, the Illinois Department of Conservation, the United States Fish and Wildlife Service, and the Illinois Natural History Survey, cooperating. The project was terminated June 30, 1951.

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### EARLY STATUS OF BEAVER IN ILLINOIS

When white man first came to Illinois, beaver were widely distributed in the state. Cory (1912:161) wrote, "In early days Beavers were common along the wooded streams throughout Illinois." Apparently their numbers remained high in Illinois until about the time of the arrival of permanent settlers. Cory (1912:162) reported, "They were common in suitable localities throughout the state in the early part of the last century." Similarly, James (1823:44), in referring to the land above the confluence of the

Mississippi and Ohio rivers, wrote, "Deer, turkeys, and beaver, are still found in plenty in the low grounds, along both sides of the Mississippi."

Wood (1910) reported that beaver remained abundant in Champaign County until the early eighteen hundreds. His chart on beaver abundance indicated that from about 1835 to about 1857 beaver were rare in Champaign County. Apparently the last ones were seen in the vicinity of Broadlands in 1860.

It is believed that excessive trapping brought about the downfall of beaver in Illinois. The beaver population apparently declined very sharply and with gathered momentum. Brown and Yeager (1943:489) wrote, "The beaver has been of no appreciable importance in the Illinois fur trade since about 1850." Kennicott (1885:579), in writing about animals of Cook County in the mid-eighteen hundreds, stated, "The remains of beaver dams exist in several streams." Thomas (1861:657) felt, "That any individuals of this species now exist in this State is doubtful, yet possible."

Remnant beaver colonies did exist in Illinois for several decades hence. Cory (1912:161) disclosed that, "Mr. B. T. Gault of Glen Ellyn, Illinois, wrote me that in the year 1900 he saw some Beaver cuttings near Thebes, Alexander County in Southern Illinois". In the same year Forbes (1912:47) wrote, "The beaver is reported from four Ohio River counties". Unfortunately he failed to name the counties. But in a more recent publication, Mohr (1943) indicated that beaver were last recorded in 1912 in Bureau, Massac, Pulaski and Williamson counties.

#### RELEASES OF BEAVERS

The U. S. Fish and Wildlife Service assisted with the return of beaver to Illinois when Albert Cheney and Harley Lawrence released an adult male and female on the Savanna Proving Grounds in Jo Daviess and Carroll counties on May 11, 1929. Subsequent observations indicated that these beavers moved northward along the Mississippi River and beaver sign was light for the following four or five years. Sergeant Albert Bingham (U. S. Army, retired) reported, in a personal interview on May 22, that 16 more beavers were released on the same proving grounds in the spring of 1936.

The U. S. Forest Service made releases in 1935. During November of that year, 19 beavers were released in Pope County—10 in Hunting Branch, a tributary of Bay Creek, and 9 in Grand Pierre Creek (Mohr, 1943). Adams (1936) indicated that these animals were obtained from Woodruff, Wisconsin. Two beavers were released at the East St. Louis Hunting Club near Reynoldsville, Union County, on March 1, 1936 (Mohr, 1943). A release of four beavers obtained from the Wisconsin Department of Conservation, was made in August, 1936, in Rosedale Township, Jersey County (Thatcher, 1937).

The last reintroduced beavers, one male and two females, were obtained by the Illinois Department of Conservation in October, 1938. These animals were released in the La Rue Bottoms in Union County (Mohr, 1943).

In addition to these early releases, emigrations from neighboring states may have contributed importantly

to the present distribution of beavers in Illinois. George J. Knudsen of the Wisconsin Conservation Department indicated (pers. letter, October 26, 1954) that according to old-time trappers in Grand and Crawford counties in Wisconsin, there always have been a few beavers in the Mississippi River bordering on these counties. Grant County is adjacent to Jo Daviess County, in Illinois.

Releases in eastern Iowa probably influenced the return of beavers to western and northwestern Illinois. John Madson (pers. letter, March 4, 1955) of the Iowa Conservation Commission wrote, "Stocking in eastern Iowa counties began in 1940, but, it was necessary to begin nuisance trapping in some of these counties by 1943." He reported the following releases: in 1940, four beavers were released in Jackson County and three in Muscatine County; and in 1941, 23 beavers were turned loose in Muscatine County and 4 in Lee County. Jackson County borders on Jo Daviess and Carroll counties in Illinois. Muscatine County is across the Mississippi River from Illinois' Rock Island County. Lee County faces Hancock and Henderson counties in Illinois.

In reporting on Missouri furbearers, Bennitt and Nagle (1937:139) stated that, "According to information received in 1937 and 1936 . . . they have extended their range down the Meramec River into St. Louis County." St. Louis County is across the Mississippi River from Madison and St. Clair counties in Illinois.

John M. Allen of the Indiana Department of Conservation (pers. let-

ter, January 31, 1955) quoted from the 1939 Annual Report of the Indiana Department of Conservation as follows: "'Beavers are continuing to expand their territory since the first restocking of these was made in 1935 in Jasper, Pulaski and Starke Counties, and now can be found in a dozen counties in the northern part of Indiana.'" Jasper, Pulaski and Starke counties are in northwestern Indiana. Allen continued in his letter: "Not all of the release sites are known but some were made on the Kankakee State Game Preserve and others on the Jasper-Pulaski State Game Preserve, both of which are on or near the Kankakee River." Emigrations down the Kankakee River into Illinois' Kankakee County may have occurred several years after Indiana's first release in 1935.

#### RECENT TRENDS IN POPULATION AND DISTRIBUTION

The success of releases in the Shawnee National Forest in southern Illinois was described by Mohr (1943:434): "They numbered only 19 in December, 1935, and 25 in 1937, according to U. S. National Forest estimates of furbearing animals in national forests." He reported the total estimated population in 1939 as 48. Bonnell (1941) suggested a beaver population of about 70 in the Shawnee National Forest in 1940.

In a U. S. Forest Service mimeographed report (February 17, 1947) Herman F. Olson gave an account of the beaver in the La Rue Bottoms in Union County. In February, 1947, there were eight active beaver houses. By assuming an average of

5 beavers per house, he arrived at a total population of 40 beavers.

Some data on distribution were obtained for Illinois in the spring of 1947. Conservation officers in all 102 counties in the state were asked to report on the status of beavers in their respective counties. Nineteen of the 81 that replied reported beavers present in their counties.

Complete returns were obtained from questionnaires sent to conservation officers in the falls of 1949 and 1950. Beavers were reported present in 34 counties in 1949 and 45 counties in 1950. The officers estimated state totals of 521 colonies in 1949 and 713 colonies in 1950. If an average of five beavers per colony is assumed, the estimated 1949 beaver population was 2,605 and the 1950 population was 3,565.

Returns of a questionnaire sent to conservation officers in the fall of 1954 showed that beavers had spread to 55 counties (Fig. 1). Indications were that beavers were still not found in a block of 22 counties in southeastern Illinois and in a block of 9 counties in the north-eastern part of the state.

#### COMPLAINTS OF DAMAGES BY BEAVERS

By 1945, beavers had become well established in many parts of the state. Damages by beavers were reported from several counties. In 1946 the Illinois Natural History Survey and Illinois Department of Conservation assigned Clayton C. Swears to investigate complaints of beaver damage and to take corrective action short of killing the beavers.

From the fall of 1946 through the spring of 1948, Swears investigated



FIG. 1.—Counties in which beavers were reported present in 1954.

12 beaver colonies. He felt that the damage or potential damage by beavers in 11 of the 12 cases was such that the landowners involved were entitled to some assistance from the state. It was thought that the troublesome animals would leave if their dams were destroyed. Experience revealed that this was usually not true. Live-trapping and transplanting ordinarily proved only partially successful. It was usually easy to catch one or two members of a beaver colony, but it was very difficult to capture the entire family.

Others charged with the responsibility of investigating complaints

TABLE 1.—Compilation of Investigations of Troublesome Beavers, 1946 Through 1951.

Year of investigations	No. colonies investigated	No. valid complaints
1946.....	1	1
1947.....	5	4
1948.....	16	12
1949.....	24	19
1950.....	5	4
1951.....	2	2
Total.....	53	42

about beavers were Kenneth W. Dodd in 1948, the author in 1948 and 1949, and Edward A. Fitzgerald in 1949, 1950, and 1951. During the course of these inspections, records were kept on 53 beaver colonies.

It was determined that 42 of the 53 (79.2%) beaver colonies examined from 1946 through 1951 were incompatible or potentially incompatible with man's interests. A breakdown of the valid complaints about beavers is given in Table 2.

The data in Table 2 indicate that most landowners who report beaver damages are concerned about crop

losses. Destruction of valuable timber and damages to levees appear to be far less important. The complaints include the following: flooded livestock crossings, potential highway flooding, damage to ornamental trees and shrubs, and burrowing into farm pond dams.

#### TRAPPING AND TRANSPLANTING

Clayton Swears made his first beaver catch on November 26, 1946. Subsequently, Swears, other personnel of the Department of Conservation and U. S. Forest Service, trapping until the fall of 1951, caught

TABLE 2.—Classification of Colonies of Destructive Beavers Examined, 1946 Through 1951.

Year investigated	Number of beaver colonies involved in damages to:			
	crops	levees	timber	miscellaneous
1946.....	1	..	..	..
1947.....	2	1	1	..
1948.....	9	1	..	2
1949.....	14	1	2	2
1950.....	..	3	..	1
1951.....	..	1	..	1
Total.....	26	7	3	6



TABLE 3.—Beavers, Live-trapped in Illinois, 1946 Through 1951.

Year trapped	County where trapped									Total annual catch
	Lee	Union	Henderson	Johnson	Jo Daviess	Carroll	Whiteside	Knox	Warren	
1946.....	4	..	..	..	..	..	..	..	..	4
1947.....	..	4	..	..	..	..	..	..	..	4
1948.....	5	20	2	7	..	..	..	..	..	34
1949.....	5	..	6	..	6	4	12	6	3	42
1950.....	..	8	..	..	..	..	..	..	..	8
1951.....	..	3	..	..	1	..	2	..	..	6
Total....	14	35	8	7	7	4	14	6	3	98

98 beavers. Ten of these died from trapping and handling; the remainder were transplanted in Illinois.

Only four beavers were captured in 1946; in 1949, 42 beavers were taken. Notwithstanding this increased catch, Department of Conservation officials were unable to cope with the incessant flood of complaints about beavers. Further, suitable vacant release points were not available. As a last resort, in late 1949, 1950 and 1951, releases were made in areas in the state where beaver already existed, but where they did not interfere with the activities of man.

#### HARVESTS OF BEAVERS

In the summer of 1951 the Illinois legislature provided for an open season on beavers from December 1 to 15. This established the first open season on beavers ever provided for by the Illinois law makers. The act required that each prospective beaver trapper buy a special \$5.00 license. Each trapper was limited to

10 beavers per season and a special \$2.00 tag was required for each pelt prior to sale.

According to the number of pelt tags sold, the 1951 catch totaled 659. These tags were issued in 44 counties (Fig. 2). It was thought that the number of beaver pelt tags sold might reflect the take in those counties; however, in Cook County 11 pelt tags were issued but beaver colonies were not known to exist in that county at the time.

The pelt tags sold in 10 counties accounted for 445 beavers or 67.5% of the total catch. It is noteworthy that the largest number of tags was sold in Jo Daviess, Carroll, and Union counties. A large release was made in 1936 on the grounds of the Savanna Ordinance Depot in Carroll County, the next county south of Jo Daviess County. In addition, it was very likely that beavers emigrated into these counties from adjacent counties in Iowa and Wisconsin. The large sale of tags in Union County probably was correlated with the large beaver population in the

TABLE 4.—Beaver Releases by Counties in Illinois, 1946 Through 1951.

Year released	County where released												Total annual release	
	Fulton	Jackson	Union	Fayette	Bureau	Henderson	Franklin	Pope	Mason	Calhoun	Whiteside	St. Clair		Lee
1946.....	2	..	..	..	..	..	..	..	..	..	..	..	..	2
1947.....	..	4	..	..	..	..	..	..	..	..	..	..	..	4
1948.....	7	..	13 <sup>1</sup>	3	1	1	2	7	..	..	..	..	..	34
1949.....	..	..	..	..	..	4	..	..	14	13	1	2	..	34
1950.....	..	..	8	..	..	..	..	..	..	..	..	..	..	8
1951.....	..	..	..	..	..	..	..	..	..	5	..	..	1	6
Total..	9	4	21	3	1	5	2	7	14	18	1	2	1	88

<sup>1</sup> An unknown number of these 13 were released in Monroe County in 1948.

La Rue Bottoms resulting from the release there in 1938 and from favorable habitat.

Only two pelt tags were issued in Pope County. The initial reintroductions of 19 beavers were made in Pope County in 1935. This relatively low sale of tags suggested that beavers did not settle here as readily as in some of the other counties. Some of the Pope County beavers may have migrated to adjacent Johnson County, because 29 tags were issued there.

Trappers took 516 beavers during the beaver season in December, 1952. This catch was 143 less than the 1951 harvest. Field observations indicated that the beaver population in 1952 was at least as large or larger than the population of 1951, and many of the trappers had one season's experience. It was expected that this would have resulted in as large a harvest in 1952 as that of 1951. Trapping pressure declined in 1952 as a consequence of: 1) high costs of the special beaver license,

pelt tags, and traps; 2) the unexpected difficulty in trapping, skinning, and fleshing beaver; and 3) the low return for beaver pelts the previous year. A leading buyer of Illinois furs disclosed that the average price paid for beaver pelts caught in Illinois during the 1951-52 season was \$7.48.

To encourage a more complete harvest of the surplus beavers, the taking of beavers on the regular furbearer license and a pelt tag fee of 50 cents were provided for in 1952. Further, an open season on beavers from February 1 to 15 was allowed. The pelts were known to be more prime in February than in December; thus, it was thought that the pelts would yield greater returns.

Yet the catch in February, 1954, was only 332, down 184 from the previous season's catch! In spite of this low catch, field observations and reports indicated that the 1954 statewide population of beavers was higher than that of the year before. The following reasons were advanced





## LITERATURE CITED

- ADAMS, H. E. 1936. Planting deer and beaver in Illinois purchase units. *Ill. Cons.*, 1(3):10-12.
- BENNETT, RUDOLF, and WERNER O. NAGLE. 1937. A survey of the resident game and furbearers of Missouri. *Mo. Univ. Studies*, 12 (2):215 pp.
- BONNELL, CLARENCE. 1941. The introduction of wild life into southern Illinois. *Trans. Ill. Acad. Sci.*, 34(2): 216-217.
- BROWN, LOUIS G., and LEE E. YEAGER. 1943. Survey of the Illinois fur resource. *Bull. Ill. Nat. Hist. Surv.*, 22(6):435-504.
- CORY, CHARLES B. 1912. The mammals of Illinois and Wisconsin. *Field Mus. Nat. Hist., Zool. Ser.*, 11, 153: 505 pp.
- FORBES, STEPHEN A. 1912. The native animal resources of the state. *Trans. Ill. Acad. Sci.*, 5:37-48.
- JAMES, EDWIN. 1823. Account of an expedition from Pittsburgh to the Rocky Mountains, performed in the years 1819 and '20 by order of the Hon. J. C. Calhoun, Sec'y. of War: under the command of Major Stephen H. Long, from the notes of Major Long, Mr. T. Say, and other gentlemen of the exploring party. *Phila., H. C. Care and I. Lea*, Vol. 1: 503 pp.
- KENNICOTT, ROBERT. 1855. Catalogue of animals observed in Cook County, Illinois. *Trans. Ill. State Agric. Soc.*, 1:577-595.
- MOHR, CARL O. 1943. Illinois furbearer distribution and income. *Bull. Ill. Nat. Hist. Surv.*, 22(7):505-537.
- THATCHER, ARTHUR. 1937. Jersey plans county wide program of game management. *Ill. Cons.*, 2(2):10-12.
- THOMAS, CYRUS. 1861. Mammals of Illinois. *Trans. Ill. State Agric. Soc.*, 4:651-661.
- WOOD, FRANK E. 1910. A study of the mammals of Champaign County, Illinois. *Bull. Ill. Lab. Nat. Hist.*, 8(5): 501-613.