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by

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THE SWAMP LAND ACT AND WET LAND UTILIZATION IN ILLINOIS, 1850-1890

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In 1935 the Land Planning Committee reported to the National Resources Board that about 91,000,000 acres of swamp and overflowed land in the United States can be improved for agricultural purposes or reclaimed by drainage and thus made to support 40,000,000 persons.¹ This is but one of the many indications that the long-standing problem of drainage of farm lands is still an issue for those who formulate Federal and State land-use policies. A visit to any of the heavily tiled areas of prairie farms in northern Indiana, north-central Iowa, or east-central Illinois furnishes convincing evidence that drainage is a matter of everyday concern to many farmers and a knotty problem for drainage engineers.

Nor are these problems confined to the Midwest. A glance at the maps of organized drainage districts in the United States prepared by the Bureau of the Census in 1940 shows that all the major regions of the country have encountered the problem of utilizing wet lands for agricultural purposes.

¹ The research for this article was done during tenure of the American Association of University Women's Fellowship Crusade National Fellowship and a Social Science Research Council Research-Training Fellowship, 1948-49, for which grateful acknowledgment is made. A shorter version of this article was presented at the session of the Agricultural History Society with the American Historical Association at Boston, Mass., on Dec. 30, 1949.

The data in the opening sentence are from E. W. Lehmann, "Relation of Drainage to Land-Use Policies," *Land Available for Agriculture Through Reclamation, Supplementary Report of the Land Planning Committee to the National Resources Board*, Part 4 (Washington, 1935), 39.

At that time 86,967,039 acres of land were organized in drainage enterprises with a capital investment of \$691,724,519 or almost \$8 per acre.² But this figure is a poor gauge of the amount of capital invested in drainage of agricultural land. In addition, millions of dollars have been spent by private individuals, companies, and farmers. These ventures have largely been gambles, financed from anticipated income produced by the reclaimed land. Not a few have failed and resulted in heavy capital losses. It has been only by trial and error that satisfactory methods of land drainage have been developed and successful land-use policies adopted.

The early experience with the utilization of wet land in Illinois is illustrative of these general problems. That State's experience may be considered typical of prairie sections of the Midwest where farm land drainage from the period of settlement to the present has not been so much a problem of overflowed lands but one of extensive areas of water-logged prairie soils. More than one-half of the crop producing land in Illinois, over 9,000,000 acres, is artificially drained. About 4,000,000 acres were drained by private enterprise, through the capital and labor of individual landowners and by private dredging and tiling companies. About 5,500,000 acres have been organized into drainage districts since 1879 at a cost topping \$100,000,000.³

² U. S. Bureau of the Census, 16th Census, 1940, *Drainage of Agricultural Lands* (Washington, 1942), 1. For the maps, see *passim*.

³ Illinois State Tax Commission, *Drainage District Organization and Finance, 1879-1937 (Survey of Local Finance in Illinois, v. 7, Chicago?, 1941)*, 3-4, 8.

The plan of organizing drainage districts proved to be a workable wet-land utilization policy. It was adopted after an earlier policy of the Federal and State Governments, the swamp land grant, failed, and after a quarter century of experimentation with methods of drainage had elapsed.

Representatives from the States of the Mississippi Valley were well aware of the problem of wet-land drainage when in the second quarter of the nineteenth century they repeatedly introduced in Congress⁴ measures to give unsold wet and swampy federal lands to the States. Speaking in terms of the vast acreage of overflowed lands along stream bottoms and wet prairie soils, they argued that these lands spread disease and death among the people, retarded settlement, and prevented the sale of contiguous federal land. Would it not be better to cede these worthless areas to the States and let the States reclaim them?⁵ In 1849 Louisiana received a grant of unsold federal swamp land within its borders for reclamation, and on September 28, 1850 a similar measure extended the principle to twelve other public land States.⁶

It is difficult to determine whether those who urged these measures upon Congress were primarily interested in developing a successful policy for wet-land drainage or in securing generous donations of federal land to their States. Possibly they were interested in both. It is worth noting that during the final debates on the swamp land act the wording of the proposed law was changed in such a way that the size of the grant was greatly enlarged. At the suggestion of Robert W. Johnson of Arkansas, the original version of the law containing the wording "swamp lands" with a definition based on General Land Office plats was discarded and "swamp and overflowed and made unfit thereby for cultivation" adopted.⁷ With this wording, the bill providing that the States receiving the grant were to apply the proceeds from sale exclusively as

⁴ Benjamin H. Hibbard, *A History of the Public Land Policies* (New York, 1939), 269; Matthias Nordberg Orfield, *Federal Land Grants to the States with Special Reference to Minnesota* (Minneapolis, 1915), 114; *Congressional Globe*, 31 Congress, 1 session, 2: 1848-1850.

⁵ *Congressional Globe*, 31 Congress, 1 session, 2: 1191-1192, 1826-1827, 1848-1850.

⁶ *U. S. Statutes at Large*, 9: 519-520.

⁷ *Congressional Globe*, 31 Congress, 1 session, 2: 1826-1827, 1831-1832, 1848-1850; 31 Congress, 1 session, House of Representatives, *Journal*, 474, 584, 1476-1478.

far as necessary to reclaiming them by levees and drains became law.⁸

Nearly 64,000,000 acres of swamp land were patented to the States. The Prairie States acquired substantial grants. Illinois received approximately 1,500,000 acres; Indiana, 1,250,000; Michigan, 5,500,000; Iowa, 874,000; Missouri, 3,333,000; and Wisconsin, 3,250,000.⁹

The Illinois press hailed the act as another boost for the State, a magnificent grant. A Whig paper carefully pointed out that Whig representatives in Congress as well as Democrats had done their duty by Illinois in voting for the act.¹⁰ The newspapers carried stories attributing the advance in Illinois internal improvement stock to the passage of the railroad grant and swamp land acts.¹¹ They predicted that after the necessary cost of drainage had been paid a very large surplus would remain to swell the income of the State.¹²

When the Illinois legislature turned its attention to the swamp land grant in the January 1851 session, there seemed to be general agreement that the lands should be selected and sold in the near future. Early in the discussions concerning the disposal of the grant two different views developed. Governor Augustus C. French, in his first message of January 7, 1851 on the subject, recommended that the State auditor sell the swamp lands and that the funds from the sale be invested in State bonds.¹³ Later he pointed out that the money from the sale of swamp lands could be set aside in a special drainage fund and this invested in interest-bearing State bonds which would aid in extinguishing the State debt.¹⁴ But members of the legislature expressed a different idea at the outset. They advocated giving the lands to the counties in which they were located for sale and having the counties

⁸ *U. S. Statutes at Large*, 9: 519-520.

⁹ *U. S. General Land Office, Annual Report, 1926*, 22, 43-47.

¹⁰ *Illinois State Register* (Springfield), Sept. 26, Oct. 3, 1850; *Illinois Daily Journal* (Springfield), Oct. 9, 1850.

¹¹ *Illinois Daily Journal*, Sept. 28, 1850; *Illinois State Register*, Oct. 3, 1850.

¹² *Illinois State Register*, Oct. 3, 1850.

¹³ *Journal of the Senate*, 17th General Assembly, 1st Session, 22; *Illinois State Register*, Jan. 9, 1851; *Illinois Daily Journal*, Jan. 7, 1851.

¹⁴ *Journal of the Senate*, 17th General Assembly, 2nd Session, 7-9; *Illinois State Register*, June 10, 1852; *Illinois Daily Journal*, June 8, 1852; *Bloomington Intelligencer*, June 16, 1852.

handle the matter of drainage.¹⁵ This latter plan was written into law on June 22, 1852. The lands were granted to the counties in which they were located for sale at not less than 10 cents per acre "for the purpose of constructing the necessary levees and drains to reclaim the same, and the balance of said lands, if any there be, after the same are reclaimed as aforesaid shall be distributed in each county, equally, among the townships thereof, for the purpose of education, or the same may be applied to the construction of roads and bridges, or to such other purposes as may be deemed expedient. . . ."¹⁶ Iowa and Missouri also turned their swamp lands over to the counties.¹⁷

This piece of legislation reflected the general belief that the grant was nearly valueless and the knowledge about wet prairie land reclamation at that time. The swamp lands seemed to be something of a white elephant. Some of the grant was overflowed land along stream bottoms. A large portion of these lands were water-logged prairie soils. In 1850 settlers were just beginning to tackle farming operations on the prairies. Tough sod which yielded only to heavy breaking plows, the problem of an adequate timber supply, and lack of transportation were expensive realities of pioneer prairie farming. Even more so were wet soils. The best advice that writers of emigrant guides could offer to settlers was to leave such wet-land areas alone. Earlier John Mason Peck had commented:

Strangers to the country have been taken in repeatedly, by locations on wet prairies, and they possess this character merely from being level. The water does not run off freely, but is absorbed by the soil, until it becomes saturated, or remains in this state till relieved by evaporation. In the spring season, the labor of the farmer will be impeded by the wetness of the soil; water will stand in his furrows, and the soil is heavy and compact. In the dry season the moisture becomes exhausted, the surface bakes and cracks on exposure to the sun, and the crop is injured by the drought. Crawfish throw up their bullocks in the soil. The emigrant may mistake in the dry season, and fancy he has a rich, level, and dry farm in prospect, but the next spring will un-deceive him.¹⁸

¹⁵ *Journal of the Senate*, 17th General Assembly, 1st Session, 67.

¹⁶ *Laws of Illinois*, 1852, 178-185.

¹⁷ Hibbard, *A History of the Public Land Policies*, 282.

¹⁸ John Mason Peck, *A Guide for Emigrants, Containing Sketches of Illinois, Missouri, and the Adjacent Parts* (Boston, 1831), 106.

About two decades of experimentation with methods of drainage took place before tile was recognized as a workable solution and came into anything like popular use. From an engineering standpoint, the most effective way in which Illinois and other Prairie States could have fulfilled the condition of the act of 1850 that proceeds from sales of the grant be used for drainage would have been to postpone reclamation for about two decades. Looking backward with a knowledge of the millions of dollars which have been spent in reclaiming these lands it is obvious that the income from the sale of a million and a half acre grant was hardly a starter. But in the 1850's all this was not foreseen. Given the problems of management which would have ensued had the lands not been sold, it seemed advisable for the counties to sell the swamp lands rapidly for what they would bring, let them become taxable, and shift the burden of drainage along to the buyer. This they did in the land boom of the 1850s. An analysis of eight counties, Champaign, Ford, Iroquois, Kankakee, Livingston, McLean, Piatt, and Vermilion, located in the now extensively tiled, highly productive, and valued prairies of east-central Illinois, whose experience seems to have been typical, tells a good deal of the story of county sale policies.

In the years 1855-1858, these counties rapidly pushed their 225,490 acres of the grant into the market. The lands were evaluated at 75 cents to \$20 per acre, but only a small portion was appraised at prices as high as the \$7 to \$15 per acre being asked by the Illinois Central Railroad in the same years.¹⁹ When lands did not sell as rapidly as desired, boards of supervisors were willing to reduce their original valuations by as much as

¹⁹ Champaign County evaluated its lands at \$1.25 to \$6.00 per acre (Champaign County, Deed Record, T: 607; Champaign County, Supervisors' Record, 2: 453); Ford County at \$1.25 to \$4 per acre (Ford County, Deed Record, 13: 120-133); Iroquois at \$.75 to \$1.25 per acre (Iroquois County, Swamp Land Record); Kankakee at \$1.25 to \$2.50 per acre (Kankakee County, Swamp Land Record); Livingston at \$1.25 to \$10 per acre (Livingston County, Swamp Land Record); Piatt at \$2 to \$7 per acre (Piatt County, Court Record, B: 168-173); McLean at \$1.25 to \$20 per acre (*Daily Pantagraph*, Bloomington, Jan. 19, 1858); Vermilion County at \$5 per acre (Vermilion County, Supervisors' Record, D: 323).

one-third.²⁰ While from a study of deeds and swamp land records the average sale price of 221, 900 acres of the grant appears to have been \$2 to \$3 per acre,²¹ county orders issued by local governments in compensation for services performed and county bonds were accepted in payment for swamp lands.²² Frequently these securities depreciated in value,²³ so that it became possible to acquire portions of the county lands for a much lower figure. All of the eight extended credit to purchasers. Livingston County adopted the most liberal provisions, requiring no down payment, no principal for 5 years with 5 percent interest.²⁴ Credit arrangement of other counties required 10 to 25 percent of the purchase price at the time of sale, and the balance in 2 to 5 years with interest ranging from 6 to 10 percent.²⁵ Generous extensions of payments were frequently made.

While some local governments officially stated a preference for sale to settlers,²⁶ as a whole they seemed willing to sell to all types of investors who would take the lands. Pushed into the market at a time disadvantageous to the prospective farmer, the major part of the swamp lands were sold between 1857 and 1863 when agricultural prices were low and Illinois suffered from several poor crops. Persons most willing to gamble their capital in real estate of dubious value were residents and absentees who purchased large portions of the grant as a short term investment and others who were acquiring large acreages of prairie land which they later developed as tenanted estates and cattle ranches. Approximately 56 percent of the swamp land grant in these 8 counties went to such inves-

²⁰ Champaign County, Deed Record, T: 607.

²¹ These data have been compiled from deed, swamp land, and supervisors' records located in county courthouses.

²² Livingston County, Land Book; Iroquois County, Swamp Land Record, 9.

²³ Livingston County, Land Book, see mounted newspaper clippings.

²⁴ Livingston County, Swamp Land Reports, 129-130.

²⁵ Champaign County, Deed Record, T: 607; Ford County, Court Record, A: 108; McLean County Court, County Record, 4: 414; Kankakee County, Supervisors' Record, B: 127; Vermilion County, Supervisors' Record, D: 323.

²⁶ Ford County, County Court Record, A: 108; Kankakee County, Supervisors' Record, A: 103, 140; Livingston County, Swamp Land Reports, 127-129; Vermilion County, Supervisors' Record, D: 323.

tors.²⁷ Local administrative officers and their friends frequently invested in portions of the grant, and in some cases nonresidents by agreement with local authorities bought large tracts of swamp lands. Many of the same persons who had acquired substantial acreages from the Federal Government a few years before, further expanded their investments by purchasing county holdings.

About one-third of Champaign County's 15,150 acre grant²⁸ went in large tracts to local and nonresident investors. Michael L. Sullivant of Columbus, Ohio, who in the years 1853-56 had purchased 52,600 acres of prairie land in east-central Illinois from the Federal Government²⁹ and 10,470 from the Illinois Central Railroad³⁰ with the view of developing a great cattle and farming business, added 1,130 acres of the county's swamp lands to his holdings. William Foos of Springfield, Ohio, who was rounding out a 4,000-acre cattle ranch,³¹ bought 560 acres of swamp lands, while three other nonresidents also acquired a portion of the grant. Perhaps due to the fact that a large amount of federal land had passed into the hands of nonresidents and large investors, local opinion was hostile. An editor commented:

The sale of Swamp Lands commenced in accordance with the published notice on Monday morning . . . with a number of purchasers in attendance from this vicinity, and a few from a distance. . . . Speaking of these latter gentlemen (the speculators) puts us in mind of one other thing that we are bound to say:—while we would rejoice to see these lands taken by

²⁷ Calculated from deed and swamp land records located in the courthouses of the counties under discussion.

²⁸ All acreage figures cited for the various counties have been compiled from county swamp land and deed records and from patents of the Federal Government to the State of Illinois located in the office of the Auditor of Public Accounts, Springfield. Acreage figures for purchases of swamp lands by single persons have been compiled from swamp land and deed records.

²⁹ All details of land sales by the Federal Government used in this article have been compiled from the original cash and warrant entry books of the U. S. General Land Office in the National Archives.

³⁰ All details of land sales by the Illinois Central Railroad have been compiled from the original plat books of the Illinois Central, located in the Land and Tax Department, 12th Street Station, Chicago.

³¹ *Champaign County Gazette* (Urbana), June 13, 1877, Jan. 8, 1879; *The Biographical Encyclopaedia of Ohio in the Nineteenth Century* (Cincinnati, 1876), 95-98.

actual settlers, with a view of their improvement and cultivation, we consider every acre that goes into the hands of non-resident, non-improving speculators as a positive detriment to the people, and as so much added to what has already been made the greatest curse under which our farmers have labored.

You gentlemen, may consider that you are doing a very nice thing, and ensuring to yourselves handsome profits at the expense of our hard working farmers, but we assure you that our hard working farmers consider *you* an unmitigated evil, and wish that you and your sharp bids and your money making calculations were at the bottom of the Dead Sea.

We have had enough of eastern and southern speculators.³²

85 percent of Ford County's swamp lands went to nonresidents, the major purchaser being Sullivant who acquired 5,536 acres.³³ In the case of Vermilion County's 6,470-acre grant, two-thirds went to large investors. The county swamp-land commissioner was criticized for speculating in the lands himself.³⁴ Robert H. Ives of Providence, Rhode Island, a large-scale investor in western lands, residents of Ohio and Kentucky, a banker and loan agent of Monticello, Illinois, and farmers who were affected by the land buying fever of the 1850s bought over 65 percent of Piatt County's grant in 1855.

As for McLean County's 28,000 acres of swamp lands, the story was a variation on the same theme. The grant became involved in the rivalry between Bloomington and Peoria over the location of a State normal university. In an effort to raise a large enough subscription to assure Bloomington the school, on March 31, 1857 the county commissioners pledged \$50,000 of the proceeds from future swamp lands sales for construction of buildings at Normal.³⁵ The lands were appraised and offered for sale in February 1858.³⁶

In the hope of securing funds from the sales more rapidly in depression years, an effort was made to sell them in New York City.³⁷ Failing this,

³² *Central Illinois Gazette* (Urbana), Oct. 13, 1858.

³³ Compiled from Ford County Land Book.

³⁴ *Semi-Weekly News* (Danville), Sept. 18, 1874; Vermilion County, Supervisors' Record, F:326-327.

³⁵ Frances Milton I. Moorehouse, "The Life of Jesse W. Fell," University of Illinois *Studies in the Social Sciences*, V, no. 2 (June, 1916), p. 44; McLean County Court, County Record, 4:300.

³⁶ McLean County Court, County Record, 4:413.

³⁷ Jacob L. Hasbrouck, *History of McLean County Illinois* (Topeka, 1924), 1:192.

Charles E. Hovey, president of Normal, anxious to obtain money for construction of buildings at the school, contracted for 2,860 acres and interested Jesse K. Dubois, the State auditor,³⁸ Ozias M. Hatch, the secretary of state,³⁹ George W. Stipp, Springfield doctor,⁴⁰ and other persons in the state capital in buying a large portion of the lands.⁴¹ Asahel Gridley and Almon B. Ives, Bloomington land investors and attorneys, bought a portion, while other large purchasers such as the Crumbaugh family and Henry West were well-to-do land owners in the community. In this fashion over 40 percent of McLean County's swamp lands passed into private ownership.

Had the panic of 1857 not disrupted the plans for the projected "Great American Central Railroad," it is probable that 12,000 acres of Kankakee County's grant would have been donated to secure the location of a line through Kankakee.⁴² With the panic the projected railroad disappeared from the board of supervisors' plans for disposal of the grant and the sale pattern followed the more common one with 60 percent of the 40,300-acre grant going in large tracts to short-term investors, nonresident large landowners, local businessmen, and resident well-to-do farmers.

The story of Iroquois County's 61,000-acre grant is a complicated one which ended in the sale of two-thirds of the land to George C. Tallman of Utica, New York, a friend of the county judge who has been accredited with arranging the sale.⁴³ After plans to sell the lands to a contracting engineer of the Peoria and Oquawka Railroad at \$0.75 per acre in compensation for grading and furnishing ties for a part of the line were discarded,⁴⁴ the tracts were appraised in three classes ranging from \$0.75 to \$1.25 per acre and offered for sale on May 6, 1856.⁴⁵ While several thousand acres were purchased in large tracts at public and private sales

³⁸ Newton Bateman and Paul Selby, editors, *Historical Encyclopaedia of Illinois and History of Boone County* (Chicago, 1909), 1:137.

³⁹ *Ibid.*, 1:224.

⁴⁰ *Illinois State Register*, Aug. 9, 1849.

⁴¹ Newton Bateman and Paul Selby, editors, *Historical Encyclopaedia of Illinois and History of McLean County* (Chicago, 1908), 2:778.

⁴² Kankakee County, Supervisors' Record, A:145.

⁴³ H. W. Beckwith, *History of Iroquois County...* (Chicago, 1880), 378.

⁴⁴ *Ibid.*, 363-364; Iroquois County, Swamp Land Record, 3.

⁴⁵ Iroquois County, Swamp Land Record, 5, 9, 15.

between 1855 and 1858 by local and nonresident investors, George C. Tallman received 45,500 acres, the proceeds from previous county sales of swamp lands, and the county's claims to cash and warrant indemnity from the Federal Government. He paid in return \$47,000 in Iroquois County bonds which had depreciated about 35 per cent below par and \$9,787.74 in coupons and interest.⁴⁶ Between 1860 and 1865 Tallman deeded 4,250 acres of the grant to the county judge.⁴⁷ There were protests against the Tallman sale, but most of them seem to have dissolved in talk or in letter writing to Lyman Trumbull.⁴⁸ A local attorney proposed to the board of supervisors that he be given a contract to break the sale. He desired as compensation the land sold to Tallman and proposed to give the county 25 percent of whatever he made by selling it. The resolution lost.⁴⁹ Local hostility led to the assessment of the swamp lands at two to three times their value. Recommending that there "be an end to all further controversy" over the sale contract, the board ordered the land assessed at its fair cash value.⁵⁰

One of the eight counties intensively studied, Livingston, took a firm stand in favor of sale to farmers. This attitude was probably a reaction to the purchase of the major portion of federal lands in the county by some forty absentee investors in the 1850s. In 1857 the county's 39,000-acre grant was divided into five classifications and appraised at \$1.25 to \$10 per acre.⁵¹ All permanent settlers upon the lands received the preference of buying at the appraised value. Next in order for preferential treatment were persons living in the county who owned less than 80 acres of land. The applicant was obliged to file an affidavit to the effect that he wanted the land "for his own use and occupation for farming purposes & not for speculation." No single purchaser could buy more than a quarter section. Further restrictions required the buyer to drain the land and improve one-tenth annually for 5 years by fencing and cultivation. Liberal credit


⁴⁶ *Ibid.*, 91-92, 113-125; Beckwith, *History of Iroquois County*, 390.

⁴⁷ Compiled, Iroquois County, Deed Records, v. 28-42.

⁴⁸ Beckwith, *History of Iroquois County*, 379-380; Jasper J. Eldridge and many others, Middleport, Ill., to Hon. Lyman Trumbull, June 20, 1856, Library of Congress, Trumbull Papers, v. 5.

⁴⁹ Iroquois County, Supervisors' Record, A: 52-53.

⁵⁰ *Ibid.*, 116-117.

⁵¹ Livingston County, Swamp Land Record. 

terms provided that the purchaser pay 5 per cent interest on the principal yearly. At the end of the 5-year period if all provisions of the contract had been fulfilled, the principal became due and title was given.⁵² Despite the liberality of Livingston County's sale provisions, the high cost of improving wet prairie lands and depressed farm prices between 1857 and 1863 defeated many a purchaser. Cancellations and resales were numerous. Much of the land was sold three and four times before title passed.

From studying the records of sales compiled by a special committee in 1873, it appears that few tracts of more than 160 acres went to single persons, but a careful study of deed records seems in order before it would be safe to conclude that the land was not sold in large tracts. Considering the unsatisfactory manner in which sale records were kept, laxness in recording sale prices and interest payments, one doubts that proof of cultivation was ever carefully checked. The credit features of sale policy would have been as attractive to large investors as were those of the Illinois Central Railroad. Designed to aid the farmer, the elaborate sale policy, nevertheless, remains interesting as a protest against nonresident investment in a county where absentee landownership and large estates were characteristic of the ownership pattern.

But an insignificant portion of proceeds from swamp land sales were used for drainage by the counties. These funds were largely applied to the construction of roads, bridges, and courthouses, and for educational purposes. Thus the engineering and financial problems involved in drainage were passed along to purchasers. The lands that they had acquired were hardly a bargain. If they planned to improve their holdings and bring them into production in the 1850s and 1860s they would have to spend large sums of money experimenting with methods of drainage with little assurance of breaking even or realizing a profit. If they wished to sell the lands unimproved, \$2 to \$4 per acre was the average price very wet land would bring in the 1860s and only slightly more in the seventies. The Illinois Central Railroad too found wet prairie not a readily saleable commodity and lowered its prices in the latter sixties to \$4 per acre.⁵³ Taxes were

⁵² Livingston County, Swamp Land Reports, 127-130.

⁵³ Paul Wallace Gates, *The Illinois Central Railroad and Its Colonization Work* (Cambridge, Mass., 1934), 292.

rapidly increasing in Illinois especially after the Civil War. From 1879 on owners of wet lands faced the prospect of heavy additional assessments by organized drainage districts. It seemed to be a case of getting the land into production by pouring in more capital or selling at relatively low prices and neither looked like a good bet. A variety of solutions were worked out. A great many sold, some temporarily used the land for extensive cattle enterprises, and some began experimenting with drainage.

Many of those who originally bought large acreages of county swamp lands neither contributed to nor retarded their utilization for they sold them for what they would bring in the 1860s and 1870s before a concerted movement for wet land drainage had gotten under way. It is difficult to see how they could have made much of a profit. For example, George C. Tallman, who had purchased 45,500 acres of Iroquois County's grant at about 90 cents an acre sold the bulk of his lands unimproved during 1860-1879 at \$2 to \$4 per acre. Occasionally he made a sale at \$5 and \$8.⁵⁴ Considering that taxes on unimproved land in that county increased from about 4 cents per acre in 1860 to 9 cents in 1871, and that money invested in farm mortgages in that area brought at least 10 per cent annual interest, the profit he made, if any, must have been slim indeed.

The most common way of utilizing wet lands during 1855-1880, without great capital outlay for drainage, was to devote them to cattle grazing and feeding. Probably the majority of owners of prairie lands in east-central Illinois whether they were farmers with 160 or 200 acre tracts or owners of tracts of 1,000 acres and upward utilized the wet areas as permanent pasture. Numerous examples of large cattle enterprises might be cited. The 22,500-acre Broadlands farm at first owned by Michael L. Sullivant and later by John T. Alexander and the 4,000-acre Foos holdings both in Champaign County; the 10,500 acres owned by Lemuel Milk in Kankakee and Iroquois counties; the 3,000-acre Sconce holdings, the 6,000-acre Sidell tract, the 6,000-acre John W. Goodwine lands, the 3,400-acre Collison holdings, and the William A. and David Rankin lands, 3,800 acres all in Vermilion County; the Henry West 2,500 and John Weedman 1,000 acre tracts in McLean County, to mention but a few, were all examples of cattle enterprises on wet lands.

⁵⁴ Compiled, Iroquois County, Deed Records, v. 22-153.

A vast swampy area in northeastern Iroquois County, parts of which were included in the county's swamp land grant, remained the grazing ground for thousands of cattle in the 1880s. After taking a junket through this area in the spring of 1883, a local editor remarked:

... the value of these lands begins to be appreciated, and the open range grows less and less year by year. Where two years ago there was an unconfined, almost limitless pasture field, there are thousands of acres fenced in with substantial wire fences and the open range is being gradually diminished. McGill and Harrington have ... pastures where to-day are grazed over three hundred head of cattle; Isaac Hogue has three sections fenced in and a thousand steers feed upon its sweet grasses; Barton & Peck have under fence nine hundred acres and here too may be seen sleek herds of cattle quietly grazing. From one eminence we could see no less than twenty-five hundred cattle feeding. ... Adjoining ... Dr. Triplett has five thousand acres fenced across the line in Indiana where hundreds of cattle are grazed, and where tenants cultivate the soil and reap rich harvests.⁵⁵

It was not until a drainage district was organized in that area in the 1890s that the land was utilized more intensively.

The very extensive swampy areas of southeastern and northwestern Kankakee County have long presented such a formidable obstacle to intensive agriculture that today it is still considered an engineering triumph when very wet sections, thought not worth the capital investment, are drained out and made into profitable farming enterprises. In the latter half of the nineteenth century these lands were used largely for grazing cattle. The advertisements of their owners to agist cattle by the month and season occupy a prominent place in local newspapers.⁵⁶ Observers of the utilization of wet land in Kankakee County in 1915 remarked: "... there are poorly drained sloughs that are usually in permanent pasture ... Large areas need still more drainage before they can be brought under the best cultivation."⁵⁷

But extensive cattle enterprises were no permanent solution in an area where land values and taxes were constantly increasing. Cattle might be relied upon as the major source of income from the land until possibly 1880, but economic pressure

⁵⁵ *Iroquois County Times* (Watseka), May 12, 1883.

⁵⁶ *Kankakee Gazette*, Mar. 4, 1869, June 8, 1871, Mar. 13, 1873, Apr. 2, 1874, Apr. 6, 1876.

⁵⁷ Illinois Agricultural Experiment Station, *Soil Report No. 13, Kankakee County Soils* (Urbana, 1916), 2.

to intensify farming operations was clearly felt by the close of the Civil War when land values began their steady and rapid rise. Some cattlemen began to intensify a decade before. The drier portions of their lands were plowed up and put in corn and small grain. Some tried using hired labor at \$20 per month plus board,⁵⁸ but soon found the cost too high. Tenants who would perform the labor to improve and cultivate the land giving from one-third to two-fifths the crop produced as rent came to be recognized as a more economical solution. More and more pasture land gave way to the plow in the post Civil War years, until by the mid eighties with one-half the crop produced rapidly becoming the rental for well improved land, and with cattle breeding and feeding in a depressed state,⁵⁹ cattlemen began to tile their holdings and rent them to tenants.⁶⁰

The way in which the wetter portions of lands of Champaign County cattlemen came into more intensive production is not atypical of the experience of cattlemen owning this type of land in east central Illinois. William, Greenbury, and Gustavus Foos, Springfield, Ohio bankers,⁶¹ purchased 8,000 acres of prairie land in Champaign County, partly federal and Illinois Central land and partly county swamp land, 1854–1865,⁶² some of which would have required extensive drainage to bring it into immediate grain production. Four thousand acres were retained as a stock farm and the remainder sold off from time to time. It was probably in 1864 when William Foos formed a partnership with a resident of the county to operate the tract⁶³ that development began. When he made his annual visit to the stock farm in 1877, 1,500 acres were under cultivation by tenants for grain rent. The farm had been divided and houses erected on each division for the tenants. Hired laborers helped with plowing and in caring for the 400 cattle and

⁵⁸ Matthew T. Scott Collection, Notebook entries, 1855–1870, *passim*, Collection of Regional History, Cornell University.

⁵⁹ G. E. Morrow, *Stock Feeding in Illinois* (Illinois Agricultural Experiment Station, *Bulletin 36*, Urbana, 1894), 421.

⁶⁰ See Paul W. Gates, "Cattle Kings in the Prairies," *Mississippi Valley Historical Review*, 35: 380–383 (Dec. 1948).

⁶¹ *The Biographical Encyclopaedia of Ohio of the Nineteenth Century*, 95.

⁶² Compiled, Champaign County, Deed Records and Original Entry Book.

⁶³ *Portrait and Biographical Album of Champaign County, Illinois* (Chicago, 1887), 871.

160 hogs.⁶⁴ By 1880 30 miles of hedge and board fence had been constructed, \$2,000 expended in ditching and tiling, 11 dwelling houses erected, and contracts let for building more.⁶⁵ The local press was full of praise for the whole enterprise commenting: "An air of neatness pervades every nook and corner. The fences, both hedge and other, are kept in the best of repair."⁶⁶ In 1887 the live-stock enterprise amounted to 600 head of cattle and 500 hogs.⁶⁷ At the turn of the century 13 tenants were renting the land at \$4.00 per acre; 1,500 acres were in grass, 700 in oats, and 2,100 in corn; efforts were being made at a rotation system; the lands were moderately well tiled and well fenced; the buildings were "not very new or up to date."⁶⁸

Similarly Benjamin F. Harris, noted cattleman of Champaign County, who had begun his career as a cattle drover in 1833 and acquired 5,000 acres of land and widespread recognition for his fat cattle in the 1850s,⁶⁹ was relying increasingly upon tenant operations in 1881 and beginning to tile his land.⁷⁰ Lewis Kuder, a smaller Champaign County cattleman owning 1,300 acres, also began tiling operations in the same year.⁷¹

The story of the utilization of wet land in the largest single holding in Champaign County, the 22,500-acre Broadlands farm, is somewhat different. Utilized largely for extensive cattle enterprises until 1871,⁷² the tract then became the

⁶⁴ *Champaign County Gazette*, June 13, 1877.

⁶⁵ *Ibid.*, Jan. 8, 1879, quoting *Gibson Courier; Champaign County Gazette*, July 28, 1880.

⁶⁶ *Champaign County Gazette*, July 28, 1880.

⁶⁷ *Portrait and Biographical Album of Champaign County*, 871.

⁶⁸ Newton Bateman and Paul Selby, editors, *Historical Encyclopaedia of Illinois and History of Champaign County* (Chicago, 1905), 2: 685, quoting the *Champaign Times*.

⁶⁹ Benjamin F. Harris, *Autobiography*, typed copy in Mary V. Harris, *Autobiography of Benjamin F. Harris*, Master's Thesis, 1923, University of Illinois Library.

⁷⁰ *Champaign County Gazette*, Sept. 11, Oct. 12, 23, 1881.

⁷¹ *Ibid.*, Dec. 14, 1881; *Portrait and Biographical Album of Champaign County*, 208.

⁷² For discussions of the operation of Broadlands by Michael L. Sullivant and John T. Alexander, see Paul W. Gates, *Frontier Landlords and Pioneer Tenants* (Ithaca, 1945), 15–20, "Large-Scale Farming in Illinois, 1850 to 1870," *Agricultural History*, 6: 17–18 (Jan. 1932), and "Cattle Kings in the Prairies," *Mississippi Valley Historical Review*, 35: 403–404 (Dec. 1948).

property of Marshall P. Ayers and Company of Jacksonville, Illinois,⁷³ whose plan seems to have been to sell the land without a large capital outlay for improvements. In 1871 they began to sell Broadlands in small tracts with but slight improvements at \$25 and \$30 per acre on 5 to 7 years credit with interest rates at 8 to 10 percent. Sales continued until after 1900. By the 1890s the lands were bringing \$35 and \$40 per acre. About one-third of those who entered purchase contracts forfeited them without completion probably having found the cost of improvements, interest, principal, and sagging prices for farm produce too heavy a burden. Some of the land was contracted for two and three times before title passed.⁷⁴

With sales spread over thirty years, Augustus and Marshall Ayers tried various ways of securing a return from the land to meet taxes and other costs. Agisting was used from 1871 until well into the eighties. Cattle of farmers in the immediate neighborhood and in Coles, Wayne, Richland, Edgar, and Morgan counties were taken in and pastured at rates ranging from \$.50 to \$1.50 per head per month depending upon age and number.⁷⁵ By the latter seventies part of the land was being rented to tenants. Buildings which had been constructed by former owners, described by the local press as "mere shells of old plank houses," were moved out from headquarters to accommodate "squatter tenants,"⁷⁶ who rented the lands for cash.⁷⁷ Leasing continued until the tract had been sold off after 1900.⁷⁸ Ayers and Company did a limited amount of ditching to drain the wetter portions of the tract and stimulate sales in the 1880s,⁷⁹ but later owners assumed the major burden of drainage.

By and large the cattlemen were not in the vanguard of the drainage movement, but another group of persons who acquired substantial acreages

⁷³ Champaign County, Deed Record, 23: 552-554.

⁷⁴ From a detailed study of these sales Champaign County, Deed Records, v. 24-121.

⁷⁵ Compiled, Stock Registers No. 1 and 2, Alexander-Ayers Documents, in the Department of Agricultural Economics, University of Illinois; *Champaign County Gazette*, Mar. 18, 1874.

⁷⁶ *Champaign County Gazette*, Aug. 1, 1877.

⁷⁷ Leasing Agreement, Feb. 1, 1884, Alexander-Ayers Documents.

⁷⁸ Champaign County, Deed Records, 79: 593-594, 82: 510-512, 573-575, 595-597, 89: 565-566, 93: 218-220.

⁷⁹ *Champaign County Gazette*, Apr. 7, 1880, June 15, 1887.

of prairie land in east-central Illinois in the 1850s and 1860s by their early experiments with drainage helped point the way toward more intensive wet land utilization. They had substantial capital resources to draw on so that it was possible for them to try out the costly ditching machines being invented in those years which were beyond the means of the small farmer. Matthew T. Scott, Lexington, Kentucky banker's son,⁸⁰ who became the leading figure in making investments in 47,400 acres of federal, Illinois Central, and county prairie land in Illinois and western Iowa for his family, their business associates, and himself,⁸¹ 1848-1859, is a good example of a large investor who began developing his lands intensively in the 1850s when the prairies of east-central Illinois were just beginning to come into production. In 1852 while still buying land he started improvements on his Champaign County acquisitions and in the following spring rented his land to tenants.⁸² But it was not until he came from Kentucky to McLean County to settle permanently in 1855 that extensive development operations were begun. A 6,000-acre tract in northern McLean County became the center of his farming enterprises, and between 1855 and 1857 he poured thousands of dollars lent by his family into construction of cottage houses for tenants, breaking prairie, fencing, cattle, seed, and farm implements. Wheat and corn were the major crops grown on these farms. It became apparent in these first few years that the problem of drainage could not be ignored and that too was tackled.

Advice offered about draining prairie land in agricultural journals in the 1850s reflected the interest beginning to be taken in the matter and the uncertain and experimental nature of such operations. Open ditches were advocated by some and this involved very heavy labor costs. Even more costly but widely advocated were underdrains constructed with rails, brush, slabs, sawed boards, brick bats, or stones, all rather dear commodities in frontier prairie areas.⁸³ By 1856 a new method of

⁸⁰ George B. Pickett, *A Short Sketch of the Life and Character of Matthew Thompson Scott of Bloomington, Illinois* (Bloomington, 1891), 4-5.

⁸¹ Agreement, Aug. 17, 1853 and Notebook entries, Oct. 15, 1852, Aug. 18, 1853, Jan. 23, 1854, in Matthew T. Scott Collection.

⁸² Notebook entries, Oct. 4, 1852, May 6, 1853, Apr. 8, 1854, Scott Collection.

⁸³ *Reports*, 19th General Assembly of Illinois, 1855, 642; *Prairie Farmer*, Feb. 1855, p. 58; *Daily Pantagraph*, Dec. 25, 1858.

drainage, experimented with in Macon and Piatt counties for the two preceding years, the mole ditching machine, was greeted with enthusiasm.⁸⁴ After a few years' trial it became apparent that the mole plow which cost from \$100 to \$175⁸⁵ was of only limited use. The under drains made by this wedge of iron attached to a sharp colter 3 or 4 feet long and drawn through the earth by 2 yoke of cattle⁸⁶ were at best of a temporary nature.⁸⁷

Matthew Scott, in the first two years of farming operations, hired laborers to dig ditches, a process which proved to be slow and very expensive. In 1858 he tried a mole ditcher,⁸⁸ but by the 1860s he had abandoned its use for large plows drawn in some cases by 40 head of cattle to construct ditches on his lands. He later estimated that his laborers and tenants constructed 250 miles of ditches on his lands in this fashion.⁸⁹ With a general movement toward tile drainage in the 1880s, Scott began having his lands tiled and during the next ten years 5,000 acres were improved in this fashion.⁹⁰

Several years after Scott had begun developing his lands, Asa and George W. Danforth, bankers of Washington, Illinois,⁹¹ who acquired 18,500 acres of federal land during 1853–1855 and 20,000 acres of Illinois Central land in succeeding decades, much of which was too wet for intensive use began developing their Iroquois County holdings. In 1862 George W. Danforth went there to supervise improvements, shortly afterward acquired a machine which cut a 3 to 4 foot ditch, and by 1866 over 25 miles of ditches had been constructed.⁹² Danforth put on an advertising campaign to attract Dutch families to settle in the vicinity of his lands offering inducements which brought a

⁸⁴ *Illinois Farmer*, 1: 5 (Jan. 1856); *Weekly Pantagraph*, May 4, 1859, quoting the *Prairie Farmer*; *Prairie Farmer*, May 17, 1860, p. 309. The Apr. 12, 1860 issue ran a full front page article on mole ditching with elaborate cuts showing the mole plow in operation.

⁸⁵ *Prairie Farmer*, Sept. 15, 1859, p. 164, 168.

⁸⁶ *Illinois Farmer*, 1: 5 (Jan. 1856).

⁸⁷ *Ibid.*, 6: 99 (Feb. 1861).

⁸⁸ Notebook entry, July 16, 1858, Scott Collection.

⁸⁹ Notebook entries, March, April 1867, July, Aug. 13, 1868, Scott Collection; Pickett, 8.

⁹⁰ Notebook entries, 1886–1891, *passim*; James Colter to Matthew Scott, May 29, 1888, June 24, 1889, July 16, 1889, Mar. 4, 1891, Scott Collection.

⁹¹ *History of Tazewell County Illinois . . .* (Chicago, 1879), 681; *Iroquois County Times*, Oct. 28, 1882.

⁹² *Prairie Farmer*, Sept. 15, 1866, p. 166.

number to America to become laborers on his lands, possibly tenants, and purchasers. About forty Dutch families came and settled in the vicinity between the close of the Civil War and 1870. By 1880 at least 5,000 acres of the Danforth holdings all under cultivation were rented to tenants for one-third to two-fifths of the crop depending on location and quality of the land.⁹³

Other large landowners plunged into the drainage of wet lands in this experimental period. In 1870 Lemuel Milk, owner of 10,500 acres in Kankakee and Iroquois counties, cooperated with the Danforths in constructing drainage ditches on the flat swampy portions of his Iroquois County holdings with much success,⁹⁴ and shortly afterward turned his attention to draining his lands in Newton County, Indiana. In 1874 the local press observed with interest and enthusiasm the efforts to drain Beaver Lake. According to one glowing account Milk had a large ditch dug which reduced the size of the lake from 8 miles long and 6 miles wide to 1 mile long and $\frac{1}{2}$ mile wide. The "pond" left was drained away by further ditching.⁹⁵ A more conservative estimate accredited Milk with draining 9,000 acres of Indiana land.⁹⁶ In the 1860s still another large landowner in Iroquois County cooperated with the Illinois Central Railroad in constructing 50 miles of ditch.⁹⁷

While large landowners were demonstrating the practicability of drainage by ditching, the agricultural press had launched into lengthy discussions on the advantages of tile. The interest expressed in tile in these publications in the 1860s was not an entirely new one. Mathias L. Dunlap had been experimenting with tile drainage in a small way in 1858 on Champaign County land,⁹⁸ and occasionally advice had been offered in the 1850s to tile drain "if you can afford it."⁹⁹ And that seemed to be part of the stumbling block, "if you can afford it." By 1861 there were at least two attempts to make tile manufacturing a going business in

⁹³ Beckwith, 309–310.

⁹⁴ *Ibid.*, 319, 375.

⁹⁵ *Kankakee Gazette*, Sept. 10, 1874.

⁹⁶ George Ade, "Prairie Kings of Yesterday," *Saturday Evening Post*, 204: 77 (July 4, 1931).

⁹⁷ Gates, *The Illinois Central Railroad and Its Colonization Work*, 291; *Prairie Farmer*, Apr. 25, 1863, p. 264, Sept. 15, 1866, p. 166.

⁹⁸ Article clipped from *Chicago Tribune*, dated Feb. 23, 1869, in Scrap Book, Dunlap Collection, University of Illinois Library.

⁹⁹ *Central Illinois Gazette*, July 21, 1858.

Illinois,¹⁰⁰ but prices were high. Manufacturers in Chicago and Joliet were advertising 3-inch tile at \$18 and \$20 per 1,000 feet and 4-inch at \$22.50 and \$30 per 1,000 plus freight charges.¹⁰¹ Would it be wise to spend such sums for tile and labor to lay it without any assurance of results with slightly improved land selling at \$10, \$12, and \$15 per acre? Tile drainage remained pretty much in the experimental stage with those who tried it arguing for and against until well into the seventies.¹⁰²

In order to drain effectively wet prairie areas, dredge ditches as well as tile were a necessity. Small farmers needed some way of bringing these expensive improvements within their means. A step was taken in that direction when an article was included in the Illinois constitution of 1870 permitting the construction of ditches across the lands of others, but efforts to organize drainage districts and levy assessments for improvements on landowners benefiting from them was considered by the Illinois Supreme Court to be going a step beyond the constitutional provision. A constitutional amendment in 1878, and two pieces of legislation, the drainage and levee act and the farm drainage act, which were adopted in 1879, based on the amendment and upheld by the court, opened the way for organized drainage districts with legal power to levy assessments for the construction of levees and ditches.¹⁰³

By the latter seventies, with an effective drainage law on the statute books, with values up to \$3 and \$12 per acre for unimproved land and \$18 and \$40 per acre for improved land,¹⁰⁴ with an abundance of capital being offered by eastern insurance companies and businessmen at 8 percent for investment in Illinois farm mortgages, with a series of wet seasons prior to 1878 demonstrating the benefits of tile drained lands,¹⁰⁵ and with the location of tile factories in local communities¹⁰⁶ which made it possible to buy tile

without bearing the expense of freight rates, earlier objections to tile melted away and significant amounts began to be laid. The Illinois Department of Agriculture commented in 1878 that a revolution in public sentiment had taken place.¹⁰⁷ The local press, which had been plugging for tile drainage noted with interest and enthusiasm that farmers were beginning to appreciate the value of tile and were rapidly improving their lands.¹⁰⁸ More tile was laid in Champaign, Douglas, Livingston, McLean, Piatt, and Vermilion counties between 1880 and 1890 than in the next twenty years.¹⁰⁹

The organization of drainage districts was proving by 1900 to be a very workable wet land utilization policy, but it presented administrative difficulties. An impressive number of owners were reluctant to have their lands included and to pay the heavy assessments for ditching improvements. A good many who protested were absentees. Many large landowners, some of whom had been making their own improvements and who perhaps wished to continue to do so as they had capital to invest, balked at the idea. Not a few resident small landowners protested to prospective heavy assessments. Theirs was a losing battle. Assessments might be scaled down somewhat but with the vote of the majority owning one-third of the lands, all the lands in a proposed district were incorporated.¹¹⁰

Yet another group of persons with large amounts of capital to invest reacted differently to the prospect of draining wet Illinois lands in the 1880s. The Illinois Department of Agriculture reported that the increased yields on tilled lands "has attracted the attention of capitalists, who are largely investing in the low, flat lands in various parts of the State, which, after being tile-drained produce

¹⁰⁷ Illinois State Department of Agriculture, *Transactions, 1878*, 432.

¹⁰⁸ *Champaign County Gazette*, Nov. 6, 1878, Feb. 11, 1880, Mar. 8, 1882; *Daily Bloomington Bulletin*, Mar. 2, 1881, Aug. 30, 1882; *Iroquois County Times*, Nov. 3, 1883.

¹⁰⁹ Illinois State Department of Agriculture, *Transactions, 1881*, 385-398; Illinois State Board of Agriculture, *Circular No. 170*, "Statistical Report for August 1, 1895," p. 44; Illinois Department of Agriculture, *Transactions, 1916*, 521-522.

¹¹⁰ From a study of the following drainage records located in county courthouses: Piatt County, Lake Fork Special Drainage District, v. 1; Champaign County, Drainage Record, v. 1-2; Iroquois County, Drainage Record, v. 1-2; Kankakee County, Drainage Record, v. 1.

¹⁰⁰ *Illinois Farmer*, 6: 99 (Feb. 1861).

¹⁰¹ *Prairie Farmer*, July 18, 1861, p. 44, Sept. 5, 1861, p. 140.

¹⁰² *Ibid.*, Feb. 27, 1869, p. 65, Feb. 20, 1869, p. 59, Nov. 27, 1869, p. 385; *The History of Livingston County, Illinois . . .* (Chicago, 1878), 822-823.

¹⁰³ Illinois Tax Commission, 51-54.

¹⁰⁴ *Danville News*, Apr. 7, 1875.

¹⁰⁵ Illinois State Department of Agriculture, *Transactions, 1878*, 323; *Champaign County Gazette*, Nov. 6, 1878; *Danville News*, Aug. 16, 1878.

¹⁰⁶ *Iroquois County Times*, Sept. 15, 1877; *Champaign County Gazette*, June 6, Aug. 22, 1877, Nov. 6, 1878, June 29, 1881, Mar. 21, 1883.

enormous crops."¹¹¹ Champaign County lawyer, real estate agent, and president of the Havana, Rantoul, and Eastern Railroad, Benjamin J. Gifford¹¹² had decided that a substantial investment in draining wet lands was a good risk. In the 1870s he had acquired practical experience with tile drainage on a small scale by buying up farms scattered throughout Champaign County, parts of which needed drainage, tiling them, and renting them to tenants.¹¹³ By 1879 he turned to more extensive operations and between that time and 1883 bought 7,500 acres of very wet land, largely in Wild Cat Slough, northern Champaign County, at \$13 to \$40 per acre.¹¹⁴ Immediately he began large-scale drainage operations. A ditch through the lowest part of the slough 6 to 8 feet deep, 6 feet wide at the top, soon widened to 40, and a number of branches some 15 to 20 miles in length, built by a ditching machine run by 3 men and 12 oxen carried off the surface water into the Sangamon River. Auxiliary to the ditch, hired laborers laid strings of 3 to 10 inch tile 300 feet apart. His tile factory turned out tile at the rate of 25,000 a week, 5 teams hauled it, and 25 men laid it. One observer estimated in 1882 that \$300,000 had been invested in the enterprise.¹¹⁵ The drainage of these lands ultimately required an estimated 2,500,000 tile.¹¹⁶

As this large tract was reclaimed, it was divided into farms of 80 to 320 acres and rented to tenants for two-fifths the crop produced in 1882,¹¹⁷ but by 1883 the landlord's share was coming to be one-half. In 1883 Gifford advertised 7,500 acres of small farms for rent, most of which had been tile drained at an expense of \$25 per acre and provided with houses. Part of the advertisement glowingly predicted that crops on the new rich land would be enormous, oats 50–60 bushels per acre, corn 65–90 bushels per acre.¹¹⁸ It was estimated that

Gifford received in rents \$3.05 per acre in 1883.¹¹⁹ A later estimate in 1890 placed the return on some of his land at 9 percent on a \$100 per acre investment.¹²⁰

By 1885 he turned his efforts to organizing the Big Slough drainage district and proposed to construct a ditch which would drain 30,000 acres of land.¹²¹ According to one account he pushed the matter upon three different occasions but confronted much opposition by landowners being incorporated within the district and "violent opposition" of persons living outside the area who feared that their lands might later be included.¹²² After a court battle over assessments the work went forward.¹²³

In 1887 the drainage of wet lands in Champaign County was completed, and Gifford turned his attention to improving 2,700 acres of wet land which he had acquired in Ford County.¹²⁴ The Champaign County lands were rapidly sold off, 1884–1908 for the most part at \$60 to \$75 per acre.¹²⁵ His ventures in Illinois encouraged Gifford to try a similar enterprise in Jasper County, Indiana, which met with less success.

In the final analysis, however, the largest amount of wet land was brought into production by moderately well-to-do farmers who did not have the capital to reclaim large acreages, but who following the 1880s supported the drainage district movement and concentrated upon bringing their 160, 200, and 320 acre tracts into more intensive production, persons who had made enough of a success to acquire ownership of land which they could offer as security for mortgage loans or extensions of credit by tile manufacturers. Had Thomas Hart Benton, who during the second quarter of the nineteenth century repeatedly urged the swamp land grant upon Congress, been living in the decade, 1880–1890, he would have noted the progress in wet land reclamation in Illinois with great satisfaction and probably without surprise that it could not have been accomplished by the Swamp Land Act of 1850.

¹¹¹ Illinois Department of Agriculture, *Transactions*, 1881, 551.

¹¹² *Union and Gazette*, Dec. 2, 1868; *Champaign County Gazette*, Mar. 3, 1875, Dec. 6, 1876.

¹¹³ *Champaign County Gazette*, Oct. 30, 1872–Feb. 5, 1873, Oct. 27, 1880.

¹¹⁴ Compiled, Champaign County, Deed Records, v. W-67.

¹¹⁵ *Champaign County Gazette*, Sept. 13, 1882.

¹¹⁶ *Ibid.*, Sept. 12, 1883.

¹¹⁷ *Ibid.*, Sept. 13, 1882.

¹¹⁸ *Ibid.*, Aug. 15–22, 1883.

¹¹⁹ *Ibid.*, Jan. 30, 1884.

¹²⁰ *Ibid.*, Dec. 3, 1890.

¹²¹ *Ibid.*, Dec. 9, 23, 1885.

¹²² *Ibid.*, June 23, 1886.

¹²³ *Ibid.*, Dec. 1, 1886.

¹²⁴ *Ibid.*, Jan. 26, Sept. 28, 1887.

¹²⁵ Compiled, Champaign County, Deed Records, v. 72–144.