

THE EVERGLADES

DRAINAGE OF THE SWAMP AND OVERFLOWED LANDS OF FLORIDA

"The Atlantic and Gulf Coast and Okeechobee Land Co."
(The Disston Drainage Co.)

Probably there exists no large territory in the United States (approximately 4,000 square miles) excepting possibly the "Staked Plains" and the "Great American Desert" of our old geographies, of which so little was generally known by the people of the Nation, and of which so much fabulous misinformation "travelers' yarns" has been published, and is still being published, by writers of fiction, than the Everglades of Florida.

The first authentic description of the Everglades of Florida, with maps, profiles and levels, was doubtless the Memoir to Accompany a Military Map compiled by Lieut. J. C. Ives, topographical engineer, under the general direction of Capt. A. A. Humphreys, topographical engineer, by order of the Hon. Jefferson Davis, Secretary of War, published in 1856, and commonly known as the "Davis map".

This survey and the accompanying topographical map is today one of the most accurate surveys of the territory, while the map is the only approximately correct topographical map of the Everglades. This survey, and description of the territory, the productiveness and fertility of the soil (when properly drained and reclaimed) has only been confirmed by various more recent surveys. See: "The Everglades of Florida," (U. S. Senate Document No. 89, 1911); also, "The Report of the Florida Everglade Engineering Commission, the Randolph Report," (U. S. Senate Document No. 379, 1914), and the various surveys of Fred C. Elliott, C. E., Chief Engineer of the Florida Everglades Drainage Commission, all of which simply confirm the Davis Report, Survey and Maps of 1856.

Having often been asked to prepare a short history of, and the reasons for, the organization of the Disston Drainage Company (the A. & G. C. & O. Land Co.), on January 25, 1881, to drain and reclaim some 15,000,000 acres of "Swamp and Overflowed Lands" in Florida (including the Everglades), and the subsequent purchase by Hamilton Disston and his associates, of Philadelphia, of 4,000,000 acres of "Swamp and Overflowed Lands" for \$1,000,000.00 on June 1, 1881; the conditions existing at the time, and the reasons for undertaking these great projects of internal improvement and development of Florida's latent resources, at that time dormant; having been closely allied with the various Disston enterprises, particularly the Drainage Company, from their incipiency; having been employed as resident engineer and general representative of the Drainage Company in June, 1881; having probably been more familiar with these enterprises, their various problems and obstacles and the methods employed to overcome them, than any other individual now a resident of Florida, I have consented to prepare the following short history.

These various transactions, the details, reasons and causes therefor, are recorded in the minutes of the Trustees of the Board of Internal Improvement, particularly in Volumes One, Two, Three and Four, covering that period of time from January, 1855, to the end of Governor William D. Bloxham's second term, December, 1899, with some of the problems incidental to the drainage of the Everglades now being accomplished by the State, as recorded in later volumes.

The history of the "Swamp and Overflowed Land Grant" by the United States to Florida, (Sept. 28, 1850); the "Railroad Land Grant," of 1856; the various "Seminary and Public School Land Grants;" the creation of the "Board of Trustees of the Internal Improvement Fund" in 1885, and amendments to the Act in 1859 and 1869, show that the State received from the General Government, for different purposes, practically 20,000,000 acres of land, including Seminary, School, Internal Improvement and Swamp and Overflowed Land Grants.

During the period from 1855 until December, 1872, practically all of the lands of the Fund were pledged for constructing railroads and for the payment of railroad construction bonds and interest thereon, or were granted for construction of canals or improvement of streams, resulting in the practical bankruptcy of the Fund in December, 1872, when by a decree of the United States Circuit Court of the Northern District of Florida a receiver was appointed and the entire assets of the Fund placed in his custody for the benefit of the creditors of the Fund.

The history of the Fund from this date, December, 1872, until January, 1881, the beginning of the first term of Governor William D. Bloxham, was one of litigation and sacrifice of the lands and securities of the Fund.

GOVERNOR BLOXHAM'S FIRST ADMINISTRATION

When Governor William D. Bloxham, a planter and business man, was inaugurated in January, 1881, he found the "Internal Improvement Fund" bankrupt and in the hands of a receiver, under a decree of the United States Circuit Court. The lands of the Fund, under the decree, were being sold by the receiver and the proceeds credited on the judgments.

Warrants, or certificates, issued by the creditors under the decree, were being sold at 40% of their face value and were being used as cash at par in the purchase of State lands.

Governor Bloxham interested Hamilton Disston and associates of Philadelphia in the drainage of the swamp and overflowed lands of the State.

Governor Bloxham, holding that the "trust to drain and reclaim the swamp and overflowed lands" was the first and prior trust; that under the terms of the grant, "that the proceeds of said lands, whether from sale or by direct appropriation in kind, shall be applied exclusively, as far as necessary, to the purpose of reclaiming said lands by means of the levees and drains aforesaid;" and recognizing the necessity and the vast importance of the State's development by the drainage of the wet lands of the State, made the first well-considered and properly devised drainage contract with Hamilton Disston and associates of Philadelphia, on January 25, 1881, a few days after his inauguration.

Subsequently, it being discovered that under the decree alluded to, permitting the sale of the lands and other securities of the Fund, and the applying of the proceeds to the payment of the judgments by the receiver, no binding contract could be made by the Trustees with Mr. Disston without the consent of the judgment creditors, Governor Bloxham induced

Mr. Disston and associates to purchase 4,000,000 acres of swamp and overflowed land for \$1,000,000.00 with which the entire indebtedness of the Fund was paid off, the Fund relieved of the incubus and placed in a sound financial condition, thus releasing some seventeen million acres of swamp and overflowed lands, including the Everglades, and other lands of the Internal Improvement Fund (June 1, 1881).

No action of any Governor of Florida since the granting of the swamp and overflowed lands to the State for "drainage and reclamation" September 28, 1850, has had a greater influence upon the development of the State of Florida, her railroads, waterways, the settlement of her waste places, than had this wise and business-like transaction by Governor William D. Bloxham, who not only rescued this vast domain from bankruptcy, paid off all indebtedness, inaugurated the drainage of the wet lands, but also released for public improvement some seventeen million acres of her best lands.

At the beginning of Governor Bloxham's first administration, January, 1881, there were few railroads in the State. The only line across the State was the old "Fernandina-Cedar Key Road," with a branch to Jacksonville; no railroad to Ocala, none to Tampa; the U. S. mails were carried to Tampa by stage via Ocala, Sumpterville and Brooksville; no railroads south of Jacksonville excepting the "Tocoy and St. Augustine" and the "South Florida," from Sanford to Orlando, twenty-two miles, narrow gauge, built and owned by the "Boston Herald;" no railroad from Tallahassee to Pensacola. Immediately after the Disston sale and the release of the lands of the fund numerous railroads were chartered and old charters revived, while extravagant legislative grants were made to various proposed railroads, granting vast areas far in excess of that provided by the General Law, to-wit: 3,849 acres per mile (the alternate section within six miles of the railroad). Eight, ten, twelve and even twenty thousand acres per mile were granted by the Legislatures to various railroads and projected railroads. A number of these were built, and before the expiration of Governor Bloxham's first administration railroads were in existence to Tampa via Ocala, also to Tampa via Sanford, Orlando and Kissimmee, and from Tallahassee to Pensacola.

The development of the State, the building of railroads, the influx of settlers, the growth of new cities and towns was phenomenal during the four years of Governor Bloxham's first term, ending January, 1885.

During the period between Governor Bloxham's first and second terms, January, 1885, to January, 1897 -- twelve years -- the history of the Fund was one of extravagant legislative grants and litigation by various claimants under these various grants, some of which had been earned, and numbers of which had never complied with the terms of their grants or charters.

GOVERNOR BLOXHAM'S SECOND ADMINISTRATION

On again assuming control of the executive office, January 1, 1897, Governor Bloxham found that the I. I. Fund was again bankrupt, with various claims, land certificates and open grants, covering some seven and one-half millions of acres of lands in excess of the entire

acreage originally granted to the State for all purposes, with judgments for large sums against the Fund.

Governor Blexham, by his wise and business-like administration of the lands and money of the fund and his determination "that the trust assumed by the State to drain and reclaim the swamp and over-flowed lands" should be carried out in good faith, managed to transmit to his successor, Governor W. S. Jennings, the fund still intact, though involved in litigation and hampered by injunctions tying up all of the resources, both lands and money.

GOVERNOR JENNINGS' ADMINISTRATION

Governor William S. Jennings assumed the office in January, 1901, and believing, as did Governor Blexham, that "the trust to drain and reclaim the swamp and overflowed lands" was superior to legislative grants, and knowing that the charters of various railroads had accepted the legislative grants of land "subject to the trust to drain and reclaim the same," continued the legal battles, resisting the claims of the grantees and their assigns successfully, and to a large extent prevented the waste of the fund. He also succeeded in having patented to the State that large body of swamp and overflowed lands, the "Everglades", which, until then, had never been formally ceded to the State by patent, though embraced in the "swamp and overflowed land grant of 1850."

This determined opposition to the claims of individuals, corporations and assigns to the lands and moneys of the fund, and his successful ~~in many instances~~ defense of the same laid the foundation for the successful inauguration of the State's effort to drain and reclaim the Everglades by Governor N. B. Broward, and for the compromise with the various claimants, after a successful legal battle in the various U. S. District and Circuit Courts of appeals, and pending an appeal to the United States Supreme Court.

GOVERNOR BROWARD'S ADMINISTRATION

Governor Napoleon B. Broward succeeded Governor William S. Jennings, January, 1905. He was elected after an active campaign, the issue of which was the "drainage of the Everglades and the release to the people of the State, for the general welfare, the lands covered by various claims of various kinds, based generally on legislative grants to railroads."

The history of Governor Broward's campaign, his plea to "reclaim the lands for the people of the State, and to drain them for the benefit of the whole State," is so recent that a reference to this wonderful campaign is not necessary at this time.

Governor Broward found the fund still practically bankrupt, its cash (\$332,979) tied up by injunctions, also the sale of lands, or use of the proceeds of such sales enjoined.

DRAINAGE COMMISSION

Among the first acts of Governor Broward was the preparation of the law creating the "Board of Drainage Commissioners", naming the same State officers composing the "Trustees of the Internal Improvement Fund" as the members of the Drainage Commission. This act (Chapter 5377) was passed and approved May 27, 1905.

Under the authority of this act, Governor Broward began actively to prepare for "draining the Everglades". A contract was made for two powerful dredges in August, 1905, some eight months subsequent to the inauguration of Governor Broward, and active work immediately began in the construction of the first two dredges employed in the drainage of the Everglades by the Drainage Commission of the State of Florida.

In July, 1906, eleven months after the contract was let, the dredge "Everglades" was completed and the work begun. Her sister dredge, the "Okeechobee", was completed a few months later. Both dredges were found to be powerful and capable of economically digging the canals through all obstacles, the rock barriers included, thus practically disproving the assertions of croakers and pessimists that the rocky barrier was an insurmountable obstruction to the drainage of the Everglades. The logs of these two dredges show beyond question that the cost of the work under the practical direction of Governor Broward, both in earth and rock cutting, was the most economical of any dredging of its class before or since, and fully sustained his belief that the drainage of the Everglades was practical and could be effected at a cost within his estimates.

Since the first dredges were started by Governor Broward (July, 1906), the work has been continuous; at no time has it ceased for a day, though strenuous efforts have been made by interested parties to prevent the continuance of the work, to bankrupt the fund, and, if possible, purchase its assets, lands, dredges and canals at bankrupt sale.

At the time the State dredges began work Everglades lands had no market value whatever (one and a half million acres were tendered the writer at 12½ cents per acre but a short time before Governor Broward's inauguration.

AGRICULTURAL VALUE

The agricultural value of the soil (when drained and reclaimed) was acknowledged by all who were capable of appraising upon its fertility and productiveness. No one, however, had faith sufficient to risk the cost of its reclamation, though the highest estimated cost per acre by competent men was placed at less than four dollars per acre, for all the necessary main and lateral canals to perfectly reclaim five million acres of wonderfully fertile and productive lands, situated in a sub-tropical climate, with abundant rainfall well distributed, continuous sunshine, ample transportation by rail and by sea, one of the most healthy territories in the world, bordering the most rapidly developing region in America; occupied by a young, vigorous and progressive citizenship; requiring only an energetic effort by such a man as Napoleon B. Broward,

with his wonderful dynamic force of character, energy and determination to demonstrate the practicability of the reclamation and the enormous value of the lands when reclaimed at a cost of less than ten per cent of their agricultural value.

LACK OF FUNDS

At no time during the first two years of Governor Broward's administration, until December, 1907, when the compromise of various suits was affected, were the current funds of the Drainage Commission sufficient to vigorously carry on the work. A few sales of land had been made, and taxes from a few land owners collected, sufficient to keep the two dredges at work, and to demonstrate the practicability of the reclamation, and the wonderful fertility and productiveness of the soil reclaimed by their operations. As the dredges advanced in to the "Glades", removing the barriers as they progressed, the lands behind the dredges were freed of the accumulated water and thus fitted for habitation and cultivation.

The larger land owners, corporations and individuals, claiming millions of acres, resisted the payment of the drainage tax fixed by the Act of 1905 creating the Drainage Commission, and refused to pay their just proportion of the cost of reclaiming their own and other lands of the district, though the wonderful agricultural value of the reclaimed lands had been practically demonstrated by the various phenomenal crops grown upon them.

OPPOSITION TO DEVELOPMENT

By every known legal means the work was delayed and hampered, the surveys, levels and estimates of the Board discredited, the cost of the work exaggerated and the worthlessness of the soil argued by powerful interests, assisted by the press.

Governor Broward, assisted by the loyal support of his cabinet, and the General Council of the Board, ex-Governor W. S. Jennings, the Attorney-General, W. H. Ellis (now a Justice of the Supreme Court of Florida) continued the fight to "drain the Everglades" and save for the people of the State at least a part of the vast domain granted to them by the National Government for "drainage and reclamation".

The Legislature of 1907 amended the Drainage Act of 1905 by describing the exact boundaries of the district and levying a tax of 5 cents per acre annually, including the year 1907, on all the lands in the district for drainage and reclamation.

Negotiations were had with various claimants, and after numerous consultations, a compromise was made with the litigants which resulted in relieving the fund, dissolving the injunctions and the deeding to the "STATE BOARD OF EDUCATION" IN ONE CASE ALONE OF 1,072,160 ACRES OF LAND AND THE PAYMENT OF \$151,063.05 IN MONEY, as reported by the General Council, December 11, 1907, page 146, Vol. 7 of the "Minutes of the Trustees of the Board of Internal Improvement."

LAND SALES

Subsequent to "the compromise" Governor Broward and ex-Governor W. S. Jennings, General Counsel of the Board, negotiated with Western capitalists for the sale of Everglades lands for the purpose of providing funds to continue the work.

The first sale of any large area was made to R. P. Davie and J. R. McKinney, June 3, 1908, for a consideration of \$2.00 per acre and the establishment of an experimental cane farm for the production of sugar cane on a large scale for the purpose of establishing sugar mills."

THE BOLLES SALE

On December 24, 1908, after continued investigation, consultation and negotiation, the Board sold to Richard J. Bolles 500,000 acres of land for \$1.00 per acre, and the further consideration that Richard J. Bolles subscribe and pay into the Drainage Fund a further sum of one dollar per acre, making the total purchase price \$500,000 for the title and \$500,000 to assist in the drainage, a total of \$1,000,000 paid in to the Drainage Fund.

No act of any former administration, except the sale by Governor Blexham to Hamilton Disston of 4,000,000 acres for \$1,000,000 in order to release the fund from bankruptcy, has shown greater wisdom, statesmanship and common sense than this act of Governor Broward and his cabinet, nor secured greater results of such enormous public interest.

With the assurance of ample funds to continue the work, together with the practical demonstration of the comparatively small sum per acre necessary to reclaim this vast area of unusually productive land, immediately the value of "Glade" land began to enhance, as testified to by reputable men, large owners of these lands, in the Circuit Court at Tallahassee -- "lands that were offered at 50 cents per acre prior to the Bolles sale were being readily sold at five dollars or more per acre within two months of the date of the Bolles sale."

RICHARD J. BOLLES

The late Richard J. Bolles is entitled to the gratitude and the thanks of the people of the State, and particularly of those interested in the drainage of the "Glades" for his enterprise, courage and continued faith in the ultimate success of their drainage, thus fitting them for habitation and cultivation, as evidenced by his investment of more than one million dollars in their reclamation.

COMPROMISE LANDS DEEDED TO PUBLIC SCHOOLS

On retiring from office Governor Broward had demonstrated the practicability of draining and reclaiming the Everglades, had compromised all suits, collected the taxes due by the larger tax payers, had by the compromises released to the fund, "IN TRUST FOR THE STATE BOARD OF EDUCATION," MORE THAN 1,932,000 ACRES OF EVERGLADES LAND (pages 543 and 549, Vol. 5, Minutes of the Internal Improvement Fund), paid in to the School Fund of the State \$125,000, being 25% of the sum paid by Mr. Bolles for the 500,000 acres purchased, this being the first instance in which the

constitutional provision requiring 25% of the sales of all public land to be paid in to the School Fund had been complied with, which precedent has been followed by succeeding administrations.

GOVERNOR GILCHRIST'S ADMINISTRATION

Governor Albert W. Gilchrist was inaugurated in January, 1909. At that time the fund was out of debt, with \$103,000.00 cash balance in bank, and a fixed income from drainage taxes and land sales, with some 2,000,000 acres of land rapidly increasing in value, two dredges at work, and two more under contract and being built at that time. The work of drainage was being rapidly and economically accomplished.

With ample funds on hand from the Bolles and other sales made by the Broward administration, with the drainage taxes being paid by all land owners, the trustees of the fund advertised for bids to complete the work under contract. Among others the Furst-Clark Construction Company submitted bids, offering to dig 184 miles of canal according to specifications, for eight and four-tenths cents per cubic yard for earth excavation, and twenty and two-tenths cents per cubic yard for rock excavation, and to take over as cash the State's four dredges for \$145,000, which bid was accepted and the contract made at 20 cents per cubic yard for rock, and 8 cents for earth, June 25, 1910. (Page 428, Vol. 8.)

ACTIVE DEMAND FOR EVERGLADES LANDS

With an active demand for Everglades lands at largely enhanced prices, with all law suits settled, with no tax resisters, with ample funds on hand and in sight, the prospects of an early completion of the work were bright. In order to fully provide funds with a surplus above the contract price for the 184 miles of canals then under contract, a further sale was made to E. C. Chambers on January 16, 1910, to sell him 55,000 acres at \$15.00 per acre (\$825,000.00). (Page 597, Vol.8) This sale, as testified by Governor Gilchrist, "placed the fund on 'easy street', with ample funds to complete the work on hand and in sight."

ORGANIZED OPPOSITION

In the meantime, having no legal method by which to stop the work, recognizing the enormous value of the lands, and the comparatively small cost of reclaiming and fitting them for habitation and cultivation, an organized system of criticism, slander and defamation of the project had been inaugurated by interested parties, citizens and newspapers of the State, and of Western States, jealous of the largely increased tide of emmigration to all parts of Florida, the influx of settlers and capital into Florida, criticized the methods employed, questioned the accuracy of the surveys, of the estimates of the engineers, and particularly the practicability of the undertaking and the value of the soil when reclaimed, resulting in a panic among purchasers of lands, the failure to meet payments under contracts of sale, and the consequent failure to obtain funds to vigorously prosecute the work.

U. S. SENATE INVESTIGATION

The enterprise became the subject of National agitation, and was denounced in the halls of Congress, resulting in the investigation by the U. S. Senate and the publication of Senate Document No. 89, August 7, 1911, "The Everglades of Florida," being a complete history of the swamp and overflowed lands of the State from the time of the ceding of Florida to the United States to date, August, 1911.

Dealers of Florida lands outside the Everglades as well as dealers in Everglades lands, were indicted for using the mails to defraud. These indictments were published throughout the Nation, particularly in those States from which a large number of settlers and large amounts of capital were being drawn.

The funds of the Drainage Commission were depleted, and with great difficulty were sufficient funds provided to meet the necessary expenses of the enterprise. However, at no time was the work suspended, owing entirely to the determination of the Governor and his cabinet to continue the work and turn it over, a going concern, to the incoming administration.

The end of Governor Gilchrist's administration found the work still progressing, though the force and number of dredges had been very considerably reduced.

GOVERNOR TRAMMELL'S ADMINISTRATION

Governor Park Trammell was inaugurated in January, 1913. He found but a small cash balance on hand -- less than \$25,000.00 -- the only revenue the drainage taxes, with no sales for lands on account of the well-organized opposition to the drainage of the Everglades. However, by careful management by himself and his cabinet, he kept the dredges at work, and by strenuous effort succeeded in obtaining the necessary funds. He had prepared and passed by the Legislature of 1913, Chapter 6456, An Act to establish the Everglades district in this State, define its boundaries, to create a board of commissioners for said district and define its powers, authorizing the board to levy taxes *** to borrow money and to issue bonds and dispose of the same. Provided, however (Sec. 16), that the total amount of bonds so issued and outstanding at any time shall not exceed six million dollars principal, etc. Also Chapter 6458, An Act relating to the creation, organization and maintenance of drainage districts, etc., under which a number of drainage districts, outside the Everglades Drainage District, have been established by private corporations. Also Chapter 6457, amending the General Statutes, "Providing for drains or canals and their maintenance by counties, etc."

PRODUCTIVENESS DEMONSTRATED

The result of the Everglades drainage work, though still incomplete, had demonstrated the extraordinary productiveness of the swamp and overflowed lands of the State, and the comparatively small cost of reclamation had induced several counties, and a number of individuals, to organize drainage districts outside the Everglades District, some twelve or fifteen districts to date.

FLORIDA EVERGLADES ENGINEERING COMMISSION

In the meantime continued criticism of the undertaking, denial of the correctness of the surveys and estimates, and of the agricultural value of the lands when drained, lead to the appointment, April 30, 1913, of the "Florida Everglades Engineering Commission," consisting of Ishman Randolph, chairman, Marshal O. Leighten and Edmund Perkins, engineers of National repute, to "procure and study all data, facts, information and physical conditions affecting Lake Okeechobee, the Everglades and all territory embraced in said drainage district; to cause to be made such further survey as may be necessary *** to cause a map to be made of the area embraced *** and shall show thereon *** the ascertained facts and things to be done as recommended in said report." (Page 8, Randolph Report.)

THE RANDOLPH REPORT

This report was made October 13, 1913, at a cost to the Board of some \$35,000.

Probably no similar report of an engineering problem has ever been made by any board of engineers more complete and comprehensive than this report by the "Florida Engineering Commission" as published in Senate Document No. 379, January 29, 1914.

The conclusions drawn are tersely and emphatically stated in the second paragraph of the report as follows:

"OUR CONCLUSION, BASED ON OUR STUDY OF ASCERTAINED FACTS, IS THAT THE DRAINAGE OF THE FLORIDA EVERGLADES IS ENTIRELY PRACTICABLE AND CAN BE ACCOMPLISHED AT A COST WHICH THE VALUE OF THE RECLAIMED LAND WILL JUSTIFY, THE COST PER ACRE BEING VERY SMALL." (Page 5, Randolph Report.)

Speaking of the work accomplished by the State at the time of the investigation by the Commission, the report says:

"THE PRESENT CANALS WILL, AS A PART OF A BROAD, COMPREHENSIVE SYSTEM, BE WORTH TO THE STATE EVERY DOLLAR THAT THEY HAVE COST. THEY ARE THERE TO SERVE A USEFUL PURPOSE IN THE GREAT SCHEME OF RECLAMATION UPON WHICH THE STATE HAS EMBARKED; A SCHEME WHICH HAS ONLY TO BE CARRIED TO COMPLETION TO MAKE FERTILE FIELDS OF A WATERY WASTE AND A POPULOUS LAND WHERE NOW NO MAN DWELLS." (Page 7, Randolph Report.)

The Commission also testified as to the productiveness of the soil and the sufficiency of the canals, as designed by Governor Broward and his successors, to drain the lands in the first instance, and their sufficiency for subsequent drainage, as follows:

"THE VIRGIN MUCK IS A COARSELY FIBROUS SUBSTANCE; AFTER CULTIVATION HAS TAKEN PLACE FOR SEVERAL SEASONS IT BECOMES A FINE-GRAINED SOIL OF ALMOST UNEXAMPLED PRODUCTIVITY. *** THEREFORE, THE CANALS THAT WILL BE NECESSARY TO DRAIN THE GLADES IN THE FIRST INSTANCE WILL BE AMPLE FOR SUBSEQUENT CONDITIONS * * *

CONCERNING ALL SOIL, THE FARMER HAS MUCH TO LEARN, BUT ESPECIALLY CONCERNING MUCK SOIL. THIS COMMISSION IN ITS GOING ABOUT THE EVERGLADES HAS GATHERED FROM OLD RESIDENTS AND FROM APPARENTLY REPUTABLE OBSERVERS AND EXPERIMENTERS MORE CONTRADICTIONARY INFORMATION ABOUT MUCK THAN THE COMMISSION'S MEMBERS HAVE CONFRONTED ABOUT ANY SUBJECT IN ALL THEIR PROFESSIONAL LIVES." (Page 42, Randolph Report.)

With the legal authority to tax the lands of the district (that of the Trustees at the same rate as other private and corporate owners), with the report of the Randolph Commission confirming the surveys, estimates and conclusions of Governor Broward and his successors, as to the results to be expected, the year 1914 promised to relieve the fund of financial embarrassment and provide ample means to vigorously prosecute the work to a successful completion.

Negotiations for the sale of sufficient bonds, secured as provided by law, by the taxes on all the lands of the district, were begun. Pending these negotiations, the European War began, and all efforts to dispose of the bonds failed.

As the money market eased in 1915, further negotiations were had with every prospect of satisfactory terms being made.

The adverse criticism continued, however; National Bureaus investigated and reported adversely on the drainage, and particularly on the worthlessness of the lands when drained. Chemical analyses were made of the soil, duplicate samples being taken by representatives of the State and National Chemical Departments. The results of these analyses were concordant. However, the conclusions drawn from them were diametrically opposed. Theory and practice did not agree. The non-productiveness of the soil was alleged by the Bureau of Soils (from chemical analysis and classification), while the productiveness of the soil was maintained by the State authorities (from physical demonstration and by the crops growing on the land at the time of the survey).

"THE SOIL SURVEY OF FORT LAUDERDALE AREA"

The "Soil Survey of the Fort Lauderdale Area" was published by the U. S. Bureau of Soils, July 15, 1915, and used by the opponents of the Everglades as confirming their opinion of the worthlessness of the drained muck lands. This being by no means the first instance in which the soil experts of the Government have condemned as worthless some of the most productive soils in America; a notable instance was the condemnation of the soils of the "Imperial Valley" of California, pronounced worthless for agricultural purposes by the U. S. authorities (Circular No. 9, Bureau of Soils, 1902), and now noted as one of the most productive regions of America, as are the Everglades.

No man, particularly a farmer, trucker or stock man, can visit this region, now but partly reclaimed, note the change (when properly drained) from a saw-grass marsh to a vast meadow of wonderful natural forage crops, with many thousands of acres of the finest grasses, numerous truck farms, with crops of every description now growing on soils which were covered with from one to two feet of water a short time since; a soil equal to and resembling the best "potting mold", from

two to ten feet deep, averaging about six feet deep, without recognizing their phenomenal fertility and productiveness, when properly drained.

On page 35 of this "Soil Survey" occurs the following paragraph:

"BROWN FIBROUS PEAT, DEEP OVER LIMESTONE

"Peat soils have everywhere been found difficult to utilize for agriculture. This is indicated by the fact that the peat soils of the world have remained largely unutilized. As notable examples may be mentioned the peat bogs of Ireland and many of the moor (peat) soils of northern Europe."

On page 18 the area described as peat within the area surveyed is given as 193,536 acres, or 85.7% of the entire area (practically 1/16, or 6.25% of the Everglade area).

Why the Bureau of Soils should have selected the "bogs of Ireland and the moor lands of northern Europe" to compare with the "peat" soils of the Everglades, and have overlooked Belgium and Holland, to say nothing of Maine, Michigan, California, Minnesota, New York, Indiana, Illinois, Louisiana --(peat or muck soils are reported in 44 States of the Union)-- I am at a loss to comprehend.

On page 39 occurs the following:

"A comparatively small proportion near the canal is sufficiently drained for agricultural purposes. At the time of the survey in about 68 per cent of the area of the typical material either the water table lay at the surface or the land was under water to a maximum depth of 38 inches. Under 32 per cent of the area the water table lay from 2 to 24 inches below the surface.

"Immediately adjacent to the cross canal the water table at the time the survey was made was 24 inches below the surface. In fibrous material of this kind this is too deep for seed bed, and most growing crops suffer for lack of moisture except in rainy seasons. * * *

"So far as is known the present drainage plans make no provision for connecting the individual tracts lying at a distance from the canals with any of the main canals." * * *

Evidently the Bureau of Soils failed to seek information as to the plan of drainage and reclamation, as recommended by the Florida Everglades Drainage Commission, reported and adopted by the Board of Internal Improvement (the Florida Drainage Commission) in 1913 (Senate Document No. 379, 1914), a comprehensive plan, with full detailed estimates and maps showing location of all State canals (navigation, main and lateral drainage canals) into which adjoining land owners can cut the necessary sub-lateral and field ditches by which to drain their lands as required for different purposes -- grazing, general farming, sugar cane, corn, etc., or truck farms -- the plan being similar to the National

irrigation plans, the main and lateral irrigating canals or ditches being furnished by the Government, the local distribution ditches furnished by the land owner.

"The dense growth and character of the native vegetation makes it difficult to bring this land in proper condition for agricultural use. The roots of the saw grass and lilies are especially difficult to remove, and various machines have been devised and are being used to do this work."

The Bureau is certainly aware that "peat" does not oxidize "rot" or decompose under water, and that "brown fibrous peat" becomes "black muck" when properly drained, deeply plowed and properly cultivated, thus introducing air to oxidize and decompose the "brown peat" into "black muck", and to form a media for the innumerable living bacteria necessary in productive soil; also the "dense native growth" described is surely evidence of productiveness.

On pages 39 and 40 occurs the following:

"It is also believed by many of the people interested in the development of this section of the Everglades that the most favorable possibility for its agricultural utilization will be found in the raising and grazing of live stock."

The belief of "the people interested in the development of this section of the Everglades that (one of) the most favorable possibilities for the agricultural utilization will be found in the raising and grazing of livestock" has been fully justified by the large herds of dairy and stock cattle now grazing on these lands, which were formerly submerged from one to two feet; now luxuriant pastures and profitable farms, though as yet not perfectly drained, still lacking lateral and field ditches in many cases.

On page 40 occurs the following:

"It is such land as this, untried for agriculture, and a large proportion of it at present under water, that, as mentioned in the chapter on Agriculture, is being sold for \$20 to \$65 per acre."

This statement is purely gratuitous and an assumption not justified by the facts which could readily have been obtained by proper inquiry.

The records of the Trustees of the Internal Improvement Fund (the Everglades Drainage Commission) show that numerous tracts of Everglad lands have been sold to individuals in bodies not to exceed 320 acres for five dollars (\$5.00) per acre, payable one dollar (\$1.00) cash, the balance in four equal annual payments at 6% interest; that larger tracts (after proper advertisement according to law) have been sold for development at similar or less prices, and on similar terms, though naturally choice, well-situated tracts have been, and are still being, sold at much greater prices, often at \$100.00 or more per acre.

The physical and chemical analyses by the Bureau of Soils are concordant with physical and chemical analyses of duplicate samples by the Florida State Laboratory, examples of accurate scientific investigation. The conclusions drawn and classification by the Bureau of Soils of muck (or peat) soils, their fertility and productiveness (when properly drained), however, do not accord with the practical results obtained in the Everglades and other muck soils of the United States.

DR. WILEY'S PROPHECY

The following is a quotation from competent authority, Dr. Harvey W. Wiley's report to the Secretary of Agriculture, 1891:

"Another important consideration in connection with the muck lands of the Okeechobee country is found in the method contemplated for their cultivation. These lands will be intersected by numerous drainage canals, and by means of these canals not only can the land be cultivated by steam from engines carried on boats in the canals themselves (as practiced then in Louisiana), but also the products of the fields can be transported on the same canal, with an economy which will render the competition of mule and horse power methods of cultivation almost impossible. Competent engineers have made estimates for the actual cost of steam cultivation, on the canal system indicated above, and allowing for all contingencies of unexpected expenses, it appears reasonable to say that with the yield of cane which can be secured on such lands, it will be possible to place the cane at the doors of the factories by means of a system of canals used in irrigation and cultivation at an expense which will fall below \$2 per ton. This expense includes all the cost of cultivation, harvesting and transportation.

"IT IS NOT NECESSARY TO DWELL UPON THE FACT THAT WITH CANE PRODUCED AT SUCH A COST, EVEN THE ISLAND OF CUBA COULD NOT COMPETE WITH FLORIDA IN THE PRODUCTION OF SUGAR. THERE IS PRACTICALLY NO OTHER BODY OF LAND IN THE WORLD WHICH PRESENTS SUCH REMARKABLE POSSIBILITIES OF DEVELOPMENT AS THE MUCK LANDS BORDERING THE SOUTHERN SHORES OF LAKE OKEECHOBEE. WITH A DEPTH OF SOIL AVERAGING, PERHAPS, 8 FEET, AND AN EXTENT OF NEARLY HALF A MILLION ACRES, WITH A SURFACE ALMOST ABSOLUTELY LEVEL, IT AFFORDS PROMISE OF DEVELOPMENT WHICH REACHES BEYOND THE LIMITS OF PROPHECY."

DR. WILEY'S PROPHECY FULFILLED

Were Dr. Wiley to visit the Everglades at the present time he would see his prophecy of twenty-nine years ago (when the doctor and I dreamed dreams and saw visions) more than fulfilled. What with powerful gasoline tractors, disintegrators, plows and harrows today, preparing the rich black muck soil for culture, and the vast areas of "Maiden Cane" meadows growing spontaneously (one of the most valuable grasses known, equal to many legumes as a flesh former), with navigable canals from Lake to Gulf, with five others complete from the Lake to the Atlantic, with

nine additional navigation and drainage canals from 25.52% to 98.73% complete, averaging 68% complete under present contracts; with a standard railroad direct from Lake Okeechobee to Eastern and other markets; with a standard railroad under contract, and now building, from Miami through the center of the "Glades" to Lake Okeechobee, connecting with trunk lines to all points with modern hotels on the shores of the Lake with every convenience, electric lights and running water; with the Lake provided with beacons and lights for the guidance of the navigator; with other railroads seeking terminals on the Lake and routes through the "Glades", he would realize that his most sanguine predictions were being fulfilled.

DR. HULLEY'S TESTIMONY

Dr. Lincoln Hulley, President of the John B. Stetson University, DeLand, Florida, on the occasion of the official opening of the waterway from the "Gulf to the Atlantic" through the drainage canals with Governor Gilchrist and members of his cabinet, says, April 28, 1912:

"Think of it ! We went through the Everglades in three days -- from Fort Myers up the Caloosahatchee, across Lake Okeechobee and down the drainage canals to Fort Lauderdale. The Everglades of the old geographies are a myth. The genius of man has conquered them. Every mile of the journey brought new surprises.

"The soil is the richest I have ever seen. The most luxuriant crops are growing on it. An area bigger than Connecticut and Rhode Island together, once a vast submerged prairie, is hereafter to be a garden of paradise. Seeing is believing. Governor Jennings, Governor Broward and others have done the seemingly impossible. It is a great triumph of faith. 'And if ye have faith as a grain of mustard seed ye shall say to this mountain, be thou cast aside into the sea, and it shall be done.' Faith has turned the waters off the glades and into the sea."

Hundreds of eminent men, scientists, literary men, farmers, stockmen, engineers, agriculturists, chemists and technists have visited the Glades, traversed the canals from the Atlantic to the Gulf, noted the fertile, productive soil, the numerous farms on such portions as are now sufficiently drained; all universally testify to the great value of the soil, when drained and reclaimed, and recognize the remarkably small cost of cutting the necessary canals to remove the water, which, as Governor Broward quaintly said, "RUNS DOWN HILL AND ONLY REQUIRES A SUFFICIENT OPENING TO REACH SEA LEVEL."
