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SAN JOAQUIN COUNTY DELTA AREA

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It seems incredible that less than two-hundred years have elapsed since a small group of explorers, led by Pedro Fages, were favored by fate to be the first Europeans to view central California's Great Valley. It was in the spring of 1772, and from their vantage point on Mt. Diablo, the most conspicuous feature of the panorama which lay before them was the vast expanse of the Delta area with its channels swollen by the annual spring flood. These pioneer explorers were probably not in the least impressed with the view because further reconnaissance to the North and East was blocked by water, and also because the days when men were to desire land in northern California lay far in the future.

The Great Valley - almost 400 miles long and averaging 50 miles wide - has been a basin for a very long time during which it has witnessed profound changes in the central California landscape. During the early part of the Jurassic period (about 150,000,000 years ago) much of the central part of our State was under water. During late Jurassic time faulting elevated the Sierra Nevada and Klamath Mountains to form the Eastern and Northern margins of the Valley. The Western margin was a land mass far to the West, which has now disappeared, except for a few tiny remnants known as the Farallon Islands. Late in the Pliocene epoch (about 10,000,000 years ago) an extended period of faulting and compression effecting the area west of our valley resulted ultimately in the formation of the Coast Ranges as we now know them. During all of this time there were oscillations above and below sea-level and several thousand feet of sediments were deposited on the valley floor.

The Delta area as it now exists is a fairly recent formation. The area has been slowly sinking at a rate which has been balanced by the deposit of material brought in by flood waters and by the accumulation of organic matter known as peat. This area has - for several thousand years or so - retained the characteristics of a huge swamp.

Levees of low profile were formed along the banks of the many channels by silt and loam washed in from the surrounding mountains while the channels were kept open by the scouring action of the daily tides and yearly floods. The peat, which covers the central part of the islands to a depth of 80 feet in places, represents centuries of accumulated tule roots, stems and other plant remains which only partly decayed, and which in turn supported a rank growth of tules and other indigenous plants.

Millions of geese, ducks and other migratory birds, together with countless permanent species, found the islands ideally suited to their various needs, while the same terrain, as well as the higher ground adjoining it, supported countless beaver,

otter, racoon and tule elk, to name but a few. May we also add that it would have required only a very brief search to locate several species of vigorous and aggressive mosquitos, who evidently fancied themselves as protectors of the realm.

Early travelers, who attempted to journey by water from the Bay area to Stockton and other points on the East side of the Delta, found the passage difficult and very time consuming. When we consider that the water current was almost zero during most of the year - that all the islands looked alike - and that the dense tule fogs would persist for days, we realize that the navigators job was not one to be envied. We have some inkling of their problems when we see names such as "Disappointment Slough".

The lands of the Delta area, which flooded during high tides, were considered worthless by the U. S. Government, and therefore were not included as public lands when the central valley was surveyed and the Sections and Townships were staked and platted in the early 1850's. The Delta lands were deeded by the U. S. Government to the State of California on September 28, 1850, under authority of the Swamp and Tidelands Act. The State in turn was more than willing to dispose of these vast areas of worthless swamp to anyone who was foolish enough to pay as much as \$1.25 an acre.

Most of the farmers who had planted and harvested crops on the dry land bordering the peat bogs, realized the potential of this rich soil if it could be drained and kept dry. Levee building projects proved to be much more difficult than anticipated. Since peat soil will float, attempts to build levees of this material simply floated away even with a small amount of heavier soil on top to hold it down. On the other hand, too much heavier material on top of the spongy peat would compress it until the water simply flowed over the top. Many schemes were tried, including timber walls and various combinations of peat walls with clay or sand fill. Over a period of many years it was found that the levee widths and slopes, as well as material content, both on the water side and the lower land side, were quite critical. Problems in building and maintaining the levees continue to this day.

The reclamation districts, lying East of the San Joaquin River, were on the edge of the Delta and were relatively simple to organize. The peat was mostly shallow and the only work necessary was to build the East levee to confine the River. The earliest reclamation district still in existence (No. 17 formed in 1869) is between French Camp and Lathrop just East of the San Joaquin River. The other districts such as No. 404, formed in 1881, (Moss Tract) - No. 1614 formed in 1918 (Country Club District), No. 2074 formed in 1921 (Brookside area), No. 1608 formed in 1914 (Webers-town area), are now mostly covered by residential subdivisions and difficult to recognize as reclamation projects. Another old district is No. 348 formed in 1878 (from Thornton West to River). The other 20 or so districts covering the rest of San Joaquin Delta area were formed between 1881 and 1920. Of these about 16 were formed between 1914 and 1920.

Peat soil, when in its original undisturbed state, has a fibrous and somewhat elastic texture, but after it has been plowed a time or two it becomes a fine powder when dry, and a quagmire when wet. Conventional farm equipment, especially large harvesters and other heavy units, would sink into the ground when the soil was unstable (which was most of the time). Various schemes were tried - such as monstrous wheels several feet wide on several axles. Even horses wore special wide shoes, like miniature snow shoes. Methods and equipment were gradually perfected which would cope with this fertile but treacherous soil. A noteworthy specialized piece of equipment was a clamshell bucket for dredging and building levees which was developed and manufactured by the Stockton Iron Works in the 1880's. However, the one invention which has become world famous, and which has revolutionized many of man's activities is the "caterpillar type tractor". This brain-child of Benjamin Holt which was conceived and perfected in San Joaquin County in the early years of this century, owes its existence almost entirely to the challenge posed by the soil of our Delta.

The soil of our Delta is as fertile as any on earth, and almost any crop will thrive with minimum attention. In the early days of island farming grain was the predominant crop, but at present - asparagus, potatoes, corn and tomatoes are widely grown. Many world record yields per acre of potatoes, asparagus and other crops verify the truth of the seemingly preposterous boasts of the Delta farmers. The cultivated areas are, however, at a very low elevation, actually several feet below sea level on most of the islands. These low lying fields would soon be under water due to the porous levees and natural water table if it were not for the drainage ditches which criss-cross the islands. These ditches are several feet deep and drain into sumps where huge automatic pumps discharge the waters back into the rivers. These reclaimed islands have always been fairly low, but several additional feet of soil have been lost through the years by the former practice of yearly Autumn burning, and also by wind action which blows tons of the loose powdery soil away in the early summer in areas where the ground cover is scant.

Years ago, access to and from the various islands was furnished by small steamers, operating on definite schedules. The harvested crops were carried on barges to warehouses on Stockton Channel. In later years, from about 1918, trucking gradually replaced the barges, and a network of roads led to many of the islands. The County Ferry system was put into operation in the early 1920's to serve the central Delta area, thus linking the remote and isolated islands to the road system. There were at one time about 15 ferries in operation. Of these 11 had steel hulls and 4 were wooden. These cable controlled boats were approximately 25 feet wide and 50 feet long and weighed about 45 tons. They could carry a load of 15 tons. In 1950 there were 10 ferries still in service. At this writing (1970) only the McDonald Island, Staten Island, Woodward Island and Venice Ferry are the 4 still in operation. All the other ferries have been replaced by bridges.

The "deep water channel" and the recreational facilities have been omitted from this article since they have been amply covered in other publications.



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