## DELTA NATIONAL WILDLIFE REFUGE

- Location Extreme southern delta terminus of the Mississippi River in Plaquemines Parish and 85 miles south of New Orleans. Headquarters is on an island or east passbank of the river and reached by 8 miles of water transportation from Venice, Louisiana.
- Description First established November 19, 1935 by Executive Order No. 7229 and enlarged by future Executive Orders Nos. 7383, 7538 and 8517. Refuge comprises 48,799 acres of deltaic marsh islands and ponds transected by numerous passes and bayous. Each island contains a variety of vegetative zones determined by soil elevation. The ponds support excellent stands of submergents whereas the adjacent mud flats have abundant stands of bulrush and millet.
- Personnel Permanent: Refuge Manager, Assistant Refuge Manager, Clerk, two Maintenancemen and a Marine Mechanic. Temporary: one or two.
- Objective Primarily a wintering area for approximately 100,000 blue and snow geese and large populations (150,000) of puddle and diving ducks. The area also provides year-round food and cover for many species of shore and wading birds and good populations of white-tailed deer, raccoon, nutria and rabbits. Because of the refuges isolation and all transportation must be via water, recreational activities are very limited.
- Management No manipulation of water levels or water quality are possible at present. There is some question as to the feasibility of physical development as the entire area can be radically changed in just a few hours by hurricane and tide action. There are many beneficial, and detrimental, changes in land and water habitat that are effected by natural forces. Primary management problems include heavy silt deposition and increased turbidity within ponds; suppression of production of desirable foods by noxious plants; extensive destruction of desirable foods by a high nutria population and lack of information and equipment to move ahead with a progressive management and development program.
- Public Use Very limited from a recreational standpoint but heavy use in connection with the oil development industry. Annual visitor or usedays about 35,000 including permits for commercial fishing and the removal of nutria. No waterfowl or deer hunting, no camp or picnic sites and public boating is limited to the passes only.
- Annual O&M Average of \$50,000.
- Problems Number one is the logistics normally involved in an island operation where all supplies and personnel must be moved over water that is often rough, dense fog conditions and a river area that is heavily congested with ocean-going freighters, cargo vessels, barges and all the related oil industry traffic.

July 10, 1966

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Delta National Wildlife Refuge is on the delta of the Mississippi River, in extreme southeastern Plaquemines Parish, Iouisiana. Established in 1937 to provide an excellent wintering area for several kinds of geese, this refuge of nearly 49,000 acres is administered by the Bureau of Sport Fisheries and Wildlife in the U.S. Fish and Wildlife Service.

From a geological standpoint, land areas are new, having been formed by deltaic action of the Mississippi River. In the process of searching for the course of least resistance along its lower reaches, the Mississippi River followed a certain channel or course for a number of years, extending a delta out into the Gulf of Mexico. Then, as the length of the course created resistance against its flow, this mighty river crevassed at some point upstream, where currents had weakened the low, natural levee. Each crevasse resulted in the spreading of rich silts over thousands of acres and eventually in the creation of a new delta.

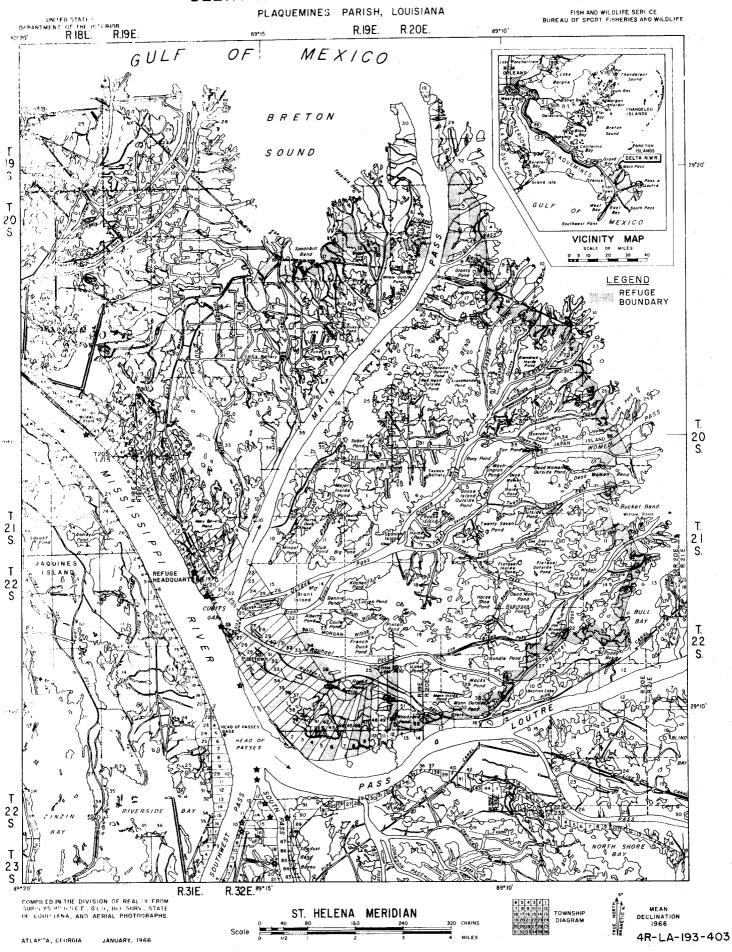
Most of the refuge is the increment deposited by Cubit's Gap sub-delta. Legend has it that the original, narrow ditch was cut through the river bank in the 1850's by a Mr. Cubit and his daughter to allow passage between the river and Bay Rondo. Today the gap is approximately one-half mile wide and land extends 10 miles eastward. Bay Rondo has entirely disappeared. As in all deltaic situations, the refuge is comprised of a series of low, unstable islands cut by numerous channels, locally known as "passes."

Solid ground is confined to the immediate pass banks which support a sparce stand of scrub willow. From this point, the land slopes gradually downward toward the interior through high marsh, low marsh, floating marsh, and finally terminating in an open pond. Each island contains a variety of vegetative zones determined by soil elevation, and each vegetative zone supplies its integral portion of food and shelter for wildlife. The interior and many islands may be reached only through the use of a marsh buggy or helicopter. In these impenetrable areas deer, alligators, otters, nutrias, minks, muskrats, and raccoons breed unmolested.

Delta Refuge, with its varied habitat, shelters an abundance as well as a variety of birdlife at all seasons. In mid-summer, great blue, Louisiana, and little blue herons, common and snowy egrets, white and glossy ibises, yellow and black-crowned night herons, and shorebirds frequent the shallows in search of food. Least bitterns, little green herons, rails, and gallinules nest in the tangled marsh vegetation. Louisiana's State bird-the brown pelican, as well as black skimmers, willets, oystercatchers, gulls, and terms are numerous. Frequently, the effortless circling of a flock of frigate-birds warms of the advent of a storm in offshore waters.

Refuge headquarters are located on the east bank of the Mississippi River, 9 miles south of Venice, which is the southern terminus of Louisiana State Highway 23. No roads extend from this point and the sole method of travel is by means of water transportation. Further information on public use may be obtained from the Refuge Manager, Venice, Louisiana.

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## MISSISSIPPI FLYWAY





The area has approximately 36,834 acres of water, 5,100 of solid land and 17,000 acres of marsh. Water quality will vary from fresh through brackish to almost full sea strength in salinity depending on location and tidal fluctuations. Interior ponds between Romere and Main Pass.



Aerial view of refuge headquarters. Erosion on both ends of the headquarters is apparent and quite severe and additional protection is needed. Tides occasionally will top the revetment wall. Boathouse and shops in center picture were damaged beyond future use by Hurricane Betsy in 1965.



Waterfowl food producing area along Twenty-Seven Pass. The lower vegetation is bulrush and millet. These are excellent feeding areas for blue and snow geese, self-supporting, and extend for a number of miles down the passes from about the center of the refuge, on out to the edge of the Gulf of Mexico.



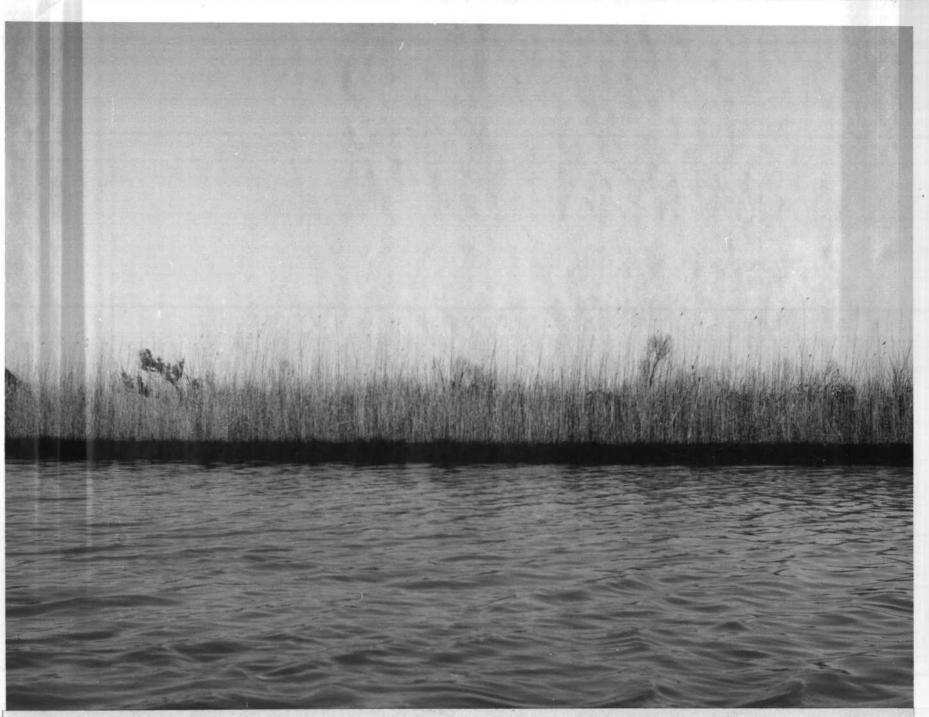
The deltaic marshes of the refuge established in 1935 under Executive Orders Nos. 729, 7383, 7538, and 8517 now comprising 48,799 acres. The area provides winter sanctuary and sustenance for geese and large populations of puddle and diving ducks and coots. Sabot and Delta Duck Ponds.



Boundary and interior posting operations. Seventeen navigable passes and bayous constituting 160 miles must be adequately posted. All operations must be by boat. Fourteen foot treated high posts are necessary for stability in this deltaic silt and against storm tides.



Pipe-laying operations across refuge lands. The old days of the wide, deep pipeline canals are over. This 400 ft. lay barge is capable of automatically welding, ex-raying and pushing four miles of 14" pipe in a very narrow slit trench without moving location. Marsh disturbance is reduced to a minimum.



A break in a major oil transport line and one of the constant threats to wildlife habitat. The undesirable Phragmites along the bank were covered with a foot of oil. Burning with flame-throwers by the oil company eliminated the cane and the succession resulted in an excellent stand of bulrush.



On the river and upper passbanks there exist a number of old tree snags complete with wonderful holes for safe sleeping by "brother possum" and "racketty-coon". In this case the possum was comfortable on his back "playing possum" but with one eye open - just in case.



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An unusual but prime piece of equipment at Delta. A military landing craft converted to a flush-deck cargo vessel. All supplies, equipment and material must be moved over 8 miles of water from the Port of Venice, La. to the island headquarters.



Flooded bayou country of the Delta Refuge. These areas are nesting and resting havens for many species of shore and wading birds throughout the entire year in addition to supporting thousands of puddle ducks during the fall and winter.



Flooded timbered areas in the Delta bayou sections. Areas such as these are used primarily by shore and wading birds and deer and raccoon during the low water stages. Aquatic and marine food is generally plentiful with good nesting and resting cover. Man-made disturbances in these areas are rare.



The raccoon has an excellent home at Delta Refuge - abundant marine and fish supplies for food, thick, heavy cover on the pass banks and lots of old hollow stumps for dens, and little disturbances from man. This little fellow looks up from his hunting only long enough to watch a refuge patrol boat go by.



A waterfowl food producing zone on the end of Flatboat Pass just on the Gulf edge. Some Phragmites are present mixed in with hundreds of acres of duck potato, bulrushes and millet. As the delta extends (about 1/16th mile a year) much of this high producing area is moving outside the refuge's Gulf boundary.



Northern end of headquarters and part of the 200,000 cubic yards of fill pumped in to raise the elevation of the headquarters site. Fill was extended to this end to provide additional runway space for the landing strip.



A college botony class on a field trip. The refuge has a broad variety of native vegetation available for study in fresh, brackish and salt marshes. By using the large cargo vessel (a converted LCM-6) access to these areas are simplified and 20-30 students can be transported on an all-day field trip.



One of the current problems at Delta is how to census the interior ponds from boats whenever high vegetation persists on the passbanks. This barrier of vegetation along Romere Pass is one of the highest to be found on the refuge and consists mainly of Phragmites and Sesbania.



Deer pea, although a valuable deer food producer, can increase to such proportions that it crowds out important waterfowl food plants such as bulrush and millet. This stand, on Long Island Bayou, is typical of many of the passbanks on the refuge that are dominated by this plant.