Dredging of Access Channels and Residential Canal Development

History

The Army Engineers’ dredging projects at Boca Grande and the lower reach of the Caloosahatchee were the main focus of the earliest (pre–World War II) local improvements in the region (Map 1). At Boca Grande, an access channel linked Grande Bayou with Charlotte Harbor and extended a channel along the shore north of Loomis Key to Gasparilla Sound. The Placida boat basin (at the mouth of Coral Creek) was being dredged by 1943. Before the war, the downtown Ft. Myers waterfront was dredged, filled, and bulkheaded. Access channels along the Caloosahatchee were dredged into Hendry’s Creek (Deep Lagoon), at Iona Cove, and at Punta Rassa Cove (present day Connie Mack Island). The earliest residential canal development in the region occurred on the north end of Estero Island (Ft. Myers Beach) facing San Carlos Island, and just north of Gordon Pass (Naples), where by 1940, John Glen Sample had begun canal construction of what would become Port Royal, an exclusive development of canals and beachfront estates.
Map 1A.
Barrier island pre–development conditions

Pre–development era and contemporary channels and depths. Map 1 is divided into parts A-J, pre–development and modern periods. The first area is split into three parts: (1) barrier island (2) Peace River/Matlacha Pass (3) Caloosahatchee. For this region, widespread depths are available and presented. For the other two regions (4) Estero Bay and (5) Naples/Marco Island, only channel depths are available/and shown.
Dredge-and-fill became the established method to meet the growing post-war demand for waterfront housing. Beginning in the early 1950s, developers dug many “finger canals,” with the fill deposited behind vertical cement sea-walls. Sometimes, upland natural drainage features (swales) were used as templates to extend finger canals inland. A significant feature of this development era was the building of large-scale canal communities by a handful of individuals and corporations: Port Charlotte, 90,000 acres in 1956 by General Development Corp.; Cape Coral, 1,700 acres in 1959 by Gulf American Corp.; Marco Island, 25,000 acres in 1964 by Deltona Corp; and Rotunda West, 20,000 acres in 1969 by Cavanaugh Leasing Corp. One family, the Mackle brothers (Frank, Elliott, and Robert), owned or controlled major portions of General Development, Gulf American, and Deltona Corporations (see Case Studies).

The canals served a number of purposes, including drainage, creation of waterfront property as an enhancement for sales, access to open water for boating, and a source of fill material for the creation of developable lots. In some cases, as in Port Charlotte, the canals drained into an interceptor lagoon constructed to provide rudimentary water treatment prior to discharge into open water. Oftentimes, though, the dead ends of canals were excavated to excessive depths in order to provide fill for adjacent upland development while the canal mouth or entrance to the main water body was left shallow. This common dredging practice led to environmental deterioration by decreasing the flushing efficiency of the canal system, aggravating salinity stratification and contributing to oxygen stress in benthic organisms. The net negative cost to the boater was — and is — chronic shoaling at the mouths of canals and restrictions in the access channels leading to deep, open water. These problems, though most severe, in the larger canal systems, are present almost everywhere, even in simple, single canals.
Map 1B. Contemporary barrier island conditions.
An explosion of waterfront canal development began in the early 1950s at Aqualane Shores, just north of Port Royal (Naples), Goodland (east of Marco Island), and St. James City (south pine Island). By the 1960s, residential subdivisions were developing on Naples Bay north from Gordon Pass to the City of Naples: Port Royal on the west shore, and Oyster Bay, Royal Harbor and Haldemen Creek on the east. In 1958, Collier County constructed a road that severed the natural drainage between Clam Bay and Doctors (Moorings) Bay. This was followed by the dredging of finger canals in south Clam Bay and by a major investment of Moorings Development Co., Canada, in Doctors Bay, including dredging, seawall construction, land fill, and inlet stabilization in the form of jetties and channel dredging at Doctors Pass. The Moorings development scheme spanned most of the 1960s (see Photographic Record of Waterway Changes). Naples Park, situated to the north of Clam Bay and south of Wiggins Pass, was part of this period’s history, and included dredging both the residential canals and the feeder channel through Water Turkey Bay to the Cocohatchee.