GRAND ISLE: THE EVOLUTION OF A LOUISIANA SEASIDE RESORT

Klaus J. Meyer-Arendt

Department of Geography and Anthropology
Louisiana State University
Baton Rouge, Louisiana 70803

Introduction

Grand Isle is a recreationally developed barrier island 50 miles due south of New Orleans (figure 10-1). Presently one of few seaside resorts in Louisiana, Grand Isle was among the earliest recreational sites established that directly face the Gulf of Mexico. The site of a settlement since the late 1700s, the island was first developed for tourists, primarily from New Orleans, after the Civil War. Access was by boat until a highway flanking Bayou Lafourche was extended to the island in 1932. Today Grand Isle is a popular fishing destination, especially for residents of southeastern Louisiana.

Physical Environment

Grand Isle is a barrier island 7 miles long and 1/2 mile wide, flanked on both ends by deep tidal passes (figure 10-2). Most of the island consists of a recurved spit complex, backed by frequently inundated saline marshes along the backbarrier. The highest ridges in the central part of the island approach 7 ft above mean sea level (MSL) and are stabilized by live oaks (*Quercus virginiana*). The southwest end of the island, with elevations of 1 to 2 ft above MSL, historically has been subject to extensive overwash, and marsh-colonized sand deposits extend across the entire width of the island.

The recurvature of the sand ridges, coupled with changes in island position shown on historic coastal charts, indicates that the island has grown from west to east (Conaster 1969). This has been attributed largely to erosion of a relict deltaic (Bayou Lafourche) headland to the west and subsequent eastward longshore sediment transport (Penland and Boyd 1981). Historically, the highest shoreline erosion rates have been recorded along the western end of Grand Isle, while the shoreline of the eastern end has accreted. The site of the original settlement is approximately at the nodal point between the eroding and accreting shorelines. Long-term rates of -12 ft/yr (west end) and +12 ft/yr (east end) mask shorter-term variations in erosion and accretion (figure 10-3). Erosion rates may well increase in the future because of higher rates of relative sea level rise, presently estimated at about 1/2 in/yr (Baumann 1980; Nummedal 1983).

Pre-recreation Settlement

The first Spanish land concessions on Grand Isle and adjacent coastal areas date to the 1780s, and by 1800 small settlements existed on Grand Isle, Cheniere Caminada, and Grand Terre, where the privateer Jean Lafitte made his headquarters (Evans et al. 1979). The local economy of Grand Isle initially was based upon fishing and smuggling, but plantation agriculture (sugarcane) was introduced early in the 19th century. In spite of back-levee construction
and forced drainage west of the settlement, salinization of groundwater and the periodic ravages of hurricanes soon ended the viability of sugar production. Sea-island cotton supplanted sugarcane as a plantation crop, but by the 1850s continued salinization and inundation during storms precluded successful plantation agriculture.

**Exploration and Early Recreational Development**

Summer tourism on Grand Isle dates to the early 19th century. Wealthy New Orleanians seeking to escape the sultry, disease- and crime-ridden city at that time generally migrated to the shores of Lake Pontchartrain (particularly the pine-shaded North Shore, where several springs were located), to Shell Beach on Lake Borgne, or to the nearby Mississippi coast. The few visitors to Grand Isle arrived by private vessel and boarded as guests of the local plantation bourgeoisie. By the 1850s, several summer homes had been built, and a small boarding house opened at the larger nearby fishing community of Cheniere Caminada (Evans et al. 1979).

The first hotel on Grand Isle appeared after the Civil War. In 1866, the defunct Barataria Plantation was converted to a tourist facility; the main sugarhouse became the Grand Isle Hotel; and 38 slave shacks were transformed into guest cottages (figure 10-4). Streetcar tracks were laid, and a mule-drawn tram transported visitors from the bayside dock to the hotel and on to the beach, where bathhouses were erected (Swanson 1977). Steamship excursions from New Orleans were actively promoted, and twice-weekly service (8 hours travel time each way) was soon available. Several nationally known writers popularized the island in their novels and feature articles (e.g., Cable 1884; Chopin 1899; Hearn 1884, 1889), and the late 19th century Gilded Age witnessed a significant increase in demand for seashore tourism at Grand Isle (Stielow 1982).

By the early 1890s, travel time from New Orleans to Grand Isle had been halved to four hours by construction of the New Orleans, Grand Isle, and Fort Jackson railroad along the banks of the lower Mississippi River. Summer recreationists were able to travel by train to Myrtle Grove and then transfer to a waiting steamer to complete the journey. By 1893, two more large hotels had been constructed on the island including the elaborate 417-ft-long Ocean View Hotel complete with 60 beachfront changing cabins. The contractors for the 160-suite, 2-story hotel built two blocks from the beach insisted that "nothing could blow it away" (Evans et al. 1979). At least one other major hotel was under construction, and numerous smaller boarding houses were available within the village. Hotel development was also planned for nearby Cheniere Caminada and Grand Terre, site of Fort Livingston and Jean Lafitte’s former headquarters (Stielow 1977).

This phase of recreational settlement and rapid development quickly came to an end with the onslaught of the infamous hurricane of 1 October 1893, which made landfall at Cheniere Caminada. Considered one of the deadliest hurricanes in U.S. history and ranked as force 3 on the Saffir-Simpson scale, the Cheniere Caminada storm destroyed that community, taking the lives of 700 inhabitants and leaving only 4 of 400 structures standing. The storm, which passed on into Mississippi and Alabama, left a total of 2000 dead (Tannehill 1938). At Grand Isle, however, in spite of a 10-ft storm surge, practically all damage was to tourist facilities only. All beachfront structures and hotels were destroyed or severely damaged, and 12 hotel employees lost their lives. In the village
core, which was sheltered by oak-covered ridges, there were no deaths and only minor damage (Falls 1893; Forrest 1893; Van Pelt 1943).

**Development of Recreational Infrastructure**

The legacy of the 1893 hurricane was to postpone major touristic redevelopment of Grand Isle for three decades. Two of the hotels heavily damaged in the 1893 storm reopened within a few years, and entrepreneurs concocted various schemes for promoting the recreational potential of the island in the early 20th century. These included plans for a monorail to New Orleans, a massive seawall similar to one built at Galveston, and various other beach "improvements" (i.e., protection structures). Visitors from New Orleans, the prime recreational market area, for the most part stayed away from Grand Isle during this period, and virtually no shorefront development took place. Additional hurricanes in 1909 and 1915--both ranked force 4--struck Grand Isle and destroyed the two hotels that survived the 1893 hurricane. These two storms reinforced the prevailing negative image of Grand Isle among New Orleanian recreationists (Stielow 1977).

By the 1920s, economic boom years for America as a whole, the stigma of the hurricane had lifted, and Grand Isle experienced a resurgence of recreation. Beachfront cottages were built for the first time since the 1890s; gambling was wide open in numerous clubs; and in 1928 the Grand Isle Tarpon Rodeo (allegedly America's oldest organized fishing tournament) was established. The Roaring Twenties saw Grand Isle tourism headed for rapid expansion, but the stock market crash of 1929 and subsequent economic depression curtailed this incipient second boom.

In spite of a temporary setback, the Depression proved to be the catalyst for future development. First, the depressed economy forced many islanders to sell their landholdings to real estate developers, some of whom were envisioning a new Palm Springs or French Riviera. Fifteen hundred acres flanking the village proper were subdivided and a crude street network was laid out (figure 10-4B). Second, two beachfront hotels were constructed in the early 1930s: the Oleander Hotel fronting the village core and the Grand Isle Inn at the east end near the main dock where tourists disembarked. Third, a highway to the island was completed in 1932. This facilitated beach access and expanded the recreational hinterland, which presently conforms to predictive recreational gravity models (Fournier 1984). Construction of beachfront cottages began again on Grand Isle, and even Cheniere Caminada--virtually abandoned since the 1893 storm--was rejuvenated as a settlement. The depressed 1930s and a world war delayed an anticipated summer home construction boom until the mid-1940s.

**Settlement Expansion**

A recreational landscape was rapidly developed after World War II. Half of the prewar subdivided lots were developed by 1950 (anon. 1950), and three hotels and numerous rental cabins constituted the lodging facilities (James 1950). A Grand Isle information center was set up in New Orleans' French Quarter; the remaining free-ranging cattle were removed from the island; and lobbying for a state park began. Summer homes, ranging from elegant stilt houses to shacks, soon proliferated along the beachfront and in the western half (between the access highway and the village core), and an offshore oil
industry support base was established in the eastern backbarrier wetlands (figure 10-4C). A strip of tourism-related businesses appeared along the main coastal highway, especially fronting the town core, and this incipient RBD became the focus of recreational activity. Tourism on Grand Isle was at its peak, and weekend visitors numbered as high as 10,000 (Stielow 1977). Although a large proportion of the recreational development was fostered by seasonal or weekend residents, Grand Isle's permanent population also shot up in the post-war years, reaching over 2000 by 1960 (figure 10-5).

By about 1960, the postwar development boom showed signs of slowing. This is attributed to several factors, including the increasingly ramshackle appearance of recreational housing on the island (due mainly to an absence of zoning restrictions), accelerated beachfront deterioration resulting from a combination of storm passages and futile efforts at shoreline stabilization, and improved access to the more attractive beaches of Mississippi, Alabama, and the Florida Panhandle (Hubbert 1983). Although camp construction remained popular with fishing enthusiasts, the beach recreationists shifted their attention elsewhere. After incorporation in 1959 and the installation of water and gas hookups a few years later, a comprehensive land-use plan was commissioned (Carter-Horan and Chapin 1963). Extensive land-use controls and implementation of a comprehensive erosion control program were recommended to maintain the viability of tourism. But little came of these suggestions, and as the beach continued to shrink, piecemeal beach nourishment and private bulkheading along the shorefront continued.

In 1965, Hurricane Betsy (a force 3 hurricane) struck the Louisiana coast, making landfall at Grand Isle. Accompanied by a 9-ft storm surge, the hurricane caused destruction estimated at 85% islandwide (100% at the washover-prone west end) and left 750 residents homeless (USACE 1966). The beach was eroded as far inland as the coastal highway, and the RBD was effectively destroyed. Although many residents moved "up the bayou" after Betsy, the hurricane provided the "facelift" necessary to revitalize the resort and stimulated lobbying for federal involvement in erosion-control efforts (Cook 1968). The RBD was redeveloped in situ with modern motels and stores; more luxurious summer homes were built with subsidized disaster-relief loans; and the beach was renourished with sand that had accreted against a recently completed east jetty. The following summer brought record tourism (Conaway 1966; Tarleton 1966).

By the early 1970s, however, the post-Betsy boom had passed. The 1970 census showed a slight gain in population, but the rate of growth did not approach the projections made by the planners (Carter-Horan and Chapin 1963). The post-storm land-use upgrade was only partly realized because many mobile homes introduced as temporary shelters during the relief effort quickly became permanent fixtures (many elevated upon stilts). Minimal zoning guidelines encouraged building of a wide spectrum of summer homes--from primitive to fancy. In the face of continued erosion, beach-stabilization efforts proved short-lived, and the aesthetic deterioration of the beachfront continued.

From about 1970 until the early 1980s, Grand Isle slipped into "recreational stagnation." The beachfront continued to seriously erode, and numerous homes fell victim to the sea. Growth slowed dramatically; the permanent population decreased as did rates of summer home construction. Fishing remained a strong drawing card for the island, however, and camp construction continued, mainly at the west end (figure 10-4D). Records from the Grand Isle State Park
at the east end also indicate a gradual decline in visitors since the mid-1970s (Office of State Parks 1984). It appears that Grand Isle, having grown according to an S-curve model (figure 10-5), reached a saturation level before its surface area was completely developed.

Land-Use Intensification

Grand Isle has not been subjected to sufficient recreational demand to warrant pressure for multi-unit recreational housing as have other Gulf Coast resorts. In addition to one condominium/ marina complex (20 units) constructed adjacent to the U.S. Coast Guard station at the east end in 1980, an existing east end motel was converted to a condominium in 1985. Empty "dry" land for new development still exists on the island, although much of it is owned by various industries located at the east end. Plans also have been drawn up to convert the remaining backbarrier wetlands (including the property of the former Grand Isle Hotel) into a major 150-acre development complete with hotels, multi-unit townhouses, and residential canal subdivisions. At present it appears doubtful that the needed wetland impact permits can be obtained.

Morphological Aspects of Resort Development

The morphological evolution of Grand Isle as a recreational settlement has been somewhat skewed because of (a) a preexisting settlement in the center of the island, (b) a devastating 1893 hurricane, (c) changing foci of tourist arrival sites, and (d) reduced recreational demand resulting from deterioration of physical conditions. The original settlement was nestled among the oak- covered cheniers, and access was through the tidal channels in the backbay. With the onset of tourism, the beach and surf zone became the major attractions, but the first post-Civil War recreational development was confined to the area in and adjacent to the central village. Except for small bathhouses, major construction along the shorefront did not occur until about 1890, when recreational development was in full swing.

The late 19th-century settlement patterns entailed a shift away from the village proper and toward the beachfront and adjacent nonforested beach-ridge plain landward of, yet in visual and olfactory contact with, the seashore. The first hotel, the Grand Isle Hotel, was situated in this latter zone, almost 1.2 miles from the beach. The later hotels were built increasingly closer to the shorefront, as were the bathhouses and several summer cottages. In a sense, an awareness of storm-surge potential persisted during this era, and hotels and beach cottages were occupied only during the summer season. The tourist season ended on about September 1, a date that according to popular perception marked the onset of hurricane season (Evans et al. 1979). The 1893 hurricane struck on October 1, putting a halt to incipient Gilded Age recreational development, but no recreationists were known to be on the island at the time (Van Pelt 1943).

The second phase of infrastructure development began in the latter 1920s, and the location of the Grand Isle Inn at the east end reflected the most common access to the island at the time (by boat). Limited summer home construction, both fronting the village and between the village and the east end boat landing, took place in the years just prior to the highway opening. When the road reached Grand Isle in the early 1930s--via Cheniere Caminada and the west
end--the locus of recreational settlement shifted toward the west side of the village (although the core of the RBD remained closest to the core of town). With the availability of lots in beach subdivisions on both sides of the town, the recreational infrastructure was essentially complete. As the lots were bought and developed, the pattern of recreational settlement evolved into (1) a line of summer homes along the beachfront, (2) beach subdivisions at the west end, and (3) sparse settlement at the east end (this last was reinforced after the oil industry acquired much of the east end during the mid-1950s).

The present pattern of land use essentially represents an "infilling" of a settlement infrastructure laid out over 50 years ago coupled with the industrial zone established over 30 years ago (figure 10-4D). Single-family residential sectors include the higher-elevation original town core and the lower-elevation west end beach subdivisions (figure 10-6). At the east end, most land is industrially owned, although most development has been on the backbarrier, along the dredged navigation channel. Public land consists of municipal government properties plus two spits that are state property. The accreted spit on the east end is the site of the Grand Isle State Park, inland of which recent modern condominium, marina, and other residential development has taken place. Vacant lands include the central and western backbarrier marshes, some of which are impounded and formerly contained commercial turtle ponds. The non-impounded marshes and low beach ridges west of the original village constitute the area for which development plans have been drawn up, although federal permits for wetland modification may not be granted.

Cultural/Physical Interactions

The original pattern of settlement at Grand Isle reflected human adjustment to periodic storms and shoreline erosion. The village was sited amidst the higher beach ridges, and most of the few dispersed plantations were situated away from the beach. The inhabitants recognized the protection value of the ridges, and not only forbid cutting the oaks that grew on them, but also actively planted seedlings (Stielow 1977). Houses were built with shipped-in cypress, and floor elevations were 2-3 ft above ground level. (These levels eventually rose with successive storms.) Driftwood was left in situ on the beach as an erosion retardant, and only small amounts were gathered to meet basic fuel requirements. The outward focus of the village and plantations was toward the back bay, where the boat docks were located, and levees and drainage ditches were constructed to minimize bayside flooding (Evans et al. 1979). Even severe storms, such as the 1893 Cheniere Caminada hurricane, caused relatively little damage within the central village on Grand Isle.

Once recreational development on Grand Isle began, human attitudes toward the physical environment began to change. The first infrastructural development took place outside of the oak-sheltered village and was thus more exposed to wind and high waves. Initially, proximity to the shore was avoided except for day use purposes, and the Grand Isle Hotel was situated over 1600 ft from the shoreline. The protection value of the sand ridges and beach driftwood continued to be recognized, although increasing amounts of driftwood were gathered to supply the hotels' rising fuel needs (Cole 1892). Also, the summer tourism season ended before the onset of the hurricane season. By 1893, recreational development had moved closer to the beach, as epitomized by the grandiose Ocean View Hotel, which was in business for only one summer season. All development that had taken place outside of the village proper on Grand
lsle—exclusively recreational development—was effectively destroyed by the 1893 storm. In spite of promoters’ plans for armoring the shoreline, tourists avoided Grand Isle for the next three decades, and the level of recreational development remained low.

The post-1932 resurgence of tourism on Grand Isle was accompanied by a renewed focus on the shorefront and empty lands flanking the village, where lots were now available. The now "unsightly" driftwood was removed and burned. In the interests of tourism, "beach maintenance" subsequently became a village responsibility. Sand ridges in the recreational subdivisions were leveled to provide more home sites and also a better view of the sea (Conaster 1969).

Because shoreline erosion rates were perceived to have increased in the 1930s (and perhaps slight increases did result from driftwood removal), federal and state engineers were more frequently called upon to provide solutions. A survey by the federal Beach Erosion Board (1937) concluded that only a seawall would ensure total protection, but even the fallback choice—a groin field—was deemed not economically justifiable. However, in 1951, as the coastal highway began to be threatened by the advancing Gulf, the state authorized construction of two sets of wooden groins—four groins (500 ft long each) near the west end and ten groins (four of 500-ft lengths and six of 250-ft lengths) near the central part of the island. The net effect of the groins was an increase in down-drift erosion, especially at the western groin field, where retreat rates approached 100 ft/yr (Kohlmann 1955). To restore the eroding beach, 1,150,000 yds$^3$ of fill material was dredged from the bays north of Grand Isle, but a third of this was rapidly lost offshore (USACE 1972). Between the incompatible grain sizes and passage of Hurricane Flossy in 1956, the nourishment material was scoured out. Flossy, only a force 2 storm but the first major hurricane since 1915, destroyed the Grand Isle Inn and many summer homes (USACE 1972). A 15th groin was constructed to the east of the central groin field by Humble Oil Company after the storm, but it too was ineffective in trapping large amounts of sand. To provide a ready source of fill material as well as to offset the beach erosion trend, construction of a 935-ft jetty (later extended seaward 400 ft) was begun in 1957 at the extreme east end of the island (Myers 1959). This project successfully provided fill material, and over 1,000,000 yd$^3$ of sand accreted within four years. (Much of the accreted sand was excavated to nourish Grand Isle’s beaches after Hurricane Betsy in 1965, and in the early 1970s the state park was established at the site.) In regard to the second objective, the benefits of accretion did not extend far enough westward, and various erosion control measures (e.g., sand-filled tubes placed in the shallow near-shore zone) were experimented with during the mid-1970s (Dement 1977).

In the late 1970s, a $15 million U.S. Army Corps of Engineers project was authorized, calling for construction of an 11.5-ft high sand levee stabilized with vegetation and fronted by a graded beach 225 ft wide (USACE 1978). Various delays postponed construction until 1984. The project, finished in late 1984, used sand dredged from offshore, provided storm protection to the island, and also created a beach attractive to recreationists (figures 10-7, 10-8). Unfortunately, 1985 brought three hurricanes (all essentially force 1 hurricanes when they struck the Louisiana coast), which removed some of the newly placed beach fill. Hurricane Juan, with a storm surge sustained for almost one week, removed about 2 miles of the sand levee as well. Although serious damage to structures on the island was averted, the expected rejuvenation of Grand Isle as a tourist resort was put on hold. The U.S. Army Corps of Engineers
plans to rebuild the damaged sand levee and restore the beach during the summer of 1987, using sand excavated from the accreting east spit (east of the jetty).

**Future Trends**

In view of Grand Isle's precarious location in a rapidly subsiding transgressive deltaic area and its distance from Louisiana's major urban areas, it is doubtful that major future recreational development will occur. Although the new protection levee minimized damages to private property during the hurricane season of 1985, the long-term effectiveness of such a project remains questionable. Esthetic degradation of the shorefront, caused in part by structural modifications (e.g., the groin fields), has caused beach recreationists to seek out the less disturbed (and cleaner, coarser, and whiter) beaches of Alabama and Florida. In spite of the environmental degradation, the fishing remains quite good at Grand Isle, and the town will undoubtably endure as one of the major fishing resorts of the Gulf Coast.
Figure 10-1. Regional setting of Grand Isle.
Figure 10-2. Physical setting of Grand Isle (from 1932 air photo).
Figure 10-3. Shoreline changes on Grand Isle, 1877-1978.
Figure 10-4. Change in development on Grand Isle, 1877-1983.
Figure 10-5. Change in resident population of Grand Isle, 1810-1980.
Figure 10-6. The west end of Grand Isle in 1984. (Note the oak-covered town core in the foreground and beach restoration project underway.)
Figure 10-7. Grand Isle beach in 1983 (note timber groin in background).
Figure 10-8. The same location after construction of an artificial dune in 1985.