COASTAL ZONE
Newsletter
October 2023

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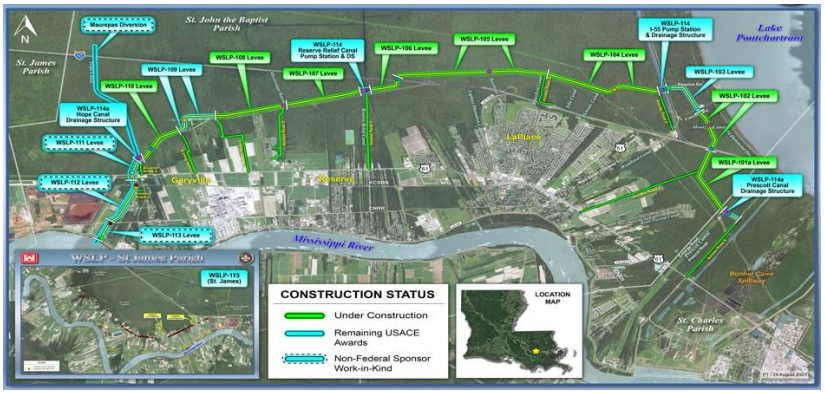
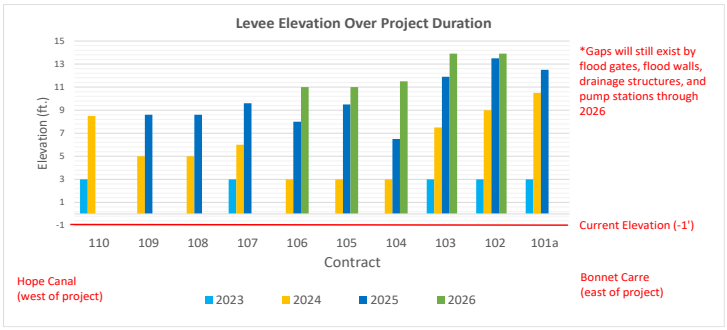


West Shore Lake Pontchartrain Levee

Construction of the West Shore Lake Pontchartrain (WSLP) Hurricane Risk Reduction Project continues at an intensified pace since the last Coastal Zone Newsletter update. The US Army Corps of Engineers (USACE) awarded levee reaches WSLP-102, WSLP-104, WSLP-105, WSLP-106, and WSLP-108 in August and September. In total, eight of thirteen sections of the levee are now under construction. Additionally, there are several major drainage structures contracts yet to be advertised at Prescott Canal, I-55, Reserve Relief Canal, and Hope Canal. These contracts are scheduled to be advertised next year along with WSLP-103 and WSLP-109.

Beyond construction contracts, USACE stockpile contracts for sand and clay are nearly complete. The Corps is also conducting pile load tests at three sites along the WSLP project site to determine foundation types for future drainage structures. Two of three pile load tests are complete, with a third test nearing completion.

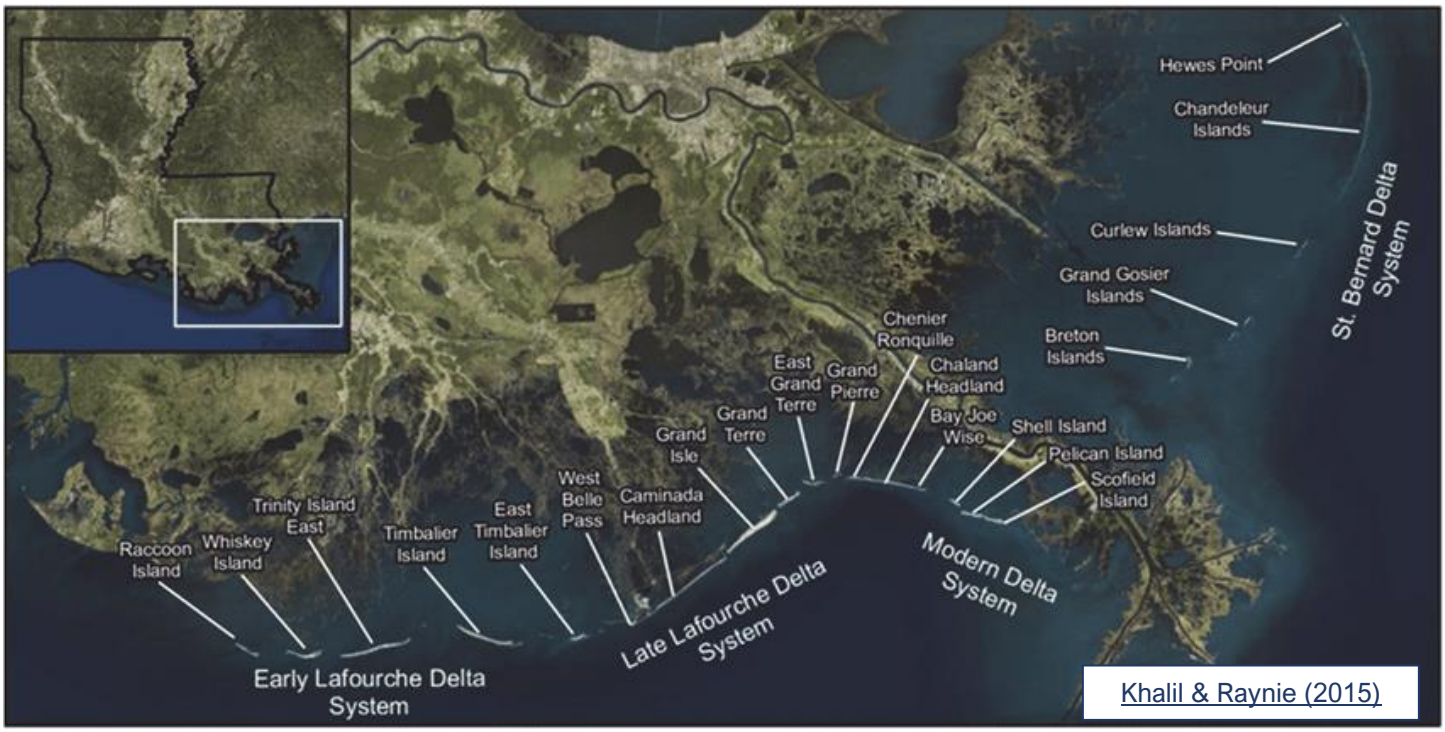
WSLP-110 Construction



WSLP-107 Construction

Regular updates on the WSLP Levee can be found on the Army Corps' WSLP Website or Facebook Page.

Barrier Islands: A Critical Component of our Coast



What is a barrier island?

Barrier Islands in the US can be found all along the Atlantic and Gulf of Mexico Coasts. Habitat type varies by barrier island, but they include sandy beaches, dunes, swales, maritime forests, marshes, and tidal flats. Like the rest of our coastal zone, barrier islands are known to sustain a diverse array of plant and animal species.

These unique islands are dynamic and always changing. Wind, wave, and tidal forces are constantly impacting barrier islands – causing them to move, erode, grow, or even disappear.

How did Louisiana's barrier islands form?

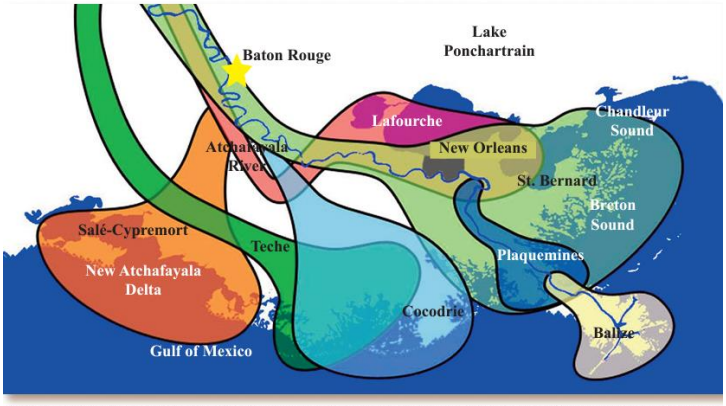
Before the Mississippi River and Tributaries levees were constructed, the river's path shifted over thousands of years, creating deltaic lobes. These changes brought sediment and altered topography in ways we still see today. For example, the Pontchartrain Basin was formed by a previous path of the Mississippi River. The deltaic process of sediment building created the barrier islands of today (and many more that no longer exist).

Five Steps of Barrier Island Formation

1. Active Delta: Delta actively builds land through sediment deposits.
2. Abandonment: Delta is no longer active and erosional forces begin to work on the land formed.
3. Detachment: Sea level rise, erosion, and subsidence cause barrier island to detach from mainland.
4. Submergence: Relative sea level rise submerges barrier island, creating an underwater shoal.
5. Reoccupation: Under natural conditions, MS River distributaries could eventually begin a new lobe and the cycle would continue.

The seven major delta lobes of the Mississippi River

The diagram below shows the seven lobes in order of age from oldest to youngest.



Kolb,van Lopik (1958). Geology of the Mississippi River deltaic plain, southeastern Louisiana. Technical Report 3-483. Vicksburg, MS: U.S. Army Corps of Engineers Waterways Experiment Station
Kulp, M. A., Howell, P., Adiau, S., Penland, S., Kindinger, J., and Williams, S. J., 2002, Latest Quaternery stratigraphic framework of the Mississippi delta region: Gulf Coast Association of Geological Societies Transactions, v. 52, p. 573-582.

Royal Tern colony on Breton Island

Kemps ridely sea turtle hatchlings on the Chendeleur Islands

Learn more about the CPRA's plans for Louisiana's Barrier Islands

The CPRA prepares a Barrier Island Status Report each year that is included with their Annual Fiscal Plan. You can read more about ongoing monitoring and restoration projects in the Fiscal Year 2024 Annual Plan Barrier Island Status Report.

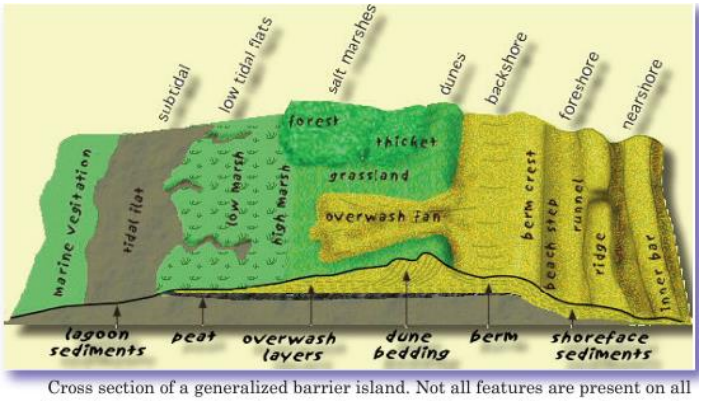
Critical protection & habitat

The natural processes that help build barrier islands are no longer feasible. However, barrier islands play a critical role in storm protection. They are the first line of defense, acting as a "speed bump" for storm surge.

The diversity of habitat types found on barrier islands also hosts countless species. They serve as nesting grounds for birds and turtles. Migratory bird species and monarch butterflies use our barrier islands as a stopping place to rest before and after crossing the Gulf of Mexico.

In September, the Louisiana Coastal Protection and Restoration Authority (CPRA), with the Louisiana Department of Wildlife and Fisheries (LDWF), and the US Fish and Wildlife Service (USFWS) announced successful hatchings of the Kemp's ridley sea turtle for the second year in a row in the Breton National Wildlife Refuge located on the Chendeleur Islands. This endangered species had not been observed in Louisiana for over 75 years. The Breton National Wildlife Refuge, which covers a string of barrier islands known as the Chendeleur Islands, was originally established by President Theodore Roosevelt in 1904. After losing nearly 90% of its acreage in the last one hundred years, state and federal efforts have restored 426 acres of beach, dune, and back-barrier marsh habitat.

Watch a USFWS video of the Breton Island restoration here. Take a virtual tour of the island here.



Cross section of a generalized barrier island. Not all features are present on all islands. Louisiana's islands tend to have a much lower profile than those to the east along the Atlantic coast. The dunes are small and trees may not be present on the island. Godfrey, P. J., 1976, Barrier beaches of the east coast: Oceanus, v. 19, n. 5, p. 27-40. http://w3.salemstate.edu/~lhanson/gls214/gls214_barrier_isl.htm

St. John the Baptist Parish Coastal Updates

Advancing St. John's Adaptation Strategy

St. John the Baptist Parish's Planning and Zoning Department is continually focused on creating a more resilient and sustainable community for our residents and future generations to come. One of the guiding documents that informs Planning and Zoning's efforts is the St. John the Baptist Parish Adaptation Strategy, created through Louisiana's Strategic Adaptations for Future Environments (LA SAFE) in 2019.

The Adaptation Strategy outlines five larger goals for the next 50 years, with accompanying strategies to accomplish these goals:

1. **Manage flooding and subsidence**
2. **Direct growth to low-risk areas**
3. **Improve mobility throughout the parish and region**
4. **Strengthen and diversify local economies**
5. **Protect and promote historic and cultural assets**

The Coastal Zone Newsletter typically provides an update on ongoing resilience projects and grants in the Parish. All of these updates can be connected to one, or multiple, goals in the Adaptation Strategy.

A Summer of Stormwater Management

Over the last few months, Planning and Zoning has engaged numerous partners to address flooding and subsidence. Working through AGU's Thriving Earth Exchange, Planning and Zoning collaborated with LSU's Coastal Ecosystem Design Studio to help identify green infrastructure solutions for St. John's East Bank. This collaboration helped lead to a proposal for the Greater New Orleans Foundation's (GNOF) Next 100 Years Challenge that incorporated additional partner organizations including New Wine Christian Fellowship, The Water Collaborative, and Urban Conservancy. On October 16th, 2023, GNOF announced that St. John the Baptist Parish was one of ten recipients to be awarded $100,000 to continue advancing green infrastructure solutions in the parish. This award is intended to pilot a green infrastructure project and expedite a larger funding proposal for a comprehensive green infrastructure strategy.

LSU Coastal Ecosystem and Design Studio Site Visit

Parish President Hotard and Planning & Zoning Staff Accepting the GNOF Next 100 Years Challenge Award

Resilience Updates Continued

Airline and Main Complete Streets

Project under construction and on schedule.
Funded through the Office of Community Development, this project will improve pedestrian and cyclist safety and reduce flood risk through green infrastructure and drainage enhancements. Project completion is expected in mid 2024.

Sunset Park Shoreline Restoration

Contract approval underway.
St. John the Baptist Parish has secured a grant through CPRA's Conservation and Restoration Partnership Fund to design and construct a shoreline restoration project in Sunset Park along Lake Maurepas. Contract approval is complete, and the Parish is seeking additional funding through the Louisiana Outdoors Forever grant.

Resilient Housing Plan

Community outreach beginning soon.
After securing a grant from Smart Home America, Planning & Zoning has contracted the Louisiana-based consulting firm Desire Line, LLC to develop a Community Resilience Housing Plan. The project aims to create a stronger post-disaster housing framework for the Parish and serve as a pilot for future communities along the Gulf Coast. **The draft Resilient Housing Plan is nearly complete!** Planning & Zoning anticipates the draft plan will be ready for public comment and review by Parish Council next month.

BRIC Direct Technical Assistance

Technical Assistance identifies drainage improvement project.
Planning & Zoning and Public Works are engaging with FEMA's Building Resilient Infrastructure and Communities (BRIC) program to receive technical assist with project prioritization and development to address flood risk. Through BRIC technical assistance, the Parish hopes to develop a proposal for funding in future BRIC award cycles. Last week, representatives from FEMA, the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), and private consulting firms met with Parish officials for a site visit near the I-10/I-55 interchange to view existing drainage issues and anticipated concerns with construction of the West Shore Lake Pontchartrain Levee.

St. John
The Baptist Parish
Coastal and Water Management