LaNERR – Louisiana National Estuarine Research Reserve

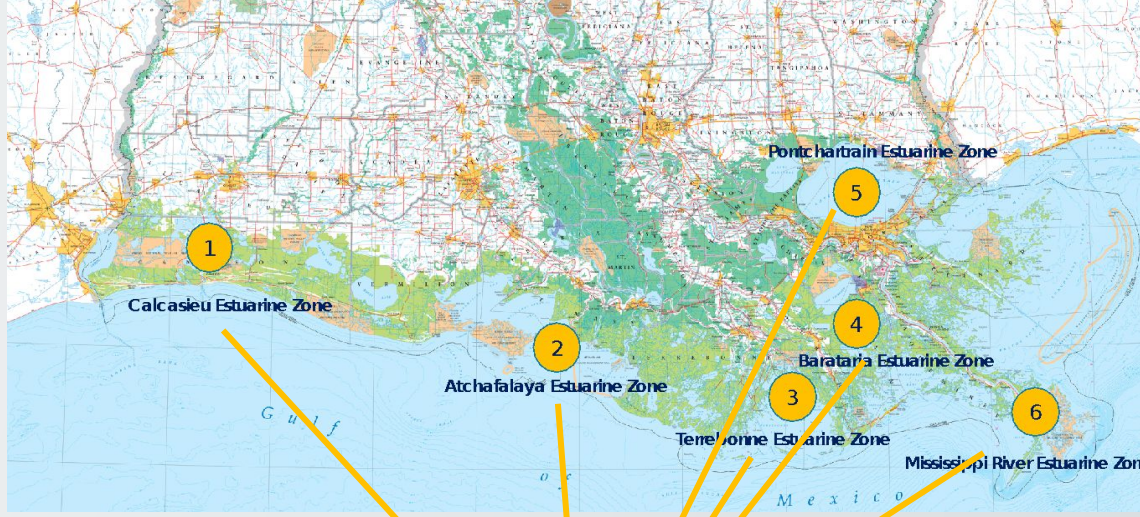
Site Development Committee Meeting #4

March 30 and 31, 2021 (two sessions)

Time	Topic
5 min	Welcome
10 min	Overview of Estuarine Zone voting & address SDC comments
15 min	Draft Site Selection Criteria & Charge to Criteria Subcommittee
15 min	Example preliminary candidate sites (core & buffer areas) in approved Estuarine Zones
5 min	*Pontchartrain Estuarine Zone*
5 min	*Barataria Estuarine Zone*
5 min	*Atchafalaya Estuarine Zone*
40 min	Proposal Teams and developing Phase 1 Candidate Site Proposals ∀ Team Members and relevant expertise in addressing four NOAA topical areas ∀ Visual of anticipated LaNERR site, including draft core and buffer areas ∀ Brief explanation of proposal development plan ∀ Due end of April
5 min	Wrap up and next steps: ∀ Criteria Subcommittee & Screening Subcommittee ∀ SDC complete Qualtrics survey to schedule Meeting #5

How will Louisiana determine where to establish a LaNERR?

1. Develop **pre-screening criteria** that reflect LaNERR goals;
2. **Establish generalized zones** within which to identify candidate sites;
3. Use proposed zones to **modify NOAA site criteria** to help identify sites for consideration and final nomination;
4. Evaluate proposed LaNERR Zones to **select candidate sites** that define preferred goals;
5. **Generate public support and partnerships** for proposed final site to NOAA.



Pre-screening

Proposed LaNERR Zones (generalized boundary)

Evaluation

Candidate LaNERR Sites (site boundary & evaluation)

Nomination

Nominate LaNERR Site (prepare package to NOAA)

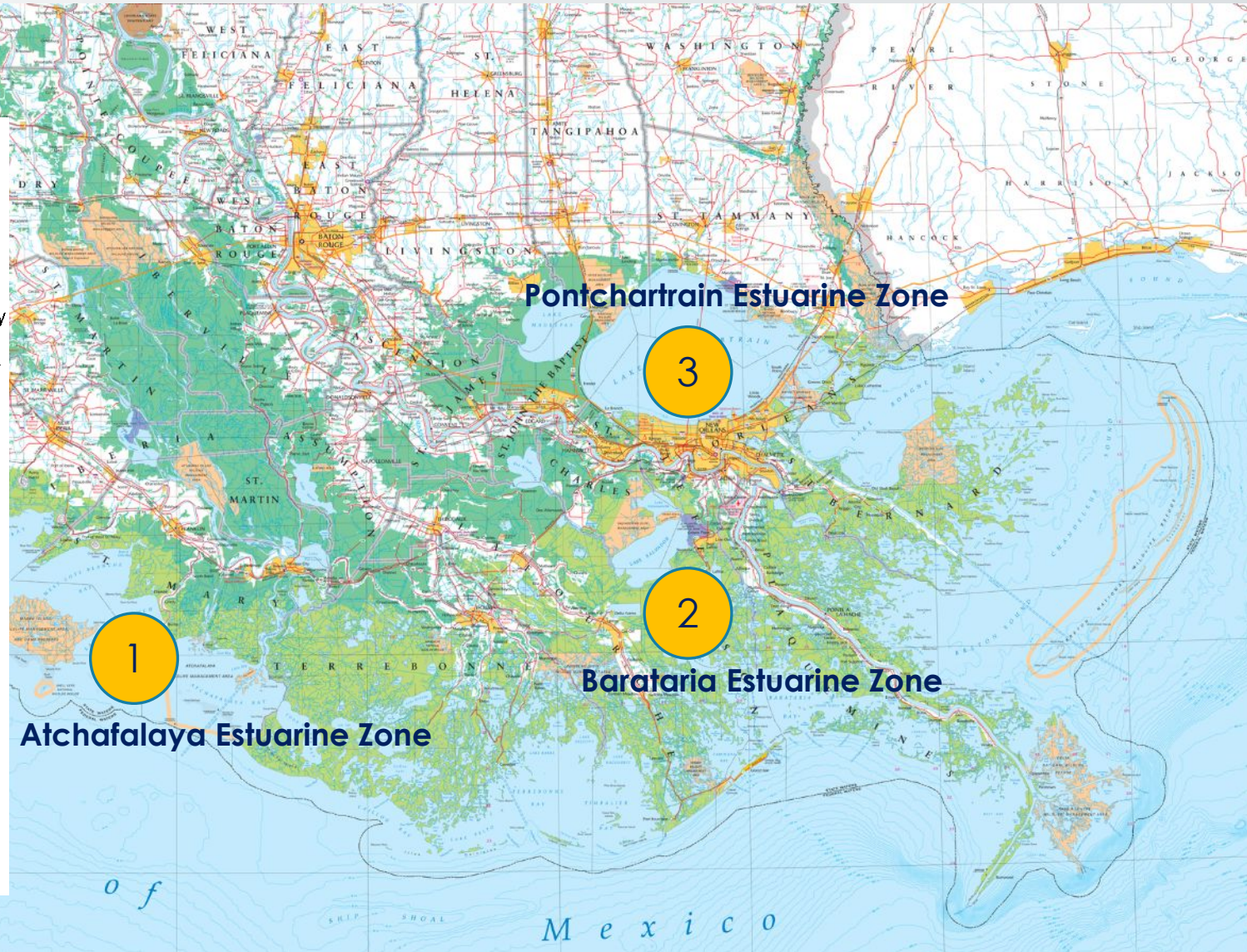
Three LaNERR Estuarine Zones for candidate site proposals.

Results of Site Development Committee Preliminary Screening and Voting on Six Estuarine Zones

March 2021

Following the Site Development Committee Meeting #3 on February 25 and 26, 2021, a Qualtrics survey was provided to the SDC so members could vote on whether each Estuarine Zone should be considered further for the development of candidate NERR sites. A total of **53** votes were received, and a summary of the results is provided in the following table. Considering majority vote, the Atchafalaya, Barataria, and Pontchartrain Estuarine Zones will move forward for further consideration in developing candidate NERR sites for nomination to NOAA.

	Yes
Calcasieu Estuarine Zone	2%
Atchafalaya Estuarine Zone	**96 %**
Terrebonne Estuarine Zone	26 %
Barataria Estuarine Zone	**70%**
Mississippi River Estuarine Zone	26 %
Pontchartrain Estuarine Zone	**83 %**



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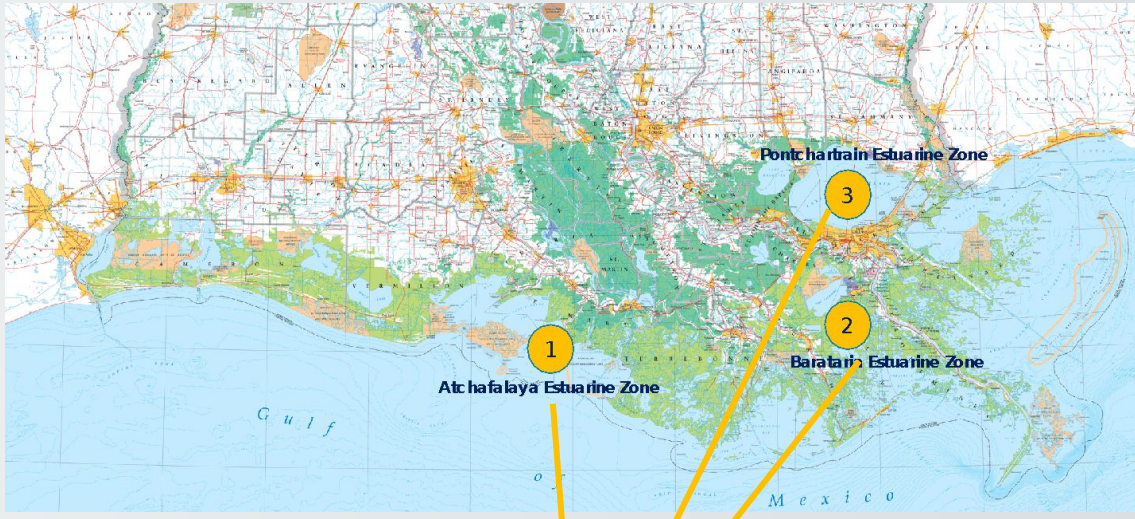

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Table of the Five Pre-Screening Criteria used to Evaluate the Six Estuarine Zones along with Pre-Screening Recommendation by Designation Leadership Team (DLT).

Pre-Screening Criteria #1 Unique Coastal Setting	Pre-Screening Criteria #2 State-Owned Lands	Pre-Screening Criteria #3 Land Integrity	Pre-Screening Criteria #4 Change in Habitat Diversity	Pre-Screening Criteria #5 Hydrologic Manipulations	Pre-Screening Recommendation by DLT
1. Are there potential core areas (state-owned lands and waters) in this Estuarine Zone that represent unique habitats, coastal processes and salinity gradients of a delta estuary in comparison to the other NERR sites in Louisianian Biogeographic Zone of NERR System (sections 11, 12, 13). Unique environmental representativeness is important to the research and education mission of a NERR. Description: Current distribution of habitat types, based on 2017 Coastal Master Plan initial condition vegetation, was used to define salinity zones in each Estuarine Zone. Habitat types are shown in outlined areas of state-owned land in red.	2. Is there currently sufficient area of state-owned lands within this Estuarine Zone conducive to developing LaNERR Candidate Sites that meet National Estuarine Reserve System objectives? Description: Majority of publicly-owned land used as core areas within a candidate site cannot be federal lands. Further, the state must demonstrate adequate management control for core areas to be designated as a NERR. NOAA requires that state lands be available in the initial designation of a NERR site since the agreement is a NOAA-state MOU.	3. Is the integrity of the wetlands that may serve as potential core (state-owned land) and buffer areas that provide the unique features of the NERR (see criterion #1) maintained in perpetuity within this Estuarine Zone, which would allow for development of facilities and programs (research & education)? Description: Land change was measured by comparing the 2017 Coastal Master Plan initial condition vegetation to the year 50 projected vegetation under the medium scenario with implementation of the plan. A reduction of 50% in wetland area from initial to projected was considered sufficient to question the integrity of a zone.	4. Do the wetlands that would serve as potential core (state-owned land) and buffer areas currently support a diversity of habitats along a salinity gradient representative of a delta estuary. Do these wetland areas maintain a diversity of habitats in perpetuity (maintain integrity) within this Estuarine Zone over the next 50 years? Description: Changes that demonstrate Significant Habitat Diversity change represent conflict with foreseeable program development in research & education to meet the mission of a NERR. Change in habitat diversity was measured by comparing the 2017 Coastal Master Plan initial condition vegetation to the year 50 projected vegetation under the medium scenario with implementation of the plan. Insignificant change (fresh or saline habitat change <-25%); Moderate change (fresh or saline habitat change -25 to -65%); Significant change (fresh or saline habitat change > -65%.	5. Do existing or anticipated operations of water control structures and levees (including marsh impoundments) by federal and state authorities with sole purpose of manipulating hydrology in coastal basins for either flood control, marsh management, or coastal restoration have the potential to impact the integrity of potential core or buffer areas thus causing potential conflicts between LaNERR objectives (environmental representativeness, research & education)?	The following columns contain summary statements and recommendations for each Estuarine Zone prepared by the Designation Leadership Team.

Criteria from the NOAA guidelines to establish a LaNERR site in the Mississippi River Delta.

National Estuarine Research Reserve Designation Guidance

Site Selection, Nomination, and Designation

February 1, 2020

Authored by NOAA

Stewardship Division
Office for Coastal Management
National Ocean Service
National Oceanic and Atmospheric Administration

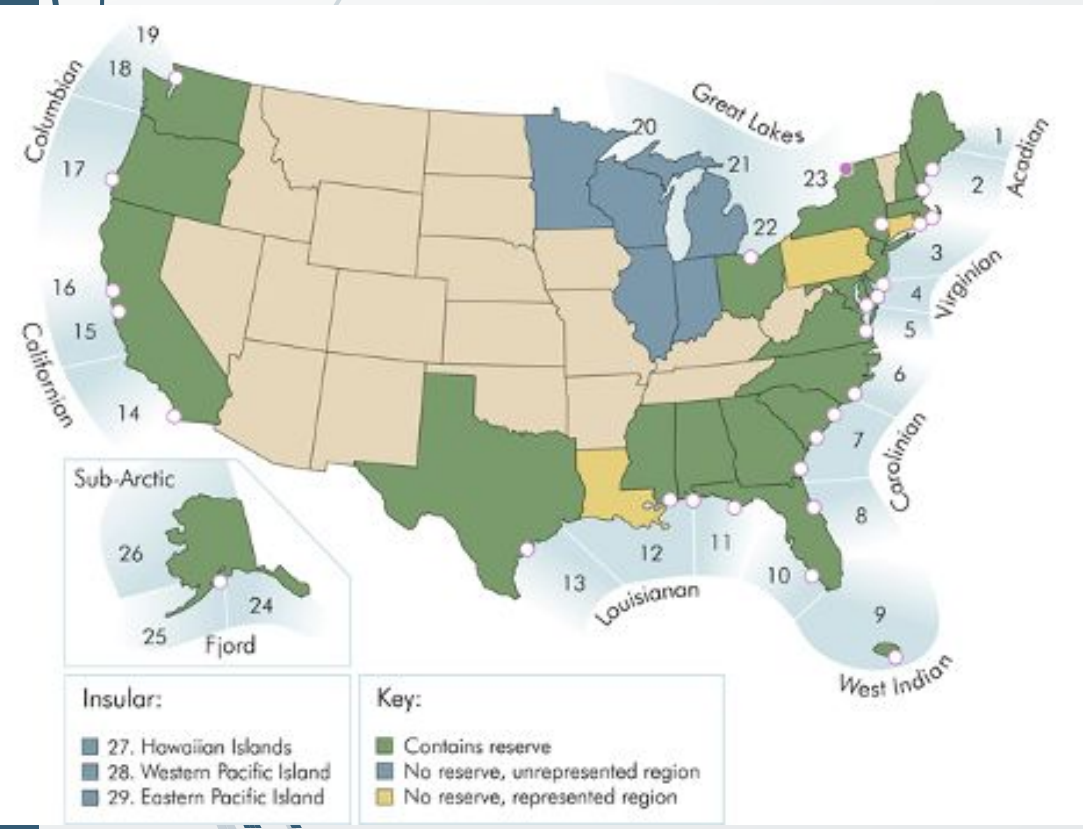
I. Environmental Representativeness

II. Value of the Site for Research, Monitoring, and Resource Protection

III. Suitability of the Site for Education and Interpretation

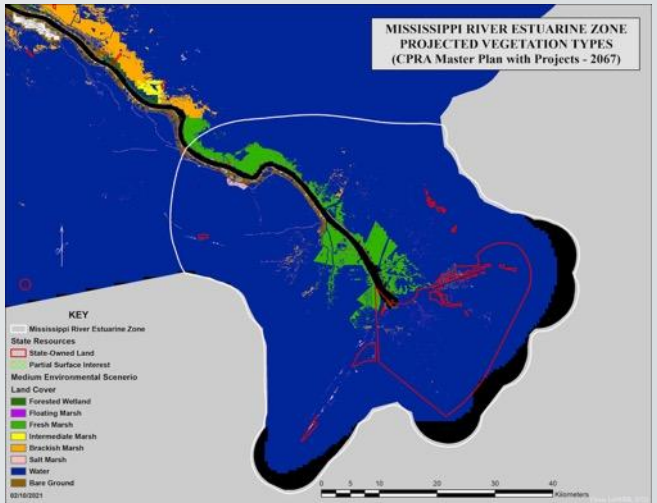
IV. Acquisition and Management Considerations

Unique Environment– Unique, as referred to in terms of NERR designation, refers to limited known occurrence of a habitat type, process, landscape feature, endangered or threatened species, etc. in the biogeographic region or sub-region.



Core and buffer Areas – NOAA regulations define key or "core" land and water areas which contain "ecological units of a natural estuarine system which preserves, for research purposes, a full range of significant physical, chemical, and biological factors contributing to the diversity of fauna, flora and natural processes occurring within the estuary."

Integrity – Ecosystem integrity is generally used to refer to the completeness, functionality, and health of an ecosystem. Declines in integrity reduce habitat quality for native biota, disrupt ecological processes and functions, and diminish ecosystem resilience and capacity to sustain species and many ecosystem services. Significant declines in ecosystem integrity could jeopardize the NERR system goal of long-term research.



Site Criteria Subcommittee

Criteria Subcommittee Members
Andy Fischer
Brian Roberts
Gary Shaffer
Heather Stone
Honora Buras
Ilya Tietzel
John Nyman
Jonathan Foret
Julie Whitbeck
Justin Lemoine
Kristi Trail
Maida Owens
Mark Tobler
Michael Pasquier
Natalie Snider
Rebecca Triche
Robert Moreau
T. Erin Cox
Thomas Robert
Tracy Quirk

- The Designation Leadership Team (DLT) made minor modifications to the NOAA Site Selection Criteria which represents the 1st draft of the LaNERR Site Selection Criteria. The 2nd draft is due to the DLT at the end of April.
- Customizing NOAA Site Selection Criteria for use in screening and scoring candidate LaNERR site proposals is not intended to be a major or wholesale revision, but rather a review of the criteria with a focus on terminology that is so drastically unapplicable to coastal Louisiana and the uniqueness of our habitats that it cannot be applied as is in the LaNERR process.
- For example, we suggested changing the use of "high, mid, and low marsh zones" to "tidal freshwater, brackish, salt marsh zones including mangroves," as this is more characteristic of Louisiana's coastal systems. You may also suggest the addition of new criteria if unique coastal Louisiana features and/or areas of focus or importance are lacking from the list as provided.
- Prior to using the revised criteria to screen and score candidate site proposals, NOAA must review and approve the revisions.

	Proposed SECOND DRAFT of LaNERR Criteria	Proposed FIRST DRAFT of LaNERR Site Criteria
		Environmental Representativeness (ER)
ER		1.1 Ecosystem composition: A measure of the diversity of ecosystem types present within the boundaries of the site. This criterion is based on the assumption that sites that have a high diversity of major ecosystem types are of higher relative "value" for protection and management than those with low ecosystem diversity (unless the ecosystem in consideration is rare or unique). 3 Points The site has a high diversity of habitat composition within its major ecosystem type, i.e., it contains three or more habitat types or subtypes within its major ecosystem type (e.g., site consists of a combination of swamps, coastal marshes, and mud flats) or has a combination of multiple coastal marsh types (e.g., high, mid, and low marsh zones). 2 Points The site has a moderate diversity of habitat composition within its major ecosystem type, i.e., it contains only two habitat types or subtypes within its major ecosystem type (e.g., consists of a combination of swamps and a single coastal marsh type). 1 Point The site has a low diversity of habitat composition within its major ecosystem type, i.e., its major ecosystem type consists of a single habitat type (e.g., maritime forest or Juncus marsh). These are the suggested Ecosystem Types to be used in the LaNERR evaluation: Group I- Shorelands Maritime forest- woodland Coastal Shrublands Coastal Cheniers Group II- Transition areas Coastal Forested Wetlands Coastal Floating Marshes Coastal Freshwater Marsh Coastal Intermediate Marsh Coastal Brackish Marsh Coastal Salt Marsh Coastal Mangroves Intertidal beaches and dunes Intertidal mud and sand flats Group III- Submerged Bottoms Subtidal hard bottoms Subtidal soft bottoms

	Proposed SECOND DRAFT of LaNERR Criteria	Proposed FIRST DRAFT of LaNERR Site Criteria
		Environmental Representativeness (ER)
ER		1.2 Balanced Ecosystem Composition: A measure of the relative composition of ecosystem types within the boundaries of a site. This criterion is based on the assumption that sites with a balanced proportion of ecosystem types are of higher relative "value" for protection and management. High, moderate, and low values are assigned to sites that contain variations in the proportions of all three ecosystem types. A value of zero is assigned to a site that is dominated by one ecosystem type or contains less than three ecosystem types. 3 Point. The site contains representative upland, intertidal, and subtidal habitats in relatively equal proportions (i.e. areal cover of any one ecosystem type not less than 25 percent of the total area) 2 Point. The site contains representative upland, intertidal, and subtidal habitats, with the areal cover of any one type not less than 10 percent of the total area. 1 Point. The site contains representative upland, intertidal, and subtidal habitats, with the areal cover of any one type less than 10 percent of the total area 0 Points the site contains representative upland, intertidal and subtidal habitats, with the areal cover of two types being less than 10 percent of the total area or the site consists of habitats from only one or two of the three major ecosystem types
ER		1.3 Habitat Composition and Complexity: A measure of the diversity of habitat types present within the major ecosystem type found within the boundaries of the site. This criterion is based on the assumption that sites that have a high diversity of habitat types are of higher relative "value" for protection and management than those with a low diversity of habitat types. Major ecosystem type is defined here as that type that comprises approximately 40 percent of the site. Use the habitat type designations listed above for "ecosystem composition." 3 Points The site has a high diversity of habitat composition within its major ecosystem type, i.e., it contains three or more habitat types or subtypes within its major ecosystem type (e.g., site consists of a combination of swamps, coastal marshes, and reefs) or has a combination of multiple coastal marsh types (e.g., tidal freshwater, brackish, salt marsh zones including mangroves). 2 Points The site has a moderate diversity of habitat composition within its major ecosystem type, i.e., it contains only two habitat types or subtypes within its major ecosystem type (e.g., consists of a combination of swamps and a single coastal marsh type). 1 Point The site has a low diversity of habitat composition within its major ecosystem type, i.e., its major ecosystem type consists of a single habitat type (e.g., brackish marsh or tidal freshwater wetlands)

	Proposed SECOND DRAFT of LaNERR Criteria	Proposed FIRST DRAFT of LaNERR Site Criteria
		Environmental Representativeness (ER)
		1.4 Habitat uniqueness of the Site: A measure of the presence of rare or unique habitat types within a candidate site. This criterion recognizes the importance of emphasizing unique areas in the selection process, in addition to the representativeness of the candidate site in terms of ecosystem and habitat diversity. Unique habitat is defined here as a habitat type of "limited" known occurrence within the biogeographic region or sub-region. This criterion can be a simple "yes/no" question.
ER		1.5 Significant faunal and floral support: A measure of the degree to which a site supports significant faunal or floral components. This criterion focuses on a site's contribution (i.e., function) toward supporting the activities (e.g., feeding, nesting) of the following suite of significant faunal or floral components. The list of components includes groups or organisms that are known to be dependent upon estuarine habitats for the entire or a crucial part of their life cycle. • Fish and Shellfish Spawning and Nursery Grounds (includes use by either freshwater, estuarine, or estuarine-dependent marine species) • Migratory Bird or Waterfowl Use • Bird Nesting or Roosting Area • Critical Mammal Habitat • Non-Game Animals (amphibians, reptiles, etc.) • State or federally Listed Species (animal or plant – including candidate species) 3 Points. The candidate site supports or serves as an important site for a wide range of the faunal or floral components listed above (4 of 6) or is extremely important site for any threatened or endangered species. 2 Points The site supports or serves as an important site for a moderate range and diversity of the significant faunal or floral components listed above (3 of 6). 1 point The site supports or serves as an important site for one or two of the significant faunal or floral components listed above. 0 point The site does not support significant faunal or floral components

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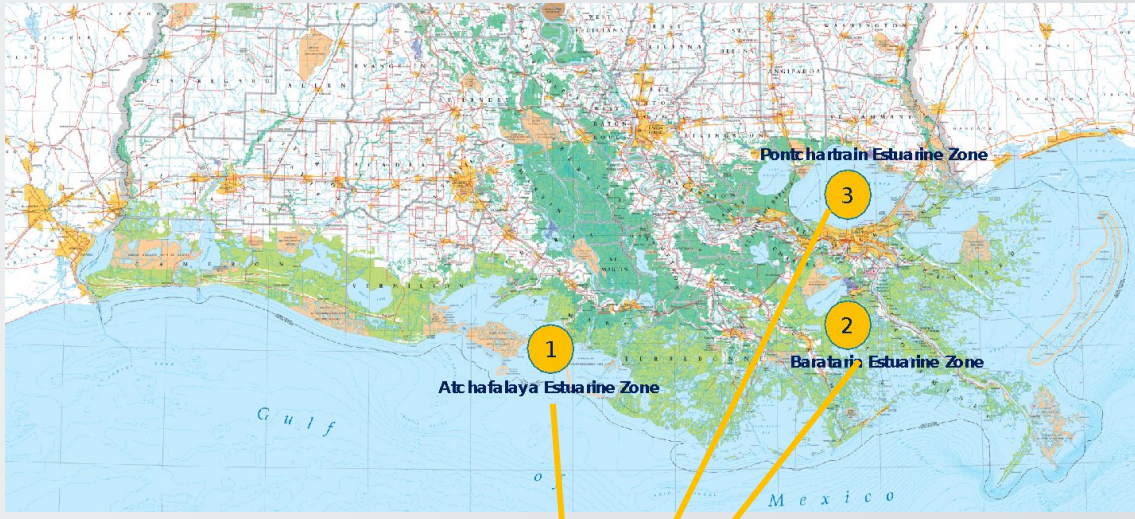

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Proposal Subcommittees

Atchafalaya
Brian Roberts
Justin Lemoine
Quenton Fontenot

Pontchartrain
David Podgorski
Kristi Trail
John Nyman
Traci Erin Cox
Martin O'Connell
Thomas Robert
Robert Moreau
Gary Shaffer

Barataria
John Nyman
Tracy Quirk
Julie Whitbeck
Quenton Fontenot

Cheston Hill	Consultant for any of the teams to help with candidate site proposals
Pat Arnould	Consultant for any of the teams to help with candidate site proposals

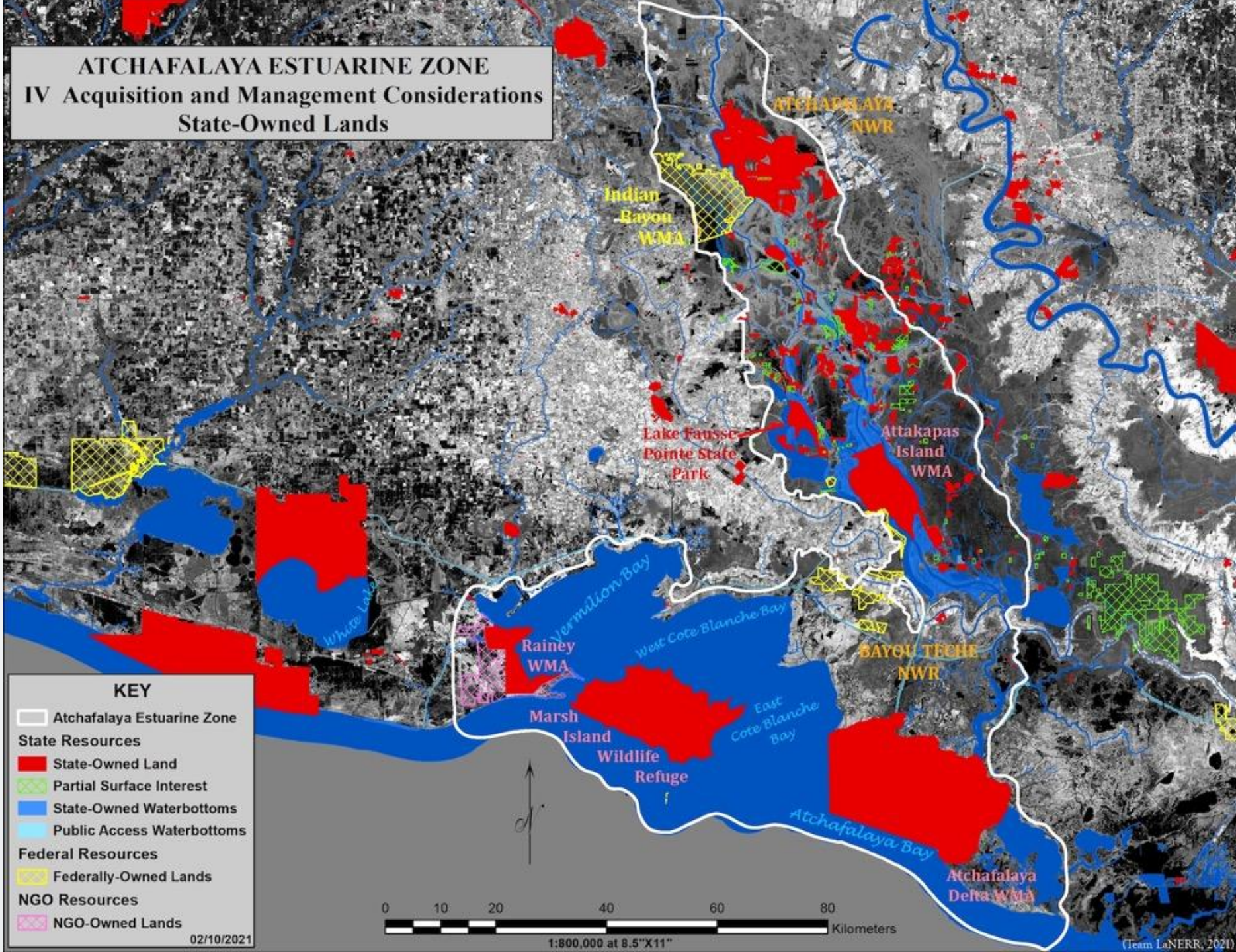
Proposal Teams - Developing Phase 1 Candidate Site Proposals

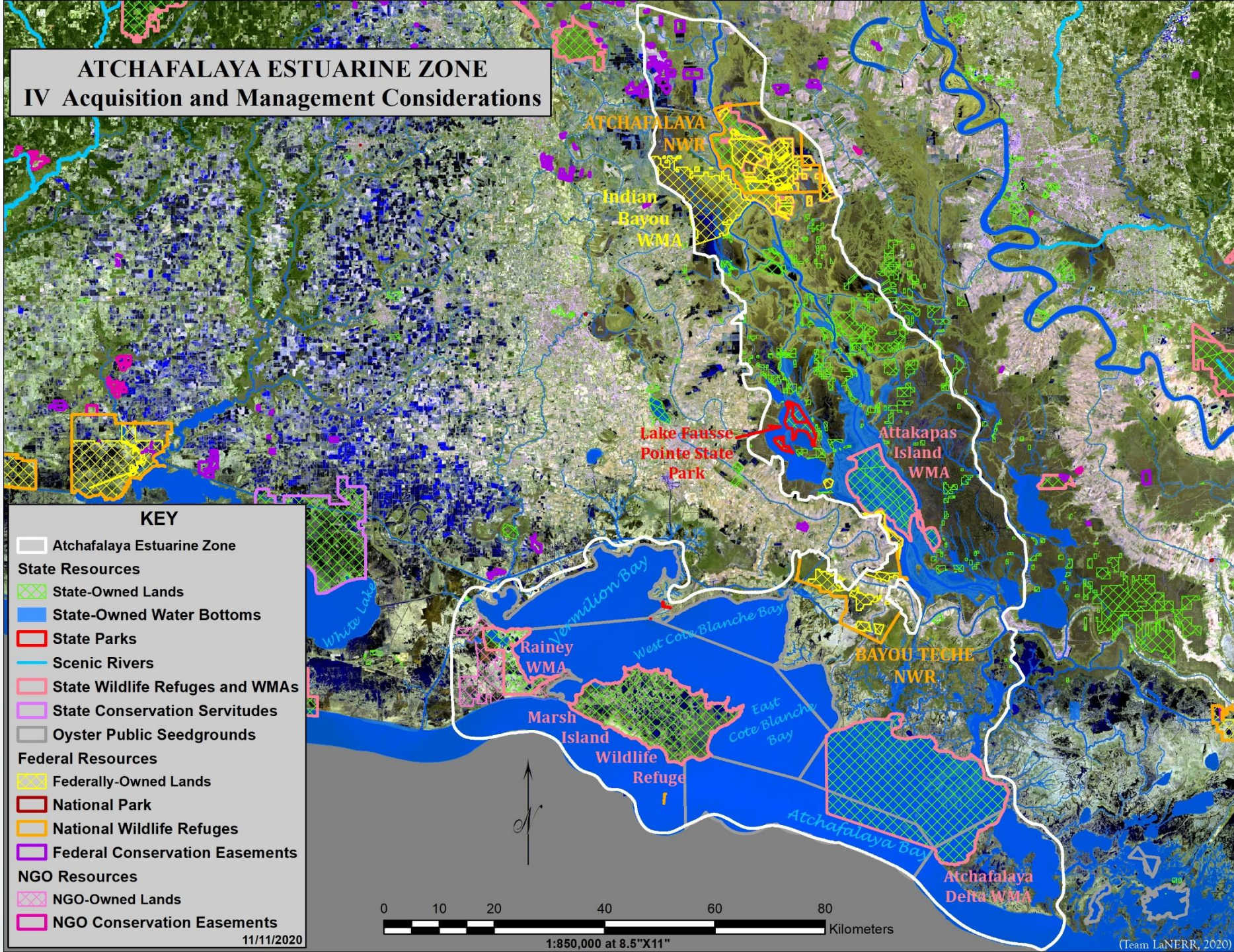
- Team Members and relevant expertise in addressing four NOAA topical areas (Environmental, Research, Education, Management);
- Visual of anticipated LaNERR site, including draft core and buffer areas;
- Brief explanation of proposal development plan including
  - team members (recruit members outside SDC to cover the four criteria topical areas);
  - Meeting format and process;
  - Needs to proposal implementation;
- Format of proposal is pdf and a powerpoint to present to SDC Meeting #5;
- Due end of April for SDC Meeting #5 planned for first week in May;

Proposal Teams – Support for Proposal Development from DLT

- Consultants from SDC have been identified to help with specific issues
- DLT will make available all shape files, data, and powerpoint productions that have been used for the pre-screening process;
- DLT is available for meetings to support Proposal Team efforts and answer questions (schedule with LaTosha Mullins);
- DLT is willing to set up share point folders for team interactions and sharing information;
- ????

The process from generalized boundaries of Estuarine Zones to the more specific composites of Candidate Sites to the final core areas of a LaNERR Nominated Site.




ATCHAFALAYA ESTUARINE ZONE
IV Acquisition and Management Considerations
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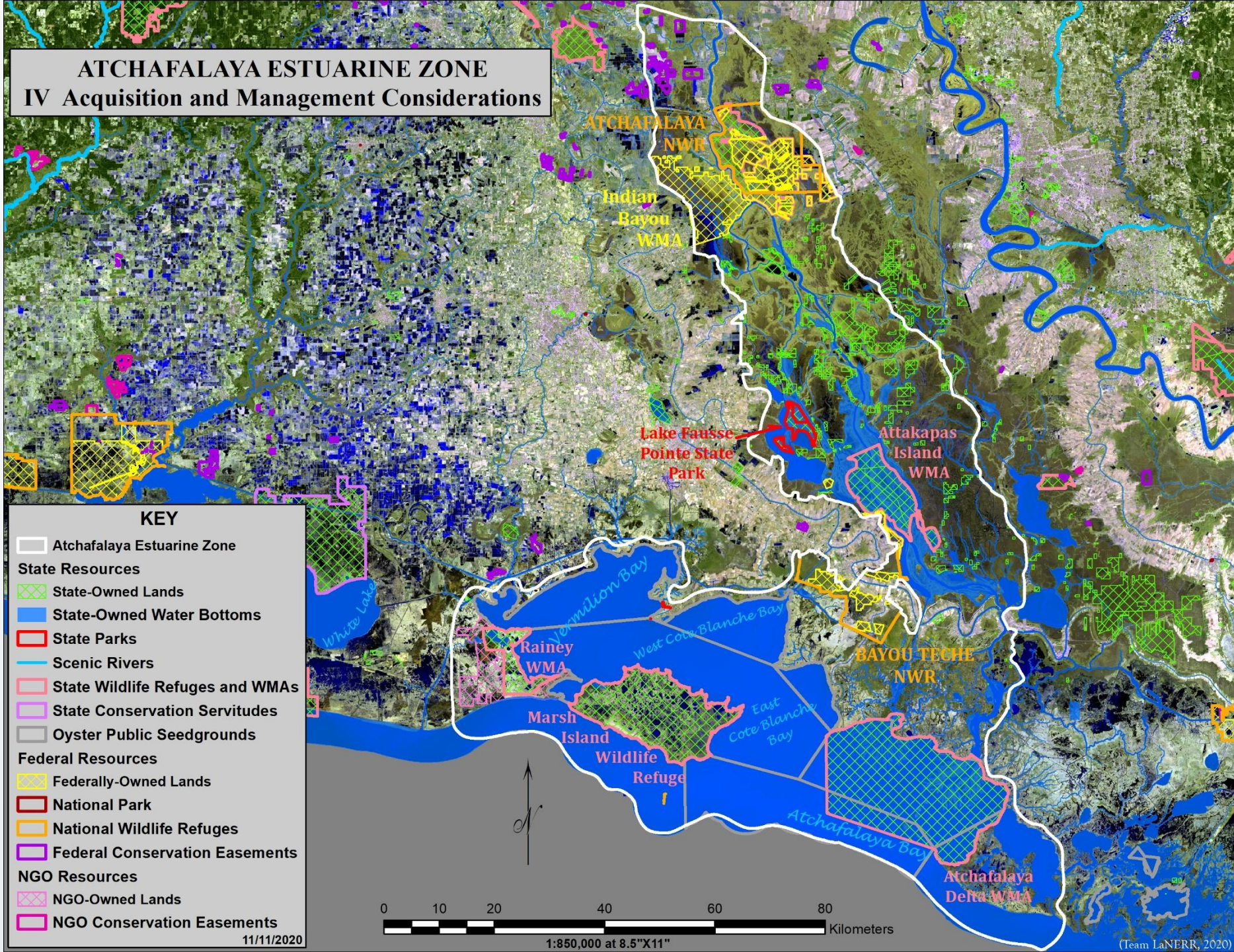
11/11/2020
0 10 20 40 60 80
Kilometers
1:850,000 at 8.5"X11"
(Team LaNERR, 2020)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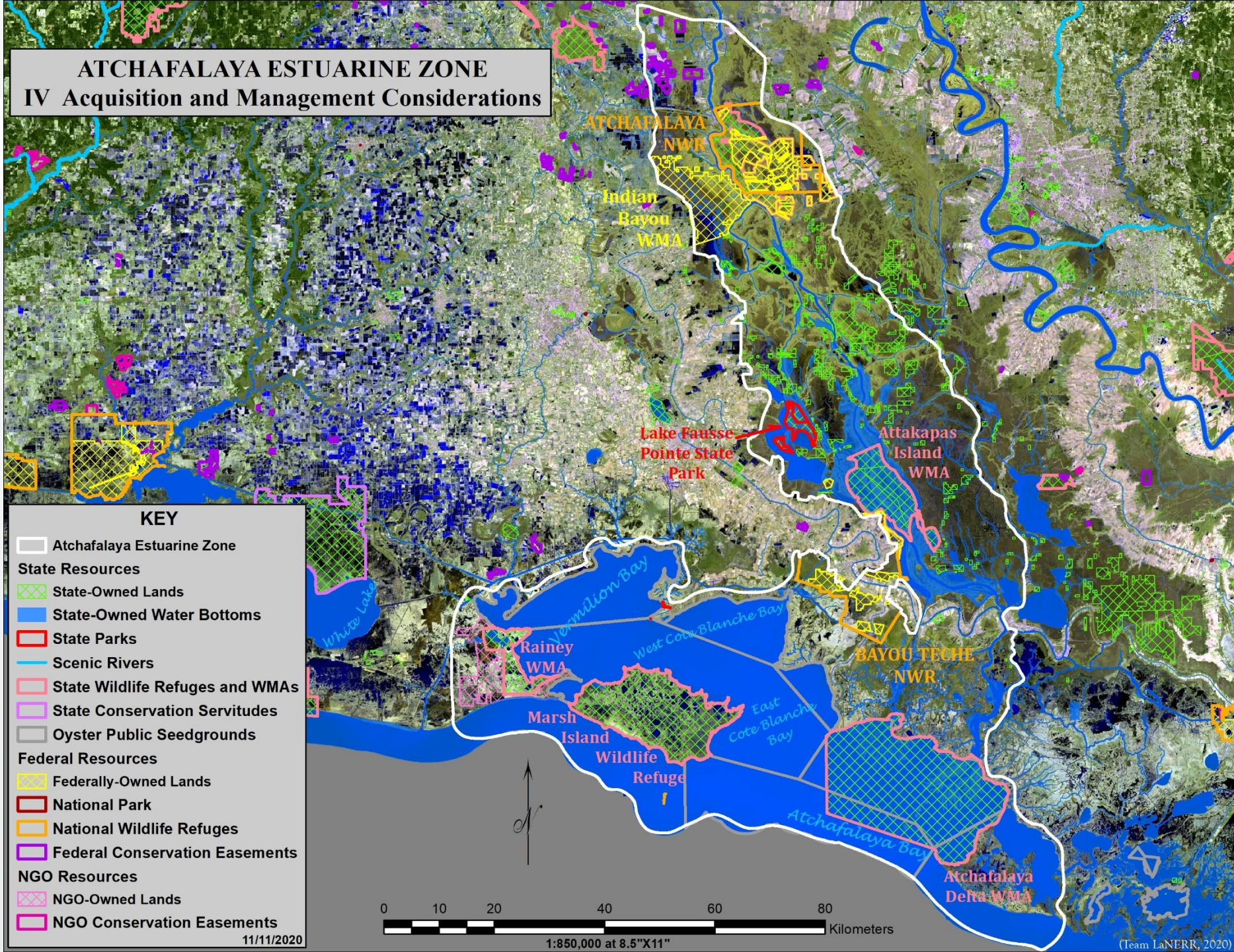
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(Team LaNERR, 2020)

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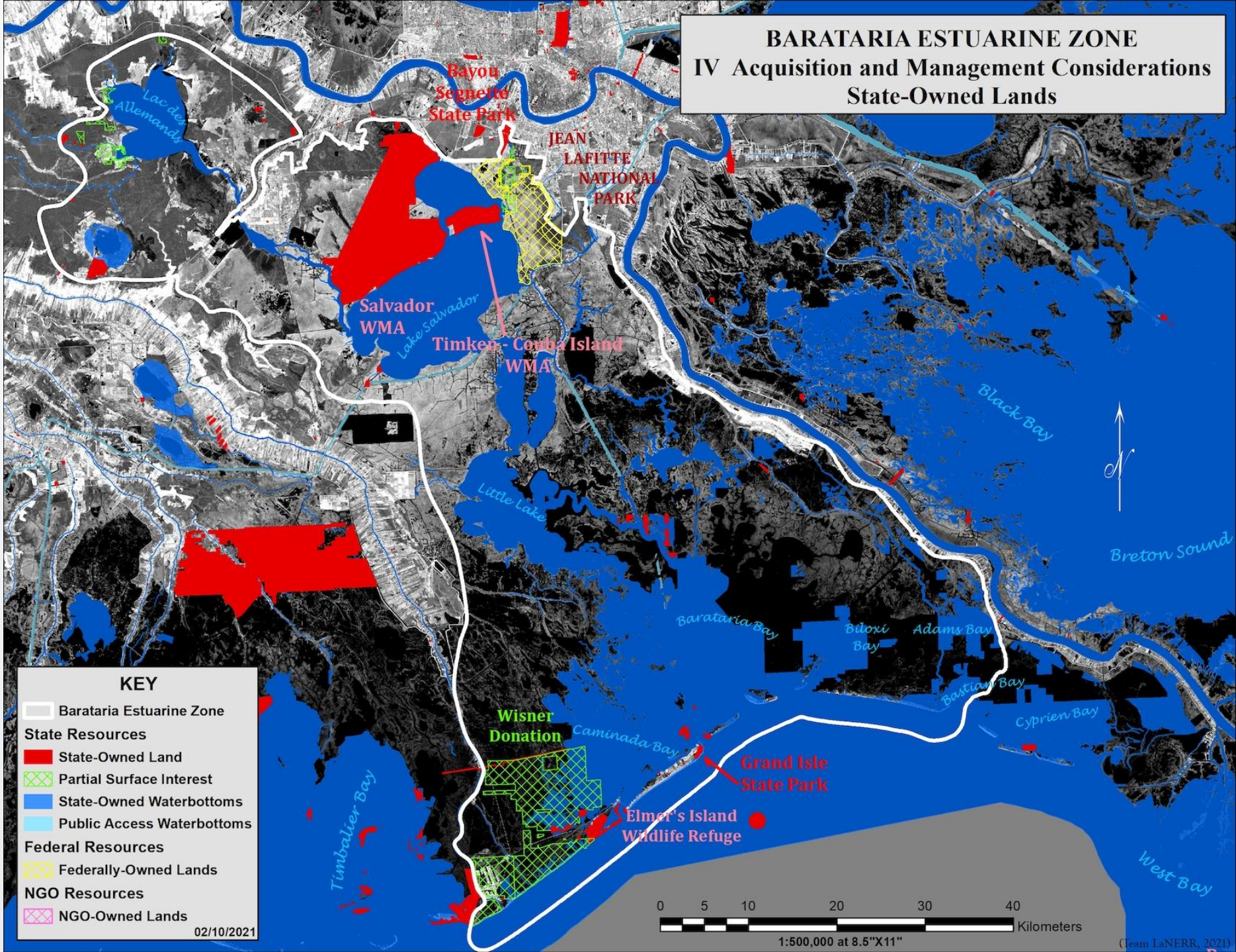

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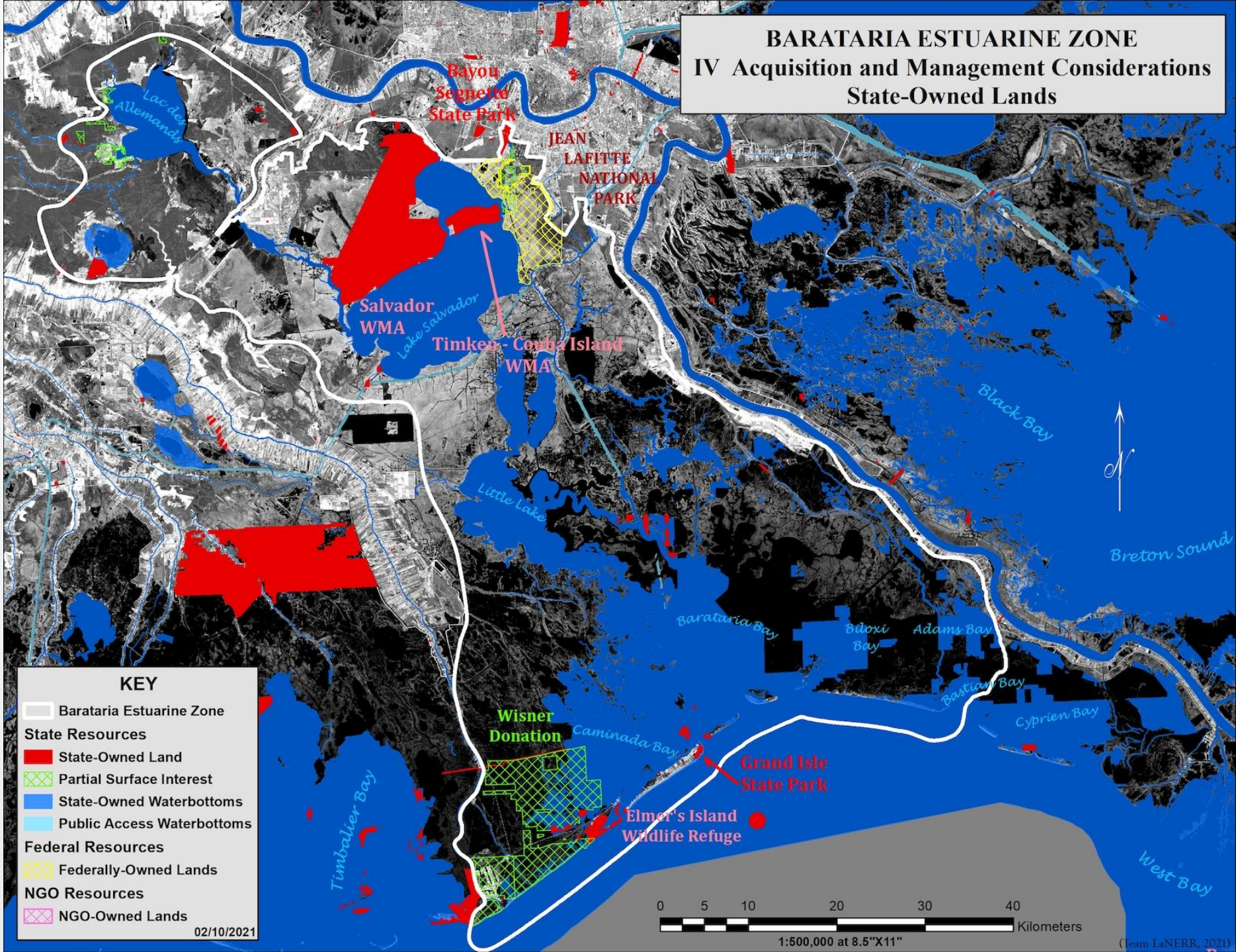
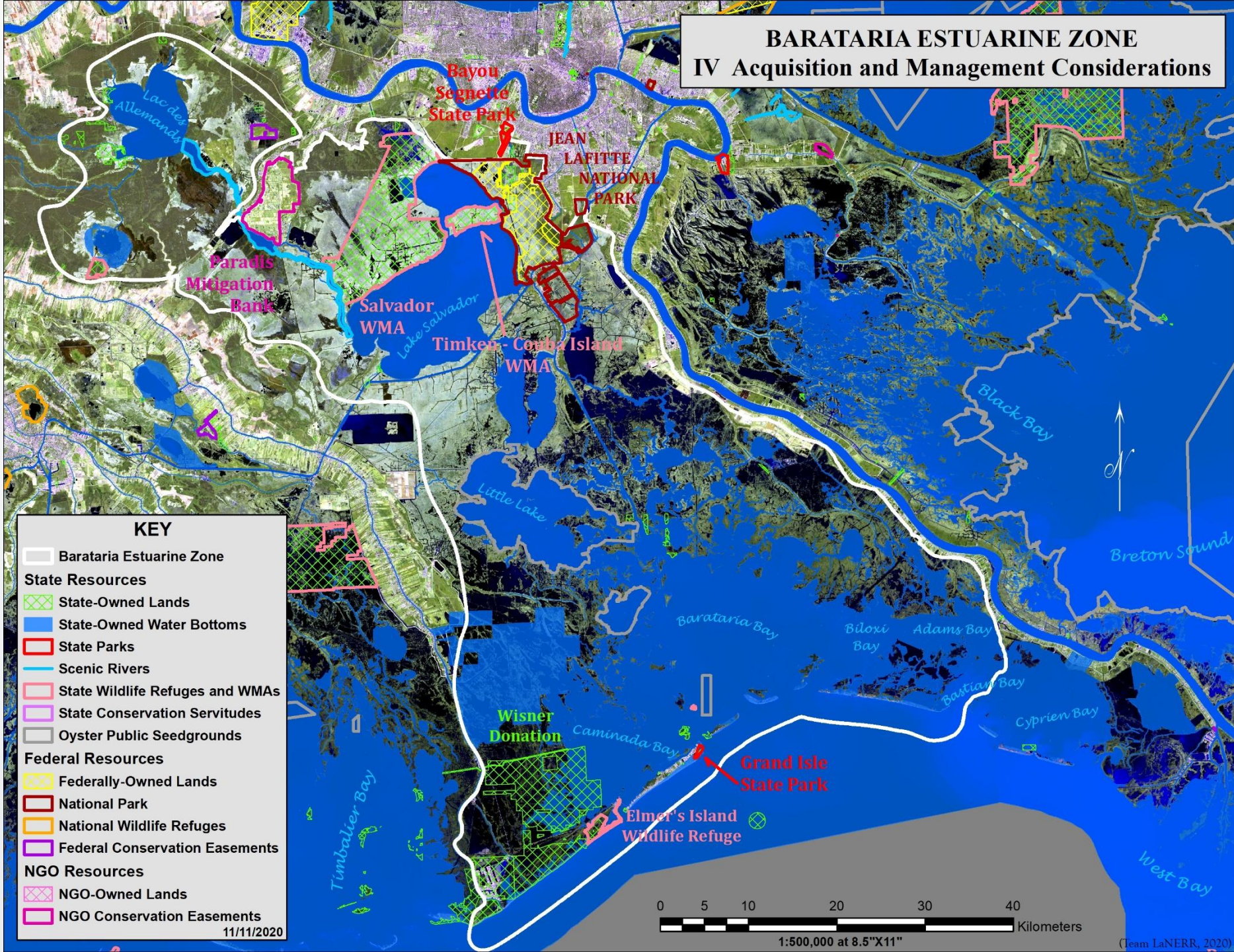


LaNERR SEARCH

IV. Acquisition and Management Considerations

BARATARIA ESTUARINE ZONE
IV Acquisition and Management Considerations



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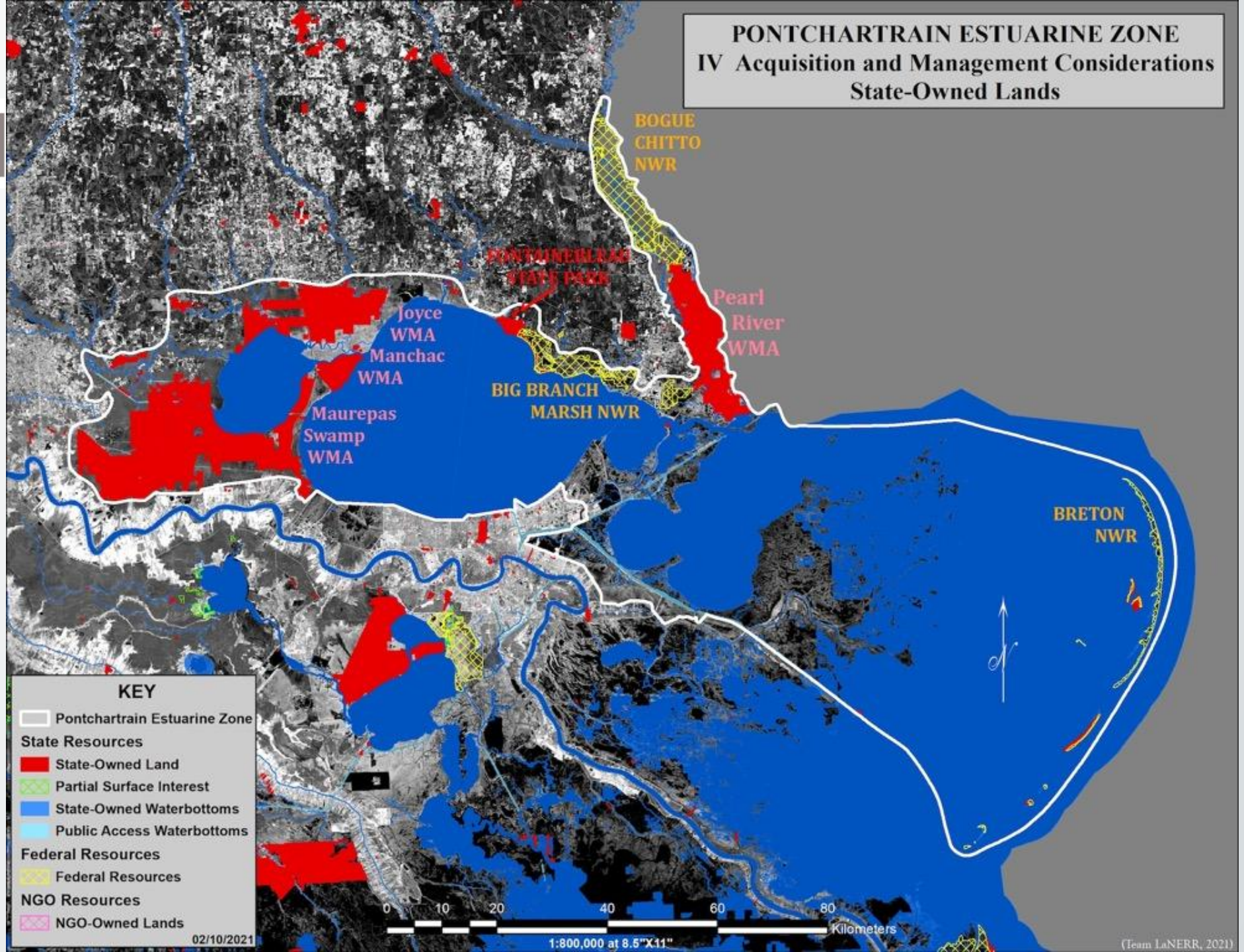

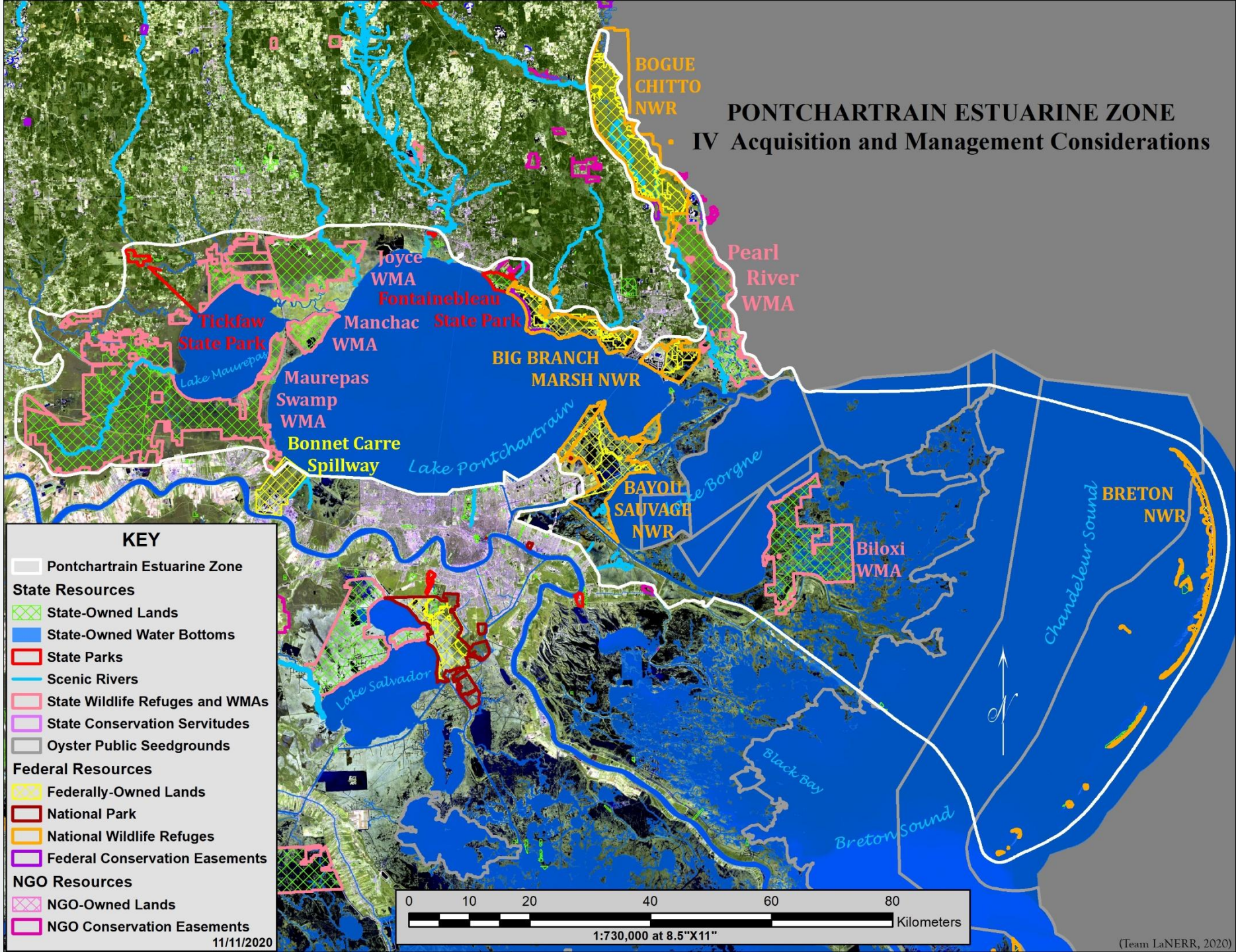
PONTCHARTRAIN ESTUARINE ZONE
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Pearl River WMA
Joyce WMA
Fontainebleau State Park
Tickfaw State Park
Manchac WMA
BIG BRANCH MARSH NWR
Maurepas Swamp WMA
Bonnet Carre Spillway
Lake Maurepas
Lake Pontchartrain
BAYOU SAUVAGE NWR
Lake Borgne
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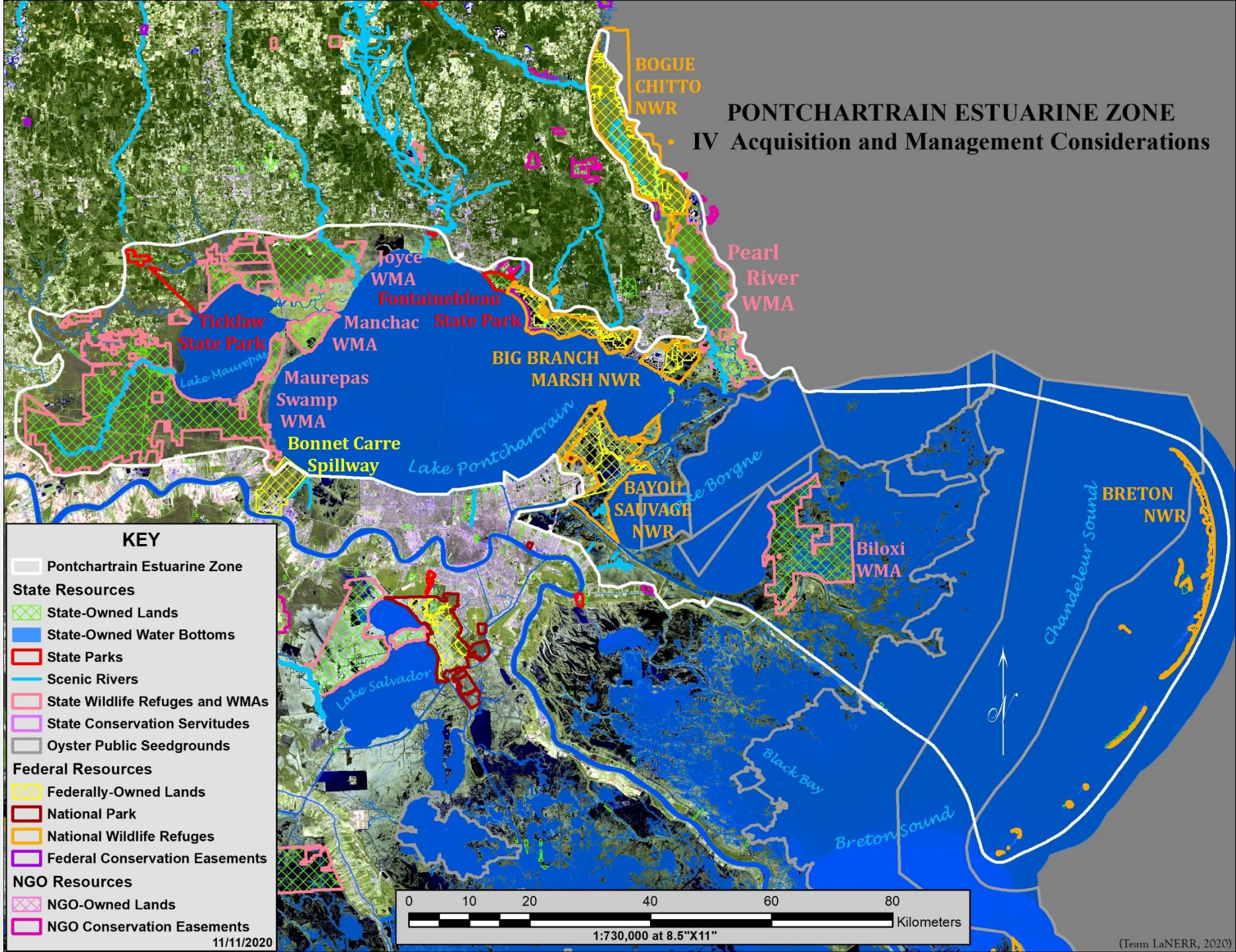
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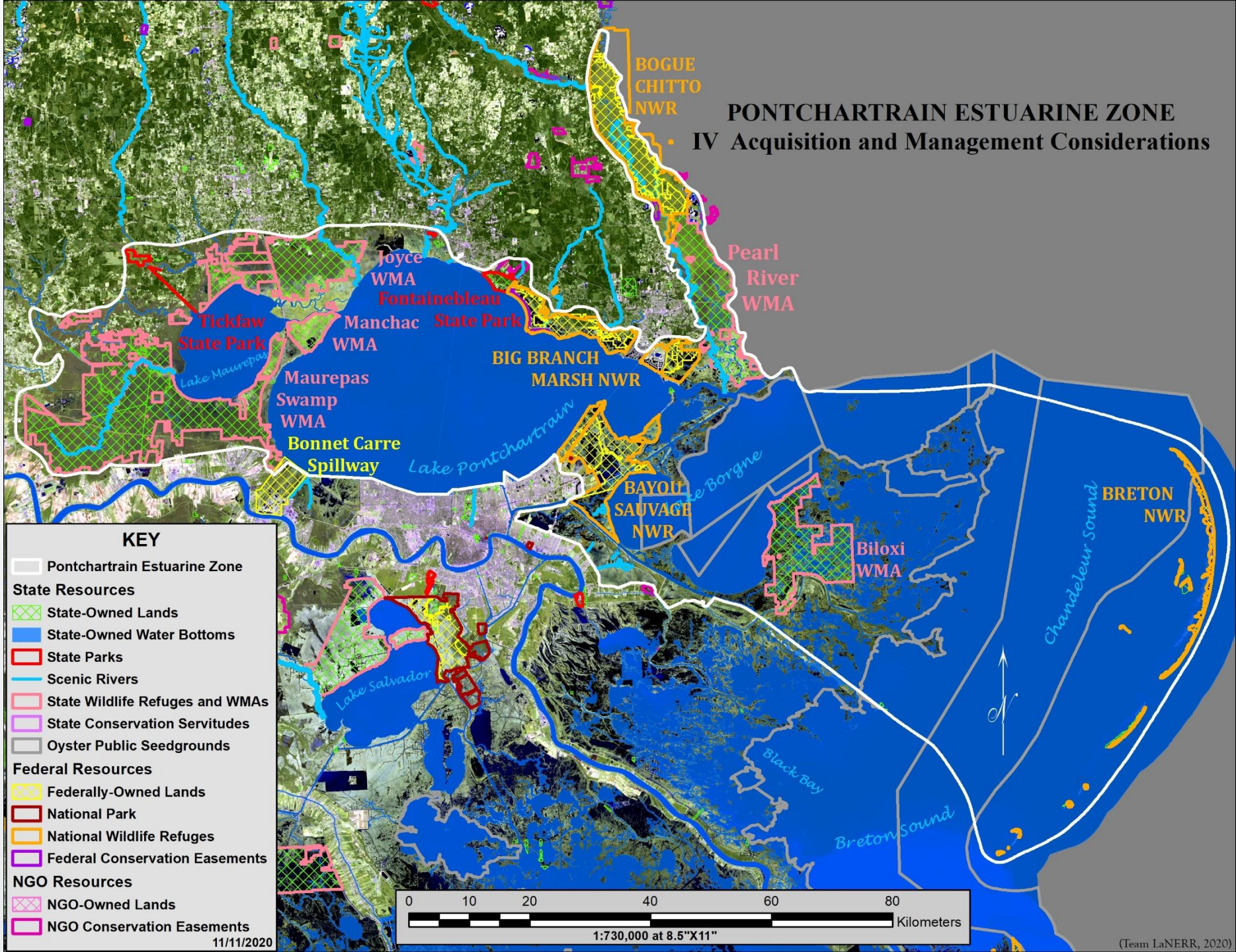
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Joyce WMA
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Tickfaw State Park
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Bonnet Carre Spillway
Lake Maurepas
Lake Pontchartrain
BAYOU SAUVAGE NWR
Lake Borgne
Biloxi WMA
BRETON NWR
Chandeleur Sound
Lake Salvador
Black Bay
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KEY
Pontchartrain Estuarine Zone
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State-Owned Lands
State-Owned Water Bottoms
State Parks
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NGO Resources
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11/11/2020
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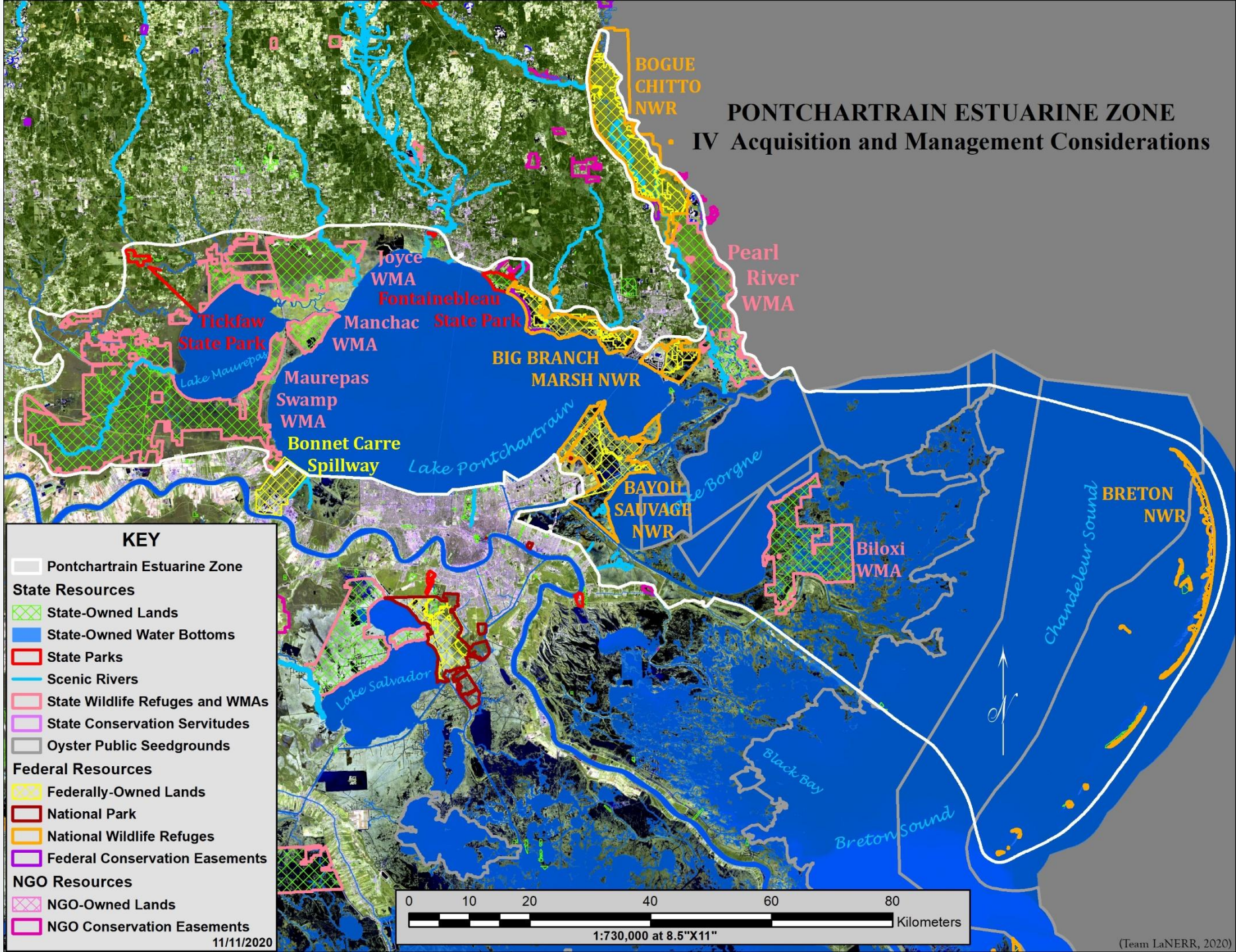
Kilometers
1:730,000 at 8.5"X11"
(Team LaNERR, 2020)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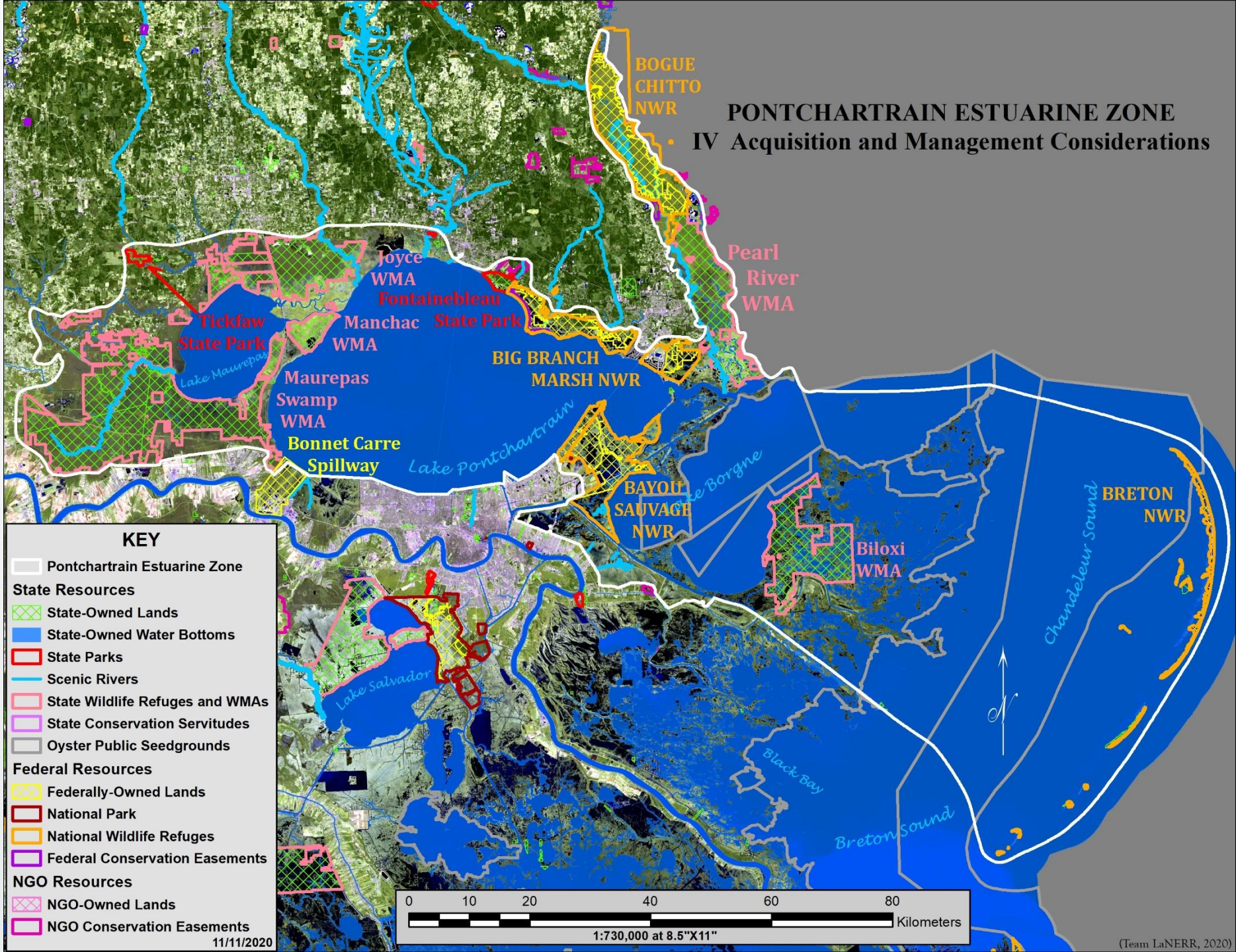
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(Team LaNERR, 2020)

IV. Acquisition and Management Considerations

The specific core and buffer boundaries of the proposed LaNERR zone include **sufficient land and water area to maintain the integrity of the delta ecosystem**.

- The candidate site consists of publicly owned lands or demonstrates sufficient potential for land acquisition and adequate land-use control to meet Reserve System goals.
- There are Wildlife Management Areas, State Parks, National Parks, conservation easements, etc. in the LaNERR zone.
- The candidate site is suitable to address key **coastal management issues**.

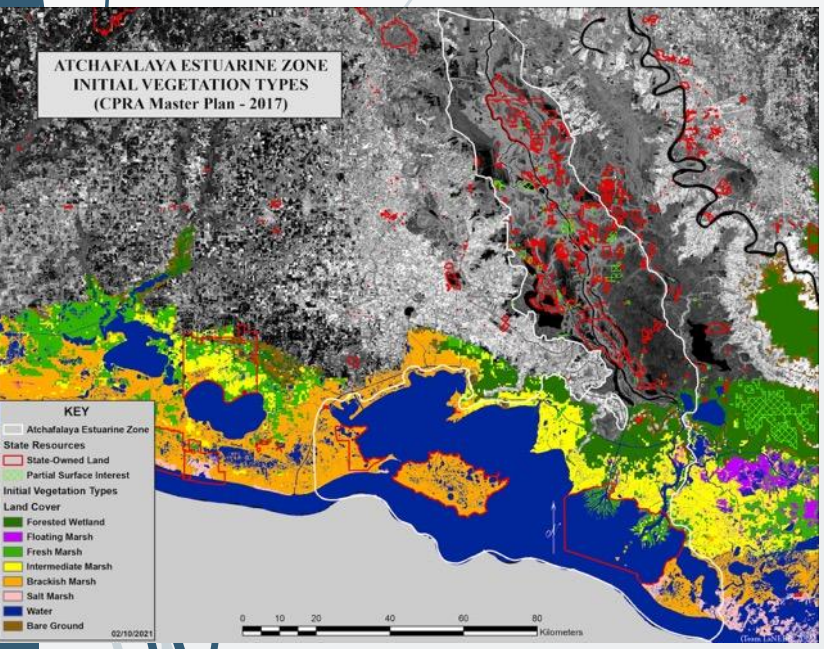
I. Environmental Representativeness

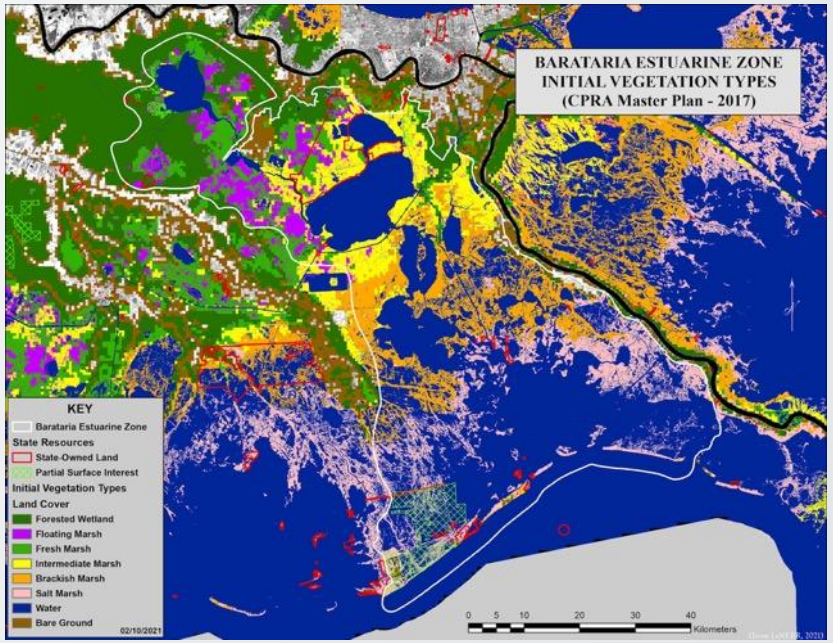
The candidate site is in the **Mississippi River Delta** that represents an active delta estuary.

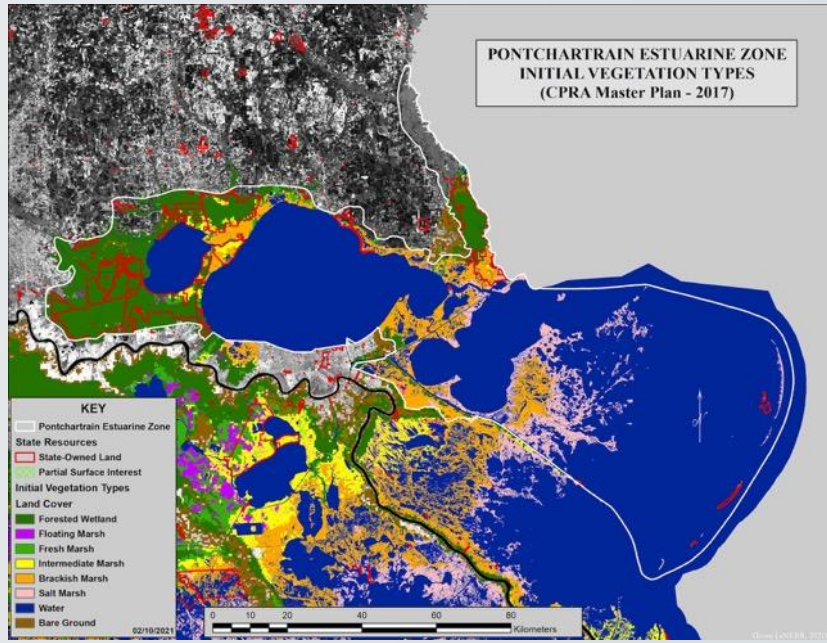
- Core and buffer areas describe the ecological features of a delta estuary such as the life cycles of estuarine-dependent species;
- Vegetation types include the delta estuary habitats from tidal freshwater to estuarine marshes and forested wetlands;
- Does the proposed delta estuary have habitat with unique and endangered species;

I. Environmental Representativeness

Distribution of current habitat types representing salinity zones based on 2017 Coastal Master Plan.







II. Value of the Site for Research, Monitoring, and Resource Protection

The candidate site is suitable for **research, monitoring, and resource protection** activities.

- The proposed zone has ecosystems suitable for monitoring processes of delta estuary; and has been site of long-term research efforts.
- There are research institutions and facilities in general area that can utilize the proposed site for research and monitoring programs;
- There is long-term sustainability and resilience to ecosystems in the proposed site; land use issues allow for resource protection.

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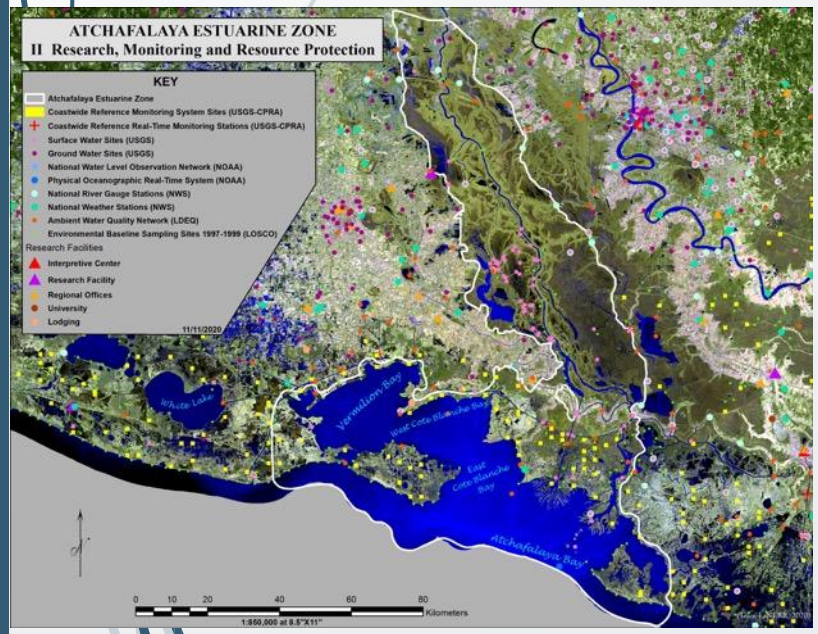
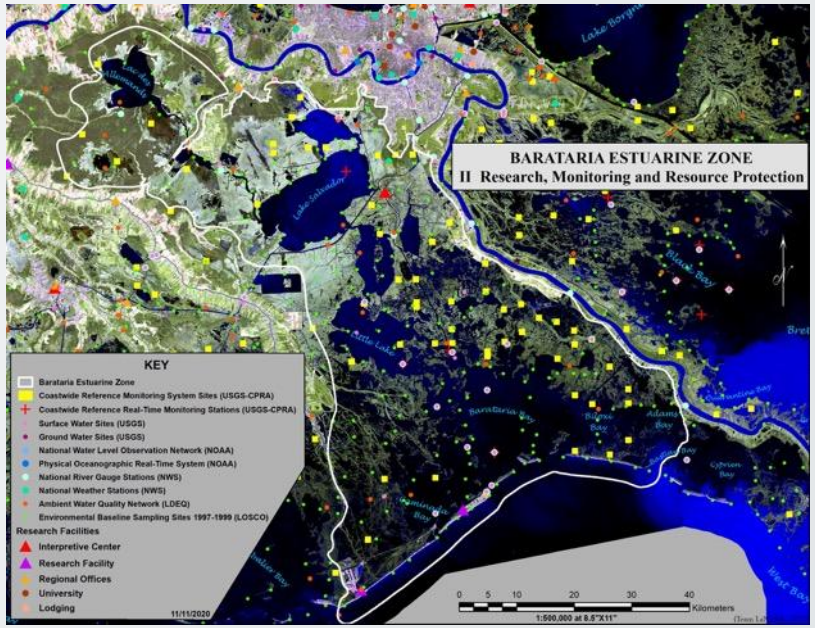
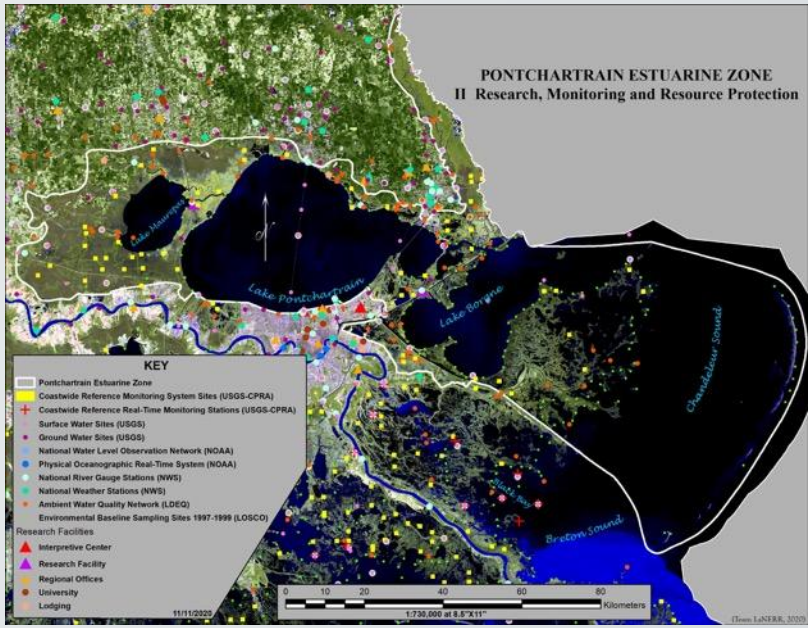
II. Value of the Site for Research, Monitoring, and Resource Protection

Distribution of monitoring stations (including coastwide reference monitoring stations – CRMS).







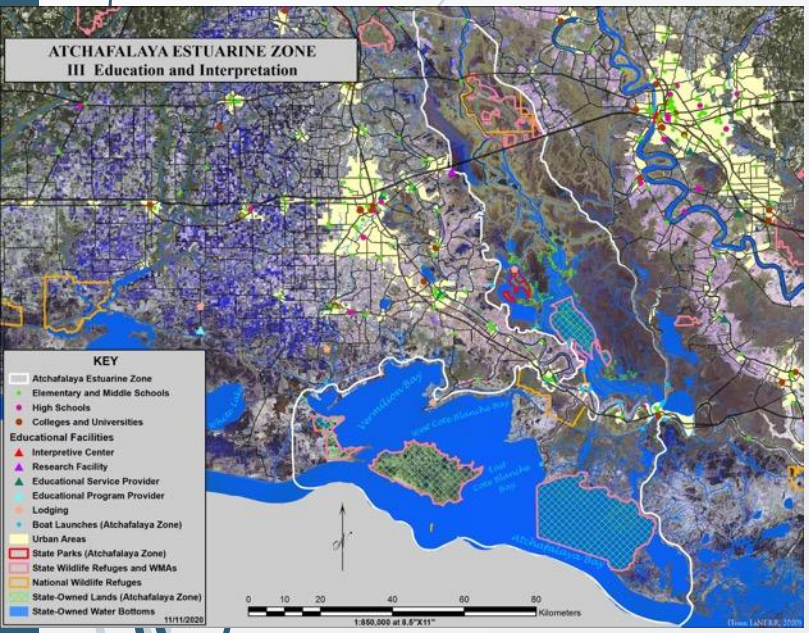
III. Suitability of the Site for Education and Interpretation

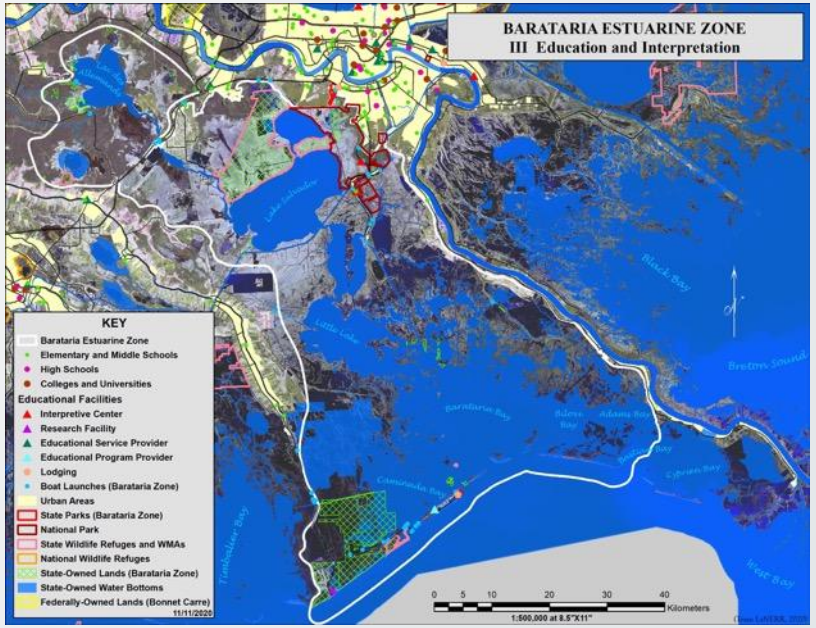
The candidate site is suitable for **education, training, and interpretation** activities.

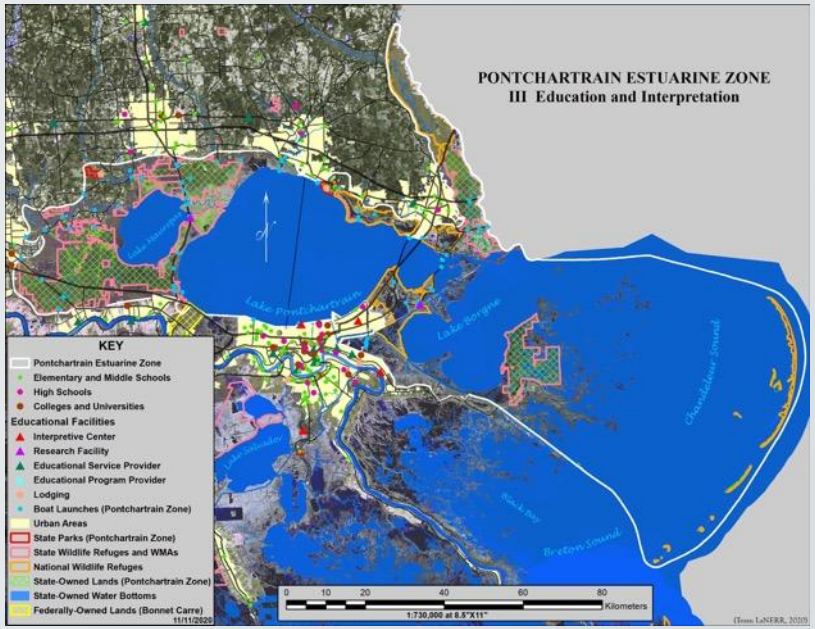
- Does the LaNERR zone have significant features such as Scenic and Historic Rivers, Scenic Byways, Indian mounds, Archeological sites, etc., that provide education and interpretation value;
- Are there schools and known educational and interpretive centers near the LaNERR zone;
- Is the proposed site accessible by normal modes of transportation. What roads and boat launches provide access points to waterways of the LaNERR zone.

III. Suitability of the Site for Education and Interpretation

Distribution of urban areas and schools along with access points in proximity of three Estuarine Zones.



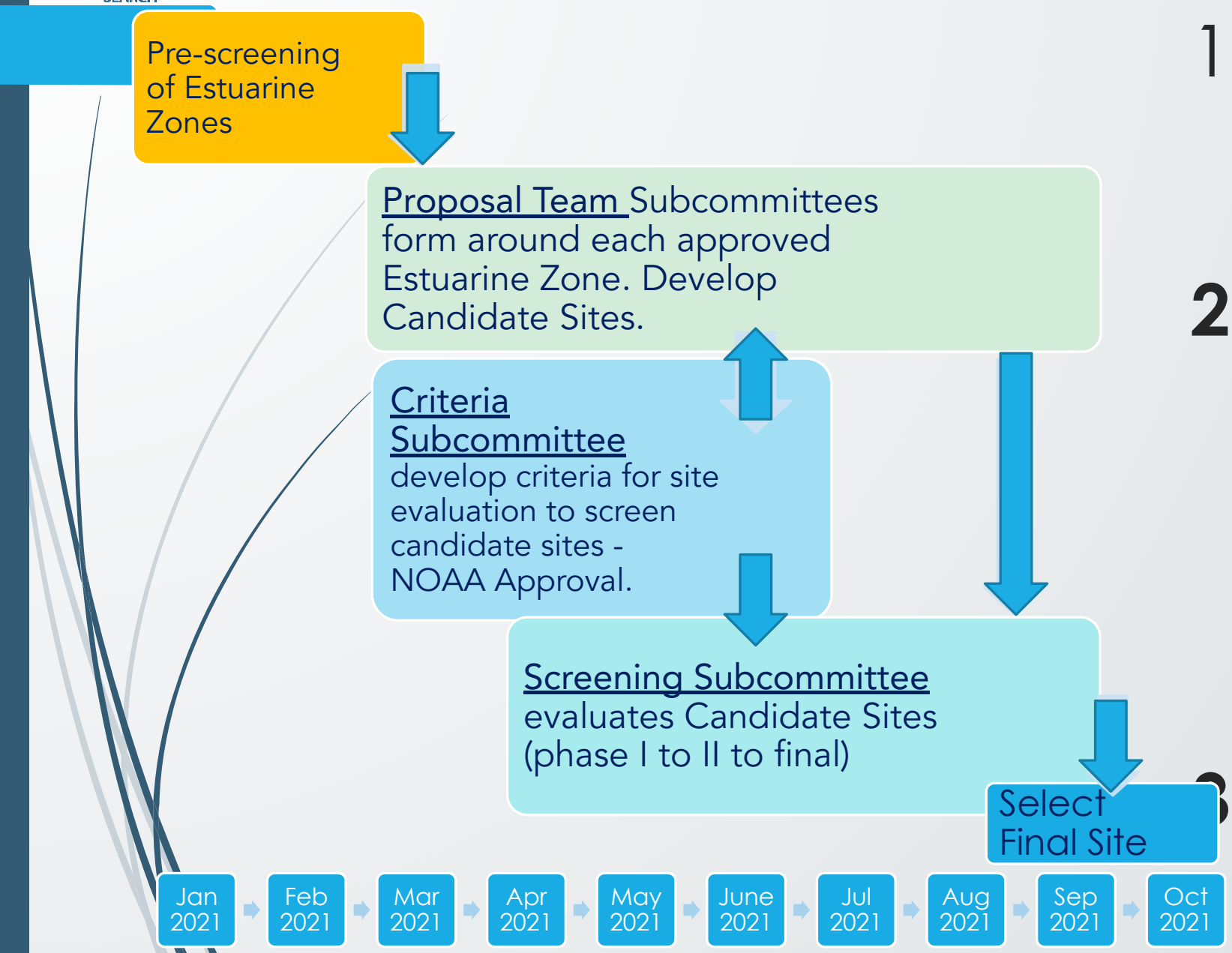




		DESIGNATION LEADERSHIP TEAM	SITE DEVELOPMENT COMMITTEE	CRITERIA SUBCOMMITTEE	SCREENING SUBCOMMITTEE	PROPOSAL TEAMS
MAR	Early	Develop preliminary (example) candidate sites	SDC voted on 6 Estuarine Zones			
	Mid					
	Late	• Establish subcommittees • Provide 1st draft of Site Selection Criteria to Criteria Subcommittee	SDC Mtg 4: Review results of Estuarine Zone voting, example core/buffer areas, first draft Site Selection Criteria, and guidance for developing Phase 1 Candidate Site Proposals			
APR	Early			Working session		
	Mid			Working session		
	Late	Develop Phase 2 candidate site proposal template		Provide 2nd draft of Site Selection Criteria to DLT		Submit Phase 1 Candidate Site Proposals for DLT review
MAY	Early		SDC Mtg 5: Update on Phase 1 proposals, Expectations for Phase 2 proposals, Review 2nd draft of Site Selection Criteria			
	Mid			Provide 3rd draft of Site Selection Criteria to DLT		DLT check in w/Proposal Teams
	Late					
JUN	Early	Submit 3rd draft of Site Selection Criteria to NOAA for approval				
	Mid					DLT Check in w/Proposal Teams
	Late					Submit Phase 2 Candidate Site Proposals

		DESIGNATION LEADERSHIP TEAM	SITE DEVELOPMENT COMMITTEE	CRITERIA SUBCOMMITTEE	SCREENING SUBCOMMITTEE	PROPOSAL TEAMS
JUL	Early	Receives approved Site Selection Criteria from NOAA				
	Mid				Screen Phase 2 Candidate Sites Proposals	
	Late		SDC Mtg 6: Review Results of Phase 2 Candidate Site Proposal Screening & vote to proceed to Final Candidate Site Proposals			
AUG	Early					
	Mid	Host Town Hall Meetings				Participate/present at Town Hall Meetings
	Late					
SEP	Early					Submit Final Candidate Site Proposals
	Mid				Screen Final Candidate Site Proposals	
	Late	Submit Final Candidate Site Proposal to Site Evaluation Committee for nomination to NOAA				

Site Development Committee Process.



1. Evaluate the six proposed generalized estuarine zones as qualifications for a LaNERR.
2. Proposal Team Subcommittees develop more specific Candidate Sites for consideration for a LaNERR. Phase I to Phase II to Final Phase development with evaluation by Screening Subcommittee
3. Criteria Subcommittee develops drafts of Modified Site Criteria for Site

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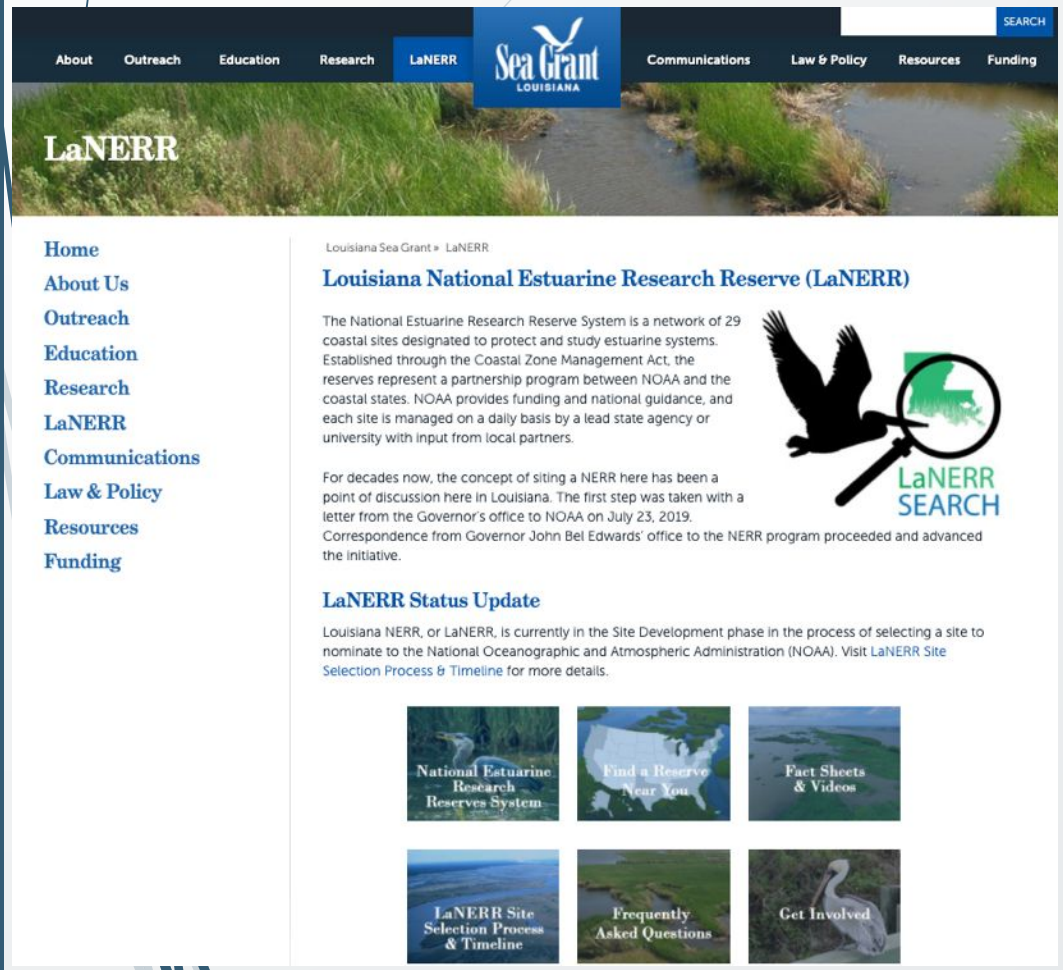
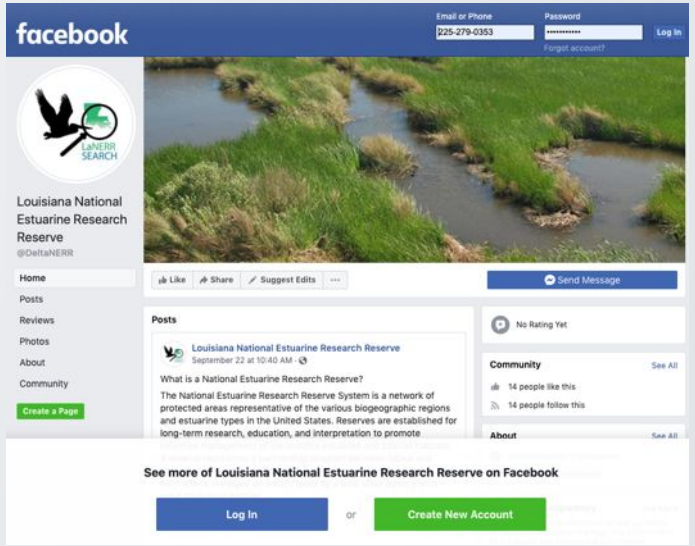
National Estuary Research Reserve

Questions?

How do I stay engaged in the process?





Contact

email deltanerr@lsu.edu

- Social Media:
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- Website:
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- Facebook
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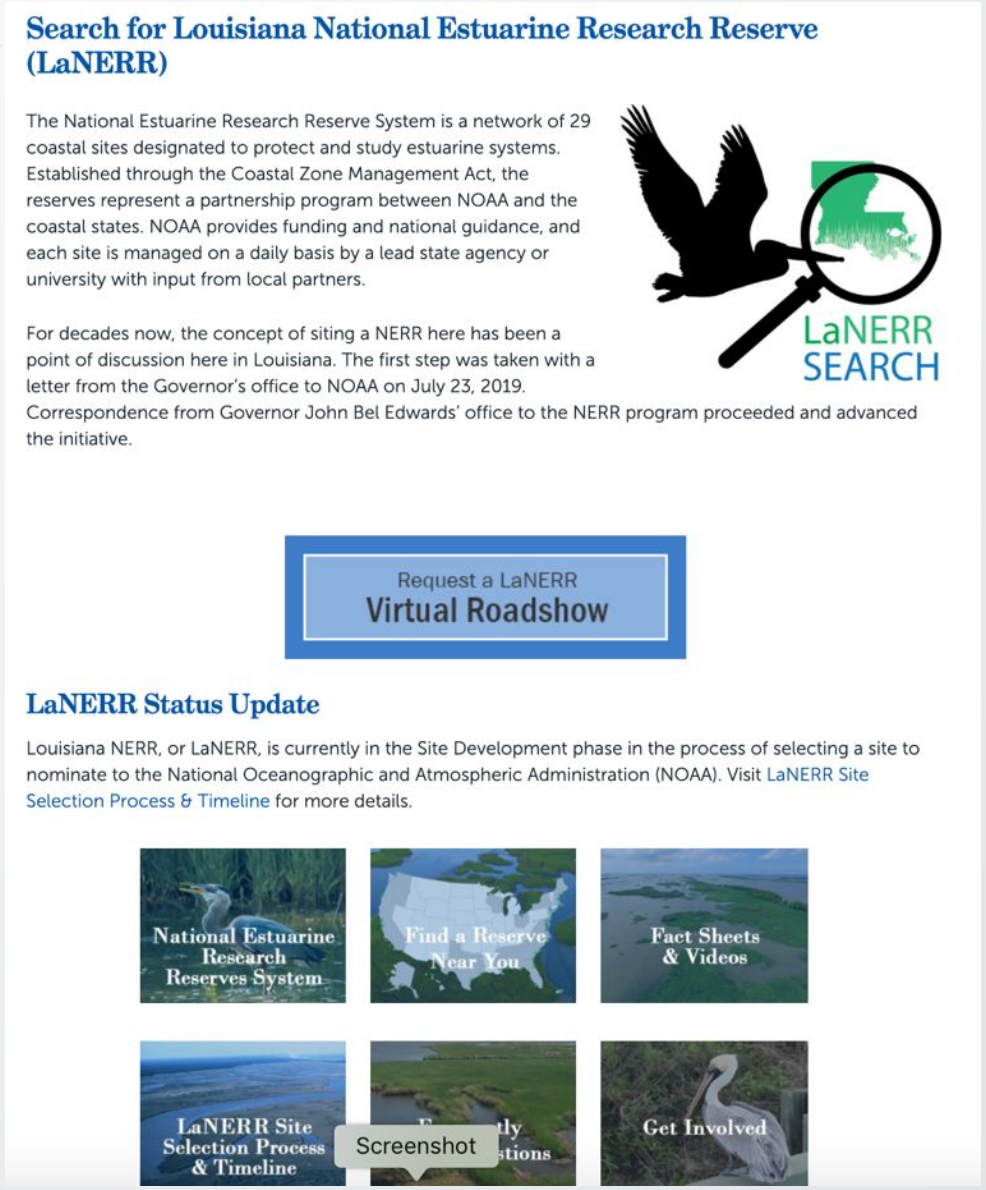
LaNERR Roadshow Presentation (www.laseagrant.org)



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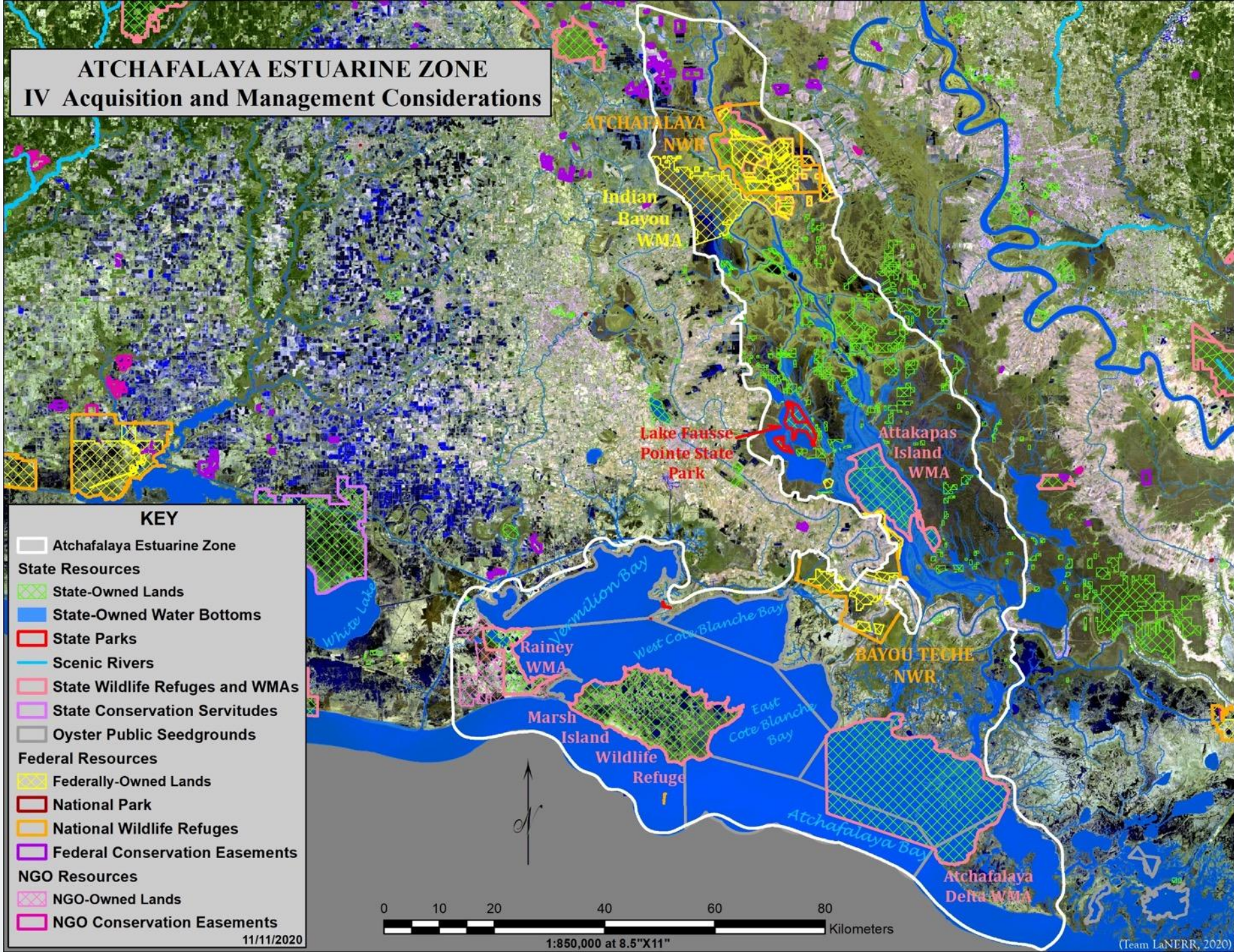
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BAYOU TECHE NWR
Rainey WMA
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Atchafalaya Delta WMA
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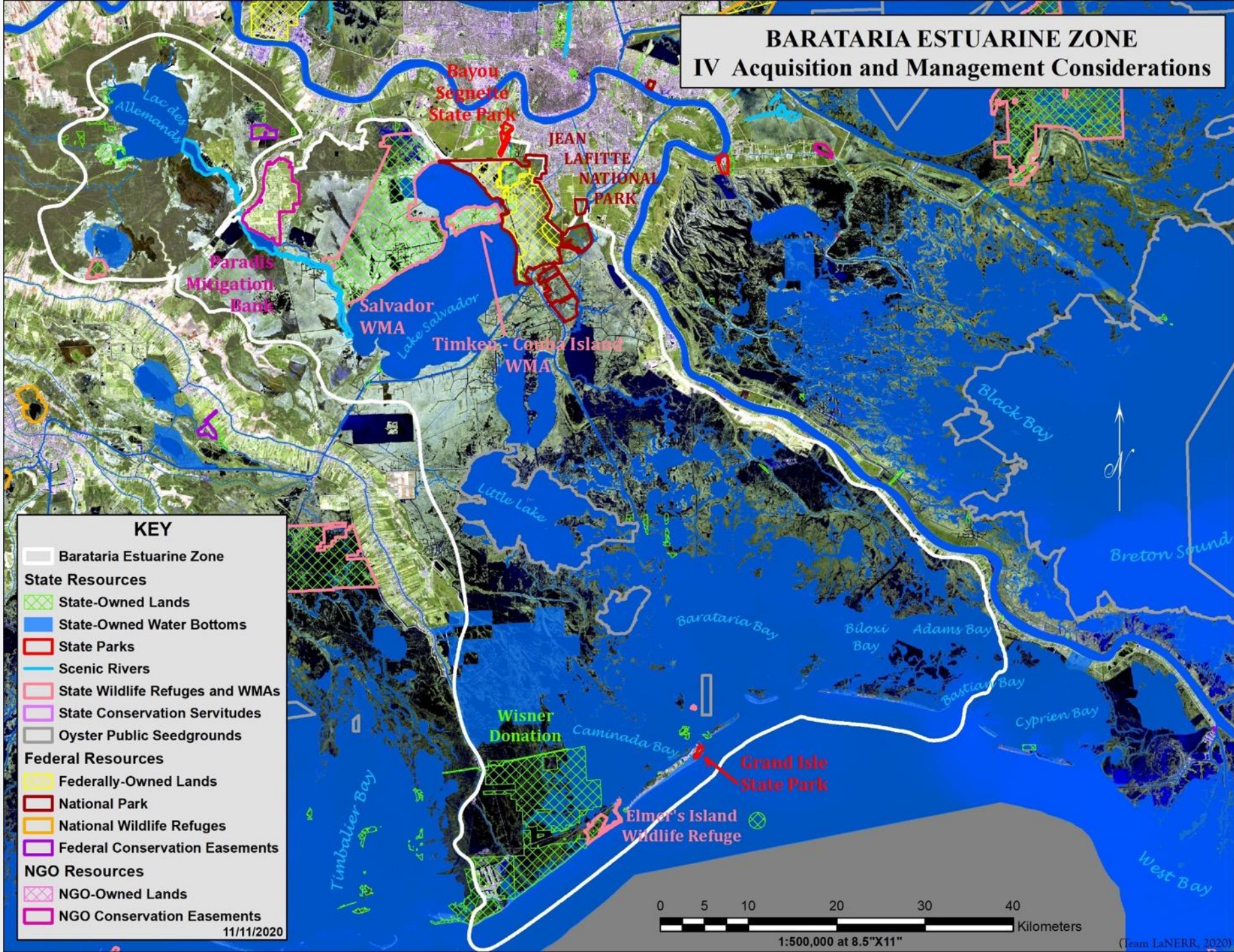
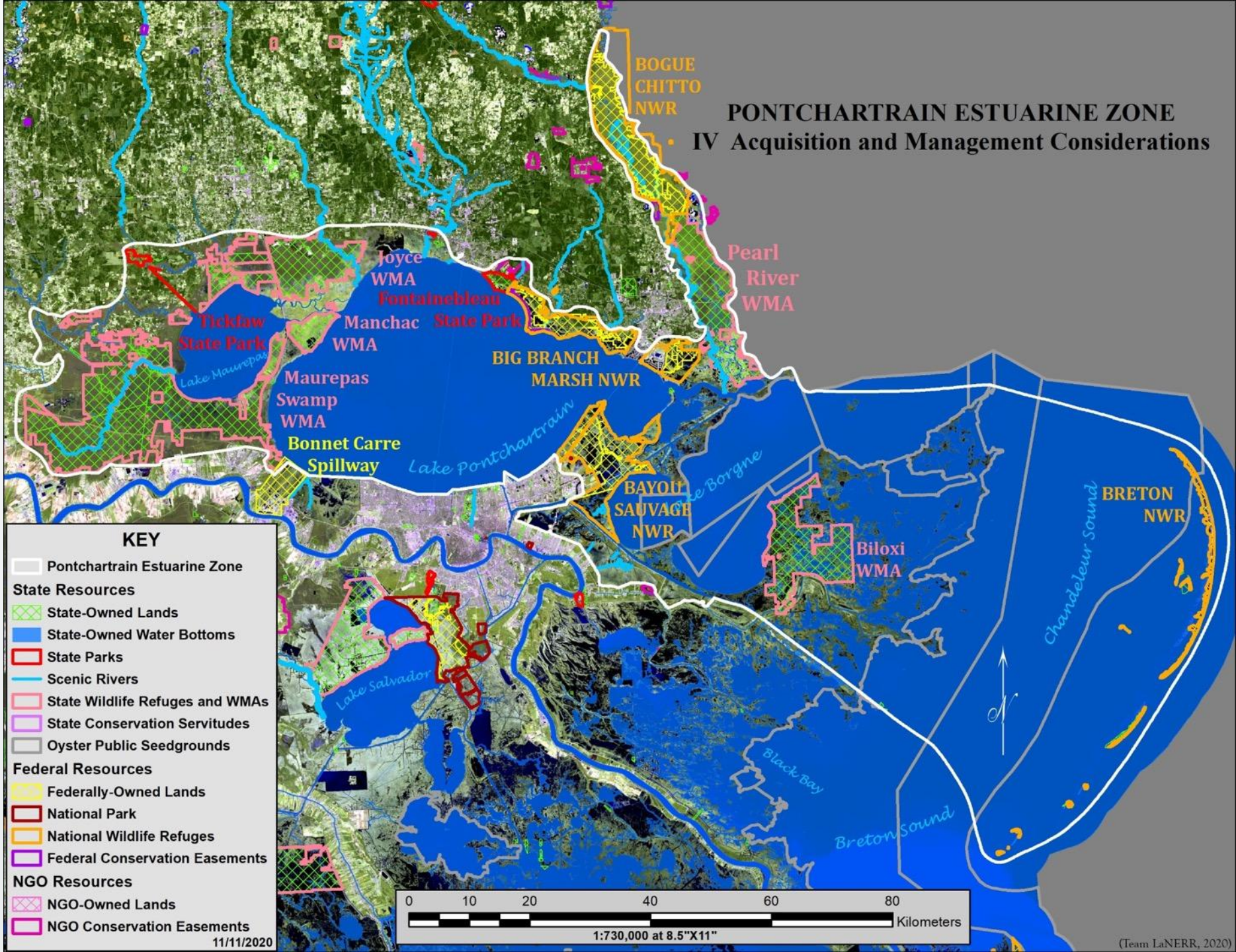
IV. Acquisition and Management Considerations

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