

The Texas National Estuarine Research Reserve

Site Selection Criteria and Process

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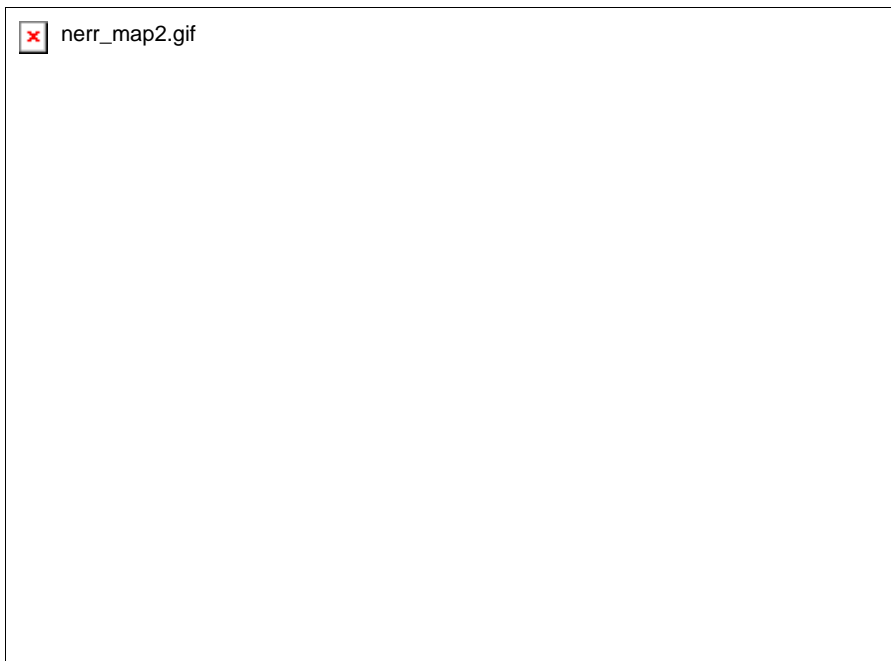
The following describes the site selection criteria to identify the best location for the proposed Texas National Estuarine Research Reserve (NERR). These criteria are modified from standard operating procedures obtained from ERD to reflect the unique ecological characteristics of the habitats in the Western Gulf of Mexico biogeographic region.

The criteria fall into the five major categories:

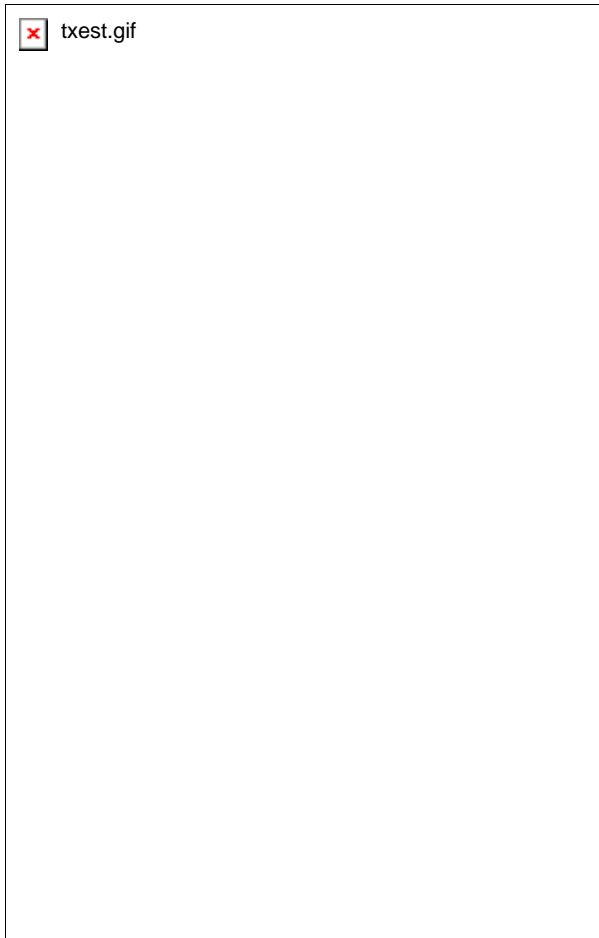
1. Environmental Representativeness
2. Value of the Site for Research, Monitoring, and Stewardship
3. Suitability of the Site for Education and Interpretation
4. Acquisition and Accessibility Considerations
5. Management Considerations

These categories reflect the major considerations associated with addressing the goals of the National Estuarine Research Reserve System (NERRS) program. The format used in presenting each selection criterion includes a (1) brief description and/or definition of the criterion with underlying assumptions about its use and (2) scoring levels. The mechanisms for compiling, evaluating, and weighting the resulting scores are described below.

An important criteria at the outset of the site selection and site nomination process is whether there is an existing NERRS site located in the particular biogeographic region under consideration. There are currently no NERRS sites in Texas or the entire Western Gulf of Mexico region (Fig. 1). This means the proposed Texas site is of high value to the NERRS Program. The map of existing and proposed sites and the biogeographic regions indicates which regions and subregions still require site representation.



Description of Region



The Texas site will represent the Western Gulf Biogeographic Subregion. The area considered lies wholly in Texas, and comprises most of the Texas coast. The Subregion is bounded by the border with Mexico to the southwest and the border of Galveston Bay to the northeast. This area includes six major bay-estuarine systems and two river systems (Fig. 2). The major bay-estuarine systems are Lavaca-Colorado Estuary, Guadalupe Estuary, Mission-Aransas Estuary, Nueces Estuary, and Laguna Madre Estuary. Laguna Madre is actually two different systems: Upper Laguna Madre/Baffin Bay and Lower Laguna Madre. Texas follows the traditional system of naming an estuary for the river(s) that dilute sea water. In NOAA publications, these systems are named after the primary bay (Matagorda Bay, San Antonio Bay, Aransas Bay, Corpus Christi Bay, and Laguna Madre, respectively). The two riverine estuaries are: the Brazos River and the Rio Grande. Three of the ecosystems (Mission-Aransas Estuary, Nueces Estuary, and Laguna Madre Estuary) were included in the Corpus Christi Bay National Estuary Program study area.

Preliminary Site Screening Process

Because the Western Gulf Biogeographic Subregion is large, it is likely that 15 to 20 sites may be nominated. Thus, it will likely be appropriate to use a simplified procedure to screen proposed sites to eliminate those areas that are clearly not suitable candidates prior to the application of the full suite of site selection criteria. A preliminary screening is desirable to reduce the sites considered to three to five sites, thus reducing the amount of time and effort required to apply the full suite of criteria to all sites. A candidate site which does not appear to meet each of the following criteria would be eliminated from the site selection process.

1. The candidate site is a representative estuary in the biogeographic region or subregion.

2. The proposed boundaries of the candidate site includes sufficient land and water area to maintain the integrity of the ecosystem.
3. The candidate site consists of publicly owned lands and/or demonstrates sufficient potential for management control and sufficient protections are in place for long-term research, monitoring, and resource protection.
4. The candidate site is accessible for research, education, and stewardship.
5. The candidate site is suitable for long-term research, monitoring, and stewardship activities.
6. The candidate site is suitable for education, training, and interpretation activities.
7. The candidate site is suitable to address key local, state, and regional coastal management issues.

Process for Applying Site Selection Criteria to Screened Sites

The site selection criteria will be applied by a committee. A Site Selection Committee (SSC) will be formed to include all potential stakeholders (approximately 100 people). A workshop will be held to nominate potential sites. It is expected that many sites, up to 20, will be nominated. A Site Evaluation Committee (SEC) of about 15 people will be formed to evaluate sites against criteria below. Because the number of sites is expected to be large, the first task of the SEC is to apply the screening criteria to reduce the number of sites to three to five to apply full criteria. For the selected sites, the SEC will conduct site visits and evaluate the sites in a workshop environment. Field visits to each site will allow the committee members an opportunity to gain first-hand knowledge of the characteristics of each site. After the SEC selects the top two or three sites, the SSC will reconvene to determine the one site for nomination to the Governor for the Texas Research Reserve location.

During the evaluation workshop, the SEC will use a collaborative approach for scoring each site against the selection criteria. During committee discussion, the committee as a whole will assess each site, taking individual assessments and scores into account. Members would reach consensus as a group on each criterion. The criteria scores will be averaged and the top two or three sites will be referred to the SSC.

During the final site selection workshop, the SSC will be presented with a description of the SEC activities and recommendations. The SSC will break up into stakeholder groups and through discussion come to a consensus on the best site. Each stakeholder group will get one vote. Then groups will reconvene and votes tallied to arrive at one site to recommend to the Governor for nomination.

Preliminary Site Screening Criteria

The Western Gulf of Mexico Biogeographic Zone is very large and complex, extending over 300 miles from the U.S.-Mexico border to the southwestern border of Galveston Bay, and comprising six major bay-estuarine systems and two river systems (Fig. 2). Thus, a preliminary site screening will greatly streamline the site selection process. A simple raw score will be used to narrow the field of sites to three to five sites that will be scrutinized in detail through the final site selection process. The following preliminary screening criteria will be used:

1. The candidate site is a representative estuary in the Western Gulf Biogeographic Subregion.
 - 1.1. Overall ecological composition and balance (richness and evenness).
 - 1.2. Ecological integrity.
2. The proposed boundaries of the candidate site includes sufficient land and water area to maintain the integrity of the ecosystem.
3. The candidate site consists of publicly owned lands and/or demonstrates sufficient potential for management control and sufficient protections are in place for long-term research, monitoring, and resource protection.
4. The candidate site is accessible for research, education, and stewardship.
 - 4.1. Current or potential accessibility by boat or vehicle.
 - 4.2. Distance of site from marine facilities and educational institutions.
5. The candidate site is suitable for long-term research, monitoring, and stewardship activities.
 - 5.1. Relative isolation of site from normal public, commercial, military, and recreational use.
 - 5.2. The site attracts a broad range of research, monitoring, and stewardship interests.
6. The candidate site is suitable for education, training, and interpretation activities.
 - 6.1. Relative isolation of site from normal public, commercial, military, and recreational use.
 - 6.2. The site attracts a broad range of education interests.
7. The candidate site is suitable to address local, state, and regional coastal management issues, e.g., fisheries habitat restoration and enhancement, vegetated habitats (seagrass, marsh, mangrove), climate change effects, freshwater inflow effects and requirements, and biodiversity.

Scoring for preliminary site screening criteria:

- 3 Points The site is well suited for preliminary criteria.
- 2 Points The site is moderately suited for preliminary criteria.
- 1 Point The site is marginally suited for preliminary criteria.
- 0 Points The site is not suited for preliminary criteria.

Detailed Site Selection Criteria

1. Environmental Representativeness: Ecosystem/Ecological Characteristics

1.1. Ecosystem Diversity. To determine the representativeness of a candidate site relative to ecosystem types as defined in Appendix 2 of NERRS Program Regulations (15 CFR Part 921), sites are evaluated using the following ecological, biological, physical, and chemical characteristics. Sites having a high diversity of major ecosystem types are considered to have a higher relative value for protection and management.

Group I - Upland

1. Maritime Forest-Woodland
2. Coastal Shrublands
3. Coastal Grasslands
4. Coastal and Barrier Islands

Group II - Intertidal

1. Coastal Marshes
2. Coastal Mangroves
3. Intertidal Beaches
4. Intertidal Mud and Sand Flats
5. Intertidal Blue-Green Algal Flats

Group III - Subtidal

1. Subtidal Soft Bottoms
2. Subtidal Plants
3. Subtidal Oyster or Worm Reefs

- 3 Points The site has a high diversity of ecosystem composition, possessing at least one representative habitat from each of the three ecosystem groups.
- 2 Points The site has a moderate diversity of ecosystem composition, possessing at least one representative habitat from two of the three ecosystem groups.
- 1 Point The site has a low diversity of ecosystem composition, possessing at least two representative habitats from only one of the three main ecosystem groups.
- 0 Points The site has a very low diversity of ecosystem composition, possessing only a single habitat type within any one of the three main ecosystem groups.

1.2. Uniqueness of Habitat. Research Reserves are ecological reference sites of features representative of the different coastal biogeographic regions, thus it is important to include unique or rare habitat types in site selection criteria. Unique habitat is defined as a habitat type of limited known occurrence within the biogeographic region.

- 3 Points The site contains one or more unique or rare habitat types within its boundaries.
- 0 Points The site contains no unique or rare habitat types within its boundaries.

1.3. Importance of Habitat for Significant Flora and Fauna. An indicator of the ecological value of an estuary is the degree to which it is used by resident and transient fauna, and the presence of state or federally listed floral and faunal species. Important habitats include:

1. Fish and shellfish spawning and nursery grounds (includes use by freshwater, resident estuarine, or estuarine-dependent marine species)
2. Migratory bird and/or waterfowl habitats
3. Bird nesting and/or roosting area
4. Critical mammal habitat
5. Non-game animals (amphibians, reptiles, etc.)
6. State or federally listed species (animal or plant - including candidate species)

- 3 Points The site supports at least four to six of the above faunal and floral components, and/or is a very important site for any threatened or endangered species.
- 2 Points The site supports at least three to six of the above faunal and floral components.

1 Point The site supports one or two of the above faunal and floral components.

0 Points The site does not support significant faunal and floral components.

1.4. Drainage Basin and Freshwater Inflow Interface. In Western Gulf of Mexico estuaries, a critical physical factor in ecosystem function is the presence and amount of riverine influence. Thus, it is imperative that a site encompass a river, stream, bayou, or deltaic network of features with sources of freshwater inflow from adjacent drainage basins.

3 Points The site has significant freshwater inflow.

0 Points The site does not have significant freshwater inflow.

1.5. Oceanic Influence and Degree of Tidal Mixing. Another important physical factor affecting the biotic structure of Western Gulf of Mexico estuaries is the level of oceanic influence and resulting tidal mixing. Thus, in addition to salinity gradients, degree of oceanic influence from nearby passes or connections to the Gulf of Mexico is an important consideration in evaluating candidate sites.

3 Points Oceanic influence is great, with a 25 ppt or greater range of salinity within site boundaries (e.g., 0-25 ppt, 5-30 ppt).

2 Points Oceanic influence is large, with a 15-24 ppt range of salinity within site boundaries (e.g., 0-15 ppt, 5-25 ppt, 10-30 ppt).

1 Point Oceanic influence is small, with a 6-14 ppt range of salinity within site boundaries (e.g., 0-8 ppt, 10-22 ppt, 25-32 ppt).

0 Points The site has no direct, or an indirect connection to the sea.

2. Value of the Site for Research, Monitoring, and Stewardship

2.1. Suitability of Site for Long-Term Research. This criterion measures the types of long-term research a site can support, as defined by the following six research areas:

1. Ecological
2. Physical and chemical
3. Geological
4. Rare or listed species
5. Archeological and/or paleontological
6. Habitat restoration and resource management issues

3 Points The site can support five to six of the research areas.

2 Points The site can support four or five of the six.

1 Point The site can support two or three of the six.

0 Points The site can support one or none of the six.

2.2. Previous, Current, and/or Future Research Programs. Research Reserve programs are designed to develop new or to augment on-going estuarine research, thus an important consideration in site selection is the degree to which a site has been used for research, or the potential of a site to support future research. Equal weight may be given to sites with great research potential as for sites that currently support research.

- 3 Points The site has a long history of well documented research projects in a wide variety of topics. Data is readily available. Or, not having been studied, offers great potential for future research program development.
- 2 Points The site has had major and well documented research projects, generating data that is readily available. It has not had a long history of research. Or, not having been studied offers good potential for research program development.
- 1 Point The site has had only minor research and monitoring projects generating limited data that may be difficult to obtain. Or, not having been studied, offers only limited potential for future research.
- 0 Points The site has no known history of research and monitoring, and offers limited potential for future research.

2.3. Suitability of Site for Environmental Monitoring. Research Reserves are ideally and uniquely suited to conduct large scale and long-term environmental monitoring. Existing and developing monitoring programs within the NERRS include the System-Wide Monitoring Program (SWMP), aquatic invasive species monitoring, monitoring of long-term climatological and environmental trends including sea level rise and global climate change, and additional monitoring driven by local issues. Considerations include the accessibility of the site for monitoring equipment installation, maintenance, and data download, and the overall logistical ease or difficulty presented by a site for environmental monitoring programs.

- 3 Points The site is ideally suited for providing time line environmental data to assess long-term resource trends or ecological characteristics for a wide range of needs.
- 2 Points The site is adequate for providing time line environmental data to assess long-term resource trends or ecological characteristics for many needs.
- 1 Point The site is marginal for providing time line environmental data to assess long-term resource trends or ecological characteristics.
- 0 Points The site is unsuitable for providing time line environmental data.

2.4. Suitability of the Site for Stewardship Program Development. Research Reserves develop environmental stewardship programs. Thus, it is necessary to determine the suitability of proposed sites to stewardship program activities, e.g., resource management, habitat delineation and restoration, environmental monitoring, determination of biological diversity, and potential for partnering with local, state, and federal resource agencies. An important consideration for environmental stewardship is the degree to which public access is limited at a site, e.g., number of roads, boat ramps, water access to bays and bayous, etc.

- 3 Points The site is ideally suited, overall, to stewardship program development.

2 Points The site is adequate for stewardship program development.

1 Point The site is only marginally suited for stewardship program development.

0 Points The site is unsuitable for stewardship program development.

3. Suitability of the Site for Training, Education, and Interpretation

3.1. Value of Site for Environmental Education and Interpretation Programs. Well-developed education and outreach programs are a critical consideration. The ideal site should be well-suited for programs directed at “K through grey,” with particular consideration given to the program areas listed below. On-going and new education and outreach programs should also be considered, including decision-maker workshops, training programs, translation of research studies and results, and integration with other education and outreach programs.

1. Kindergarten through high school education programs
2. High school and undergraduate students working independently or in small groups
3. Graduate students
4. Professional development programs for teachers
5. Education programs and workshops for coastal decision-maker audiences
6. Potential and capacity for interpretation targeted to the general public

3 Points The site is well suited to provide for programs in all of the areas listed.

2 Points The site well suited for high school, higher education and coastal decision-maker audiences (areas 2-5), but not well suited for pre-high school (1) or the general public (6).

1 Point The site is well suited only for higher education (3) and possibly coastal decision-maker audiences (5).

0 Points The site is not well suited to support education and interpretation programs.

3.2. Diversity and Quality of Education and Interpretation Opportunities. Another important consideration is the degree to which a site can provide a well-rounded education program, with the ability to emphasize each of the following disciplines:

1. Ecology
2. Physics and chemistry
3. Geology
4. Archeology and/or paleontology
5. History and Culture
6. Coastal and estuarine natural resource management

3 Points The site is well suited for education in all of these areas.

2 Points The site is well suited for education in areas 1-3 and 6.

1 Point The site is marginally suited for education in areas 1-3 and 6.

0 Points The site is not well suited for education in any of these areas.

3.3. Diversity and Availability of Target Audiences. No matter how well suited a site may be for education and interpretation programs, it is useless in this regard if the audiences do not exist, or the site is inaccessible. Thus, the value of a site correspondingly increases with the size and availability of its target audiences.

1. Kindergarten through high school students
2. Undergraduate students
3. Graduate students
4. Teachers
5. Coastal decision-makers
6. Interpretation potential /capacity to target the general public

3 Points All of these audiences exist and can easily access the site.

2 Points Some of these audiences exist, and/or most can access the site.

1 Point Only a few of these audiences exist, and/or some would have difficulty accessing the site.

0 Points Only one or two of these audiences exist and the site is largely inaccessible.

3.4. Previous, On-going and Future Education and Interpretation Programs. It is likely that sites with existing education programs have the necessary infrastructure in place to further expand their programs, thus it is valuable to rate sites based on the presence of these programs. However, in an area as large and relatively pristine as the Western Gulf Biogeographic Region, numerous excellent sites exist where virtually no education or interpretation programs have been developed. Thus, the potential for education and interpretation program development at a pristine site should be considered as well.

3 Points The site has a long history of education and interpretation. OR, the site offers excellent potential for future education and interpretation program development.

2 Points The site has a good but short history of education and interpretation, but is otherwise well suited for education/interpretation program development OR, the site offers good potential for future education and interpretation program development.

1 Point The site has had only had a minor amount of education and interpretation being conducted. OR, the site offers fair potential for future education and interpretation program development.

0 Points The site offers no significant potential for education and interpretation program development.

4. Acquisition and Accessibility Considerations

4.1. Land Ownership. It has been demonstrated that research reserves are easier to acquire and manage if they have few property owners. Thus, it is a valuable consideration to assess the number of property owners of a site.

- 3 Points The property is relatively undivided.
- 2 Points The property is divided with few property owners.
- 1 Point The property is divided with many property owners.

4.2. Publicly Owned Lands and Feasibility of Land Acquisition. The ease of land acquisition and management increases correspondingly to the proportion of area that is in public or non-governmental organizations (NGOs) ownership and the degree to which there is interest in transferring properties or management control. Note: Federal lands already in protected status may not comprise a majority of the key land and water areas of a research reserve(15 CFR 921.1(g)).

- 3 Points Greater than 50% of the site is currently owned by the state, federal, or local governments, or by NGOs, and these entities have an interest in participating in a reserve.
- 2 Points State, federal, or local governments, or NGOs own 25-50% of the site with the remainder in the hands of a few owners who have an interest in participating in a reserve.
- 1 Point State, federal, or local governments, or NGOs own less than 25% of the site with the remainder in the hands of a few owners who have an interest in participating in a reserve.
- 0 Points The site is owned by a large number of owners with little potential interest in sale, donation, or environmental easement.

4.3. Availability of Facilities. Given that sites with existing facilities and facility-related infrastructure may meet the objectives of the research reserve more quickly, it is of benefit for sites to have established facilities. However, consideration also should be given to sites with excellent potential that do not have facilities.

- 3 Points The site has existing structures and facilities that can be used for reserve activities.
- 2 Points The site has proximity to or limited existing structures and/or facilities that can be used for reserve activities.
- 1 Point The site is away from existing facilities, but has excellent potential for the development of facilities for reserve activities.
- 0 Points The site has limited potential for the development facilities for reserve activities.

4.4. Proximity and Accessibility of Site to Researchers, Educators, and Resource Management Decision Makers. Accessibility of the site through infrastructure and locality is important to the ultimate success of research reserve programs. Thus, consideration should be given to the proximity of the site to urban centers, schools, research and higher education institutions, and resource management agencies. Also, availability, adequacy, and potential for roads, boardwalks, boat landings, docks, etc. is an important consideration in evaluating the accessibility of a site.

- 3 Points The site can be accessed by user groups during a single day trip. There are good roads, points for boat access, etc. at the site.

- 2 Points The site is relatively isolated and utilization would require an overnight stay, but accommodations are readily available. There are adequate roads, points for boat access, etc. at the site.
- 1 Point The site is relatively isolated and reasonable accommodations for an overnight stay are limited. There are limited roads, points for boat access, etc. at the site.
- 0 Points The site is extremely isolated and accommodations to utilize the site are not available.

5. Management Considerations

5.1. Land and Water Access. It is beneficial to research reserve management if site characteristics naturally limit access. This allows the research reserve to better direct public use toward program goals. Thus, by strategically placing roads, boat ramps, docks, camping areas, reserve facilities, etc. the research reserve establishes and maintains some control over how the site is used. Historical controls of public use through state or federal regulation also is a useful consideration.

- 3 Points The site is relatively isolated and of a size that can be controlled. Historically, access has been controlled, and can easily be controlled in the future due to the presence of limited access points by boat or vehicle.
- 2 Points The site is not very isolated, but has a limited number of access points. Historically, site access has not been controlled, but the site is of a size that it can be controlled in the future.
- 1 Point Site access will be difficult to control due to the large number of access points. Historically, site access has not been controlled and it is unclear whether it can be controlled in the future.
- 0 Points Site access cannot be controlled due to the large number of access points, lack of historical controls, the size of the area, and/or dense adjacent development.

5.2. Compatibility with Existing Management Practices and Consumptive and Non-Consumptive Uses. It is possible that existing management practices such as habitat manipulation, best management practices, and historic and current consumptive and non-consumptive uses might be in conflict with foreseeable management practices implemented by a reserve. Therefore sites with fewer management practice issues are more likely to maintain both public support and the integrity of the site.

- 3 Points Existing management practices and consumptive and non-consumptive uses would not be in conflict with any foreseeable management policy of a research reserve.
- 2 Points Small areas of unique habitat, endangered species, or threats to the integrity of the ecosystem exist at the site, creating the potential for limited restrictions on existing management practices and/or consumptive and non-consumptive uses.
- 1 Point Larger areas of unique habitat, endangered species, and threats to the integrity of the ecosystem exist at the site, creating the necessity for some restrictions on existing management practices and/or consumptive and non-consumptive uses.

0 Points Large areas of unique habitat and threats to the integrity of the ecosystem at the site will require restrictions on existing management practices and/or consumptive and non-consumptive uses.

5.3. Compatibility With Adjacent Land and Water Use. It is more likely that research reserve programs will be successful if a site is located adjacent to lands and waters where compatible land and water use practices are employed, thus it is useful to assess the degree to which adjacent land use is compatible with research reserve programs.

3 Points All or most land and water use adjacent to the site is compatible with reserve programs, and will impose no negative impacts on the reserve.

2 Points A large to moderate amount of the land and water adjacent to the site is compatible with reserve programs. Incompatible land- and water-use practices on adjacent lands either could be negotiated or would have only minor impacts on reserve programs.

1 Point Some of the land and water adjacent to the site is currently used for activities that would have negative impacts on a reserve and may not be negotiable.

0 Points A large percentage of the land and water adjacent to the site is currently used for activities that would have negative impacts on a reserve and would lead to conflicts.

5.4. Ability to Address Local, State, and Regional Coastal Management Issues. A goal is to improve coastal management through research, education, and interpretation, thus it is important that a site be relevant to local, state, and regional coastal management issues. Solutions to these issues may require either application of land management practices or habitat manipulations to perform meaningful research and assessment. The site should offer both adequate control areas plus areas where demonstration projects and habitat manipulations can be accommodated to study many of the issues of concern. Thus, a site where coastal management issues arise and can be addressed will be of greater value than sites where these issues do not arise. Significant coastal management issues include the following:

1. wetlands development
2. wetlands mitigation/restoration/creation
3. dredging and spoil disposal
4. beneficial uses of dredged materials
5. shoreline erosion
6. commercial and/or recreational fisheries
7. waterfowl and other wildlife management
8. best management practices for habitat protection and restoration
9. best management practices to limit impacts from agricultural or development
10. best methods to control pestiferous insects or undesirable vegetation
11. pollutant effects on water quality and living resources
12. climate change effects, e.g climatic and sea-level change
13. prehistoric and early historic settlement and land use
14. freshwater inflow effects
15. marine transportation
16. oil and gas development

- 3 Points The site is highly appropriate for investigating coastal zone management issues.
- 2 Points The site is appropriate for investigating coastal zone management issues.
- 1 Point The site is minimally appropriate for investigating coastal zone management issues.
- 0 Points The site is not appropriate for investigating coastal zone management issues.

5.5. Development and Water Quality Impacts. Development and water quality impairment can have major effects on research reserve ecological integrity and program priorities, and the research reserves ability to serve as a national ecological reference site. Thus, sites with minimal development and water quality impairments are desirable.

- 3 Points The site is relatively undisturbed and the watershed contains low intensity development, and/or the land is in protected status.
- 2 Points The site is relatively undisturbed and the watershed contains moderate development.
- 1 Point The site has been moderately disturbed and the watershed contains relatively intensive development.
- 0 Points The site has been extremely disturbed and the watershed contains very intensive development.

5.6. Adequate Surveillance and Enforcement. Resource protection and long-term research and monitoring programs are more likely to succeed if there is adequate surveillance of the research reserve and enforcement of existing regulations. Thus it is important to assess the likelihood that a site will have adequate surveillance and enforcement activities following designation into the NERRS.

- 3 Points A majority of the land and water in the site currently has adequate surveillance and enforcement activities.
- 2 Points Up to half of the land and water in the site currently has adequate surveillance and enforcement activities.
- 1 Point A small amount of the land and water in the site currently has adequate surveillance and enforcement activities.
- 0 Points A majority of the land and water in the site currently has inadequate surveillance and enforcement activities.

5.7. Future Development Plans. Future development plans on or adjacent to research reserves can have major effects on research reserve programs, thus it is important to assess the likelihood that a site will remain undisturbed following designation into the NERRS.

- 3 Points A majority of the land adjacent to the site is currently undeveloped and is very unlikely to be developed in the future.
- 2 Points Up to half of the land adjacent to the site is currently undeveloped and is not likely to be

developed in the future.

1 Point A small amount of the land adjacent to the site is currently undeveloped and is not likely to be developed in the future, with limited levels of development on other lands.

0 Points A majority of the land adjacent to the site is developed and the area is likely to continue to be developed in the future.

Texas NERR Preliminary Site Selection Criteria and Scoring Sheet

Preliminary Criteria	Site I	Site II
1. Environmental Representativeness of Western Gulf Biogeographic Subregion		
1.1. Ecosystem diversity		
1.2. Ecological integrity/uniqueness		
2. Sufficient Land and Water Area to Maintain the Integrity of the Ecosystem		
3. Site Consists of Publicly Owned Lands and/or Sufficient Potential for Management Control		
4. Site Is Accessible for Long-term Research, Education, and Stewardship		
4.1. Current or potential accessibility by boat or vehicle		
4.2. Distance marine facilities and educational institutions		
5. Site Is Suitable for Research, Monitoring, and Stewardship Activities		
5.1. Relative isolation of site from normal public, commercial, military, and recreational use		
5.2. Site attracts a broad range of research, monitoring and stewardship activities		
6. Site Is Suitable for Education, Training, and Interpretation Activities		
6.1. Relative isolation of site from normal public, commercial, military, and recreational use		
6.2. Site attracts a broad range of education interests		
7. Suitable to Address Coastal Management Issues		
Total Score:		

Texas NERR Site Selection Criteria and Scoring Sheet

Criteria	Site I	Site II
1. Environmental Representativeness and Ecological Characteristics of Site		
1.1. Ecosystem Diversity		
1.2. Uniqueness of Habitat		
1.3. Importance of Habitat for Significant Flora and Fauna		
1.4. Drainage Basin and Fresh Water Flow Interface		
1.5. Oceanic Influence and Degree of Tidal Mixing		
Averaged Score:		
2. Value of Site for Research, Monitoring, and Stewardship		

2.1. Suitability of Site for Long-Term Research		
2.2. Previous, Current, and/or Future Research Programs		
2.3. Suitability of the Site for Environmental Monitoring		
2.4. Suitability of the Site for Stewardship Program Development		
Averaged Score:		
3. Suitability of Site for Training, Education, and Interpretation		
3.1. Value of Site for Environmental Education, and Interpretation Programs		
3.2. Diversity and Quality of Education and Interpretation Opportunities		
3.3. Diversity and Availability of Target Audiences		
3.4. Previous, On-going, and Future Education and Interpretation Programs		
Averaged Score:		
4. Acquisition and Accessibility Considerations		
4.1. Land Ownership		
4.2. Publicly Owned Lands and Feasibility of Land Acquisition		
4.3. Availability of Facilities		
4.4. Proximity and Accessibility to Researchers, Educators, and Decision Makers		
Averaged Score:		
5. Management Considerations		
5.1. Land and Water Access		
5.2. Compatibility With Existing Management Practices and Uses		
5.3. Compatibility With Adjacent Land and Water Use		
5.4. Ability to Address Key Local, State, and Regional Coastal Management Issues		
5.5. Development and Water Quality Impacts		
5.6. Adequate for Surveillance and Enforcement		
5.7 Future Development Plans		
Averaged Score:		
Total Score:		