II. REFUGE BOUNDARY EXPANSION ALTERNATIVE B - 33,590 ACRE EXPANSION

Alternative Concept with Map

Alternative Focus

This Alternative continues the four refuges' historic focus on land acquisition primarily in the coastal marsh and the adjacent agricultural uplands. Acquisition would continue to focus on habitats of particular value to the waterfowl resource and other wetland-dependent migratory birds. This Refuge Boundary Expansion Alternative concentrates on high-value wintering waterfowl habitats near the coast that are contiguous to existing refuges. This focus supports the goal of the Gulf Coast Joint Venture: Chenier Plain Initiative which is stated as follows: "The goal of the Chenier Plain Initiative is to provide wintering and migration habitat for significant numbers of dabbling ducks, diving ducks, and geese (especially lesser snow and greater white-fronted), as well as year-round habitat for Mottled Ducks." Priority is given to those wetland areas which have long been identified as high-priority areas for acquisition in USFWS documents such as the "Wetland Preservation Program, Category 8 – Texas Gulf Coast" and the "Emergency Wetlands Resources Act, Region 2 Wetlands, Regional Concept Plan".

In addition to these high biological value wetland habitats, this Alternative also includes areas identified by refuge management as necessary for the following reasons:

- lands that "fill in the gaps" in earlier single-ownership based expansions and complete logical biological/geographical boundaries,
- lands hydrologically linked to adjoining already-acquired refuge lands, lands whose acquisition would contribute to more effective management of the already acquired lands.

Expansion of the existing acquisition boundary is proposed for each of the four refuges in the Complex as follows:

Refuge	Size of Boundary Expansion
Moody NWR	5,050 acres*
Anahuac NWR	20,500 acres*
McFaddin NWR	7,190 acres*
Texas Point NWR	850 acres*

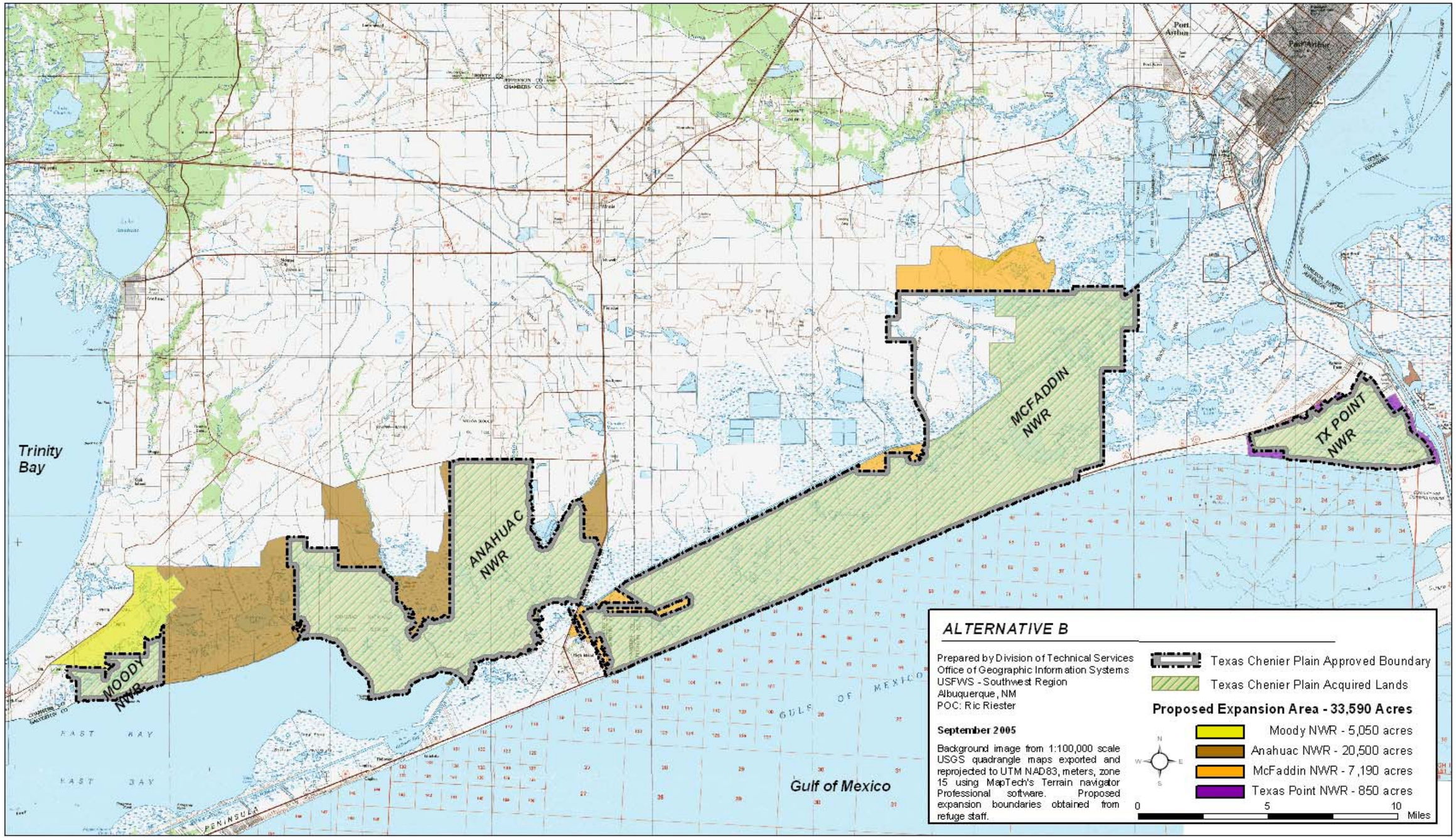
** All acreage figures are approximate*

The 33,590 acre expansion proposal for the entire Complex is depicted on the following page.

U.S. Fish & Wildlife Service

Alternative B - 33,590 acres

Texas Chenier Plain Refuge Complex & Proposed Expansion Areas



Rationale for Alternative

The coastal marshes, prairies and woodlots of the Chenier Plain region of southwestern Louisiana and southeast Texas comprise a hemispherically important biological area. The Texas Gulf Coast is the primary site for ducks wintering in the Central Flyway, with an average of 1.3-4.5 million birds, or 30-71% of the total flyway population (Stutzenbaker and Weller 1989). This area also winters 90% of the snow, Canada, and greater white-fronted geese in the Central Flyway (Buller 1964). Additionally, the coastal marshes, prairies and prairie wetlands of the Chenier Plain region of the Texas Gulf Coast serve as a critical staging area for Central Flyway waterfowl migrating to and from Mexico and Central and South America, including three species identified by the USFWS as Gamebirds Below Desired Condition (Northern Pintail, Lesser Scaup and Ring-necked Duck). These wetland habitats also provide year-round habitat for Mottled Ducks, an important resident waterfowl species. Hundreds of thousands shorebirds, wading birds, and other marsh and waterbirds also winter or migrate through the region, including several now identified by the USFWS as Avian Species of Conservation Concern and species listed as priorities for conservation action under the U.S. Shorebird Conservation Plan and the North American Waterbird Conservation Plan. Coastal prairie and coastal woodlots support over 150 migratory and resident landbird species, including 9 species of grassland birds and 7 species utilizing woodland habitats listed as Rare and Declining within the Coastal Prairies Region of Texas (Texas Parks and Wildlife Department 2000). Overall, wetland, prairie and woodland habitats on the Refuge Complex provide habitat for 33 Avian Species of Conservation Concern in the Gulf Prairies Bird Conservation Region (USFWS 2005)

The "Wetland Preservation Program, Category 8 – Texas Gulf Coast" was a joint effort between Federal, State, and Private participants to identify high-value wintering waterfowl habitat along the Texas coast that required little or no additional development. The USFWS had ranked the Texas Gulf coast as Number 8 out of 33 categories on a national priority scale based on its importance to the Nation's waterfowl resource. Further, the USFWS had ranked the Texas Gulf coast Number 4 as a national "Important Resource Problem (IRP) area. In early 1977, a group of conservationists representing Ducks Unlimited, sportsmen, businessmen, Texas General Land Office, Texas Parks and Wildlife Department, and the USFWS delineated 25 key areas of habitat along the Texas Gulf coast having high value to the waterfowl resource. These 25 areas were ranked by a team of Texas Parks and Wildlife Department, Texas General Land Office, and USFWS personnel; and, acquisition of the private lands was recommended for the top 20 areas as being necessary for habitat preservation. This plan and report was "updated" in August of 1981. Within the Chenier Plain region of the upper Texas Gulf coast, the "Category 8 Plan" identified the following five high-value wintering waterfowl habitats: (#1) Oyster Bayou Marsh, (#4) Lake Surprise area, (#5) McFaddin Marsh, (#7) Sea Rim Marsh, and (#10) Robinson Bayou Marsh. (The numbers indicate that area's "Preservation Effort Priority" ranking). All or parts of each of these five high-value wintering waterfowl habitats are included in this Refuge Boundary Expansion Alternative.

The Emergency Wetlands Resources Act of 1986 (Public Law 99-645) was enacted by the United States Congress to: "Promote the conservation of migratory waterfowl and to offset or prevent the serious loss of wetlands by the acquisition of wetlands and other essential habitat, and for other purposes". In compliance with this Act, the USFWS has prepared the National Wetlands Priority Conservation Plan. The National Plan provides the framework, criteria, and guidance for identifying wetlands warranting priority attention for Federal and State acquisition. Its primary purpose is to help decision-makers focus their acquisition efforts on the more important, scarce, and vulnerable wetlands in the Nation. The National Plan requires each of the seven USFWS Regions to prepare Regional Wetlands Concept Plans that address the wetlands of each State within each Region.

The USFWS' Region 2 encompasses the States of Arizona, New Mexico, Oklahoma and Texas. In 1990, Region 2 published its Regional Wetlands Concept Plan addressing the wetland issues of each State separately. The Regional Wetlands Concept Plan steps down the National Plan to the local, site-specific level and discusses the wetland functions, values, threats and other issues on a state by state basis. The Regional Plan contains a list of priority wetlands sites that have been evaluated through the wetlands assessment threshold criteria of the National Wetlands Priority Conservation Plan and qualify for acquisition under the Emergency Wetlands Resources Act. The wetlands in Texas were broadly grouped

into six categories: 1) Gulf coast salt and freshwater marshes; 2) bottomland hardwood forests in the river valleys of East Texas; 3) playa lakes of the Panhandle region; 4) freshwater springs and their headwater streams of Central and Southwest Texas; 5) West Texas riparian areas; and 6) coastal pothole wetlands of South Texas. Each group is addressed in terms of the following three criteria used for prioritization: 1) Wetland Loss, 2) Wetland Threats, and 3) Wetland Functions and Values. Within the Chenier Plain region of the upper Texas Gulf coast, the Regional Plan identified the following four areas as "Texas Priority Wetlands for Acquisition Consideration": 1) Middleton Marsh, 2) Horseshoe Marsh, 3) Lower Marsh, and 4) Robison Bayou Marsh. Each of these four wetland sites meets all threshold criteria and qualifies for acquisition consideration under provisions of the National Wetlands Conservation Plan. Two of these wetlands sites, Middleton and Robinson Bayou Marshes, are included in this expansion alternative.

The Emergency Wetlands Resources Act of 1986 also requires the USFWS to conduct wetland status and trend studies of the Nation's wetlands at 10-year intervals and report the results to Congress. The latest report, published in December of 2000, is entitled; Status and Trends of Wetlands in the Conterminous United States 1986 to 1997. It reports that 98% of all losses recorded during its study were to freshwater wetlands. Freshwater emergent marshes and freshwater forested wetlands each lost an estimated 1,200,000 acres between 1986 and 1997. The net loss of all freshwater wetland types was 633,500 acres because the numeric losses of freshwater wetlands were partially offset by gains in freshwater shrub wetlands (1.1 million acres) and freshwater ponds (631 thousand acres). The long-term trends in freshwater wetlands since the 1950s, show that freshwater emergent wetlands have declined by the greatest percentage of all wetland types with nearly 24% lost (8 million acres) while freshwater forested wetlands have sustained the greatest overall loss in area (10.4 million acres).

The USFWS, in cooperation with the Texas Parks and Wildlife Department and the Texas General Land Office, reported on the status and trends of coastal Texas wetlands in accordance with the Coastal Wetlands Planning, Protection, and Restoration Act of 1990 (Title III of Public Law 101-646). Their report, entitled Texas Coastal Wetlands, Status and Trends, Mid-1950s to Early 1990s, published in 1997, analyzed data from a 12.8 million acre coastal Texas study area. Aerial photographs from the mid-1950s and early 1990s were analyzed to detect changes in wetlands, deepwater habitats, and uplands acreage. Palustrine (freshwater) emergent wetlands (fresh marsh, wet prairie, etc.) declined by about 29 percent, with an estimated net loss of 235,100 acres. This was the largest acreage change for any wetland category studied. Most of the palustrine emergent loss was to upland agriculture and other upland land uses (i.e. development).

The USFWS defined the various wetland types in Classification of Wetlands and Deepwater Habitats of the United States (FWS/OBS-79/31, December, 1979). Further, the USFWS classified seven of these wetland types as "decreasing" in its Land Acquisition Priority System (LAPS). The "decreasing" wetland types are; 1) Palustrine Emergent, 2) Palustrine Forested, 3) Palustrine Scrub-Shrub, 4) Estuarine Intertidal Emergent, 5) Estuarine Intertidal Forested, 6) Estuarine Intertidal Scrub-Shrub, and 7) Marine Intertidal. Using National Wetlands Inventory data available at http://nwi.fws.gov, the USFWS' Region 2 GIS Coordinator mapped the proposed acquisition areas identifying the wetland areas and the areas of aggregated decreasing wetland types (see Map # in Chapter 3, Affected Environment). Using the seven aggregated decreasing wetland types, he developed summary tables which compare decreasing wetland types to non-decreasing wetland types and wetlands to uplands. A summary table is presented for each Alternative as a whole and a summary table is presented for each refuge's separate boundary expansion.

	Acres	Percentage of Boundary Expansion
Refuge Boundary Expansion		
Alternative B	33,590	100%
Habitat Type (Upland or Wetland) of Alternative B Expansion		
Uplands	5,770	17%
Wetlands	27,820	83%
Declining Wetland Types	24,480	
Non-declining Wetland Types	3,340	

INDIVIDUAL REFUGE BOUNDARY EXPANSIONS FOR ALTERNATIVE B

Expansion of Moody NWR Boundary – 5,050 Acres

	Acres	Percent of Expansion
Moody NWR Boundary Expansion	**5,050**	**100%**
Total Uplands	1,760	35%
Total Wetlands	3,290	65%
Declining Wetland Types	2,590	
Non-declining Wetland Types	700	

The expansion area includes the areas immediately north of the current refuge boundary up to FM Road 562. The Lake Surprise area was identified in the "Category 8 Plan" as the #4 "Preservation Effort Priority". The area is predominately marsh, being largely freshwater and intermediate marsh, and includes several lakes with Lake Stephenson being the largest. FM Road 562 runs along a low ridge between the 5 and 10 foot contours and separates the drainage between Trinity Bay and East Bay. The low ridge consists of coastal prairie with many pothole wetlands and 'mima' mounds. Mima mounds are a historic topographic feature in the region's coastal prairies which provide the topographic and hydrological variability believed responsible for much of the floristic diversity found in high quality coastal prairies (Grace *et al*. 2000).

Expansion of Anahuac NWR Boundary – 20,500 Acres

	Acres	Percent of Expansion
Anahuac NWR Boundary Expansion	**20,500**	**100%**
Total Uplands	3,110	15%
Total Wetlands	17,390	85%
Declining Wetland Types	15,140	
Non-declining Wetland Types	2,250	

The expansion area consists primarily of three coastal marsh areas: Robinson Bayou Marsh, Oyster Bayou Marsh, and Middleton Marsh. All three of these marsh areas are high-value wintering waterfowl habitats and have been identified as high-priority acquisition areas in USFWS documents: The "Category 8 Plan" ranked Oyster Bayou Marsh as #1 and Robinson Bayou Marsh as #10 in "Preservation Effort Priority". The Regional Wetlands Concept Plan identified both Middleton Marsh and Robinson Bayou Marsh as "Texas Priority Wetlands for Acquisition Consideration". All three of these marshes are high-value, largely intermediate marshes having some freshwater marsh components. The Robinson Bayou Marsh area, which is the largest area in the expansion, extends from the current western boundary of Anahuac NWR all the way along East Bay to the boundary of Moody NWR. This is the largest remaining coastal marsh along East Bay. The Oyster Bayou Marsh area consists of the lower marsh east of Oyster Bayou which is surrounded virtually on three sides by the current Anahuac NWR. The Middleton Marsh area consists of the rest of the upper marsh between Elm Bayou and State Hwy. 124.

The balance of the expansion is a small area west of Oyster Bayou from FM Road 1985 south to the existing refuge boundary. This area includes the main entrance road to Anahuac NWR used by both visitors and staff. This area consists of primarily of coastal prairie, much of which has been converted to agricultural uses, and includes some fresh marsh and riparian woodlands. Acquisition of this area would facilitate improved management of the main refuge entrance and provide opportunities to improve and expand recreational uses including hunting, wildlife observation and photography.

Expansion of McFaddin NWR Boundary - 7,190 Acres

	Acres	Percent of Expansion
McFaddin NWR Boundary Expansion	**7,190**	**100%**
Total Uplands	770	11%
Total Wetlands	6,420	89%
Declining Wetland Types	6,140	
Non-declining Wetland Types	280	

The expansion area consists of almost all coastal marsh which is included under two different rationales. First, there are two areas which are gaps in the refuge boundary from earlier single-ownership based expansions. One area consists of a number of separated tracts in the marsh just to the east of High Island. The other area is two separate marsh tracts on the south side of the GIWW in the vicinity of Star Lake. Both areas would be considered part of McFaddin Marsh which was identified in the "Category 8 Plan" as the #5 "Preservation Effort Priority". Second, there is the northern part of Willow Slough marsh immediately adjacent to the current refuge boundary. This area is a very high quality freshwater marsh which is hydrologically linked to the rest of Willow Slough within our existing boundary. The entire Willow Slough marsh area would be best managed for wildlife habitat as a single unit.

Expansion of Texas Point NWR Boundary - 850 Acres

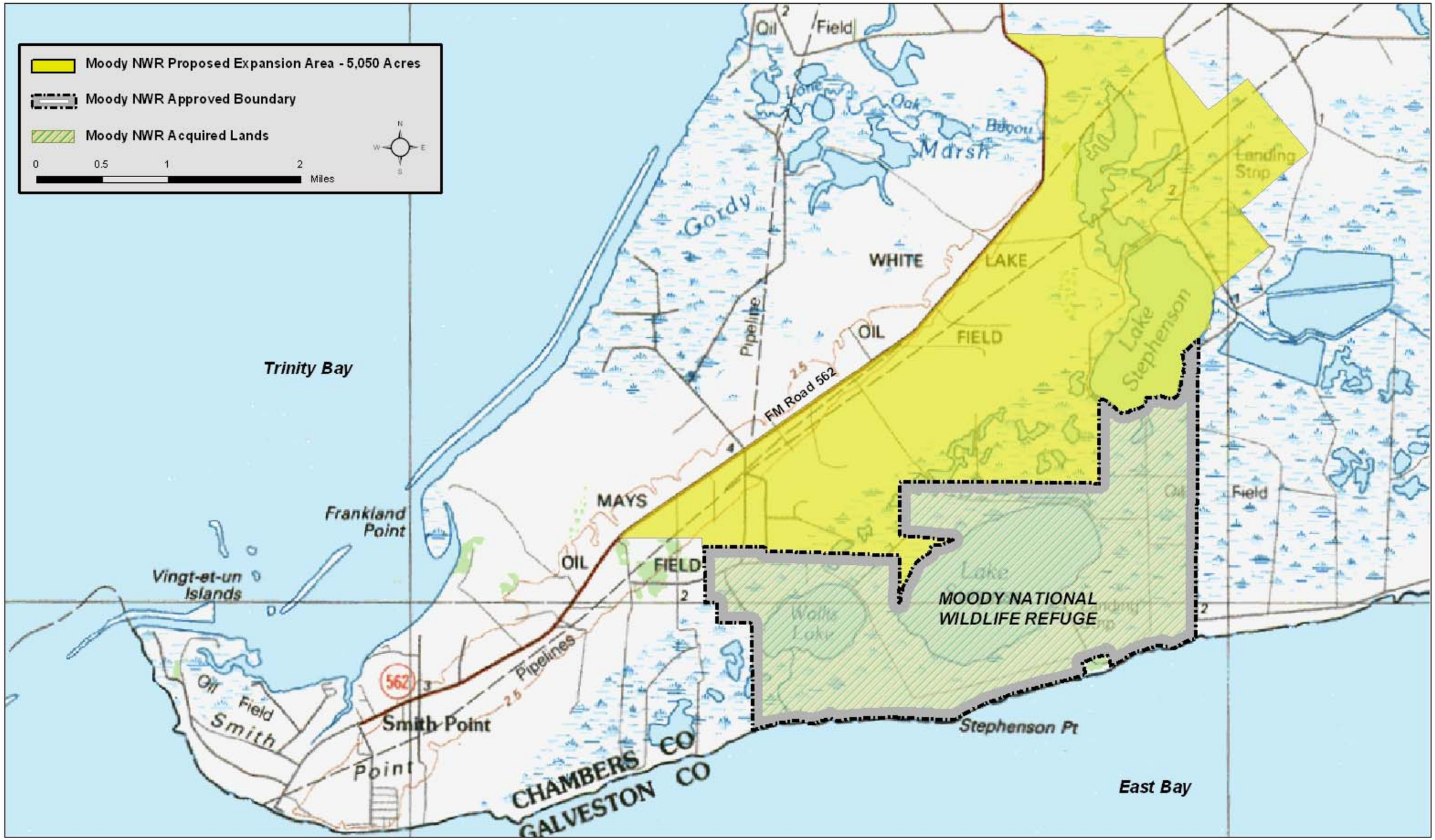
	Acres	Percent of Expansion
Texas Point NWR Boundary Expansion	**850**	**100%**
Total Uplands	130	15%
Total Wetlands	720	85%
Declining Wetland Types	610	
Non-declining Wetland Types	110	

The expansion area consists of a number of small tracts immediately adjacent to the current refuge boundary. These tracts are coastal marsh, small coastal woodlots, or a combination of the two. All of these tracts would fall within the Sea Rim Marsh which was identified in the "Category 8 Plan" as the #7 "Preservation Effort Priority". Acquisition of these tracts would provide the refuge with a much more manageable boundary and provide more much needed visitor access.

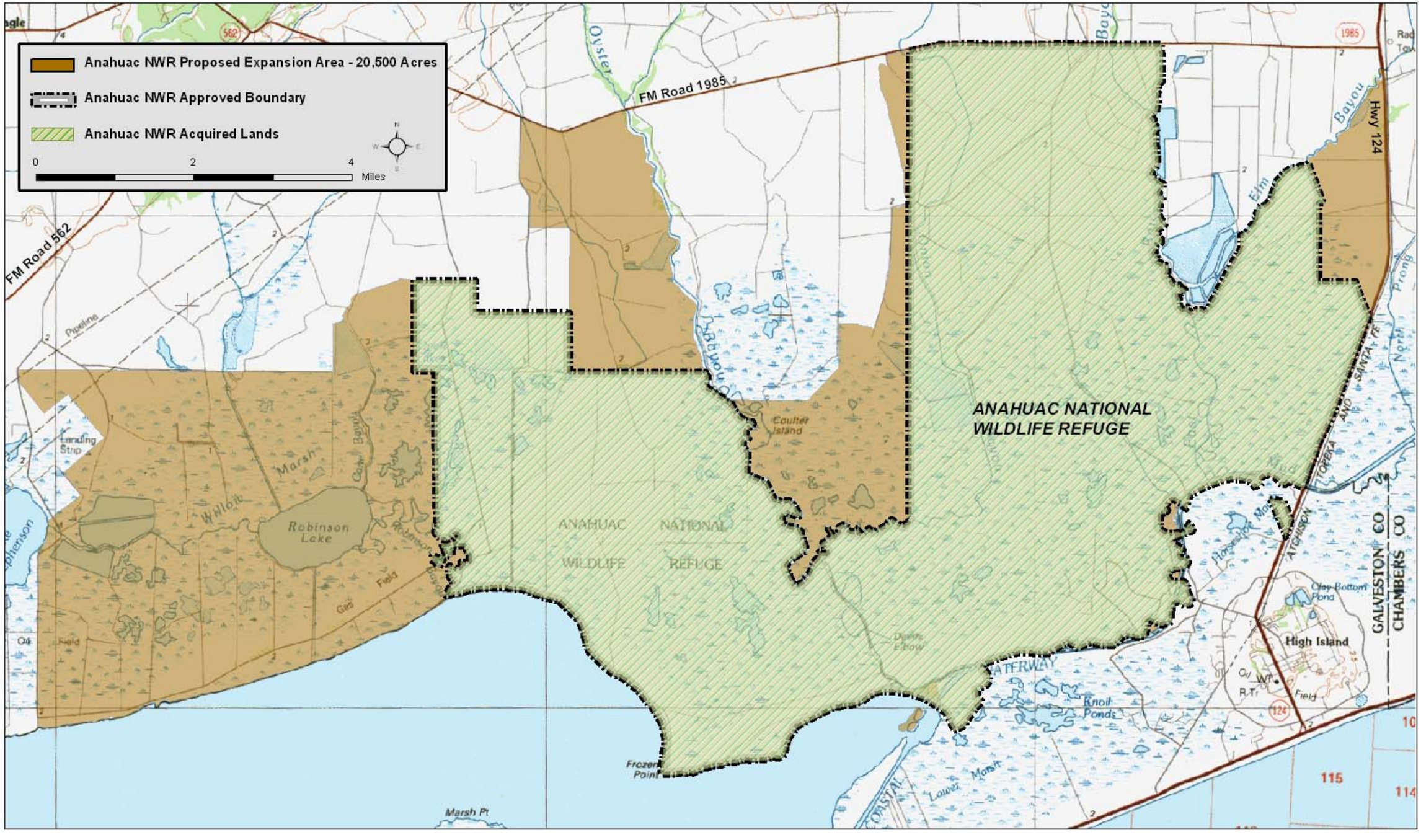
Maps for Individual Boundary Expansions for Alternative B

Maps depicting the individual boundary expansions for Alternative B for Moody, Anahuac, McFaddin and Texas Point NWRs are on the following pages.

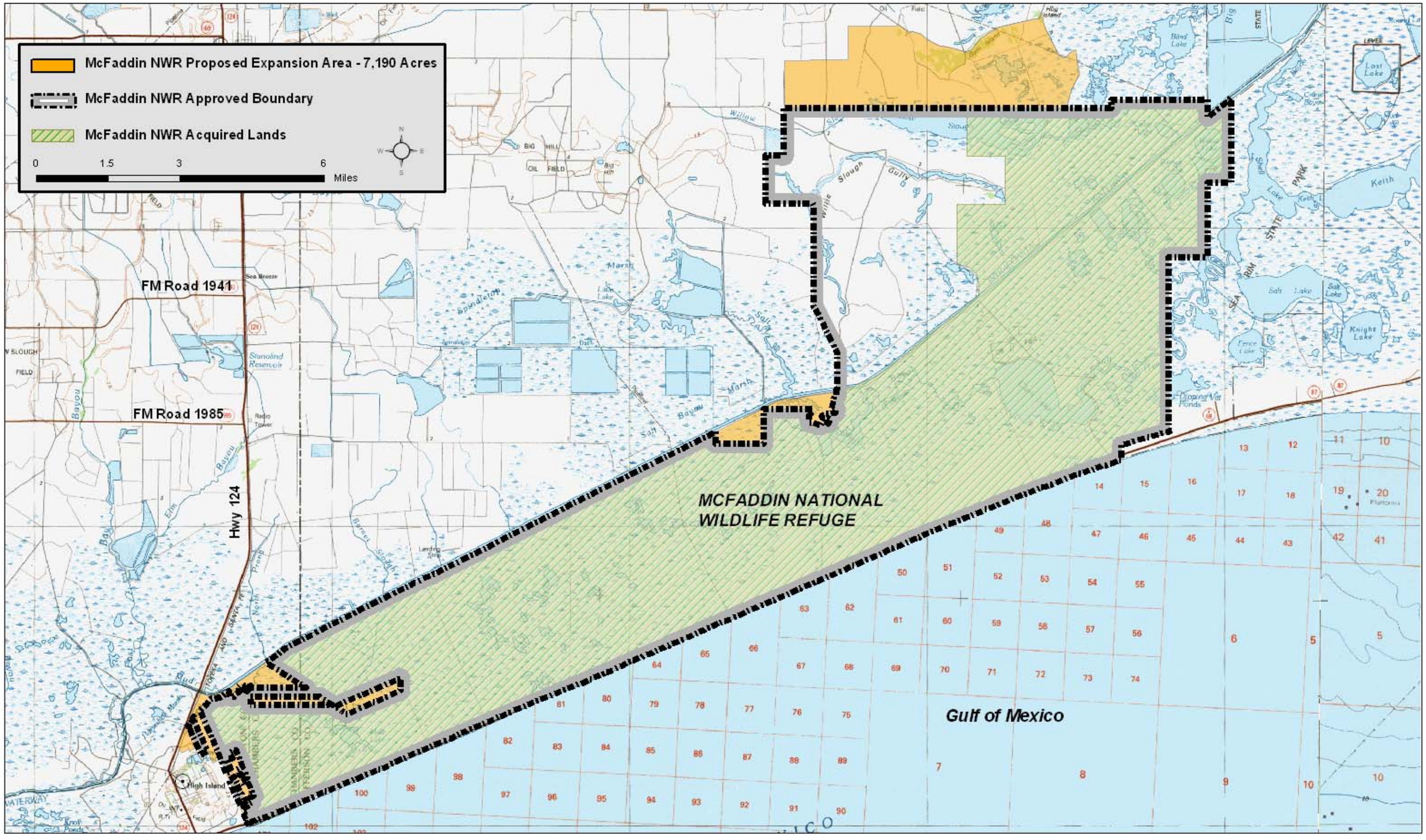
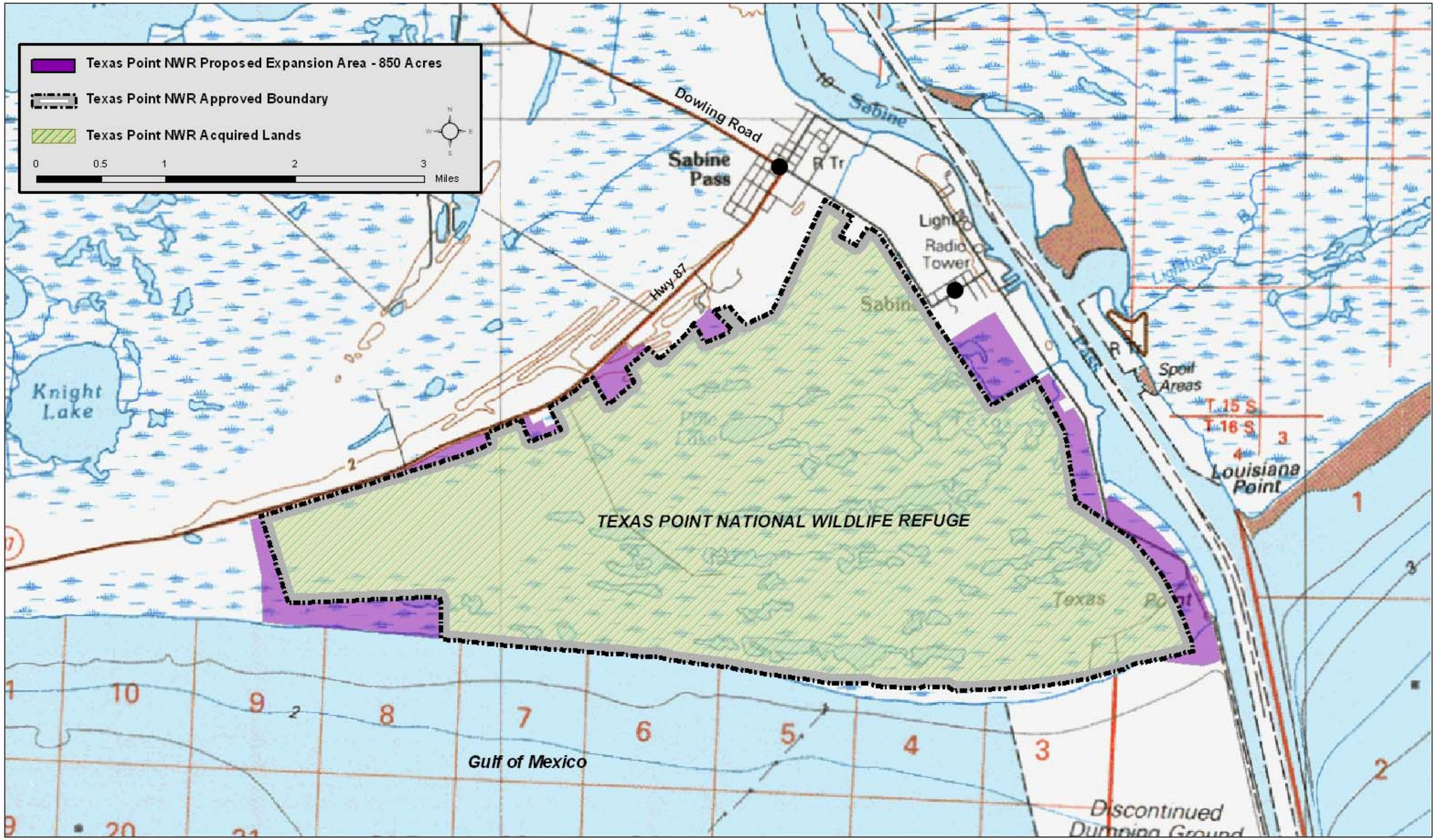
Moody National Wildlife Refuge Proposed Expansion - Alternative B



Anahuac National Wildlife Refuge Expansion - Alternative B



McFaddin National Wildlife Refuge Expansion - Alternative B



Texas Point National Wildlife Refuge Expansion - Alternative B