

# ***Survey Design for the 2011 National Wetland Condition Assessment***

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# *Target Population*

- All Wetlands – tidal and non-tidal and farmed, specifically wetted areas with rooted vegetation or shallow open water

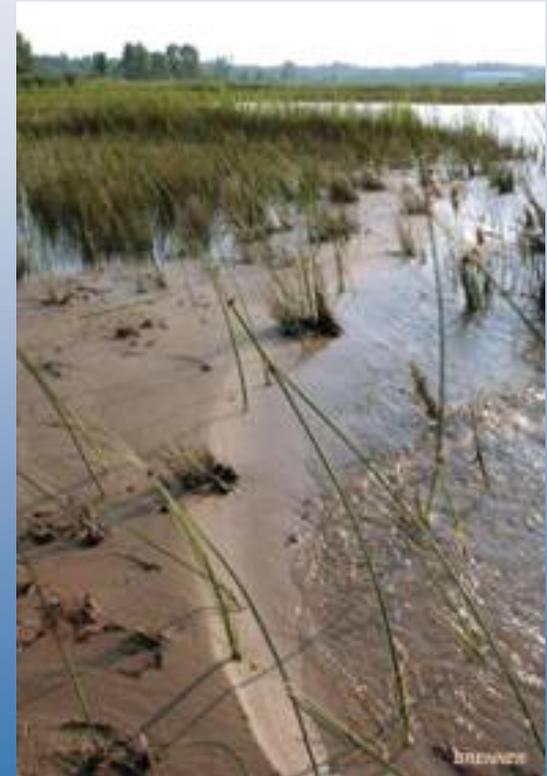


Photo by Jim Newton

# *Sample Size*

1000 Points

- 900 for assessment
- 100 for QA



# *Reporting Units*

- 10 strata/categories per unit possible with 900 points
- Multiple reporting units possible



# *Collaboration with FWS*

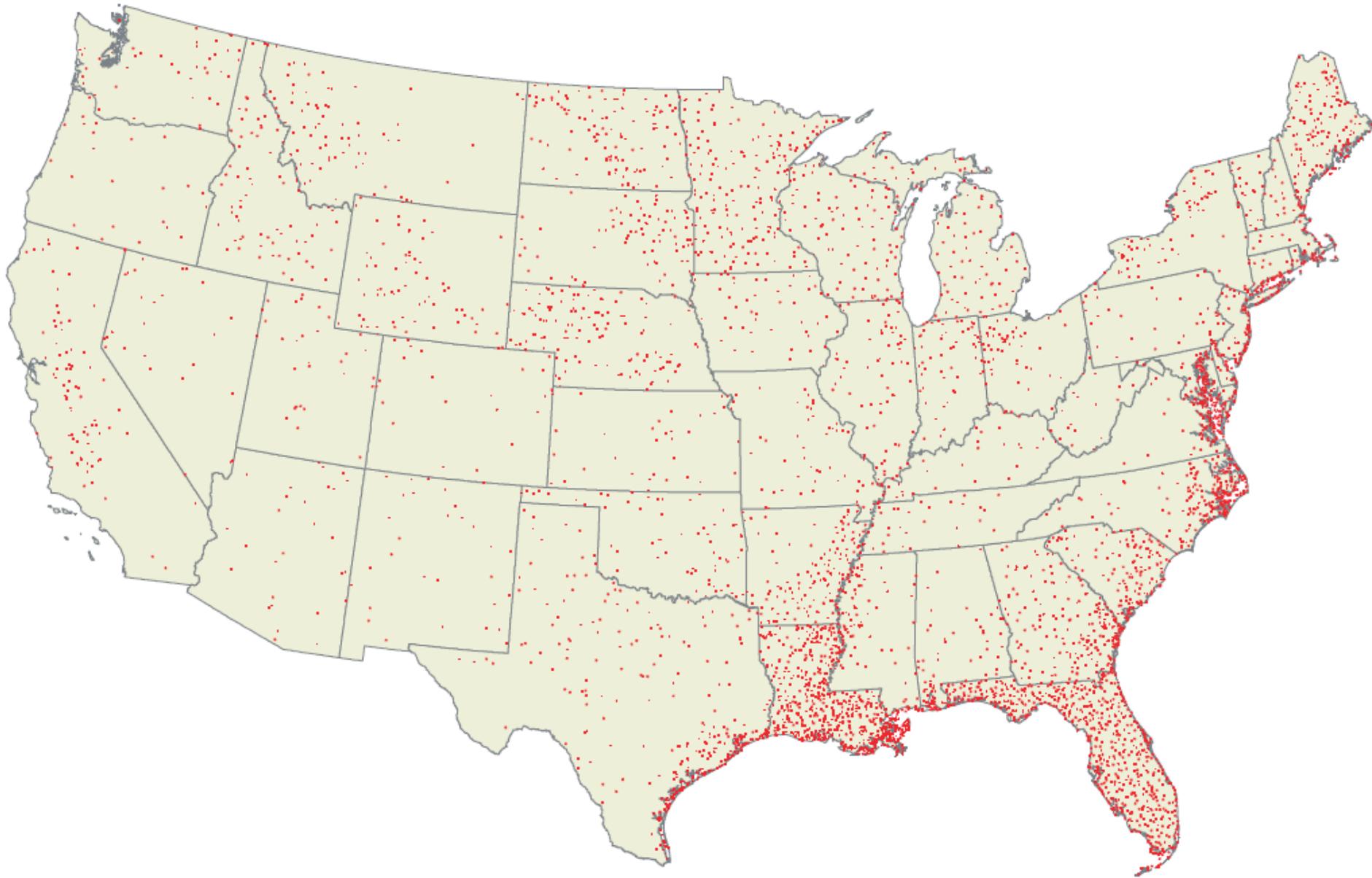


- FWS Status and Trends reports document trends in wetlands acreage
- NWCA will evaluate the ambient condition of the nation's wetlands resources.
- EPA will collaborate with FWS in designing NWCA
  - ensure the national condition assessment most effectively complements the Service's Wetlands Status and Trends Study.
- Together these reports will offer the most comprehensive ecological evaluation

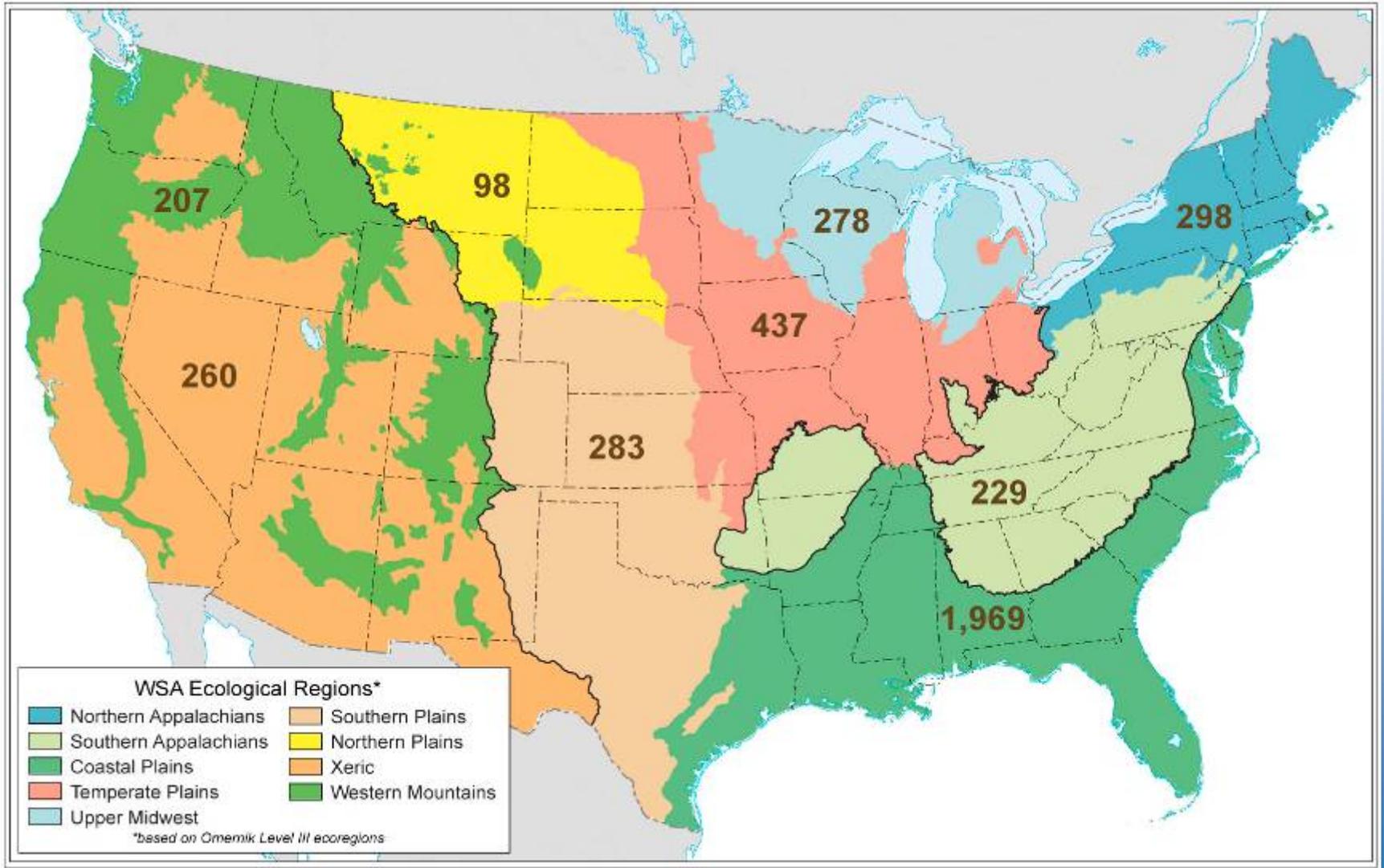


# Status and Trends 2005 Plot Locations

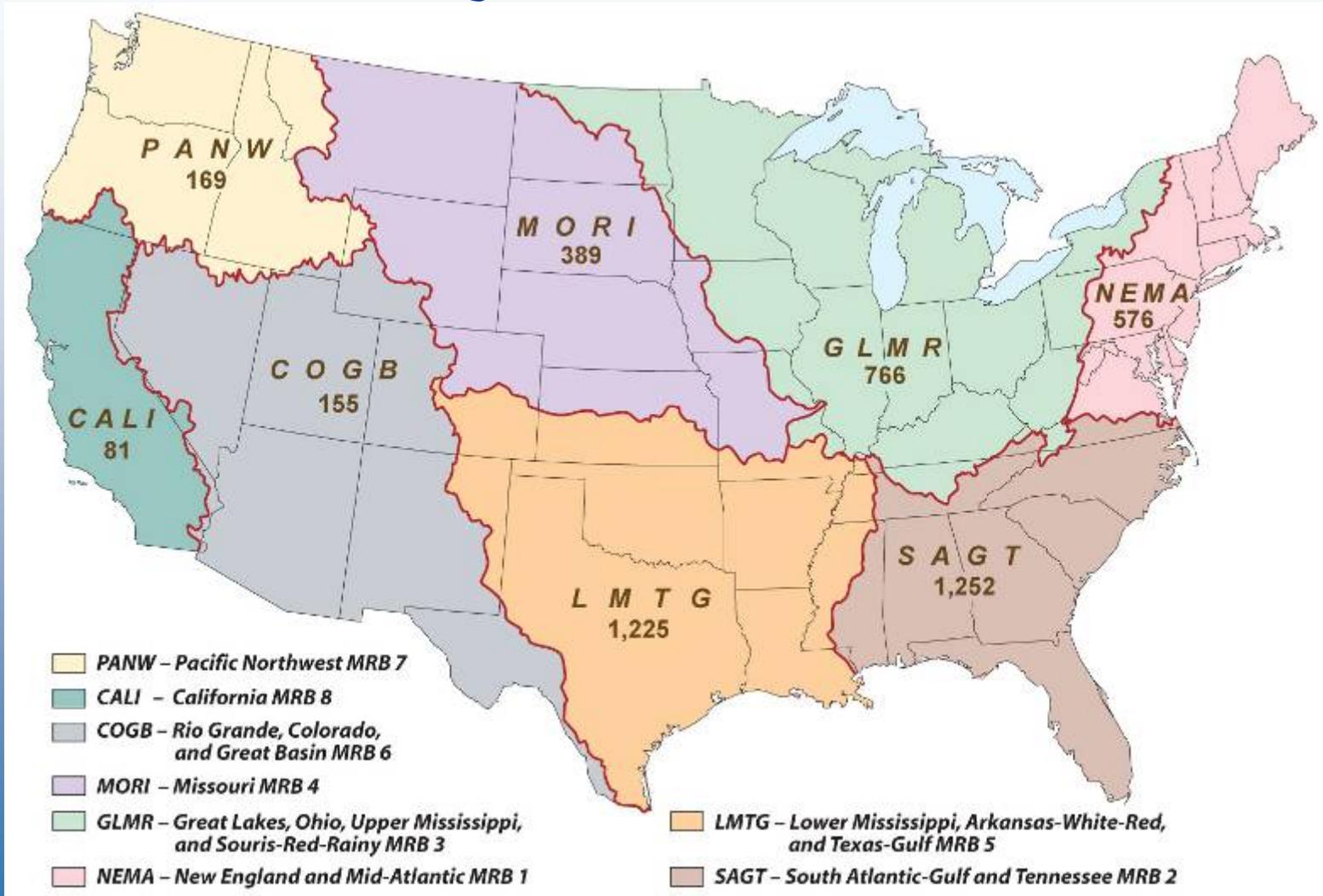
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# Number NWI S&T Plots by Ecoregion



# Number NWI S&T Plots by Major River Basin



# *Wetland Classes in NWCA*

- E2EM – Estuarine Intertidal Emergent
- E2SS – Estuarine Intertidal Forested/Shrub
- PUB/PAB – Palustrine Unconsolidated Bottom/  
Palustrine Aquatic Bed
- PFO – Palustrine Forested
- PSS – Palustrine Scrub/Shrub
- PEM – Palustrine Emergent
- Pf – Palustrine farmed



# *Distribution of Wetland Types in S&T Frame*

<b>Type</b>	<b># Polygons</b>
Estuarine Intertidal Emergent	8397
Estuarine Intertidal Forested/Shrub	3151
Palustrine Unconsolidated Bottom/ Palustrine Aquatic Bed	36,584
Palustrine Forested	38,437
Palustrine Scrub/Shrub	28,902
Palustrine Emergent	50,269
Palustrine farmed	2989

# *Number of NWI S&T Polygons*

## NWCA Wetland Classes

	<b>E2EM</b>	<b>E2SS</b>	<b>PEM</b>	<b>PABPUB</b>	<b>PSS</b>	<b>PFO</b>	<b>Pf</b>	<b>Total</b>
<b>CPL</b>	<b>8,164</b>	<b>3,150</b>	<b>17,023</b>	<b>19,248</b>	<b>16,716</b>	<b>26,228</b>	<b>927</b>	<b>91,456</b>
<b>NAP</b>	<b>230</b>	<b>1</b>	<b>2,268</b>	<b>2,972</b>	<b>3,344</b>	<b>3,557</b>	<b>58</b>	<b>12,430</b>
<b>NPL</b>	<b>0</b>	<b>0</b>	<b>7,138</b>	<b>615</b>	<b>129</b>	<b>16</b>	<b>147</b>	<b>8,045</b>
<b>SAP</b>	<b>1</b>	<b>0</b>	<b>653</b>	<b>4,082</b>	<b>363</b>	<b>1,067</b>	<b>6</b>	<b>6,172</b>
<b>SPL</b>	<b>0</b>	<b>0</b>	<b>1,925</b>	<b>2,054</b>	<b>262</b>	<b>295</b>	<b>121</b>	<b>4,657</b>
<b>TPL</b>	<b>0</b>	<b>0</b>	<b>12,927</b>	<b>4,151</b>	<b>953</b>	<b>1,702</b>	<b>1,238</b>	<b>20,971</b>
<b>UMW</b>	<b>0</b>	<b>0</b>	<b>5,454</b>	<b>2,389</b>	<b>5,503</b>	<b>5,156</b>	<b>432</b>	<b>18,934</b>
<b>WMT</b>	<b>2</b>	<b>0</b>	<b>1,514</b>	<b>485</b>	<b>1,157</b>	<b>274</b>	<b>3</b>	<b>3,435</b>
<b>XER</b>	<b>0</b>	<b>0</b>	<b>1,367</b>	<b>588</b>	<b>475</b>	<b>142</b>	<b>57</b>	<b>2,629</b>
<b>Total</b>	<b>8,397</b>	<b>3,151</b>	<b>50,269</b>	<b>36,584</b>	<b>28,902</b>	<b>38,437</b>	<b>2,989</b>	<b>168,729</b>

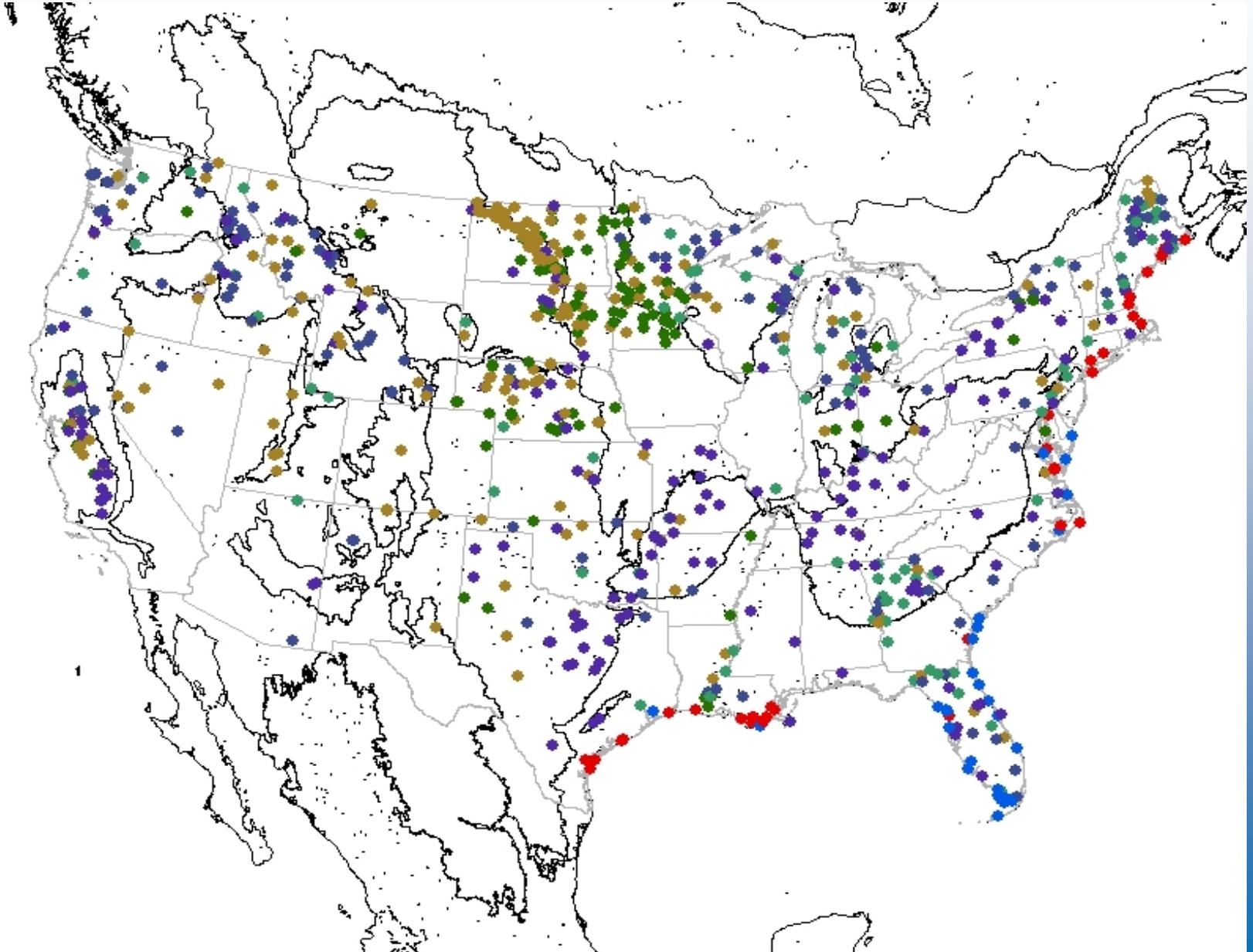
# *Survey Design Option*

- Equal number of sites for 7 wetland classes
- Within wetland class, equal number of sites by wetland area categories
- Equal number of sites for 9 aggregated ecoregions

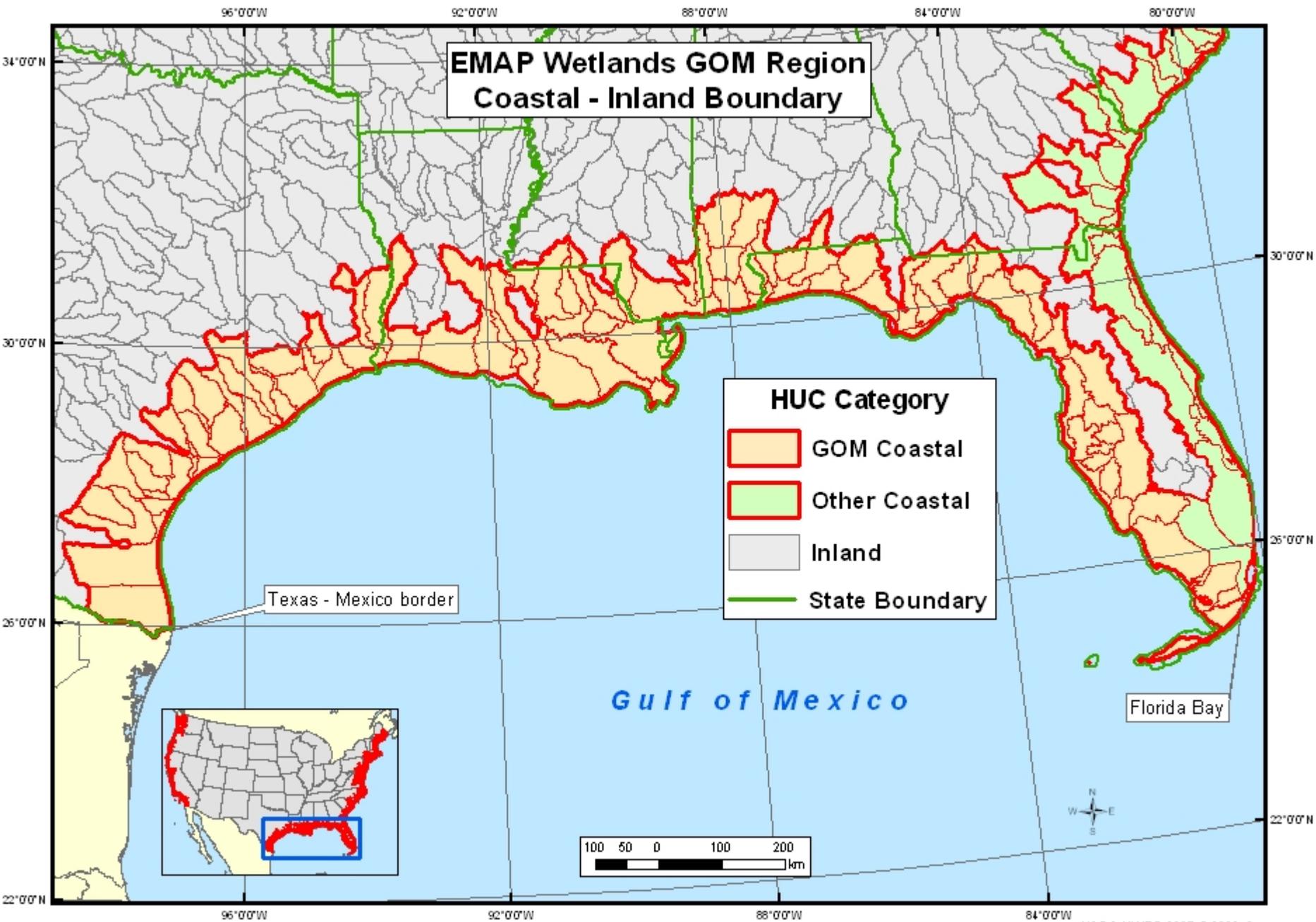
# *Number of Sites: Example Design*

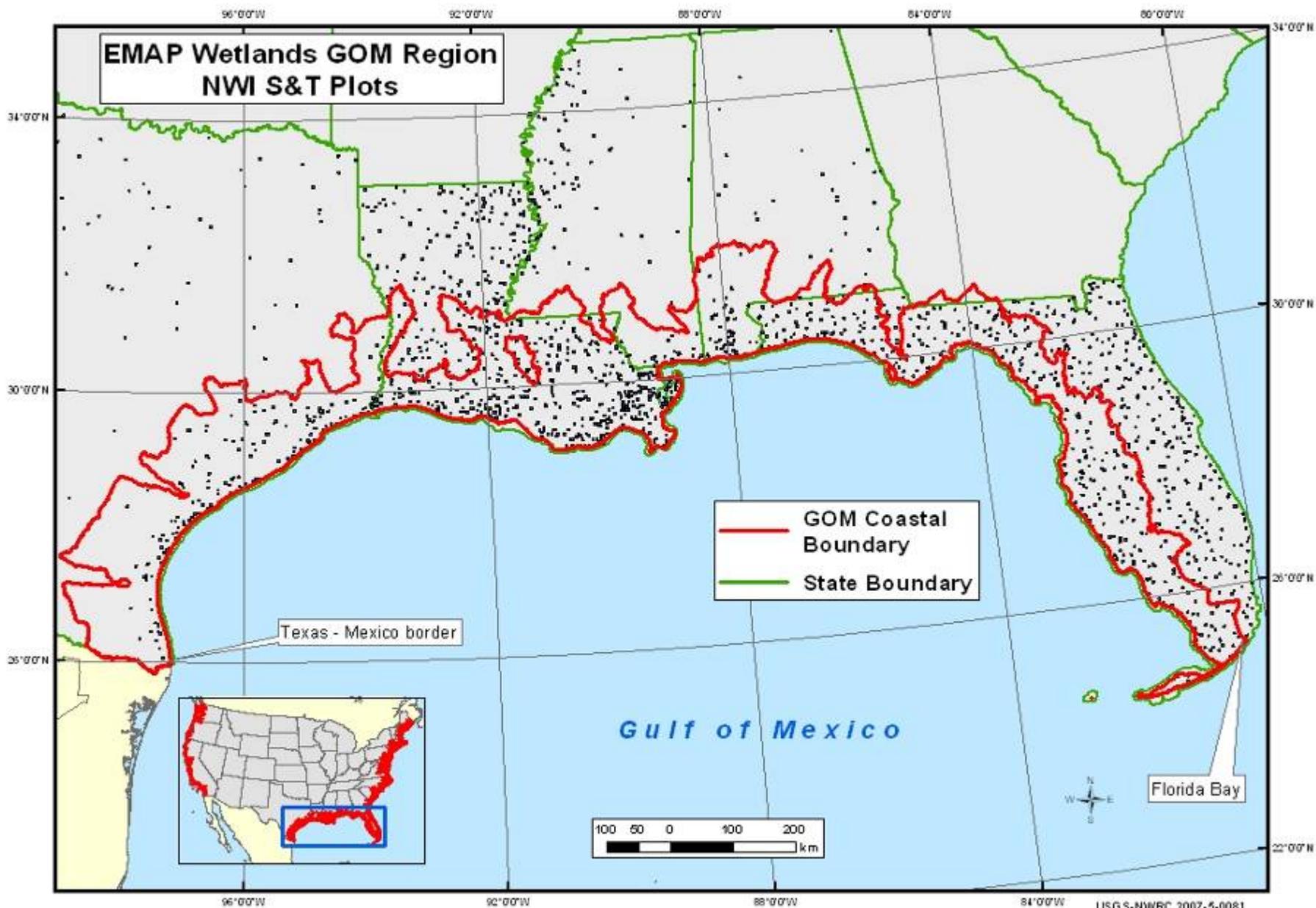
	<b>E2AM</b>	<b>PEM</b>	<b>PABM</b>	<b>Pf</b>	<b>E2SS</b>	<b>PFO</b>	<b>PSS</b>	<b>Sum</b>
<b>CPL</b>	24	9	13	8	25	17	15	111
<b>NAP</b>	15	12	22	5	0	25	32	111
<b>NPL</b>	0	74	9	26	0	0	2	111
<b>SAP</b>	0	8	75	1	0	18	8	111
<b>SPL</b>	0	28	41	30	0	6	7	111
<b>TPL</b>	0	33	15	54	0	6	4	111
<b>UMW</b>	0	18	11	25	0	23	34	111
<b>WMT</b>	0	36	16	1	0	9	49	111
<b>XER</b>	0	38	21	25	0	5	22	111
<b>Sum</b>	39	256	223	176	25	109	172	1000

# *Example Design*



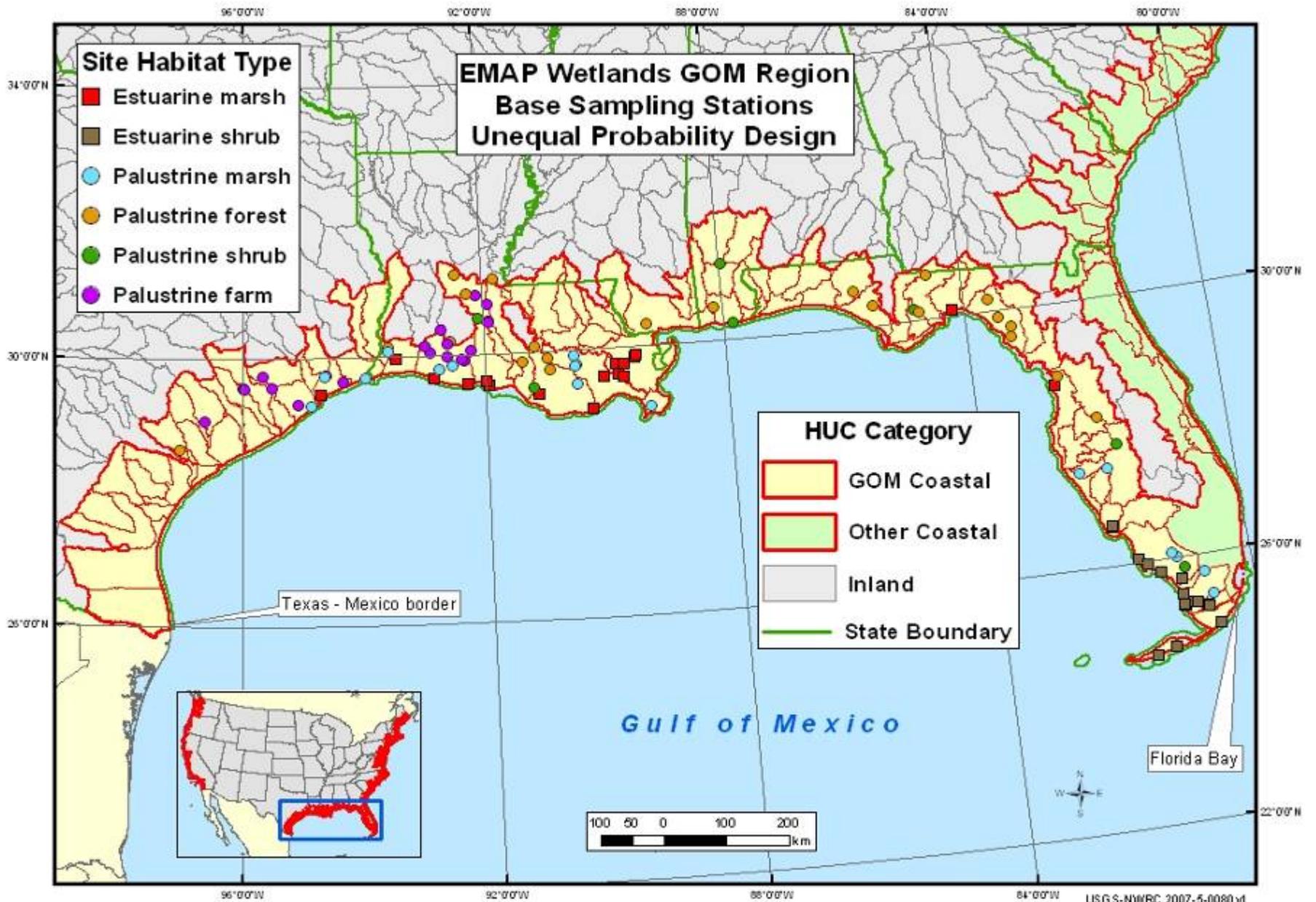
# *Gulf of Mexico Pilot Study*





## National Wetland Inventory Status and Trends (NWI S&T) Wetland Classes included in the Gulf of Mexico Coastal Wetlands Pilot Survey Sample Frame

NWI S&T Code	NWI S&T Description	NWI S&T Definition	Total Area (hectares) within sample frame (% of total)	Sample sites to be visited in GOM Wetlands Pilot
E2EM	Estuarine Intertidal Emergents	Salt marsh, mixed salinity, substrate exposed and flooded by tides, rooted herbaceous hydrophytes, excluding mosses and lichens	90862.4 (28.9 %)	18
E2SS	Estuarine Intertidal Forested/Shrub	Mangroves or other estuarine shrubs, mixed salinity, substrate exposed and flooded by tides, woody vegetation	17228.4 (5.5 %)	16
PEM	Palustrine Emergents	Inland marshes / wet meadows, freshwater, nontidal, rooted herbaceous hydrophytes, excluding mosses and lichens	47288.9 (15.0 %)	17
PFO	Palustrine Forested	Forested swamps, freshwater, nontidal, woody vegetation >6 m	104194.6 (33.1 %)	22
PSS	Palustrine Shrub	Shrub wetlands, freshwater, nontidal, woody vegetation <6 m	24010.3 (7.6 %)	7
Pf	Palustrine farmed	Farmed wetlands / rice, freshwater, nontidal, habitat altered for crop production	31095.8 (9.9 %)	20



# NWI Status and Trends Habitats PFO Example

DOQQ 2005

