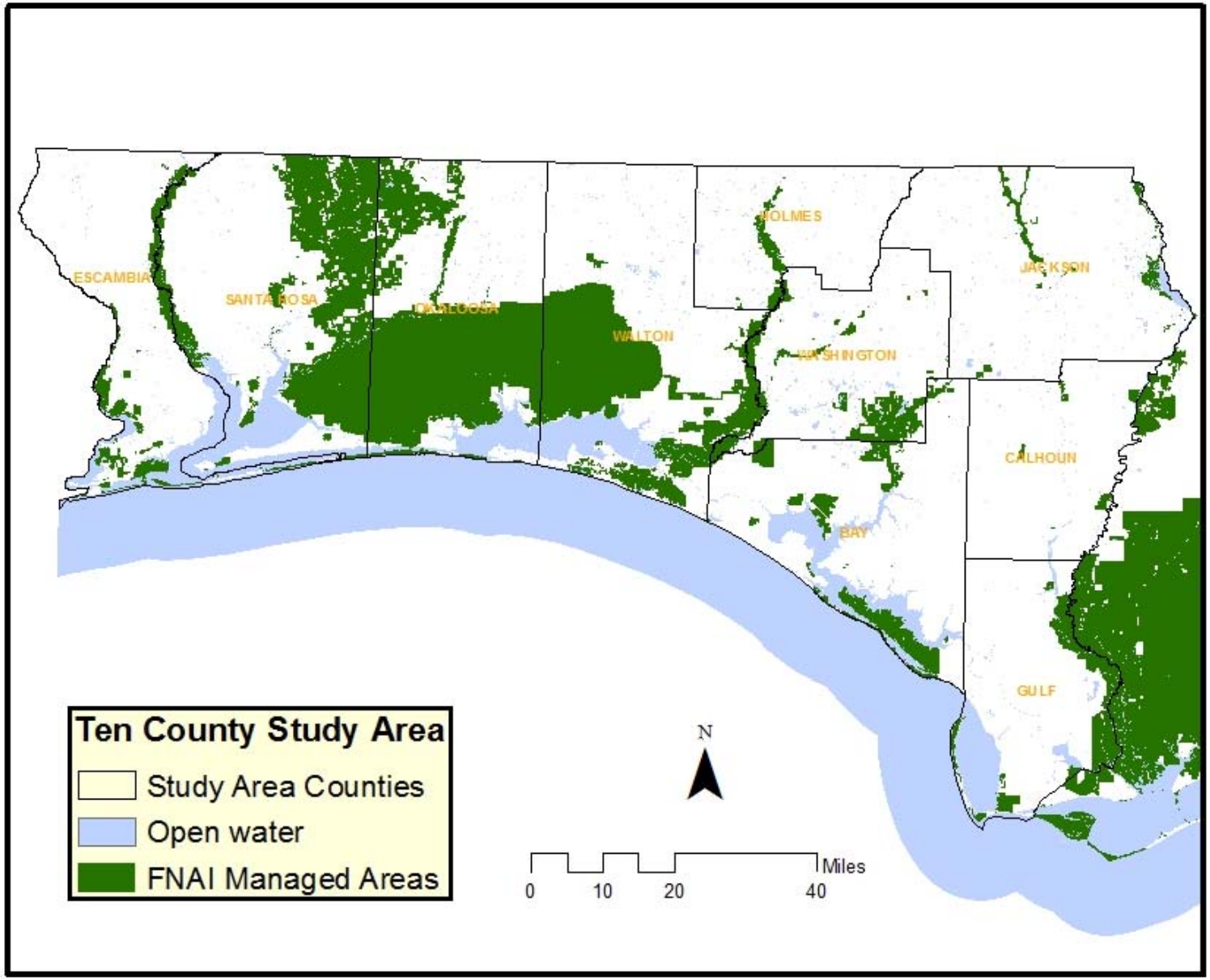
Steps for Regional Spatial Conservation Priorities

- Select study area
- Use CLIP 2.0 and Regional CLIP analyses as a base
- Identify other relevant and readily available state, regional, or local GIS data
- Select any regionally significant species that should serve a focal species and have available data or can be modeled.
- Determine whether any additional regional analyses should be conducted such as water restoration priorities, water supply, floodplains, forestry, etc.

Final Ten County Study Area



Existing and Proposed Conservation Lands

- Existing Conservation Lands

  --FNAI Managed Areas

  --DEP Mitigation

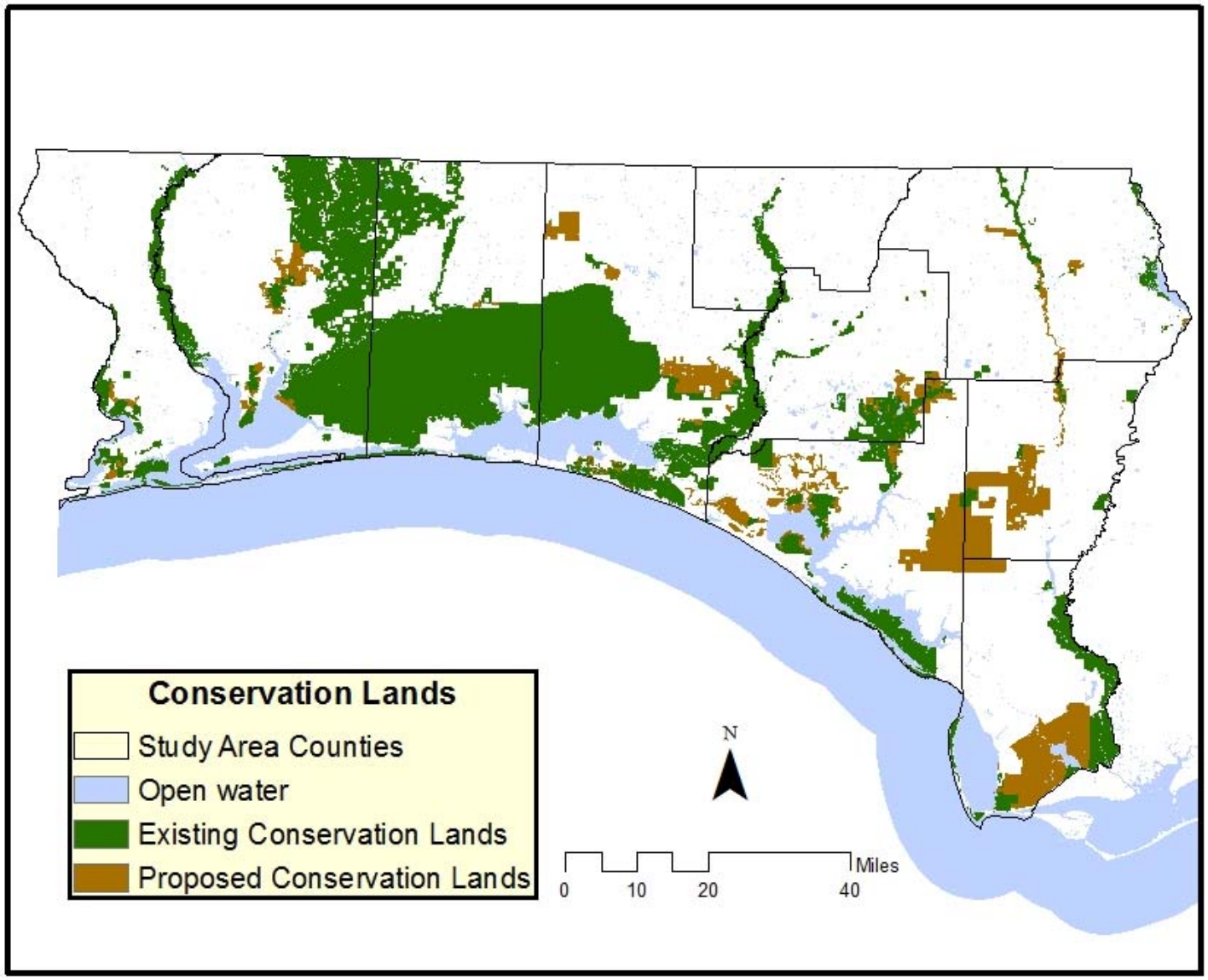
  --NWFWMD Umbrella DOT Mitigation Sites

  --COE Mitigation Banks
- Proposed Conservation Lands

  --Florida Forever Projects

  --GPEMA Conservation Units

Existing and Proposed Conservation Lands



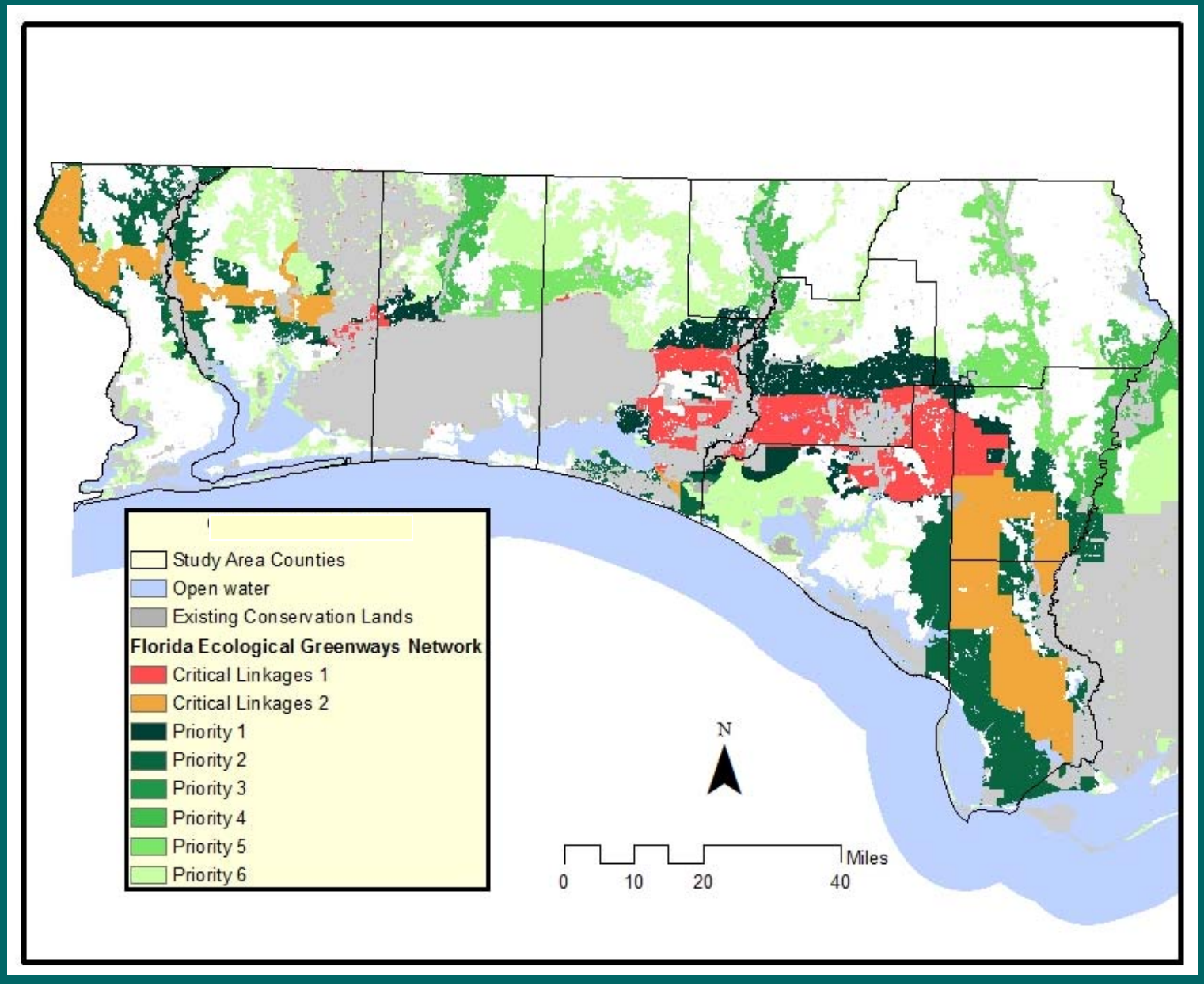
Green Links Regional CLIP

- Incorporated similar methods as those used in the Florida Fish and Wildlife Conservation Commission's Cooperative Conservation Blueprint Regional Pilot Project in south-central and southwest Florida.
- Identified existing and created new regional analyses to identify a Regional Ecological Network (REN)
- Identified existing and created new regional analyses to develop a CLIP and Regional Ecological Data Synthesis (CRES)
- Combined the REN and the CRES to create the Regional CLIP conservation priorities data layer.
- Primary data sources included CLIP 2.0, Florida Ecological Greenways Network Update, Florida Forever Conservation Needs Assessment, Florida Fish and Wildlife Research Institute, and the Florida Geographic Data Library (FGDL)

Regional Ecological Network (REN) Data

- Florida Ecological Greenways Network (FEGN)
- Florida Black Bear Habitat and Corridor Analysis
- Major River Buffers
- Xeric Habitat Connectivity
- Riparian Network

Florida Ecological Greenways Network

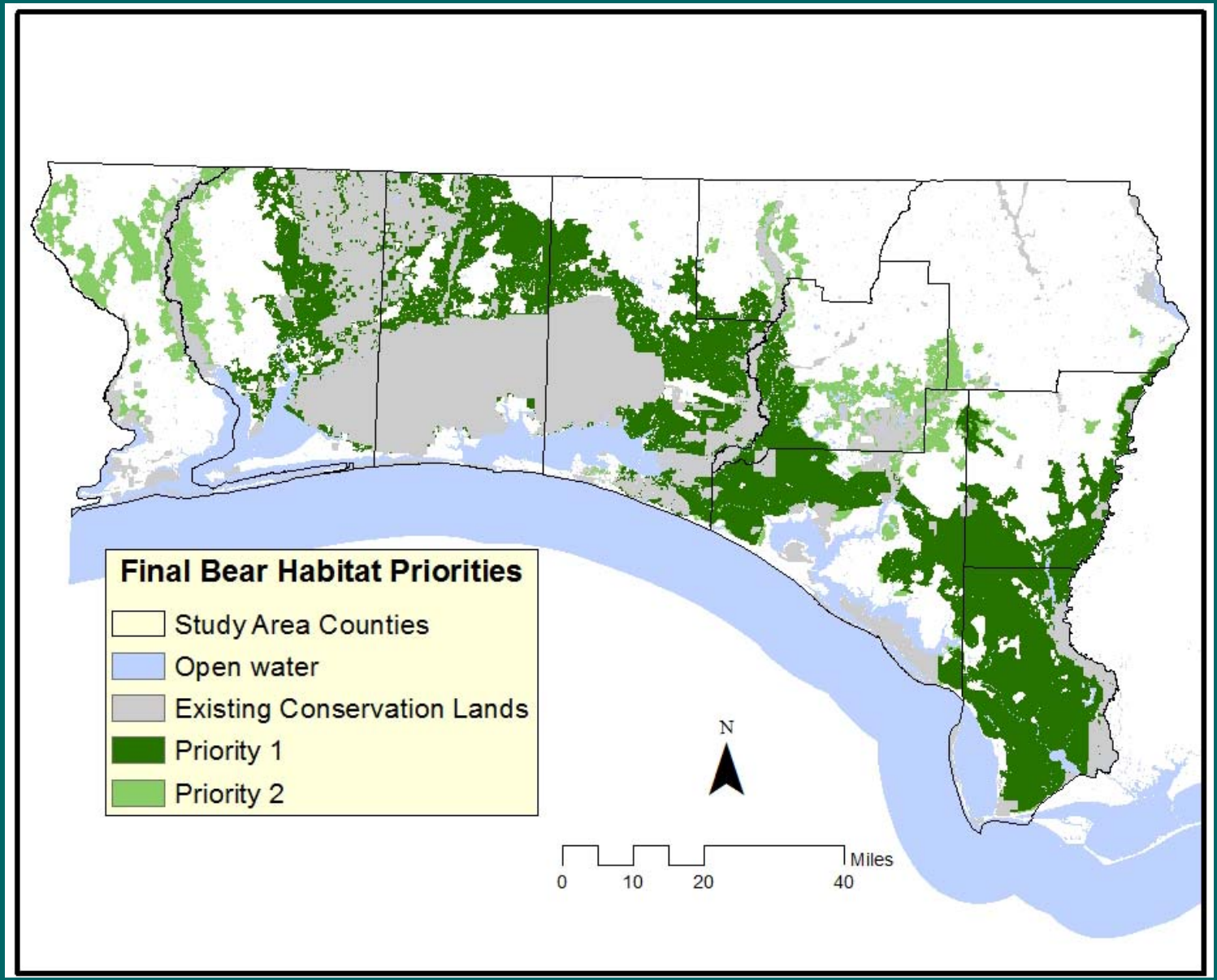


Florida Black Bear Habitat and Corridors

- FWC Bear Strategic Habitat Conservation Areas (SHCAs)
- Population Priority Conservation Areas (Hoctor)

  Eglin: 1,198,461 acres Apalachicola: 2,359,856 acres
- Corridor Analysis (10% slice of corridor function using ranked bear habitat and CLIP 2.0 Landscape Context and large waterbodies added as high cost)
- Ranked bear habitat from FWC contract work combined with updated potential habitat model

Florida Black Bear Habitat Priorities

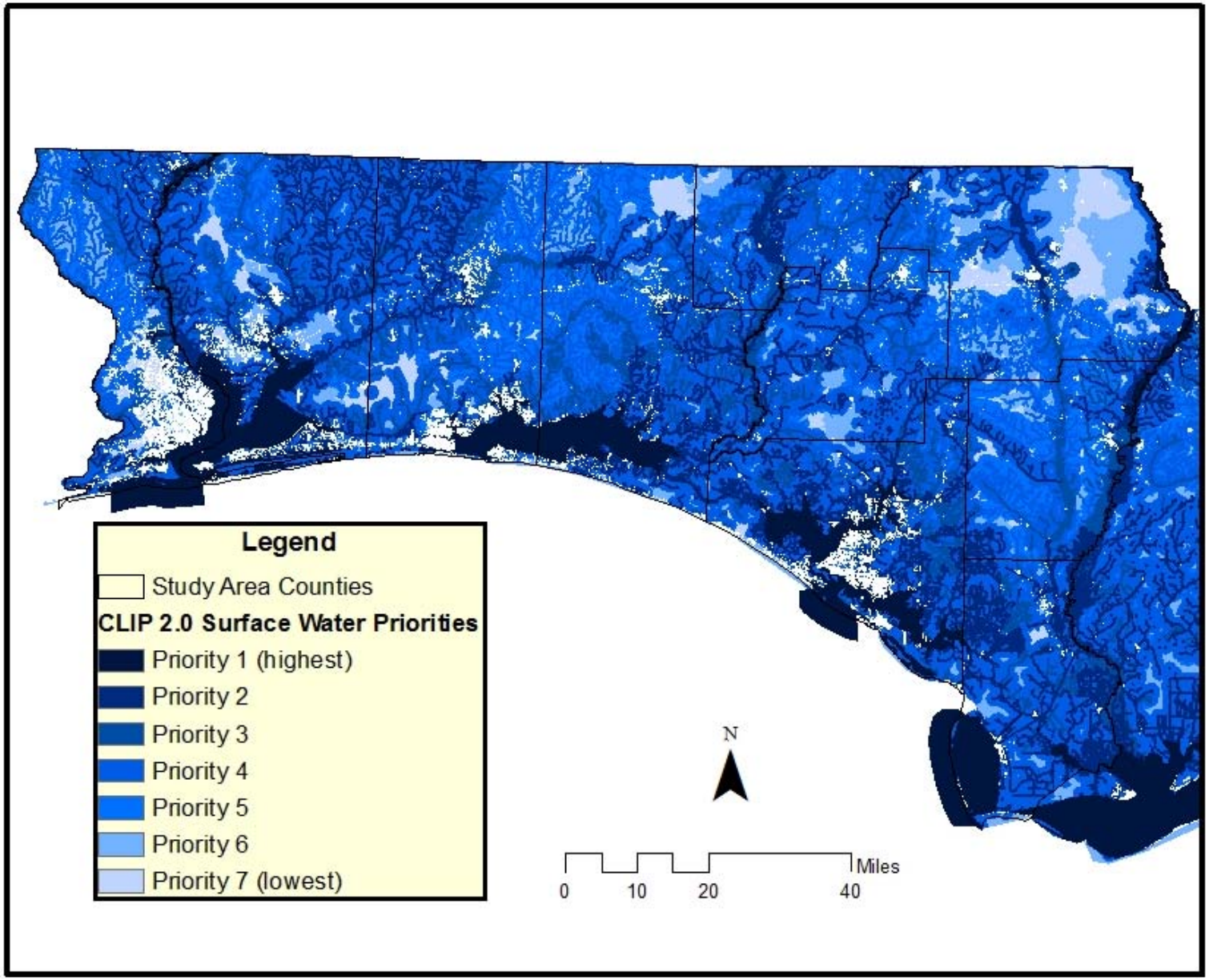


Riparian Network

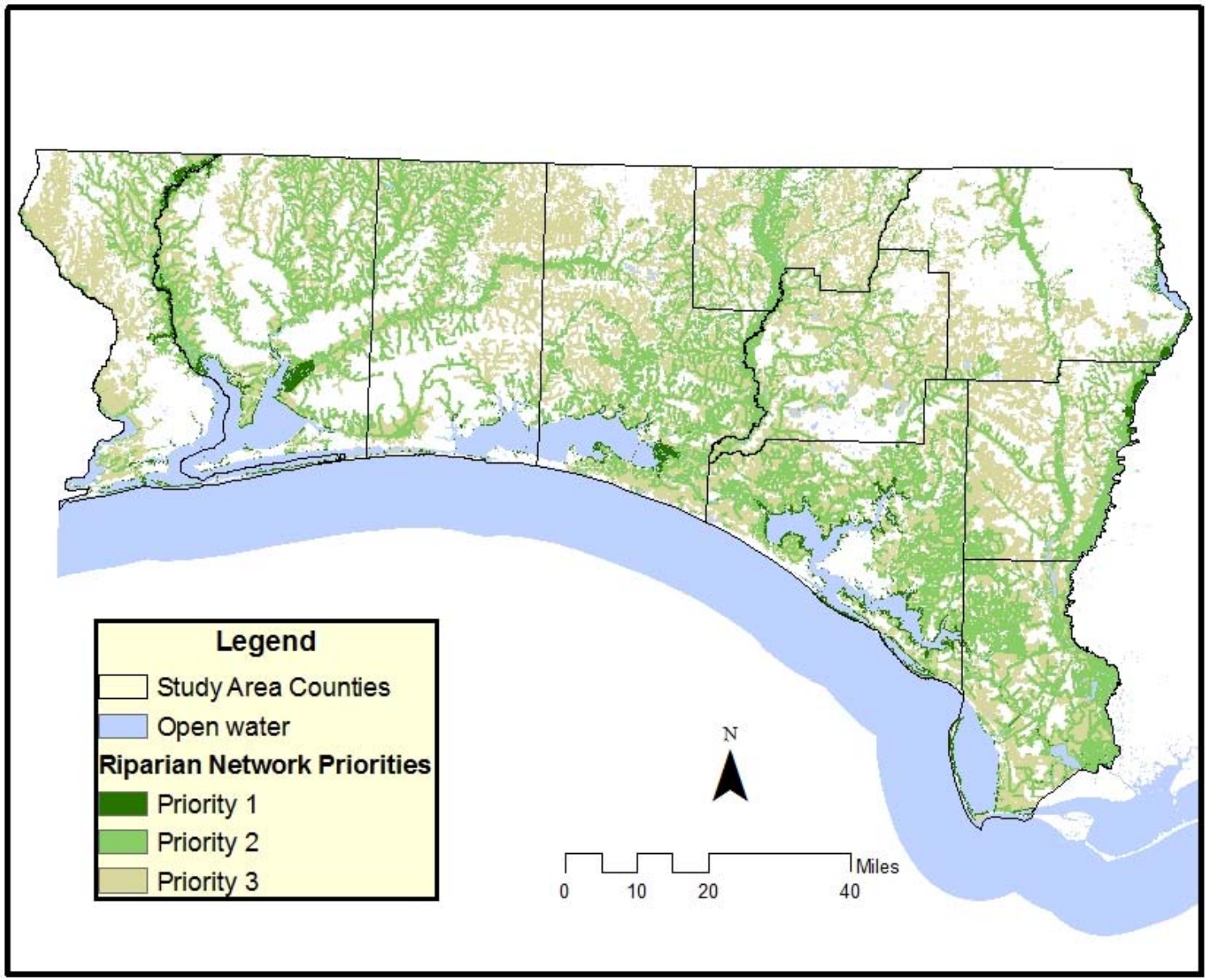
- All wetlands and freshwater bodies connected to streams (the surface water network).
- All natural and semi-natural land use within 300 meters (app. 1000 feet) and connected to surface water network.
- Prioritized using the CLIP Surface Water Priorities where:

  P1 = P1; P2-P3 = P2; P4-P7 = P3

CLIP 2.0 Surface Water Priorities



Riparian Network Prioritized



FEGN Xeric Habitat Connectivity

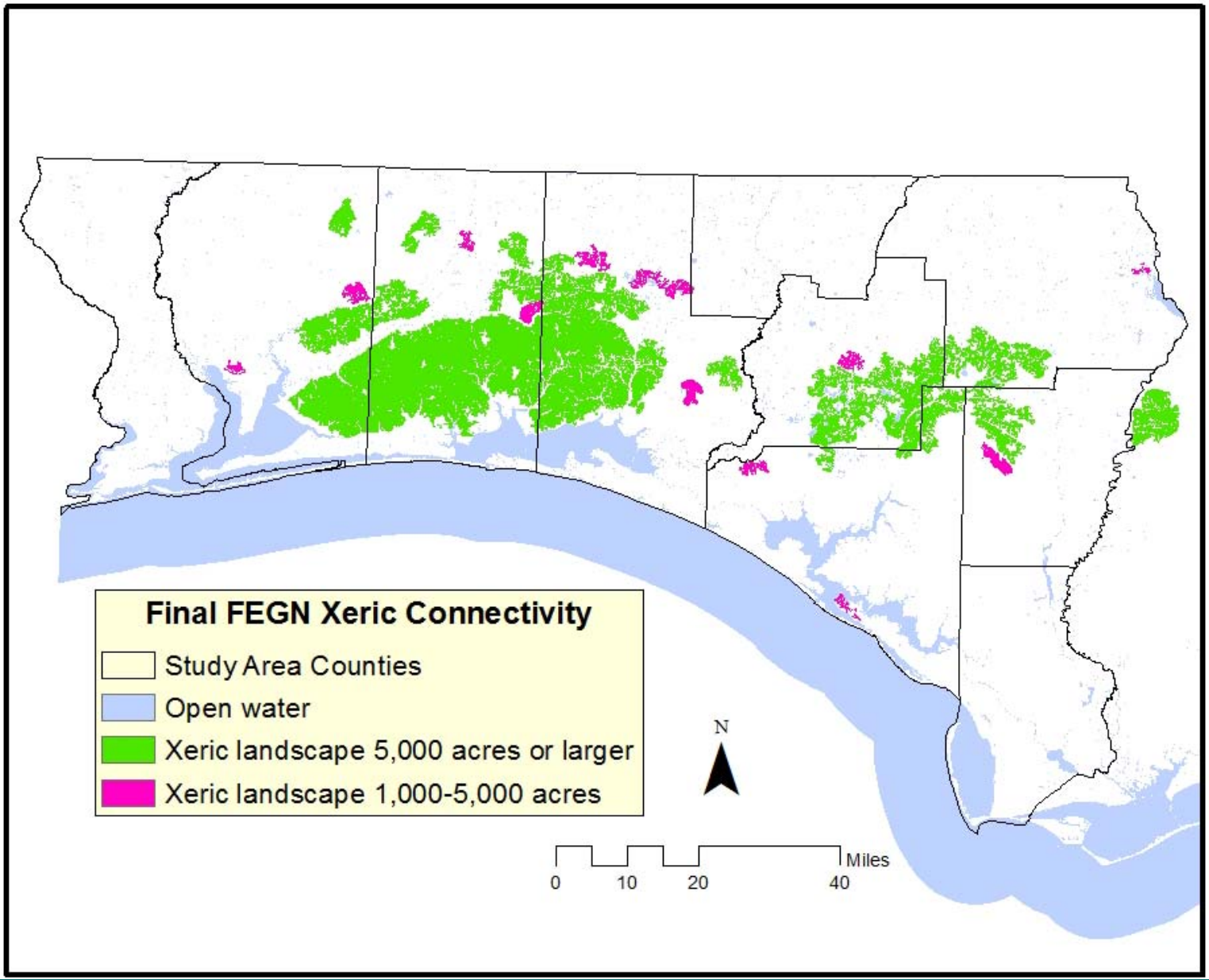
- Identified xeric natural communities using CLC: scrub, scrubby flatwoods, and sandhill 100 acres

  or larger.
- Identified other natural and semi-natural land uses on xeric soils.
- Identified all connected areas of xeric habitat within 1.5 miles of xeric natural communities and that had at least two patches within 3 miles of each other.
- Separated these patches into two size classes:

  --1,000 acres to 4,999 acres

  --5,000 acres or larger

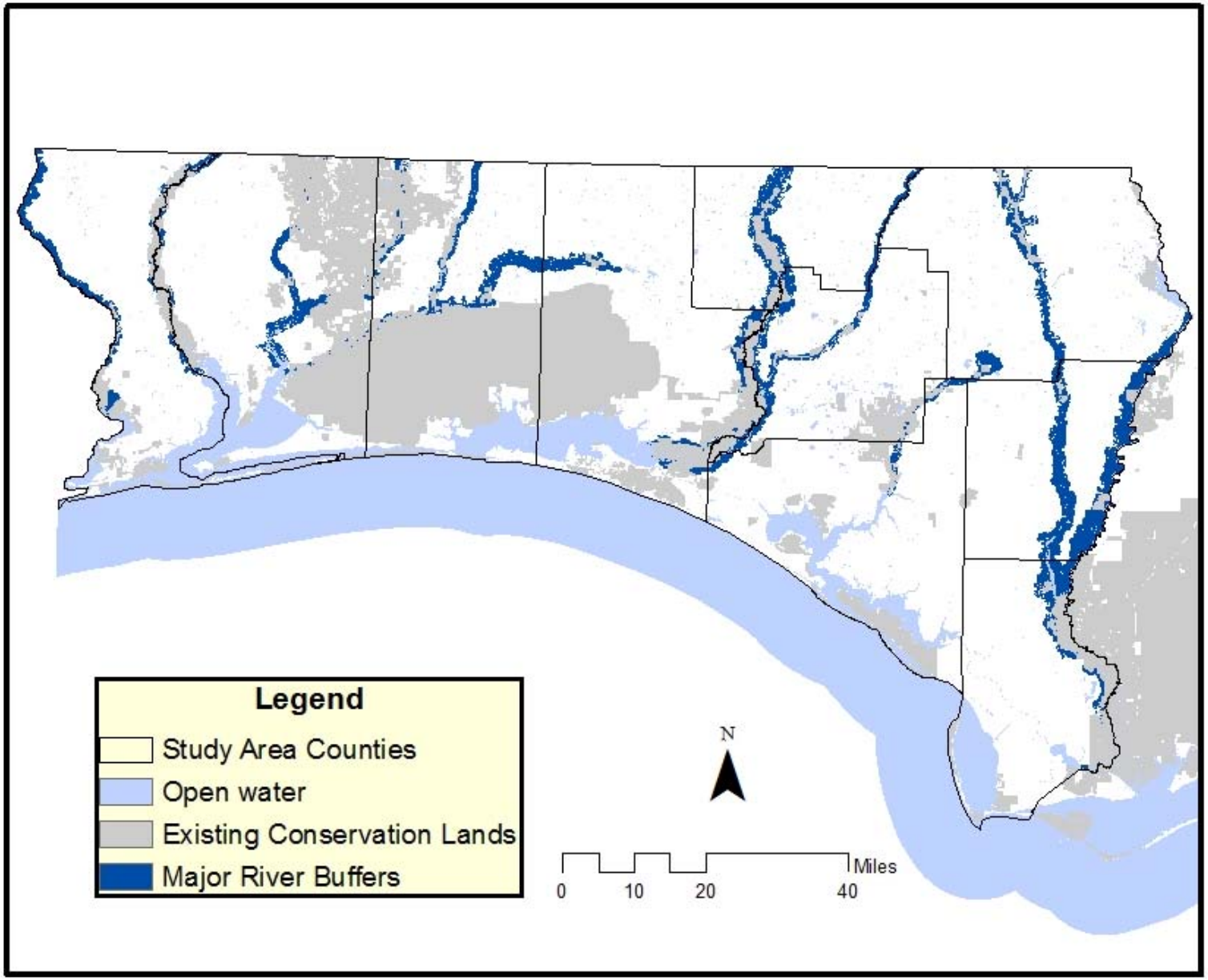
Final Xeric Habitat Connectivity



Major River Connectivity/Buffer Analysis

- Used Major Rivers from FGDL (originally from FREAC) and Special Outstanding Florida Waters connected to them as the starting point.
- Used the Cooperative Land Cover Data from FNAI to identify natural and semi-natural lands including all natural communities, forest plantations, unimproved pastures/rangelands, etc.
- Then, all areas of natural and semi-natural land adjacent to and connected to these rivers were identified within 800 meters (approximately ½ mile).

Major River Buffers

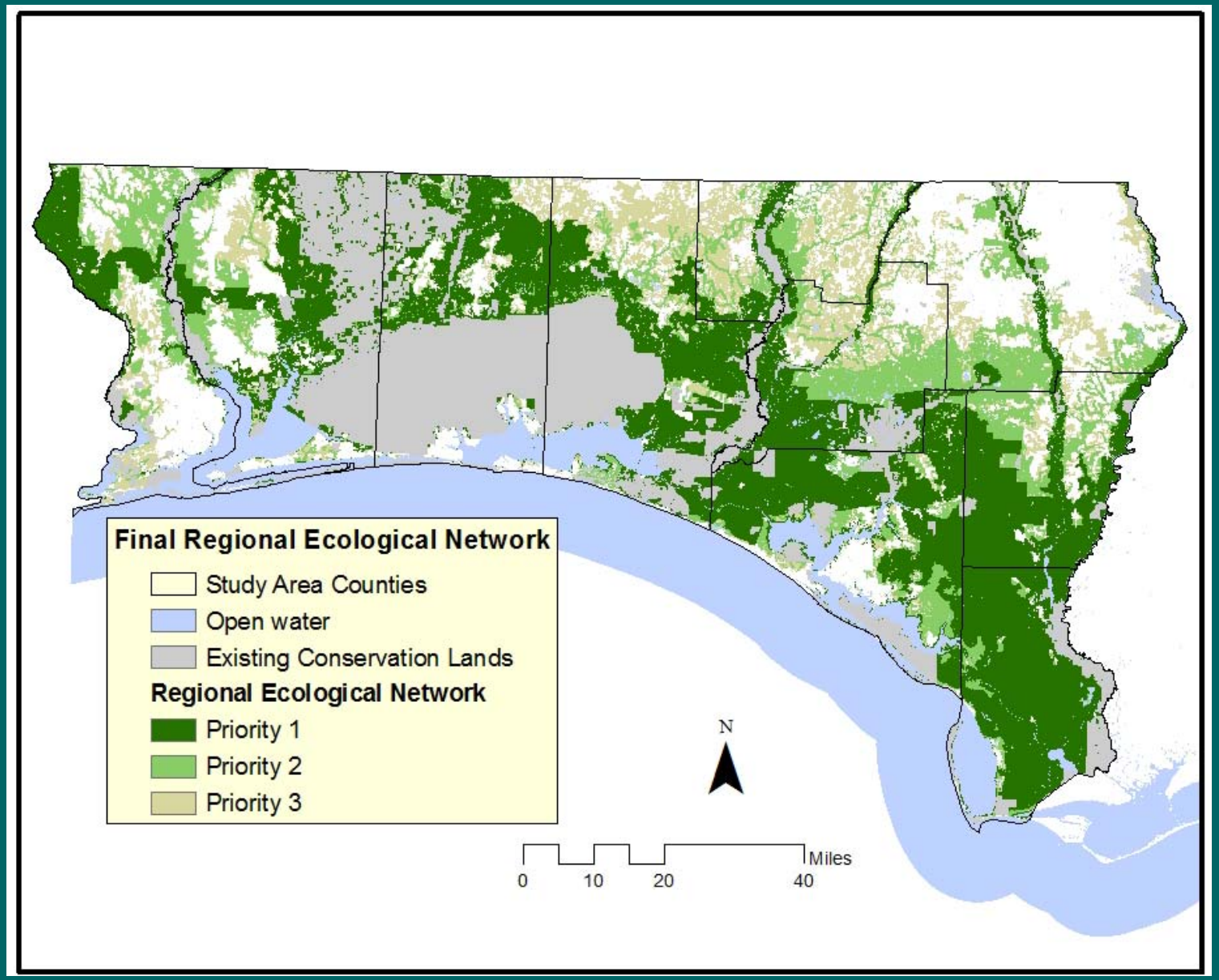


Regional Ecological Network

Priorities:

- Priority 1: FEGN Critical Linkages, Florida black bear PPCAs and SHCAs, bear corridor; Major River buffers, and P1 Riparian Network
- Priority 2: FEGN P1-P5, other bear habitat priorities, Xeric Connectivity patches 5,000 acres or larger, P2 Riparian Network
- Priority 3: FEGN P6, Xeric Connectivity patches 1,000 - 4,999 acres, P3 Riparian Network

Final Regional Ecological Network



CLIP and Regional Ecological Data Synthesis (CRES)

Priority 1:

- CLIP FNAIHAB P1-P2
- CLIP SHCA P1
- CLIP Natural Communities G1-G3
- CLIP Wetlands P1
- Conservation Buffers P1-P2

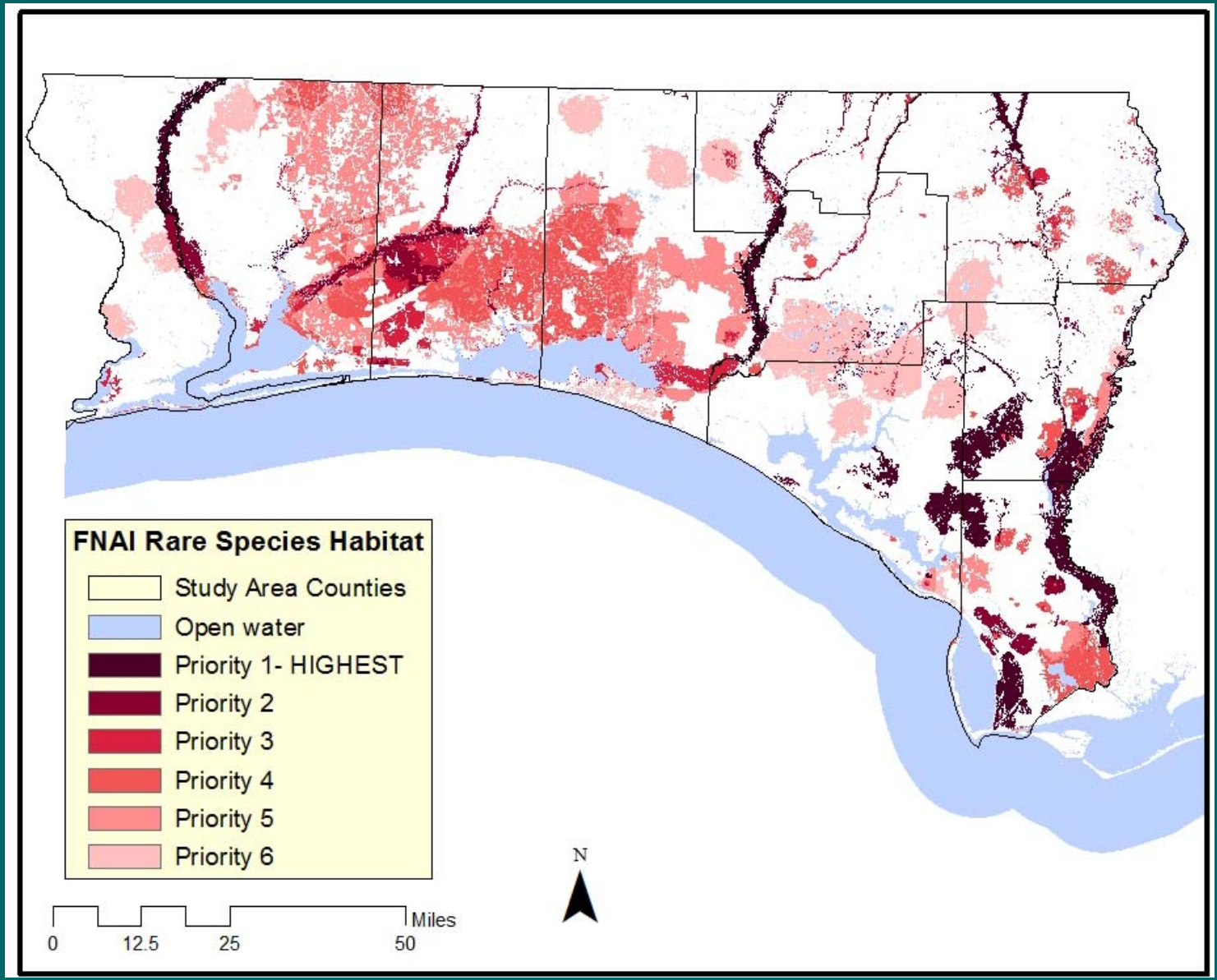
Priority 2:

- CLIP FNAIHAB P3
- CLIP SHCA P2-P3
- CLIP NC G4
- CLIP Wetlands P2-P4
- Conservation Buffers P3

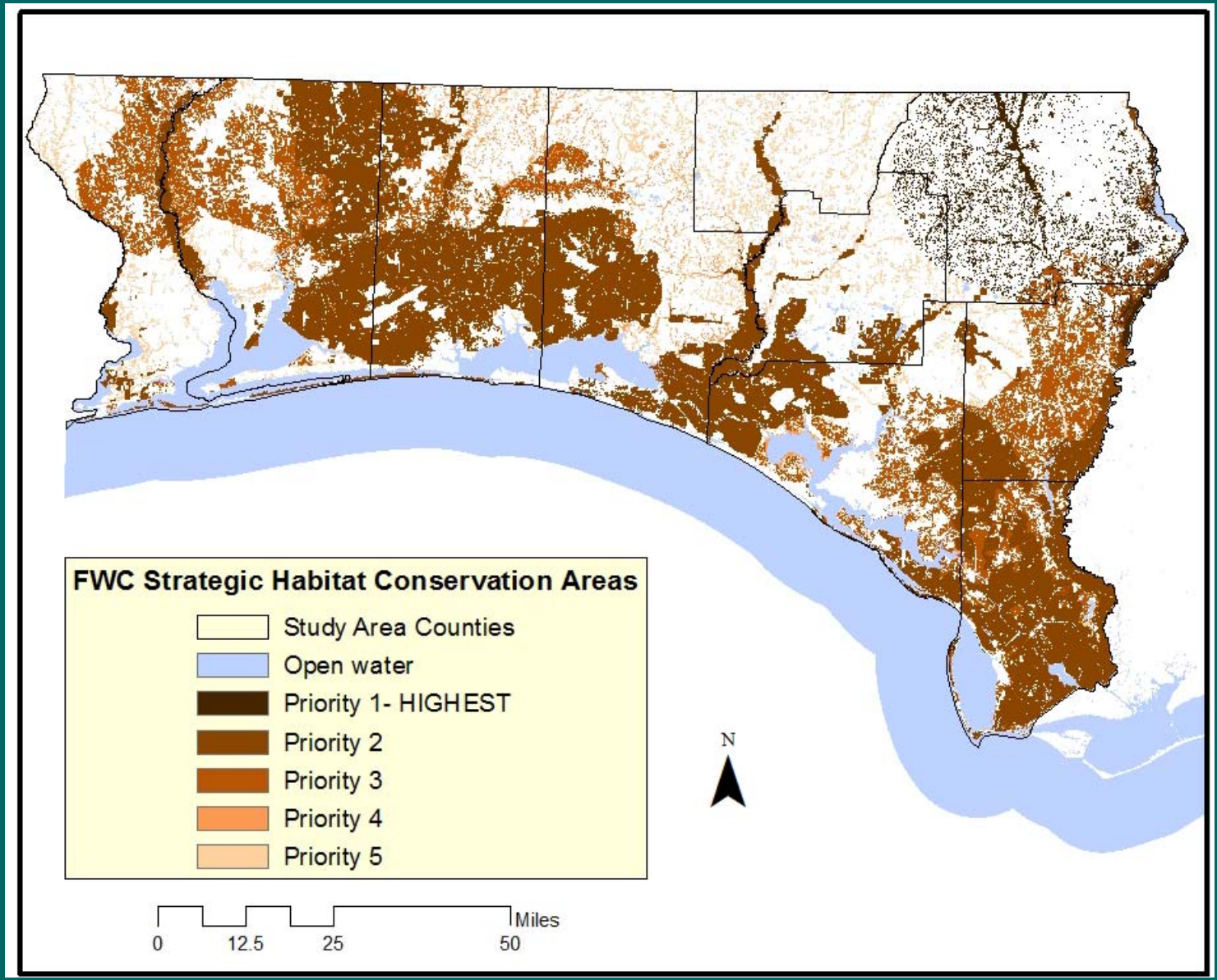
Priority 3:

- CLIP FNAIHAB P4-P6
- CLIP SHCA P4-P5
- CLIP NC: G5 rare plus all other regional natural communities ranked G1-G2
- CLIP Wetlands P5-P6
- Conservation Buffers P4-P5

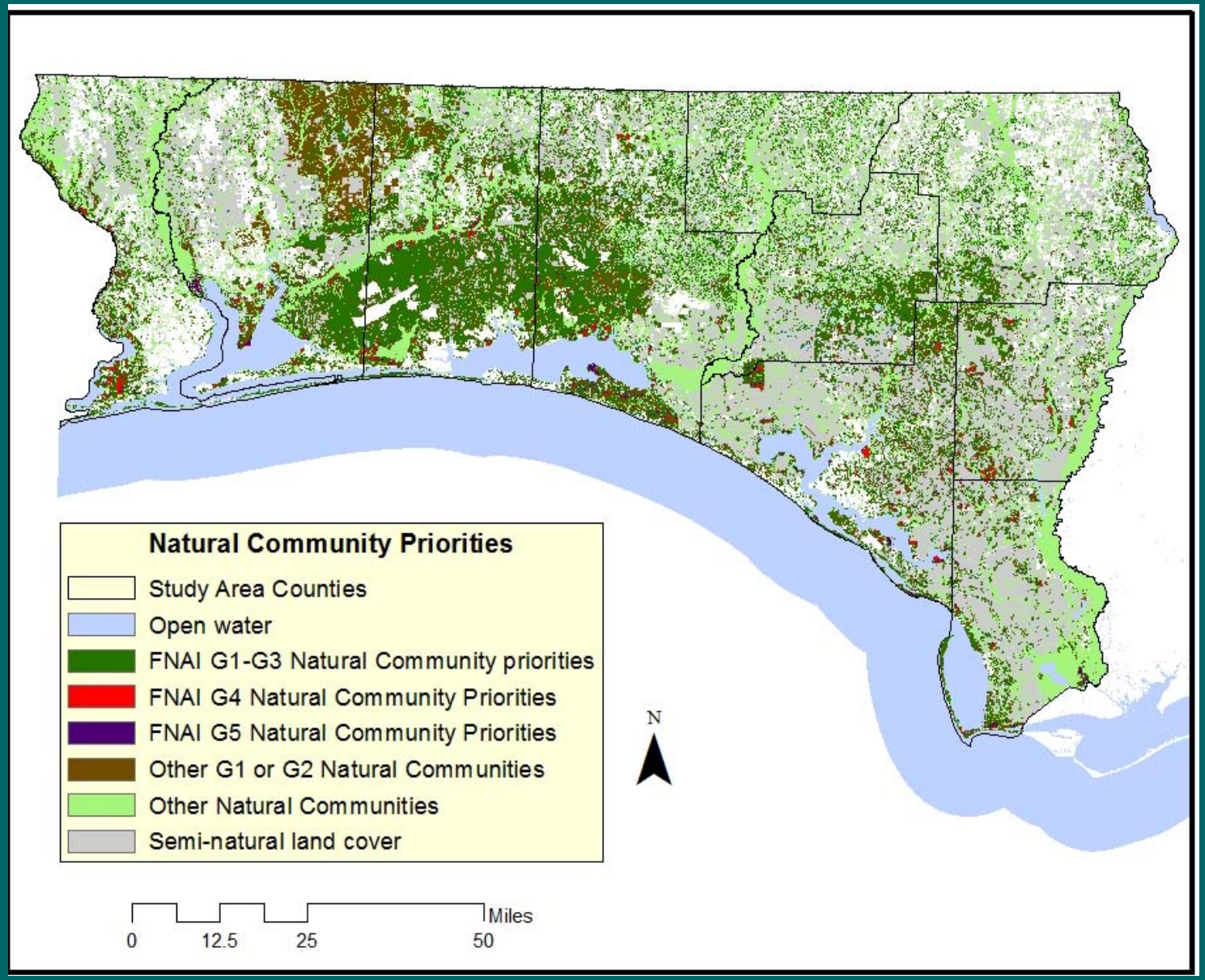
FNAI Rare Species Habitat



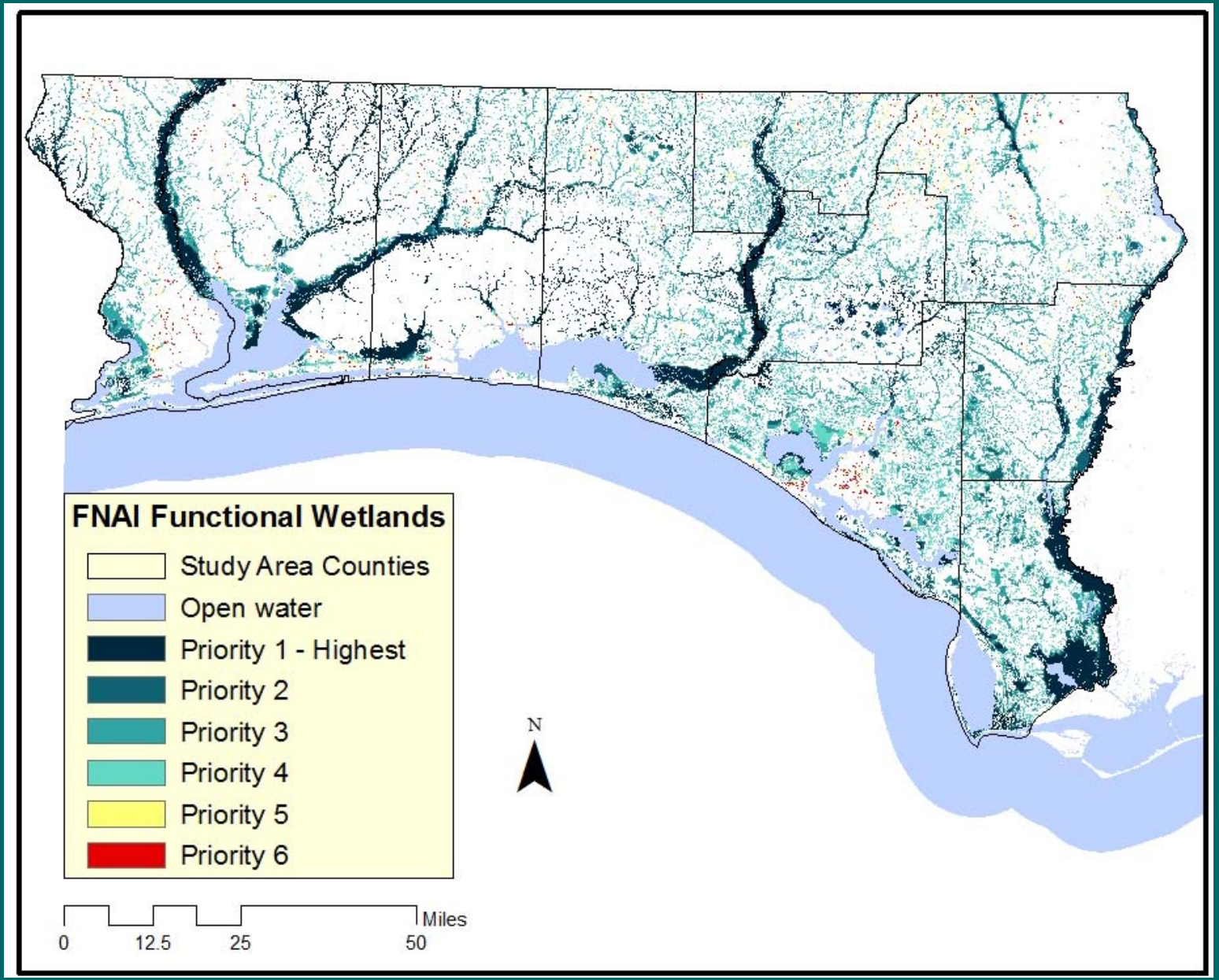
FWC SHCAs


FWC Strategic Habitat Conservation Areas
Study Area Counties
Open water
Priority 1- HIGHEST
Priority 2
Priority 3
Priority 4
Priority 5
N
0
12.5
25
50
Miles

FNAI and Green Links Natural Communities



FNAI Functional Wetlands



Conservation Buffer Analysis

- Conservation Land Buffers

  P1 = ¼ mile high land use compatibility

  P2 = ¼ mile moderate compatibility

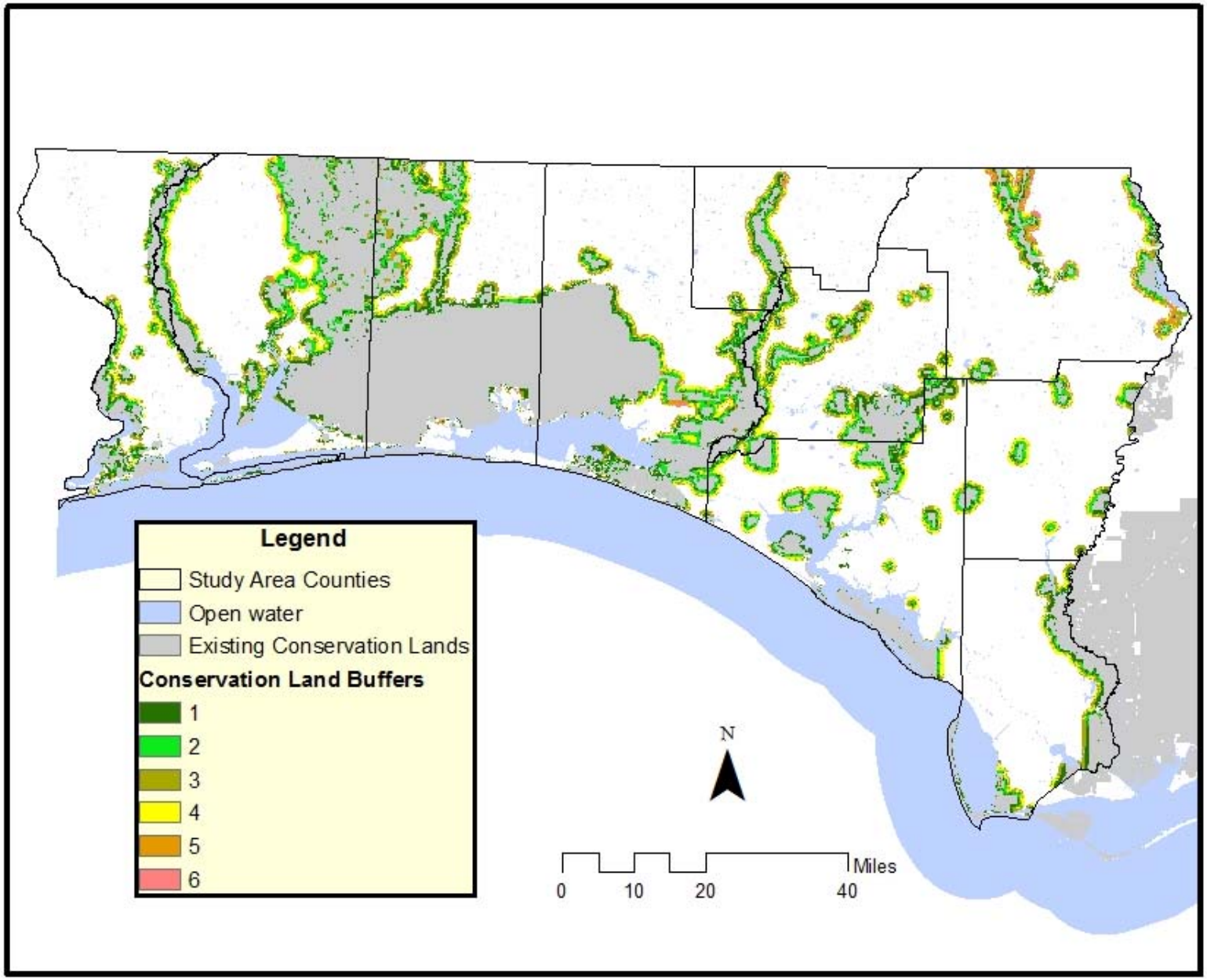
  P3 = 1 mile high compatibility

  P4 = 1 mile moderate compatibility

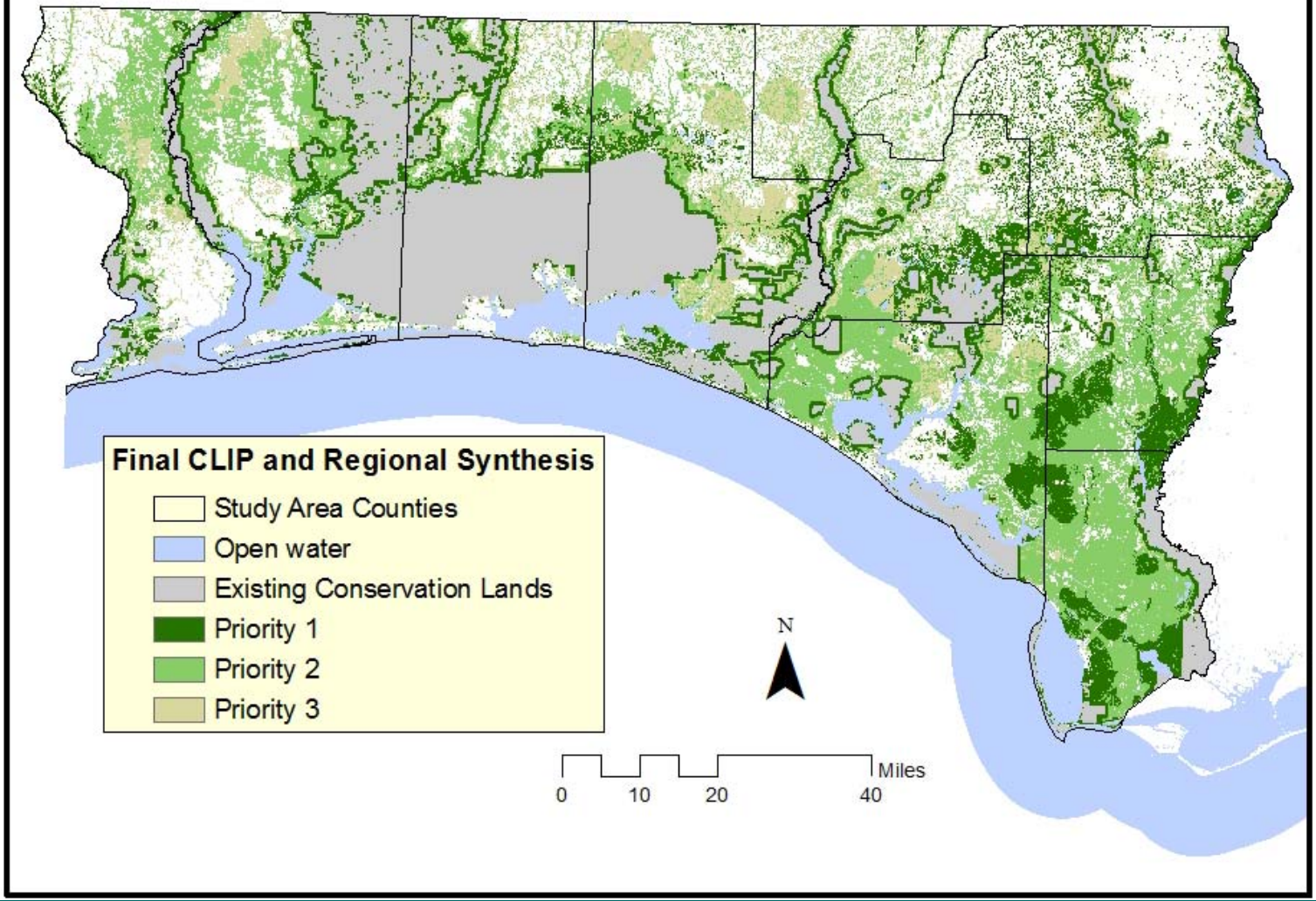
  P5 = ¼ mile low compatibility

  P6 = 1 mile low compatibility

Conservation Land Buffers

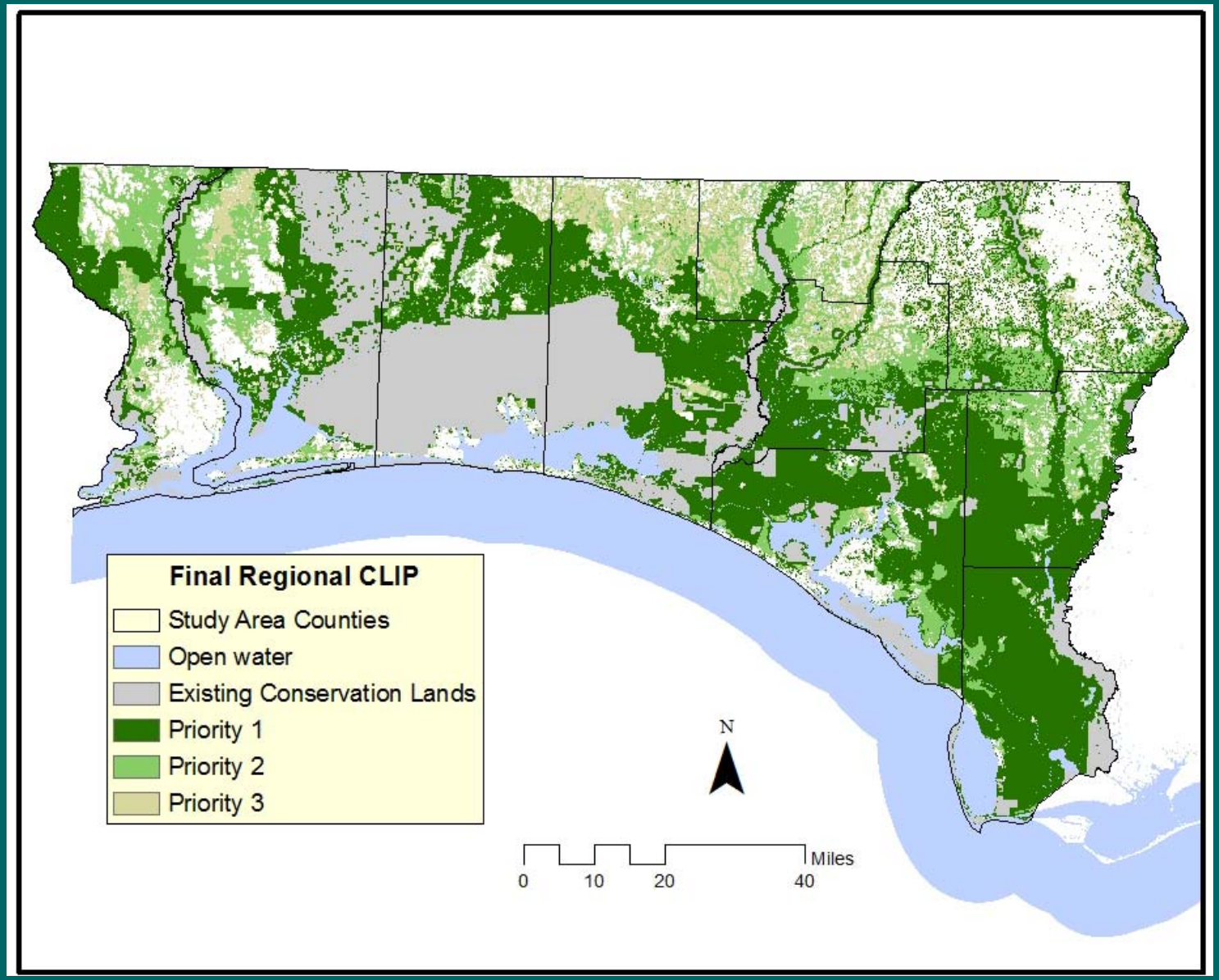


Final Regional and CLIP Synthesis



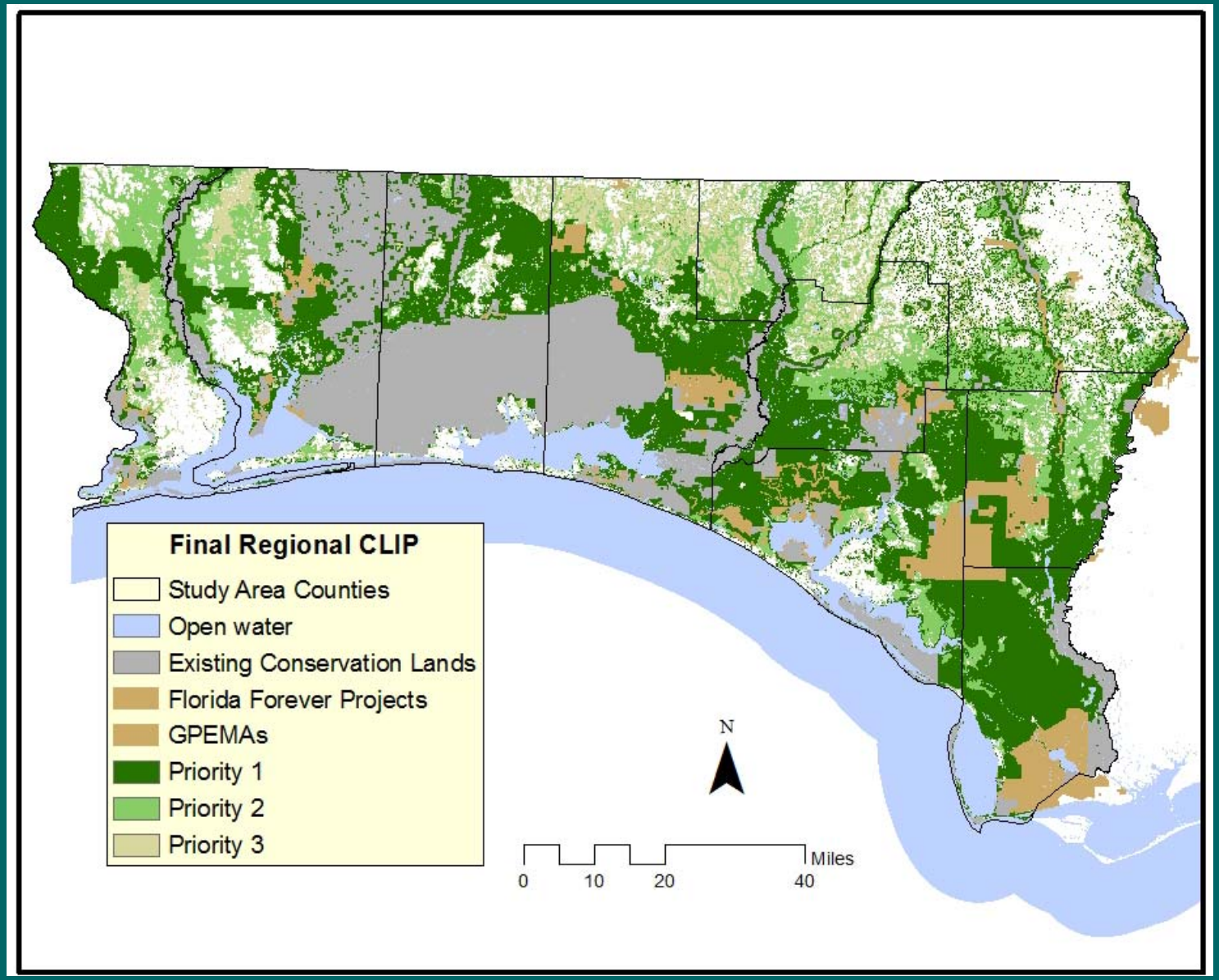
Final Regional CLIP

Combination of the Regional Ecological Network and CLIP and Regional Synthesis



Final Regional CLIP

Combination of the Regional Ecological Network and CLIP and Regional Synthesis



Land Category Statistics for Final Regional CLIP P1

Regional CLIP Priority	Landuse Category	Acres	Percent
P1	Open water	378,897	11.5%
P1	Existing Conservation	1,052,621	31.9%
P1	Florida Forever-GPEMA	251,728	7.6%
P1	Other wetlands	481,458	14.6%
P1	Other floodplains	250,491	7.6%
P1	Other private	881,753	26.7%
		3,296,948	100.0%

Regional CLIP Resource Categories

- Species

  --Black bear habitat and corridors

  --FNAI Rare Species Habitat

  --FWC SHCAs
- Natural Communities

  --FNAI Under-represented Natural Communities

  --Other G1-G2 ranked natural communities
- Landscape

  --Florida Ecological Greenways Network

  --Major River Buffers/Corridors

  --Xeric Connectivity

  --Conservation Buffers
- Surface Water

  --FNAI Surface Water Protection

  --FNAI Wetlands

  --Riparian Network

Hybrid Prioritization Approach

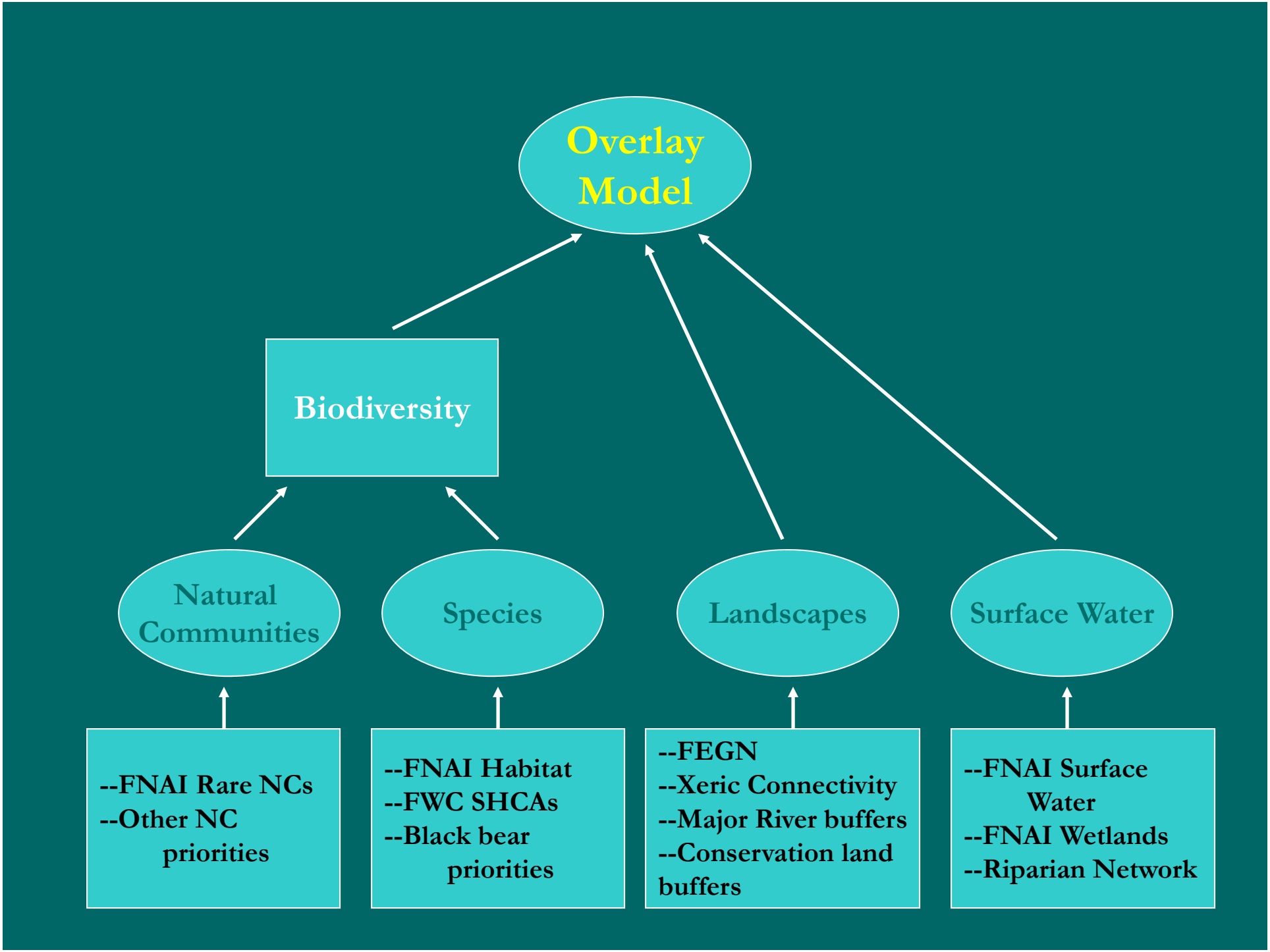
- Step 1 – use basic Rules method (like regional CLIP) for primary priority classes.
- Step 2 – develop overlay model to identify multi-resource value.
- Step 3 – use overlay model to define finer classes within basic priorities.
- Example:

Tier I – "High"	Priority 1 : 15 pts in overlay Priority 2: 12 – 14 pts Priority 3: 5 – 11 pts
Tier II – "Medium"	(optional sub-classes)
Tier I – "Low"	(optional sub-classes)

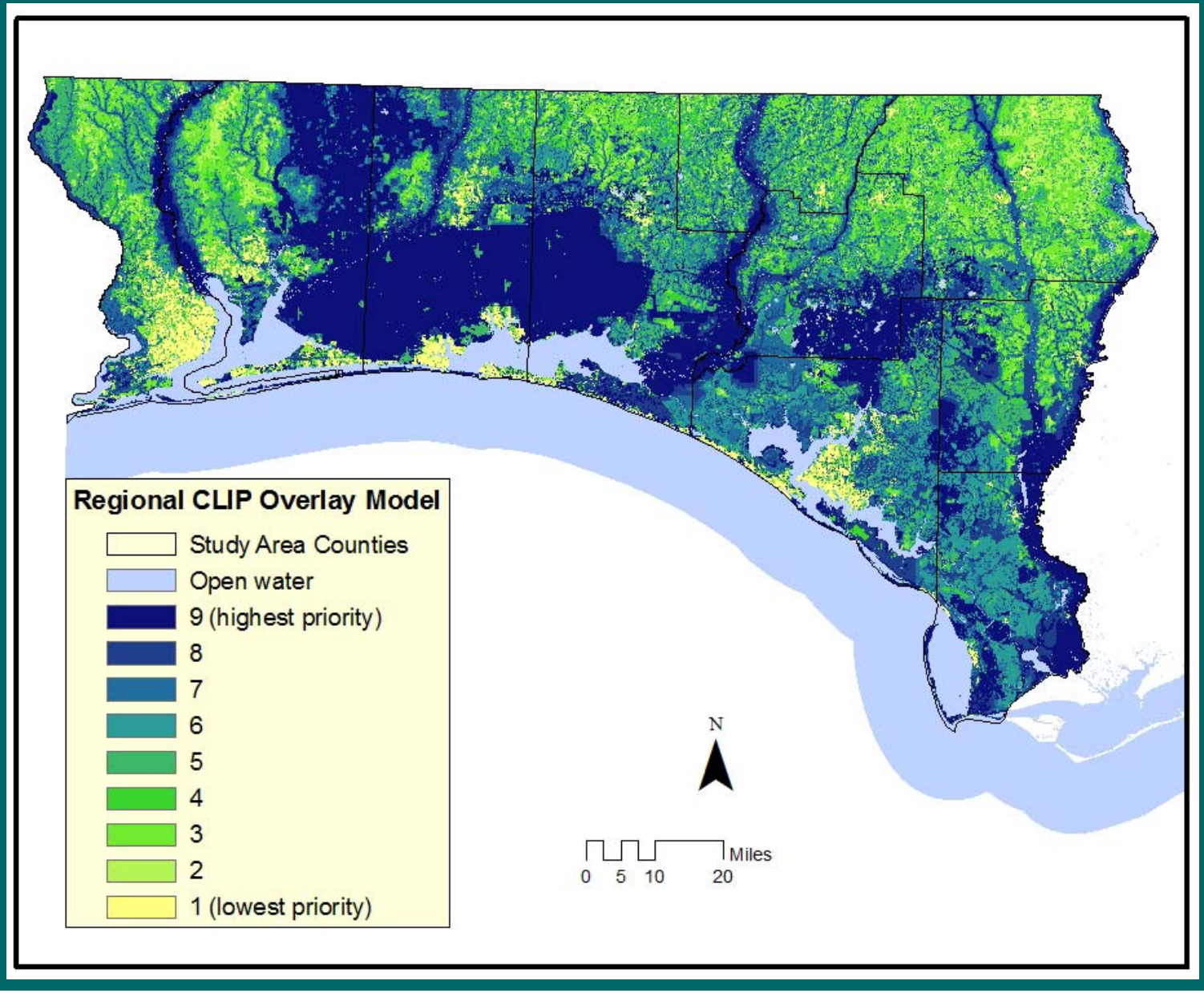
- NOTE: overlay scores can not move areas between tiers
- Overlay only refines priorities WITHIN tiers

Regional CLIP P1 Overlay Model

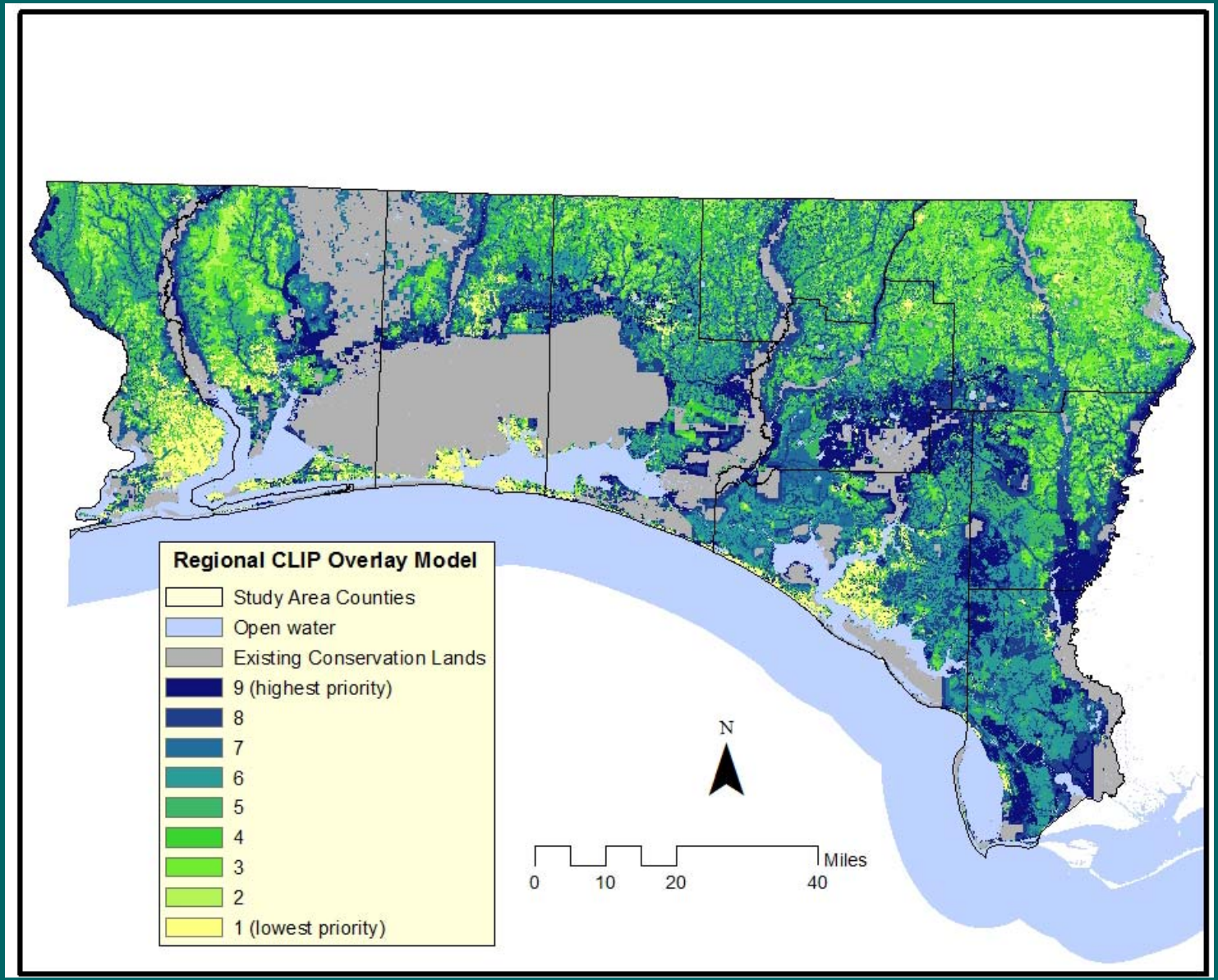
- Only layers used in the synthesis were used in the Overlay Model.
- Resource Categories: Species, Natural Communities, Landscape, Surface Water.
- Re-ranked all on a 9 to 1 priority scale, where 9 represents the highest priority.
- Used the Averaging Approach within a Resource Category and Maximum Approach with the Resource Categories to create synthesis.
- FNAI Rare Natural Communities and other natural community priorities combined with a maximum approach to create the natural community resource category.
- In Landscape Category, combined all other connectivity or landscape model types (xeric, major river, conservation buffers) using maximum approach then averaged with FEGN.


Overlay Model
Biodiversity
Natural Communities
Species
Landscapes
Surface Water
--FNAI Rare NCs
--Other NC priorities
--FNAI Habitat
--FWC SHCAs
--Black bear priorities
--FEGN
--Xeric Connectivity
--Major River buffers
--Conservation land buffers
--FNAI Surface Water
--FNAI Wetlands
--Riparian Network

Overlay Model Regionwide Final Draft



Overlay Model Regionwide Final Draft



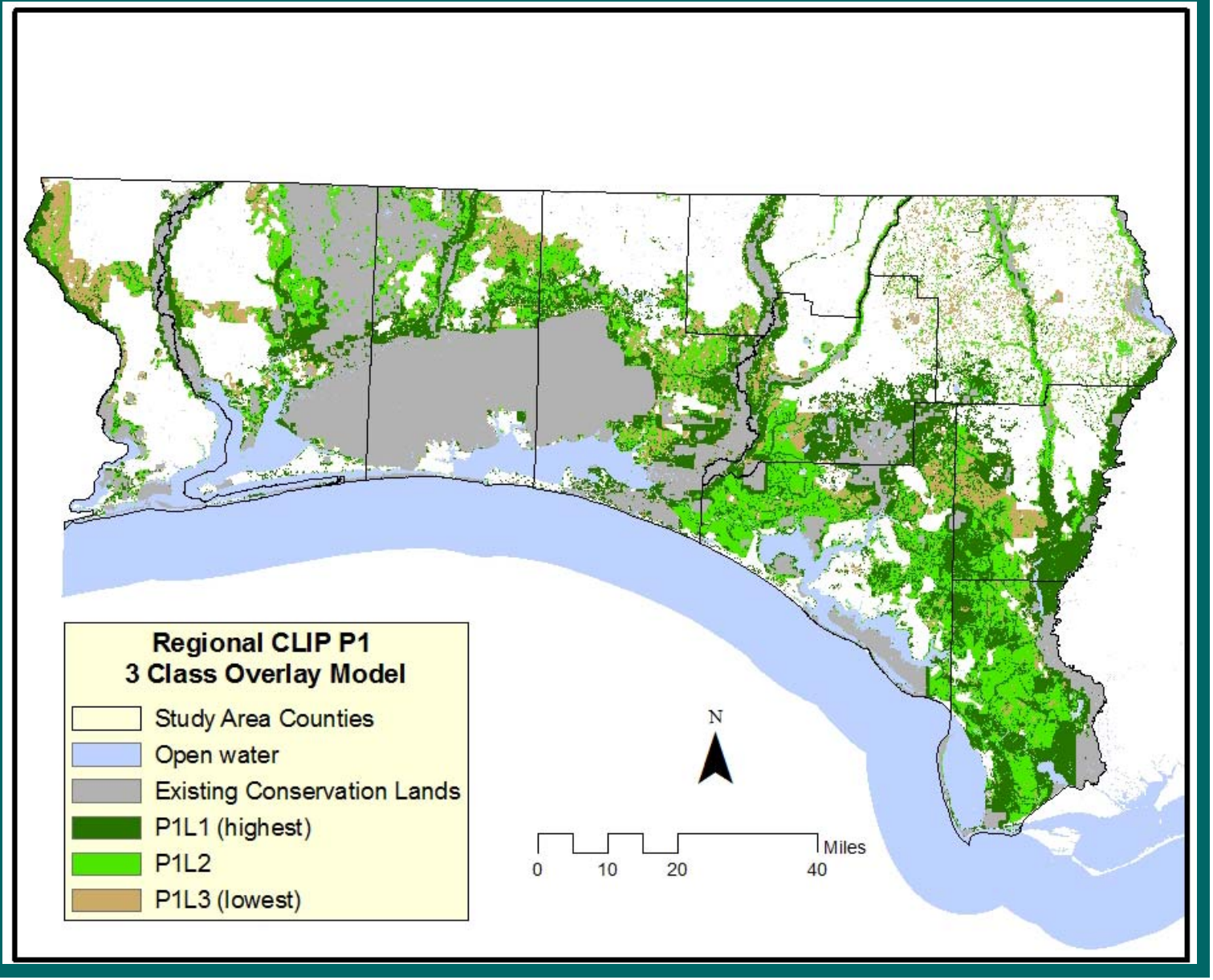
Regional CLIP P1 Overlay Model

Natural Breaks reclassification resulted in these groupings:

1-5 = low (L3)

6-7 = moderate (L2)

8-9 = high (L1)



Land Category Statistics for Regional CLIP P1 Overlay Results

Regional CLIP P1 Overlay Model Priorities	Landuse Category	Acres	Percent
1	Open water	50,156	2.6%
1	Existing Conservation	1,006,502	52.4%
1	Florida Forever	130,586	6.8%
1	Other wetlands	336,992	17.5%
1	Other floodplains	97,958	5.1%
1	Other private	299,117	15.6%
		1,921,310	
2	Open water	327,382	30.9%
2	Existing Conservation	42,879	4.1%
2	Florida Forever	100,511	9.5%
2	Other wetlands	125,648	11.9%
2	Other floodplains	128,824	12.2%
2	Other private	333,282	31.5%
		1,058,527	
3	Open water	6,478	1.8%
3	Existing Conservation	17,465	4.8%
3	Florida Forever	24,033	6.6%
3	Other wetlands	25,325	7.0%
3	Other floodplains	27,093	7.5%
3	Other private	261,270	72.2%
		361,664	

Other Core Date in Regional Database

- Species

  --USFW Critical Habitat, Panama City Crayfish sites

  --Focal Species FNAI and FWC Habitat Models

  --Focal Species Categories (listing status, regional/restricted range, habitat "guild"

  --FWC Rare Fish Species habitat
- Landscape

  --Smokeshed Buffers
- Surface Water

  --100 year floodplains

  --Spring buffers (FNAI Surface Water Protection Submodel)

  --Wetland prioritizations
- Groundwater

  --FNAI Groundwater Priorities
- Ecosystem Services

  --Storm Protection
- Sustainable Forestry

  --FNAI Sustainable Forestry Priorities

Species Data

Focal Species Data

- USFWS Critical Habitat
- FNAI Species Habitat Models Listing Status (federal and state)
- FNAI Species Habitat Models Global rarity ranks/State rarity ranks
- May add FWC vertebrate species potential habitat models in the future.
- FWC Rare and Imperiled Freshwater Fish Species Basins

  --FWC Rare and Imperiled Fish Basins shapefile

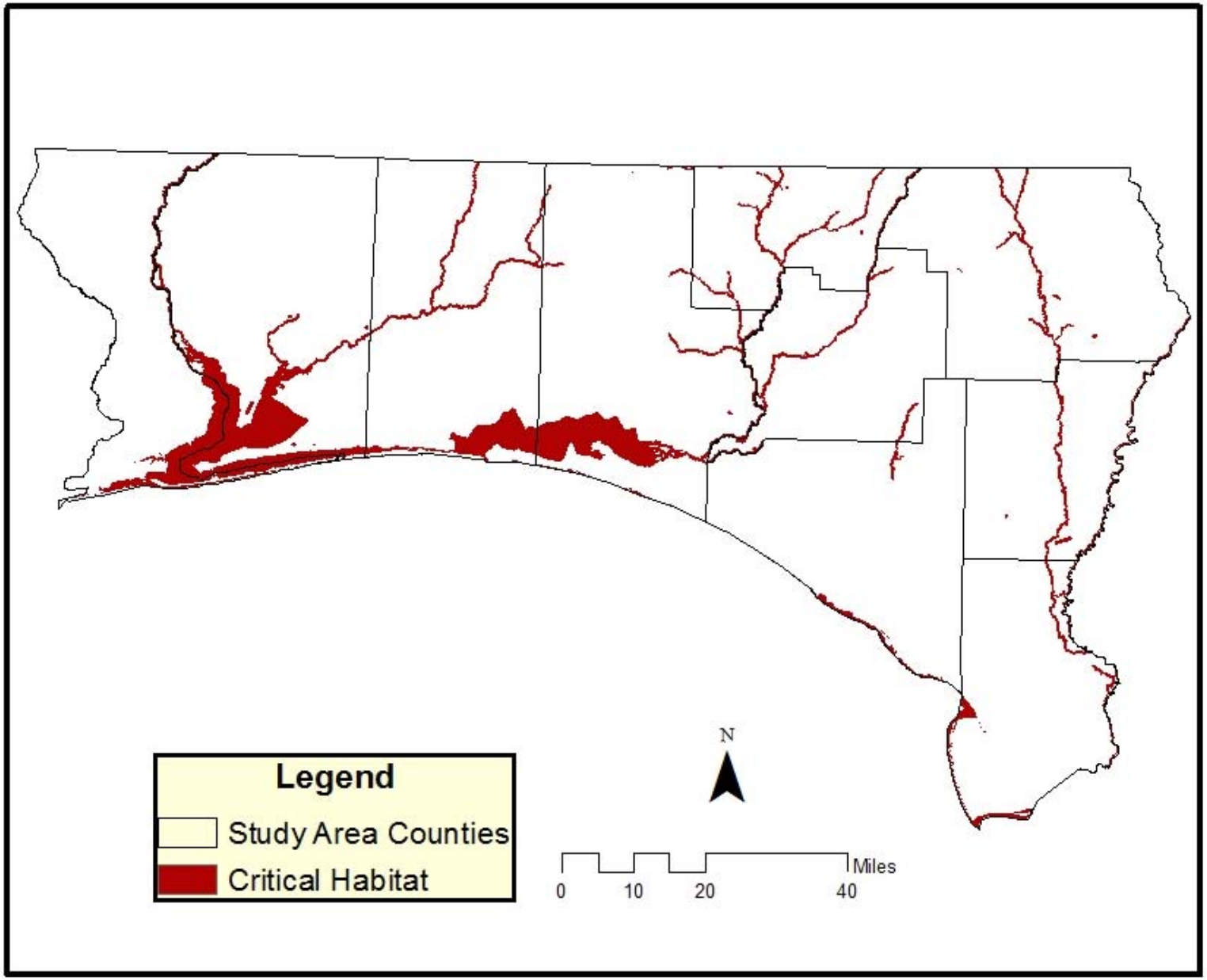
  --Basins clipped to Greenlinks Riparian Network

  --Basins prioritized in FNAI Surface Water submodel
- Other species data: Panama City Crayfish

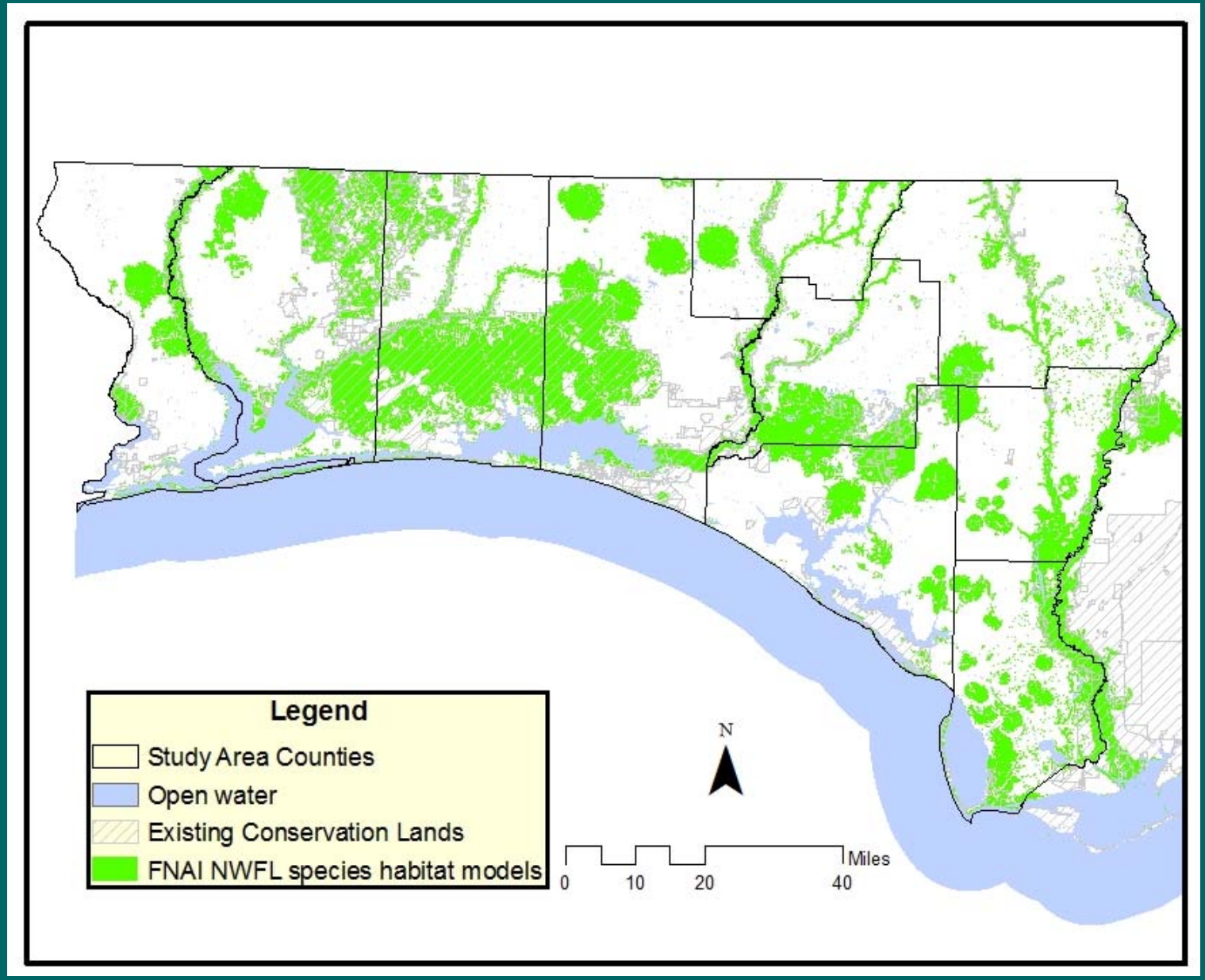
USFWS Critical Habitat

- Beach mice
- Gulf sturgeon
- Mussels
- Flatwoods salamander
- Piping plover

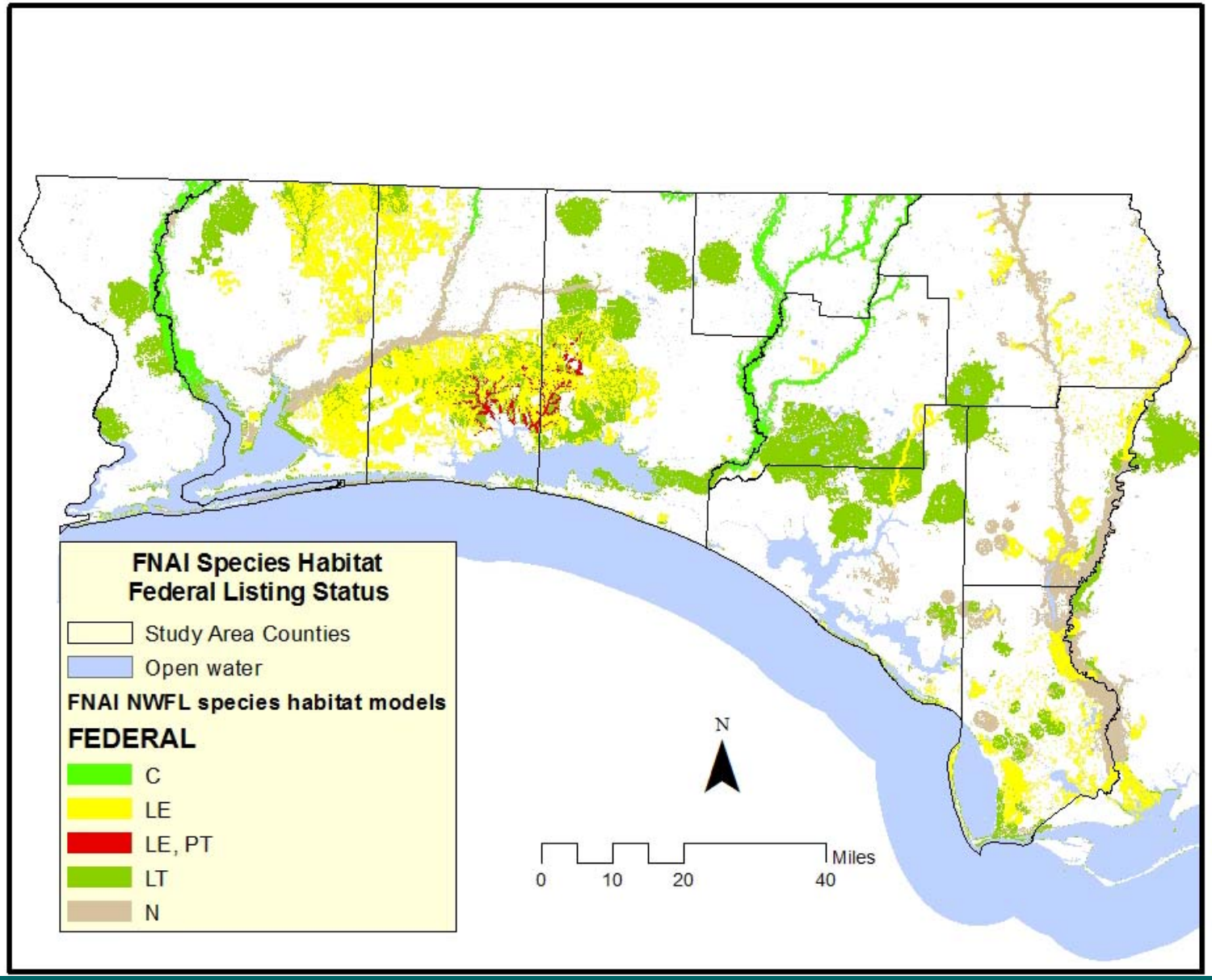
USFWS Critical Habitat



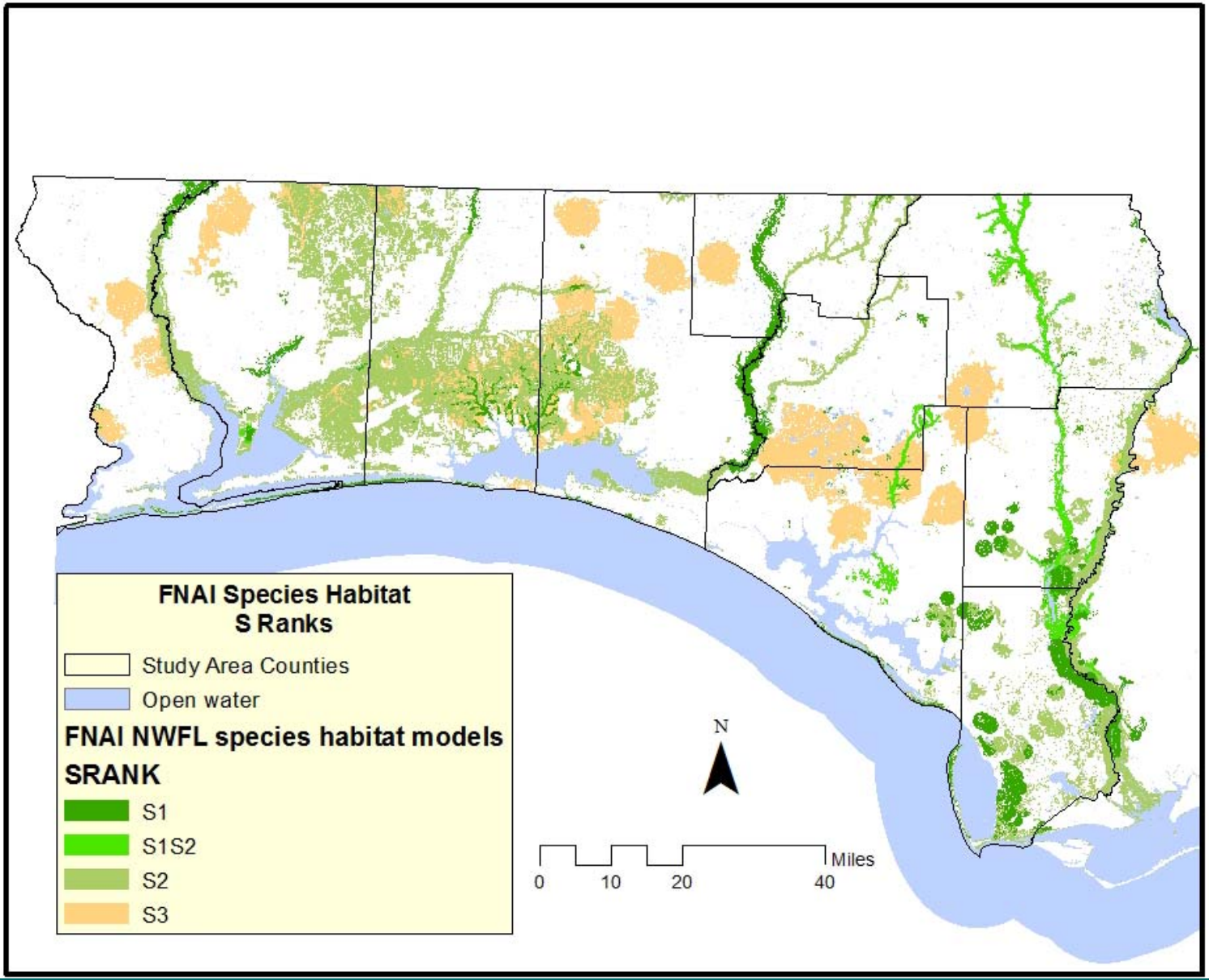
FNAI Habitat Regional Focal Species



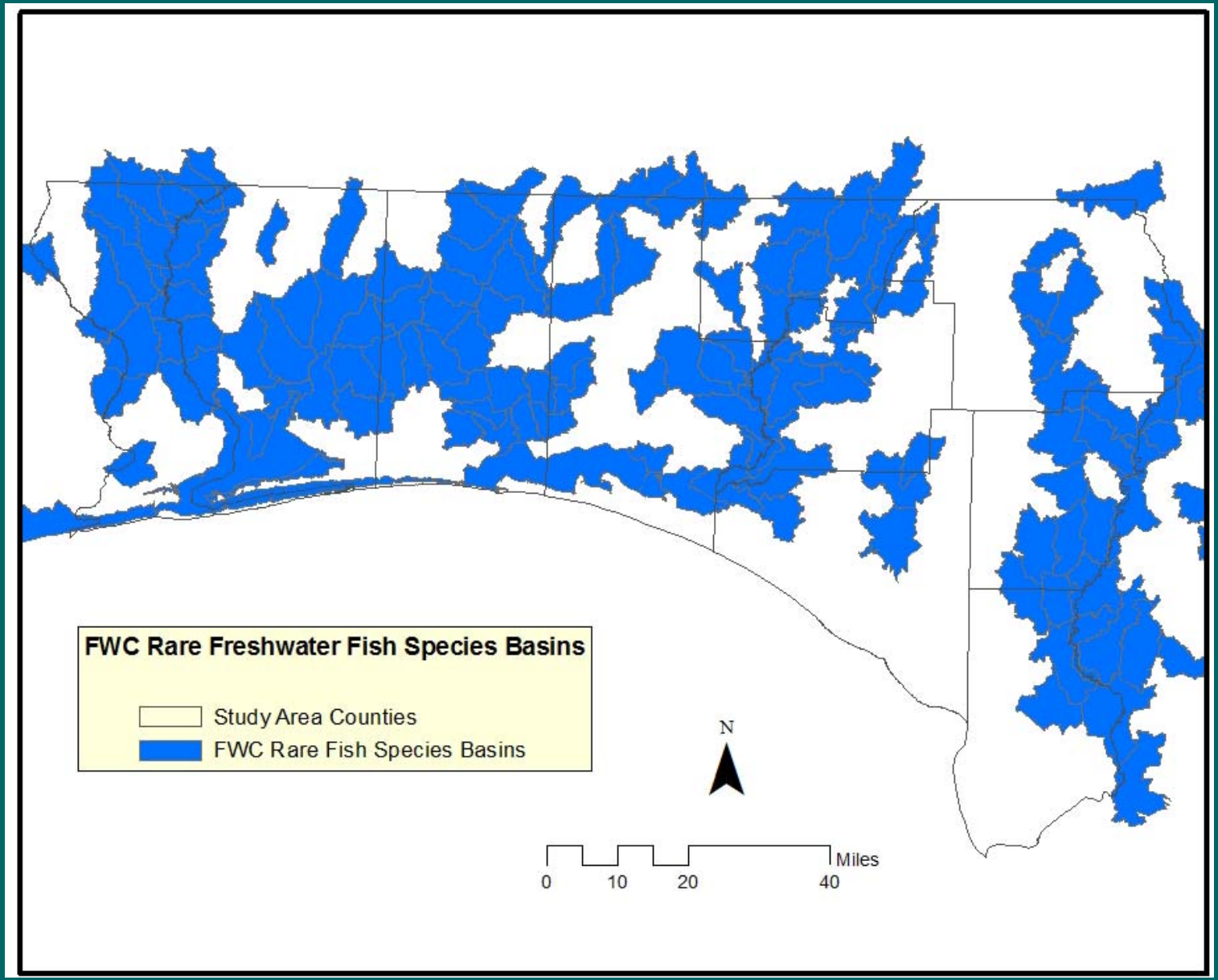
FNAI Habitat Regional Focal Species



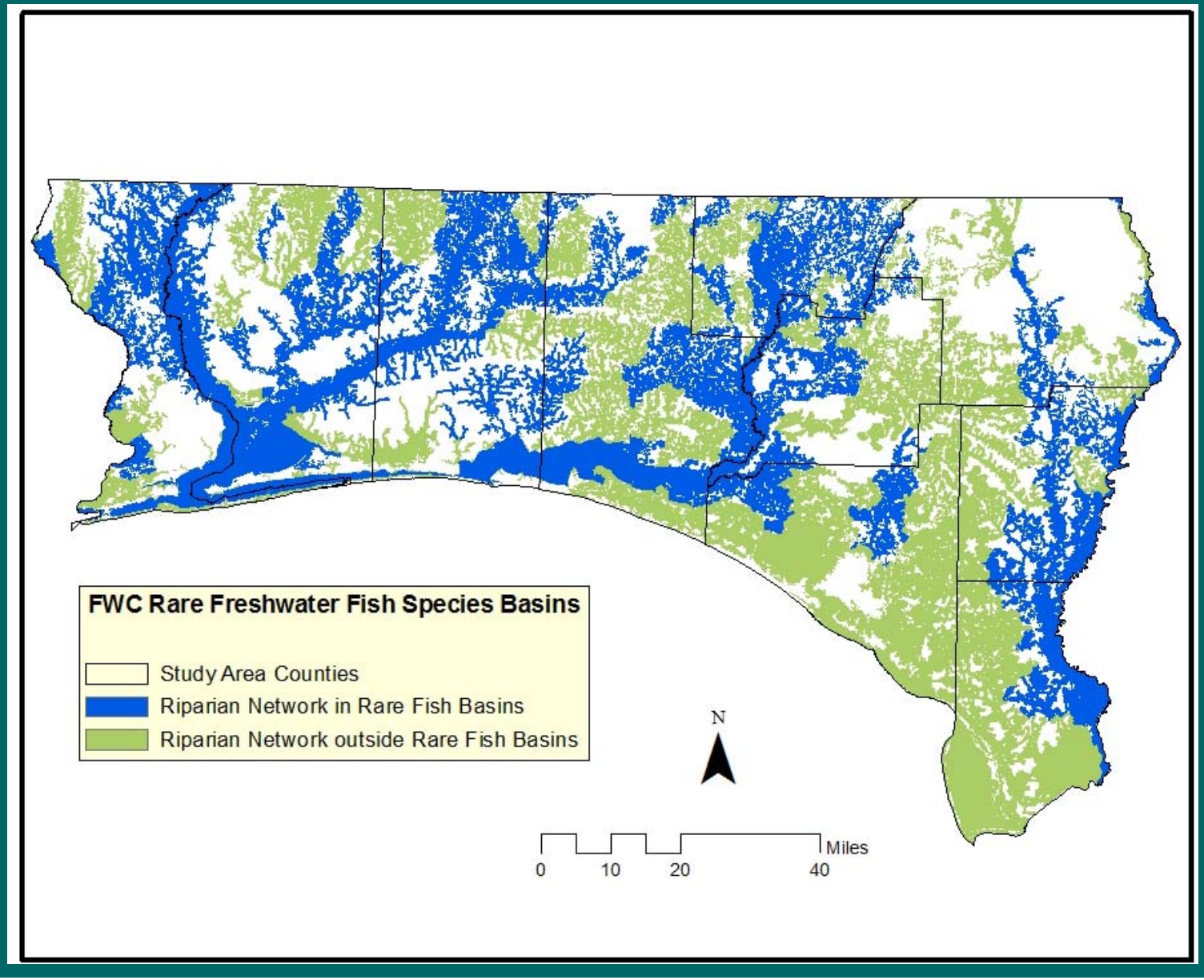
FNAI Habitat Regional Focal Species



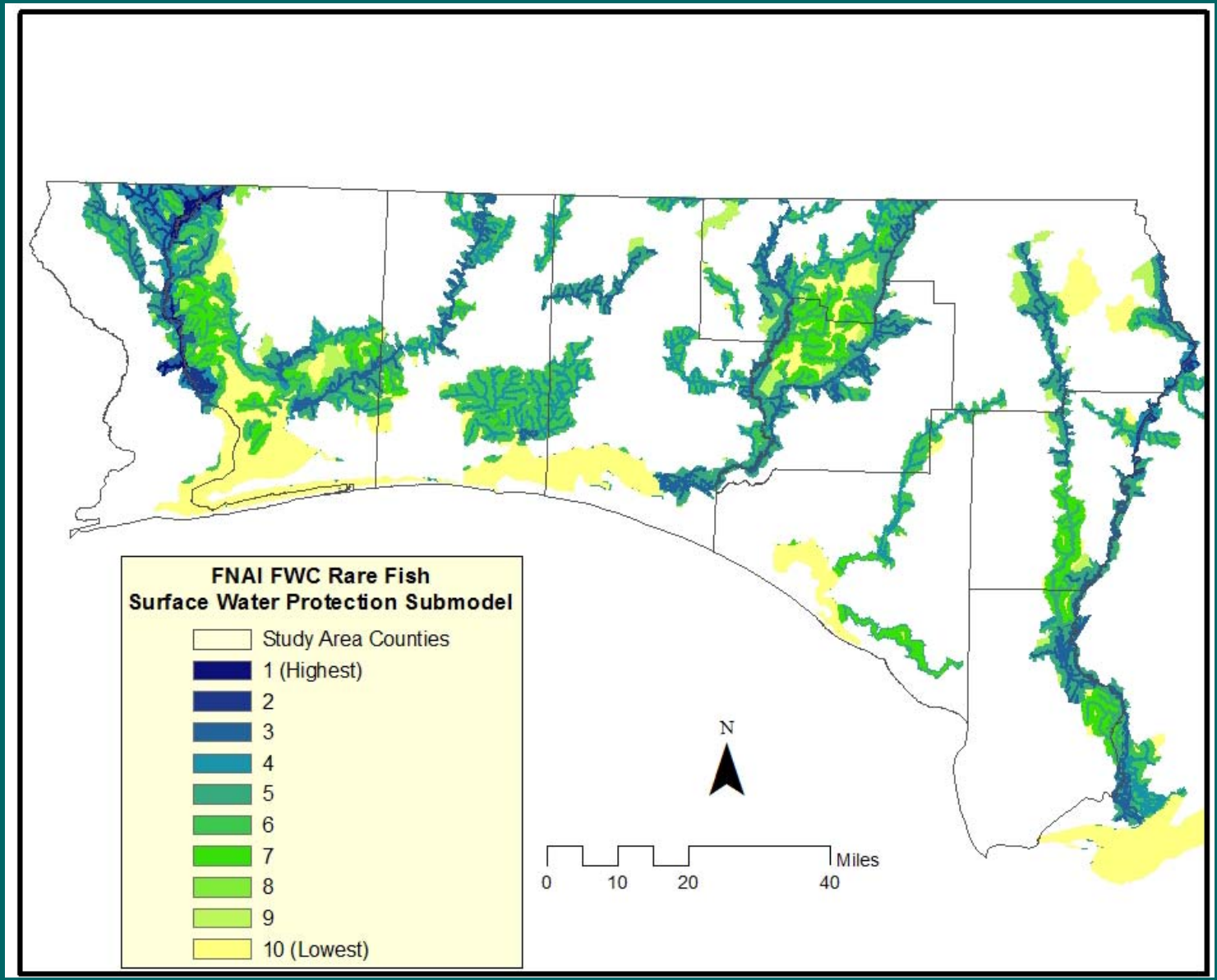
FWC Rare Fish Species Habitat



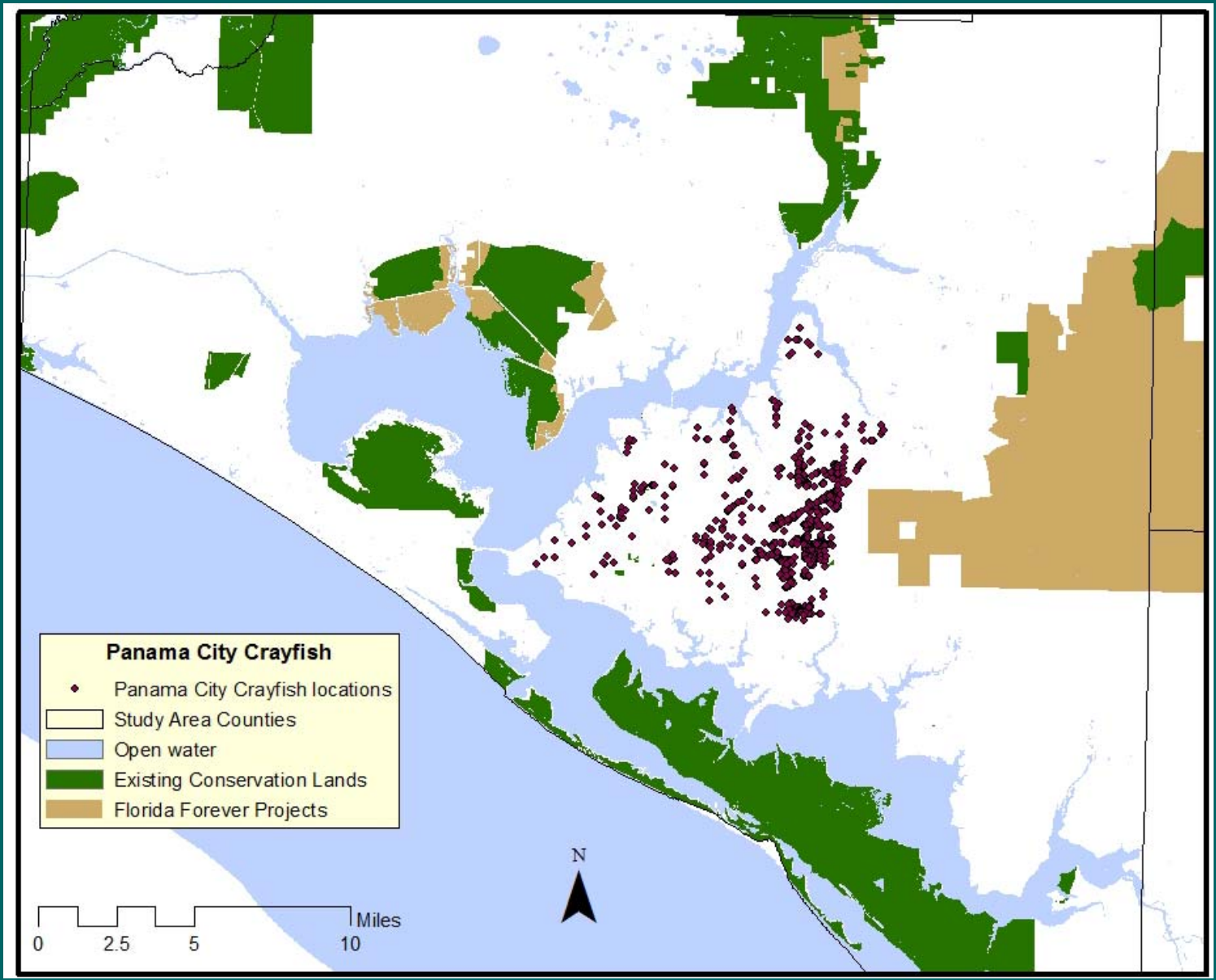
FWC Rare Fish Species Habitat



FWC Rare Fish Species Habitat



Panama City Crayfish Locations



Landscape Data

Smokeshed Buffers Analysis

- Buffered all existing conservation lands, proposed conservation lands, and pyrophilic listed plant sites.
- Combined these two mile buffers with two land use categories from CLC:

  1) All natural, semi-natural, and agricultural land use (considered to be generally compatible with nearby prescribed burning)

  2) All residential, commercial, and industrial development (considered to be generally incompatible with nearby prescribed burning)
- Used the following prioritization:

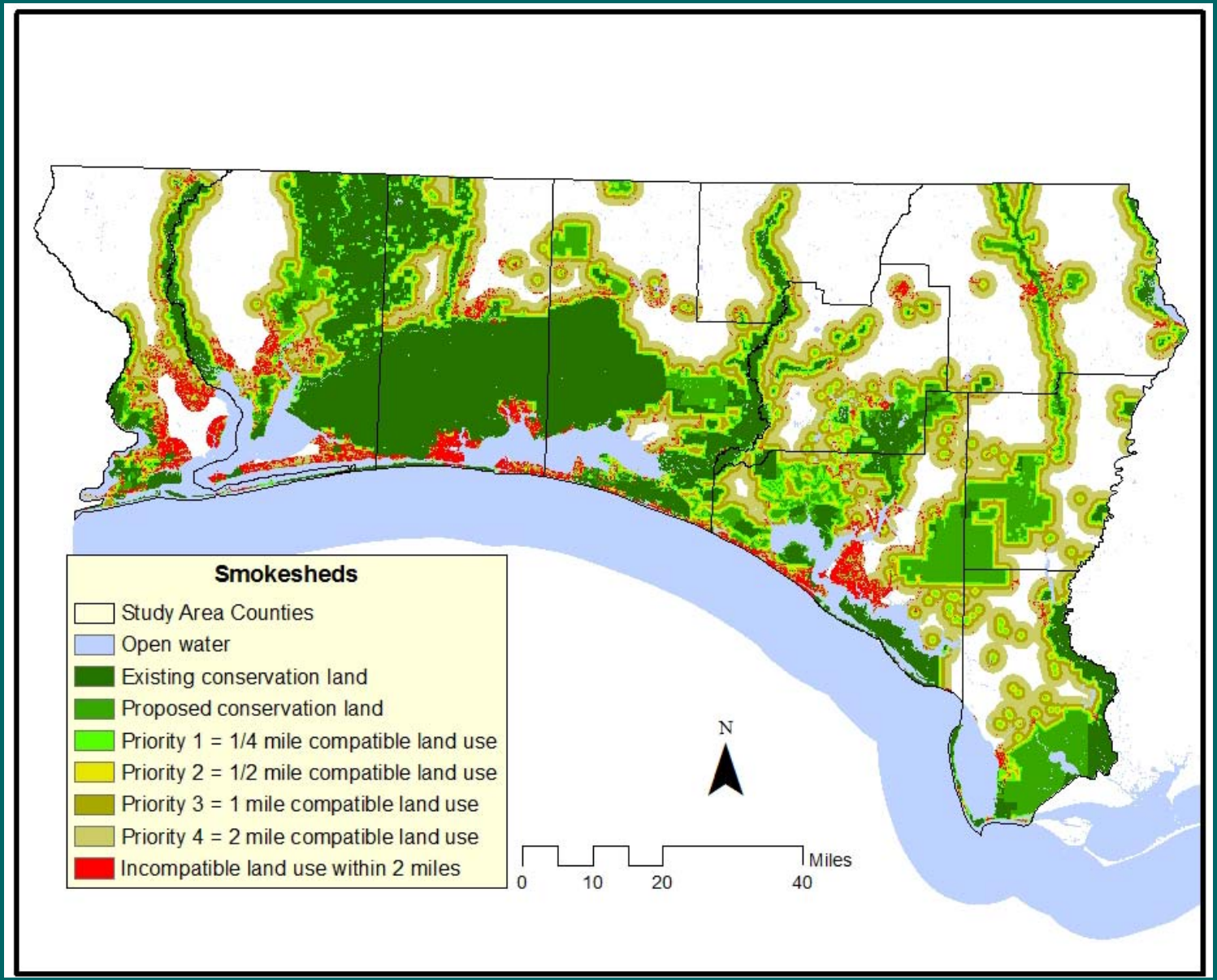
  P1 = compatible within ¼ mile

  P2 = compatible within ½ mile

  P3 = compatible within 1 mile

  P4 = compatible within 2 miles

Smokeshed Buffers



Surface Water Data

100 Year Floodplains Land Use

- 100 Year Floodplains prioritized with land use categories (from CLC):

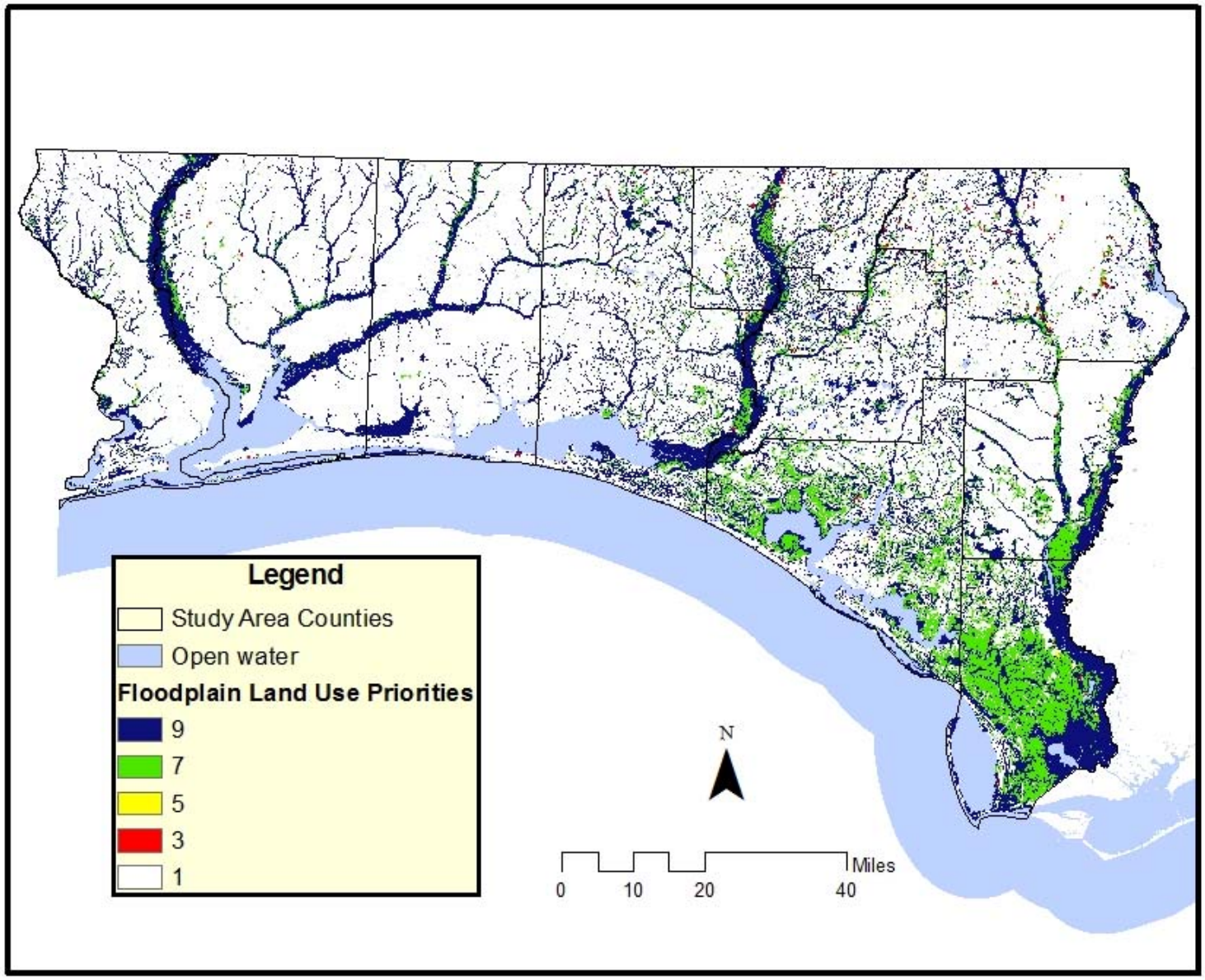
  P1 = Natural

  P2 = Seminatural

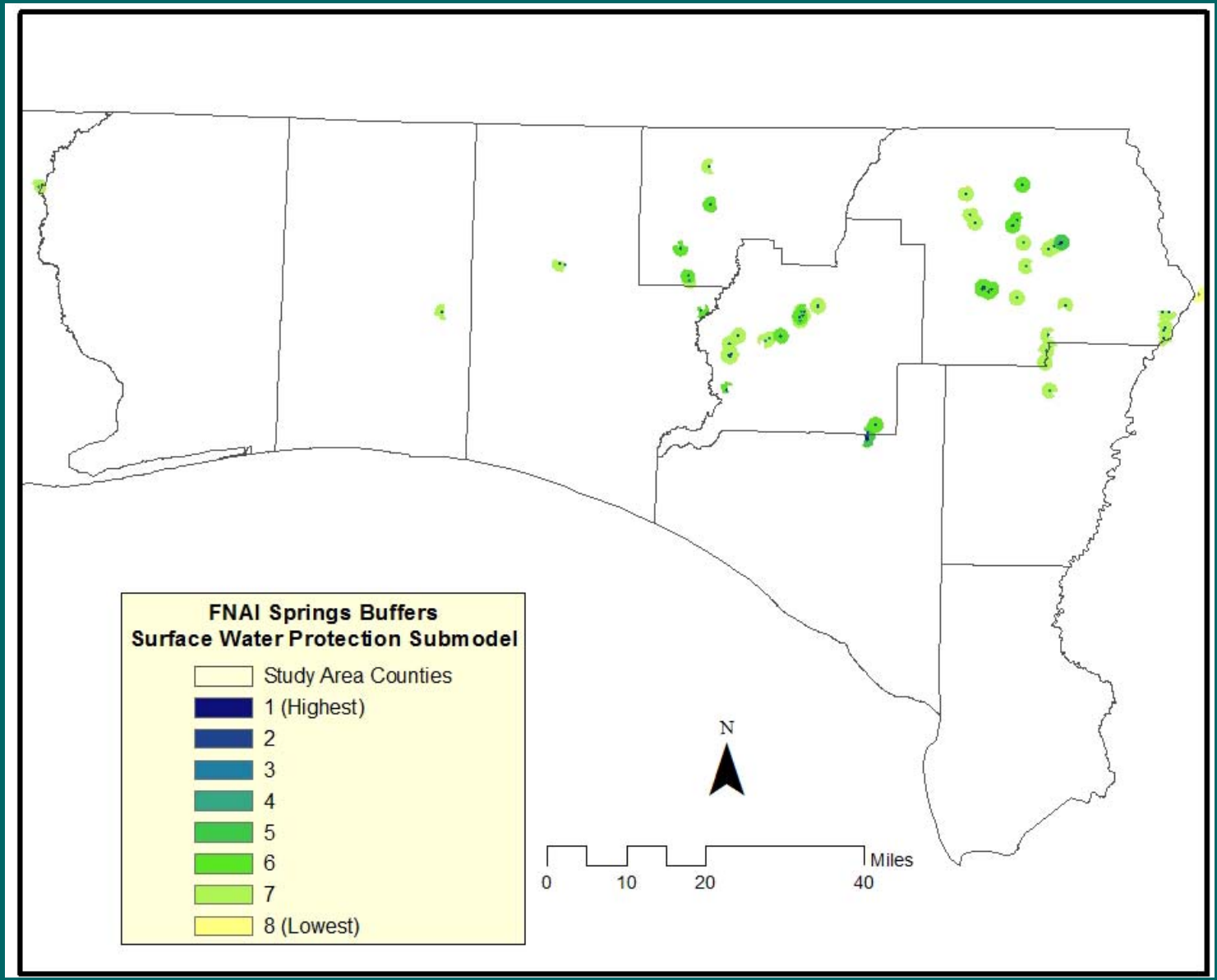
  P3 = Pasture

  P4 = Other Agriculture
- Could add revised FNAI Floodplains ranked by Land Use Intensity and Potential Natural Areas in future database.

100 Year Floodplains Land Use



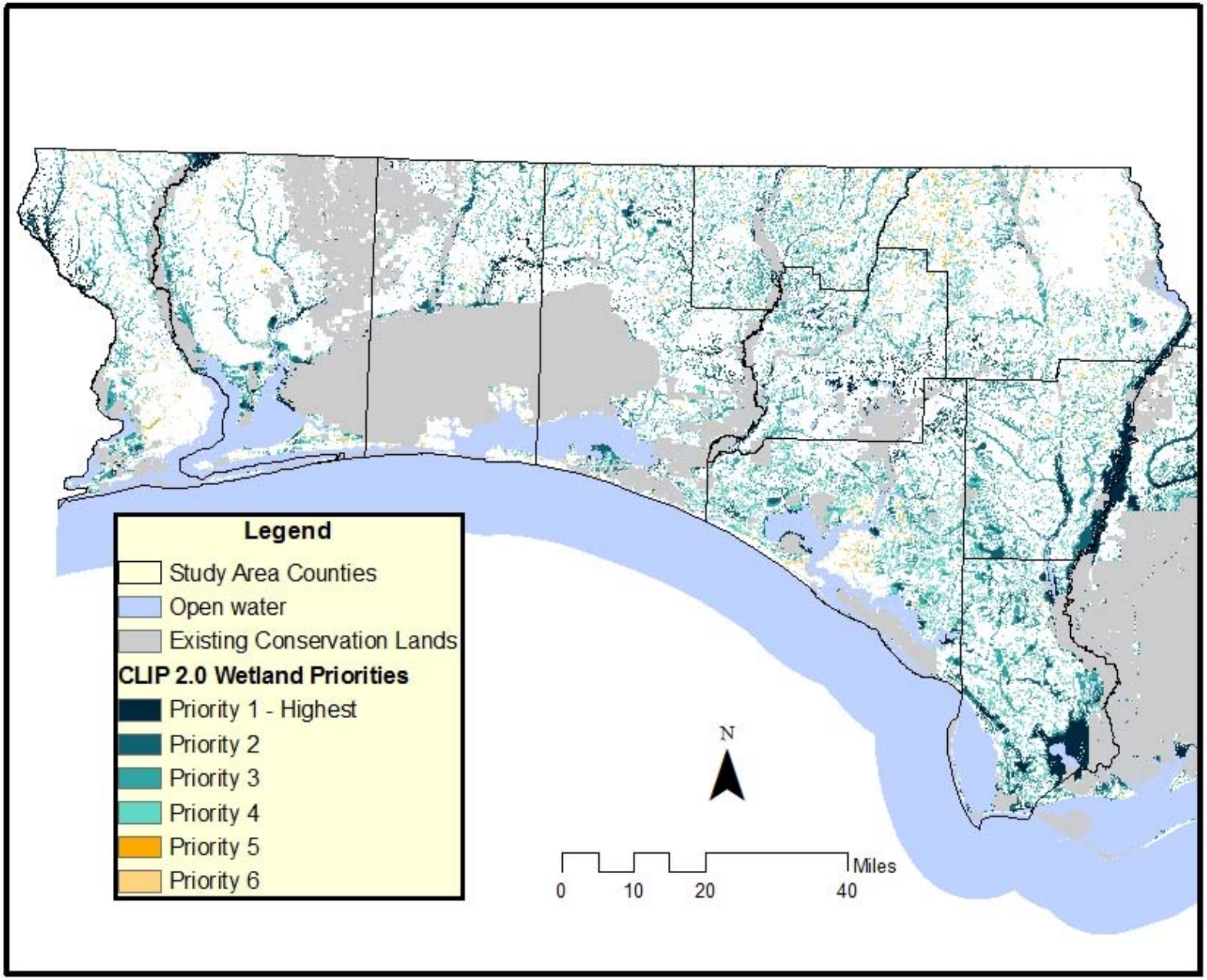
Spring Buffers



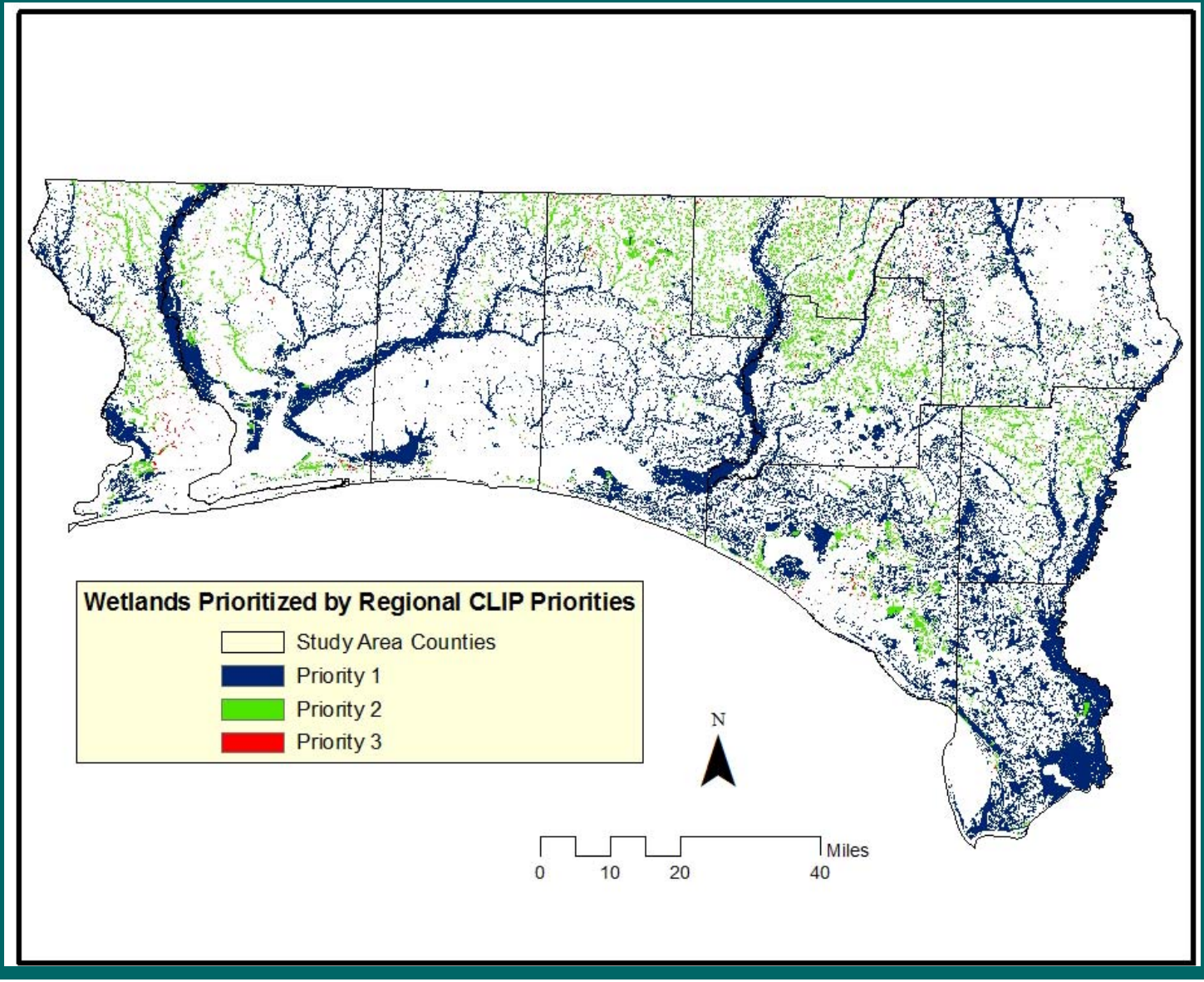
Wetlands Prioritization Options

- USFWS PFCO Wetlands Prioritization (Region)
- CLIP 2.0 Priority Wetlands
- FWC Wetland Species Priorities
- Prioritized by Regional CLIP Priorities
- Prioritized by Regional Overlay Model

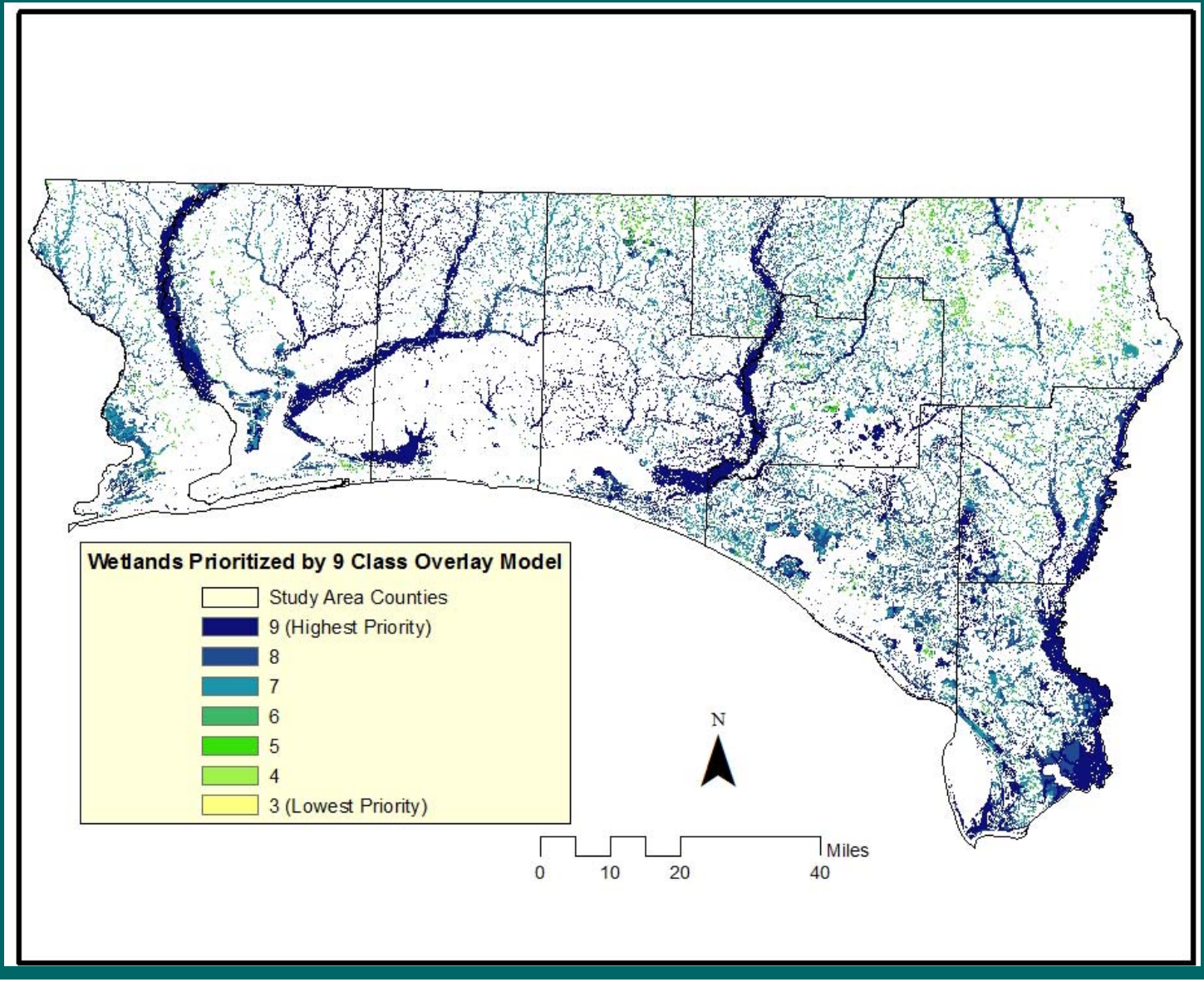
CLIP 2.0 Wetland Priorities



Wetlands Prioritized by Regional CLIP

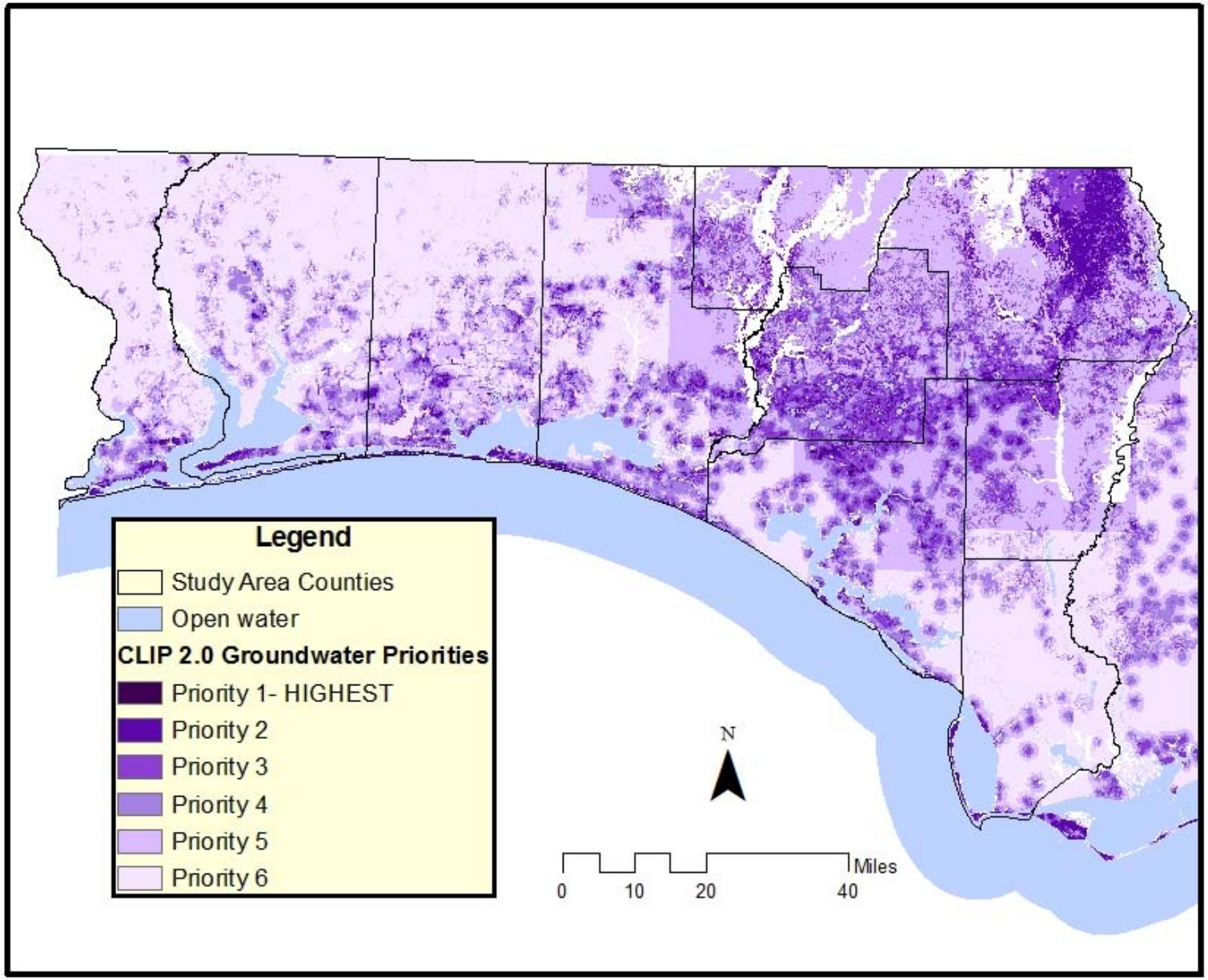


Wetlands Prioritized by Regional Overlay Model



Groundwater Data

CLIP 2.0 Groundwater Priorities



Ecosystem Services Data

Ecosystem Services: Storm Protection

- Distance from Higher density human population
  - 2.5 miles
  - 5
  - 5+
- Natural community/land cover priorities

  1 = FNAI coastal natcom in HV or Cobra Zones

  2 = Other non-water natural or seminatural cover in HV or Cobra Zones
- Combined Storm ProtectionPriorities:

  2.5 and 1 == 1

  5 and 1 = 2

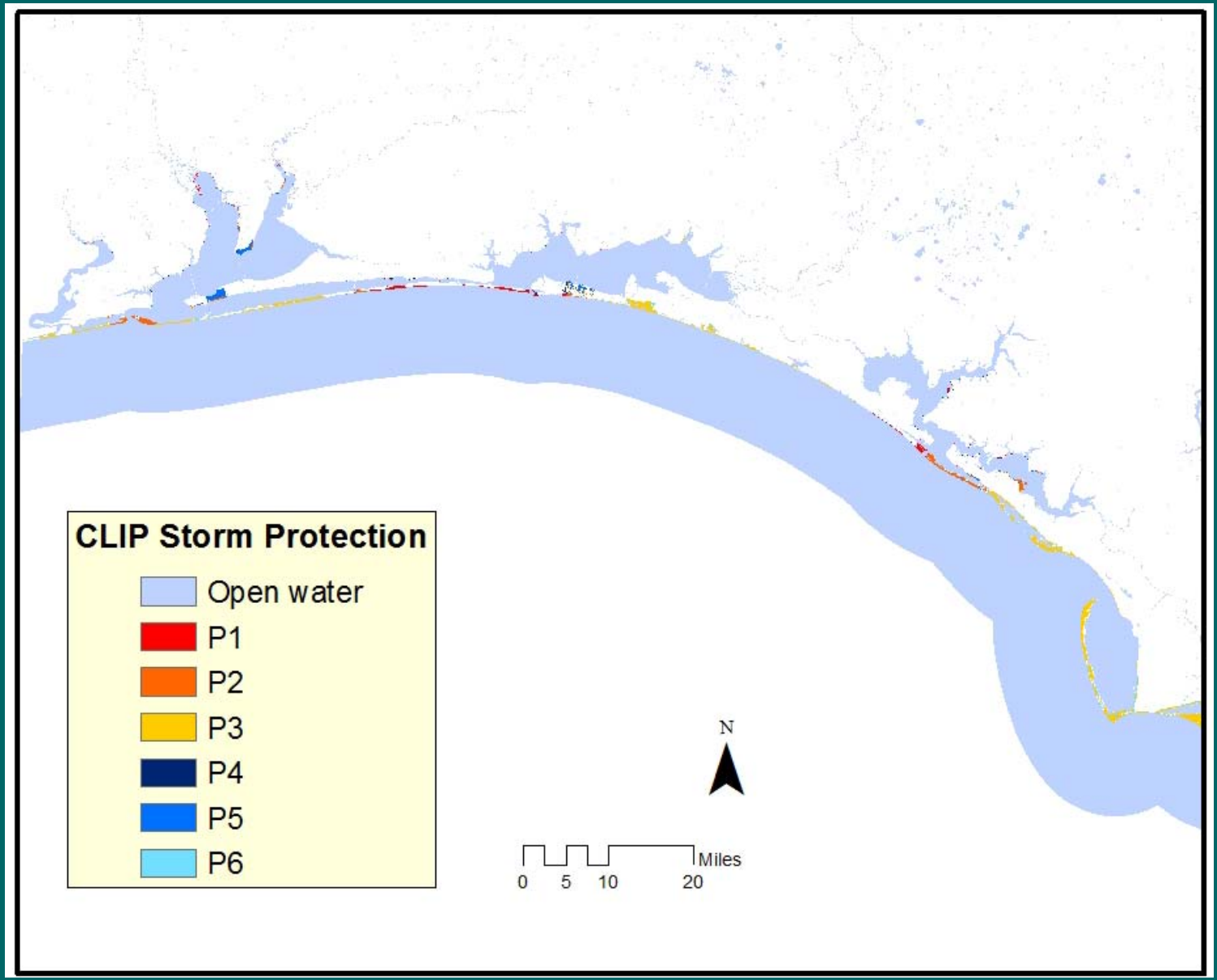
  5+ and 1 = 3

  2.5 and 2 = 4

  5 and 2 = 5

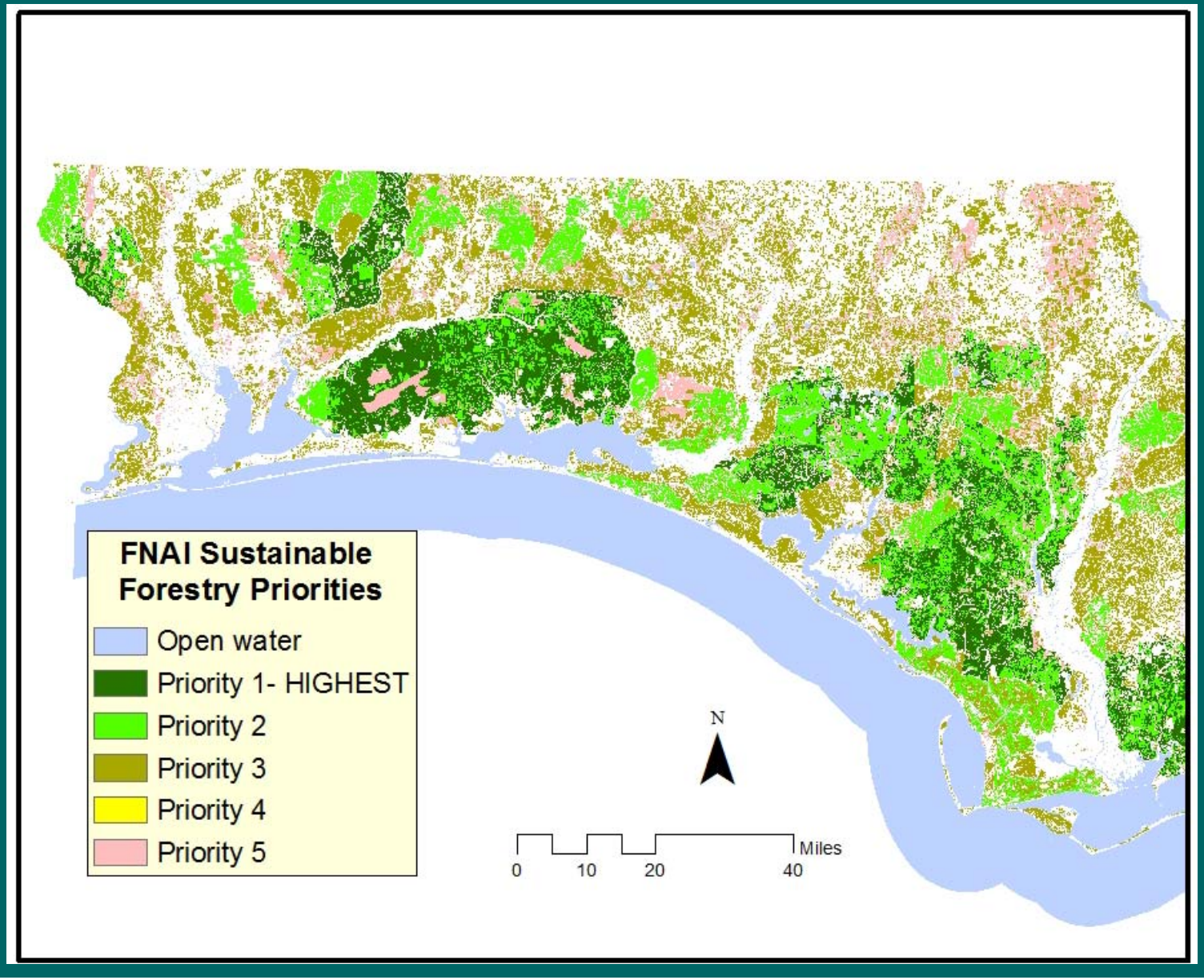
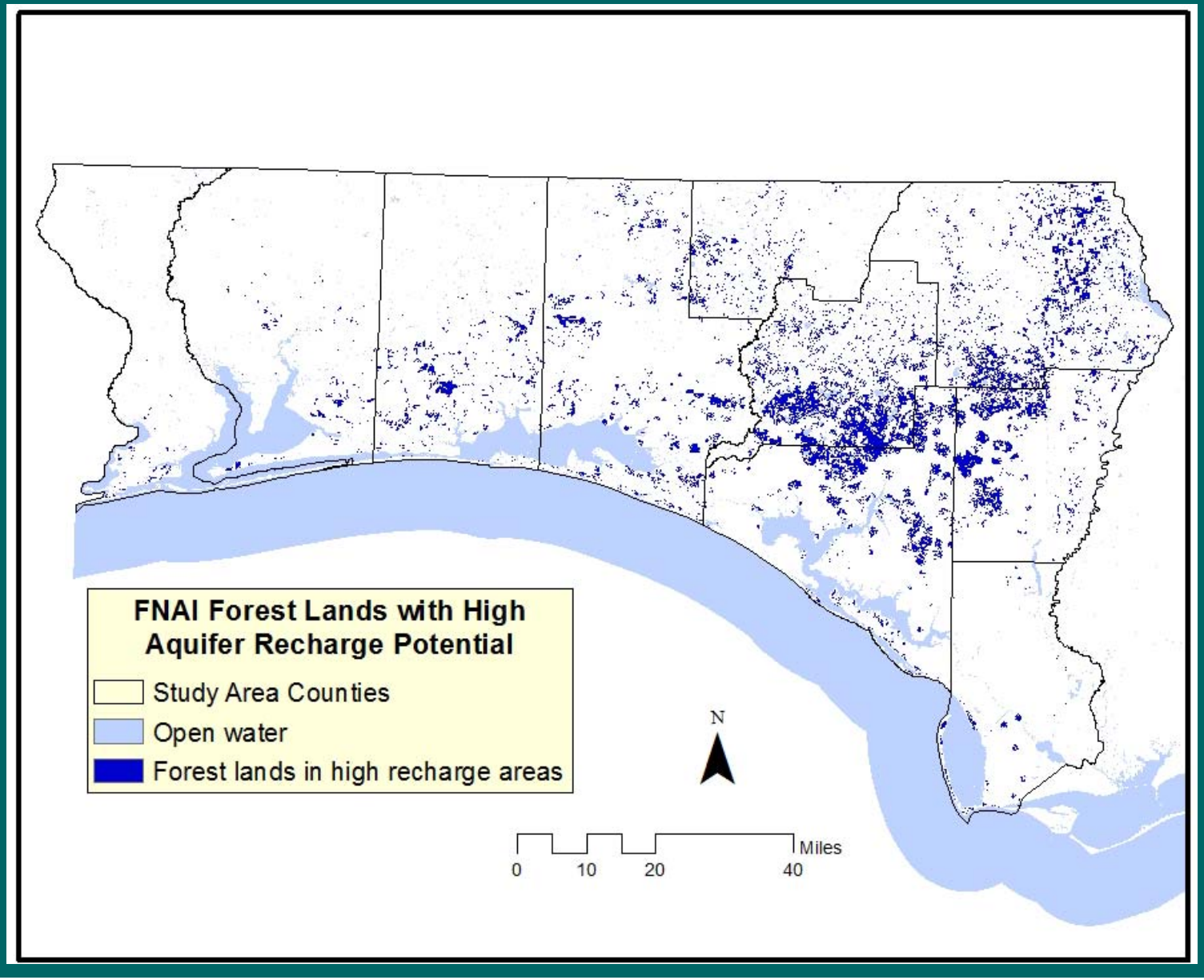
  5+ and 2 = 6

Ecosystem Services: Storm Protection



Sustainable Forestry Data

FNAI Sustainable Forestry



FNAI Forest Recharge