

Charlotte Harbor NEP Projects



Cape Coral

Bonita Springs

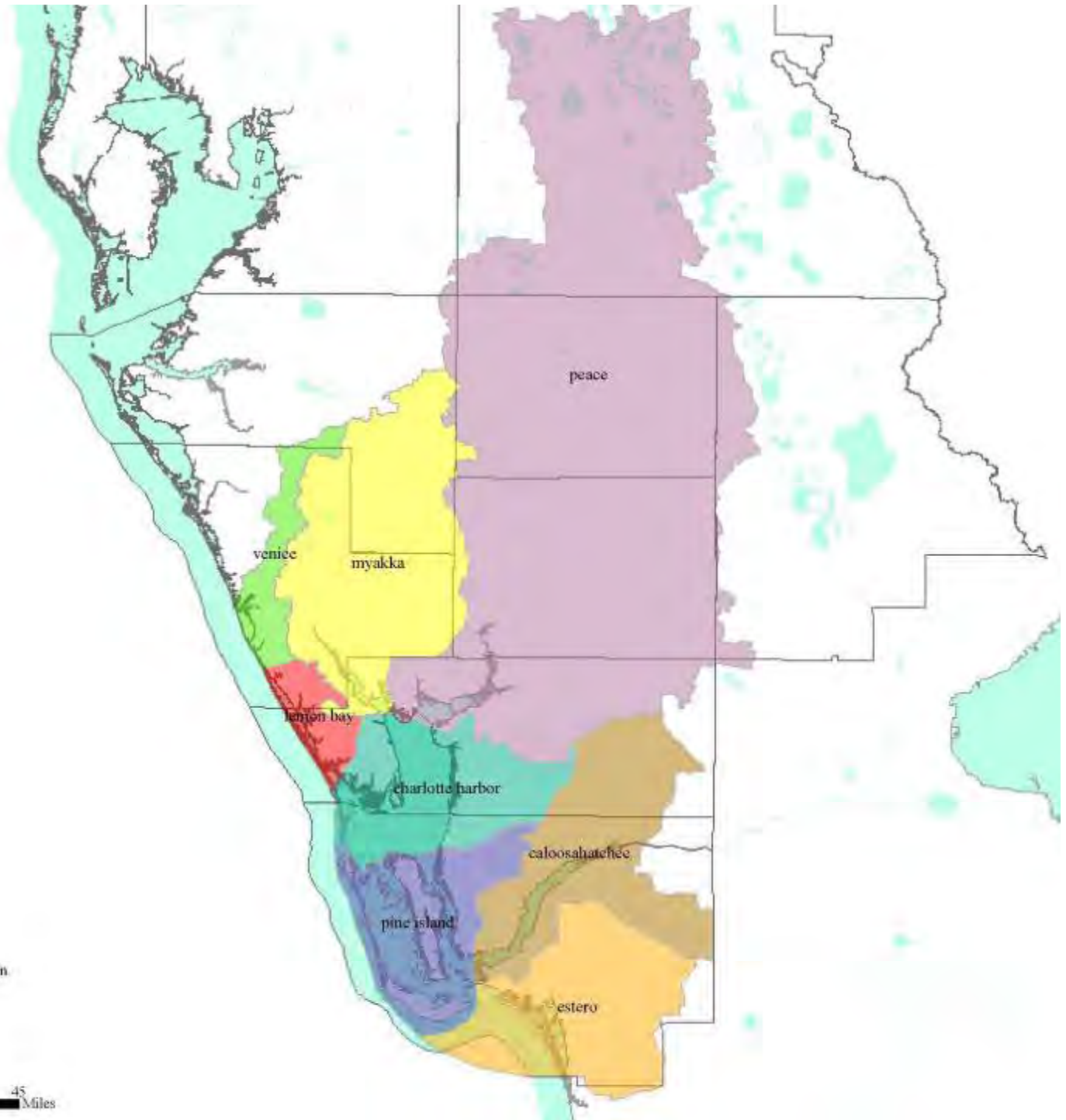
Lisa B. Beever, PhD, AICP
September 28, 2009
Estero Bay Watershed Public Symposium

© 2006 Europa Technologies
Image © 2006 TerraMetrics

Google

National Estuary Programs





Legend

NAME

-  Caloosahatchee
-  Charlotte Harbor
-  Estero
-  Lemon Bay
-  Myakka
-  Peace
-  Pine Island
-  Venice

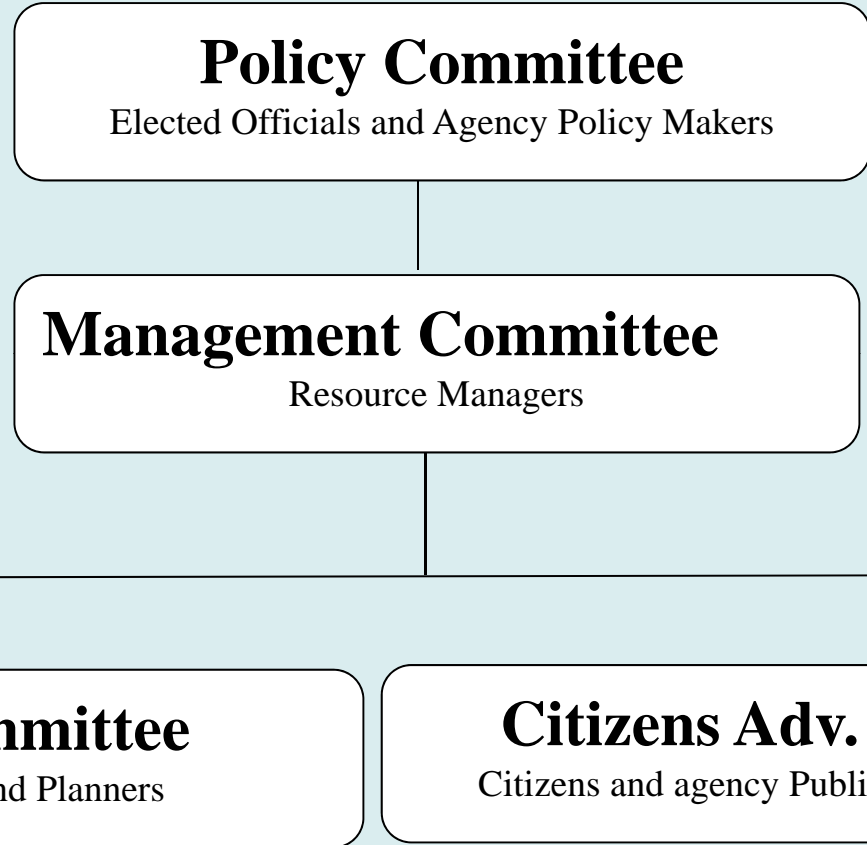


Source: Charlotte Harbor National Estuary Program
 The Nature Conservancy
 Florida Natural Areas Inventory
 Florida Department of Environmental Protection
 Florida Fish and Wildlife Conservation Commission
 Southwest Florida Water Management District
 South Florida Water Management District
 Polk, Sarasota, and Lee Counties

Date: August 14, 2003



Management Conference



Completed Projects since 6/25/2007

- CCMP Update
- Estero Bay Subbasins
- Historic Benthic Resources
- Seagrass mapping and targets
- Benthic Macro-Invertebrates
- Shoreline Survey
- Historic Basin Mapping
- Southwest Florida Feasibility Study
- Impaired Waters Update
- CHEC Water Quality Website
- Water Quality Status and Trends
- Hendry Creek OSTDS Study
- Growth Mgmt Reg, Pub Invest, Res Imp for Est Bay 06-07
- Public Outreach

Committing to Our Future

A Comprehensive Conservation and Management Plan

for the Greater Charlotte Harbor Watershed

from Venice to Bonita Springs to Winter Haven



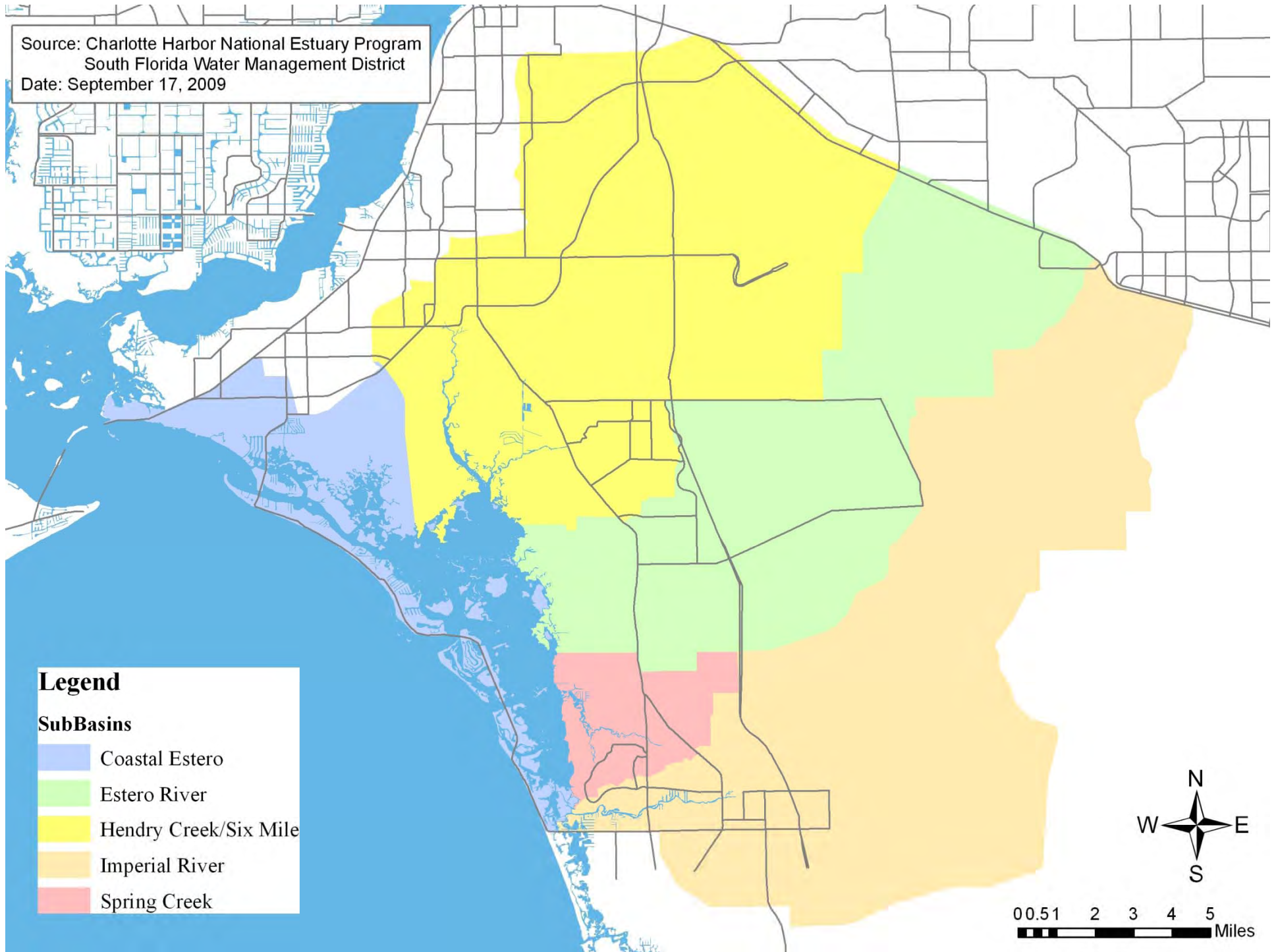
Update 2008



Priority Problems

- Hydrologic Alterations (Water Flows)
- Water Quality Degradation
- Fish and Wildlife Habitat Loss
- Stewardship Gaps

Source: Charlotte Harbor National Estuary Program
South Florida Water Management District
Date: September 17, 2009



Legend

SubBasins

- Coastal Estero
- Estero River
- Hendry Creek/Six Mile
- Imperial River
- Spring Creek



0 0.5 1 2 3 4 5 Miles

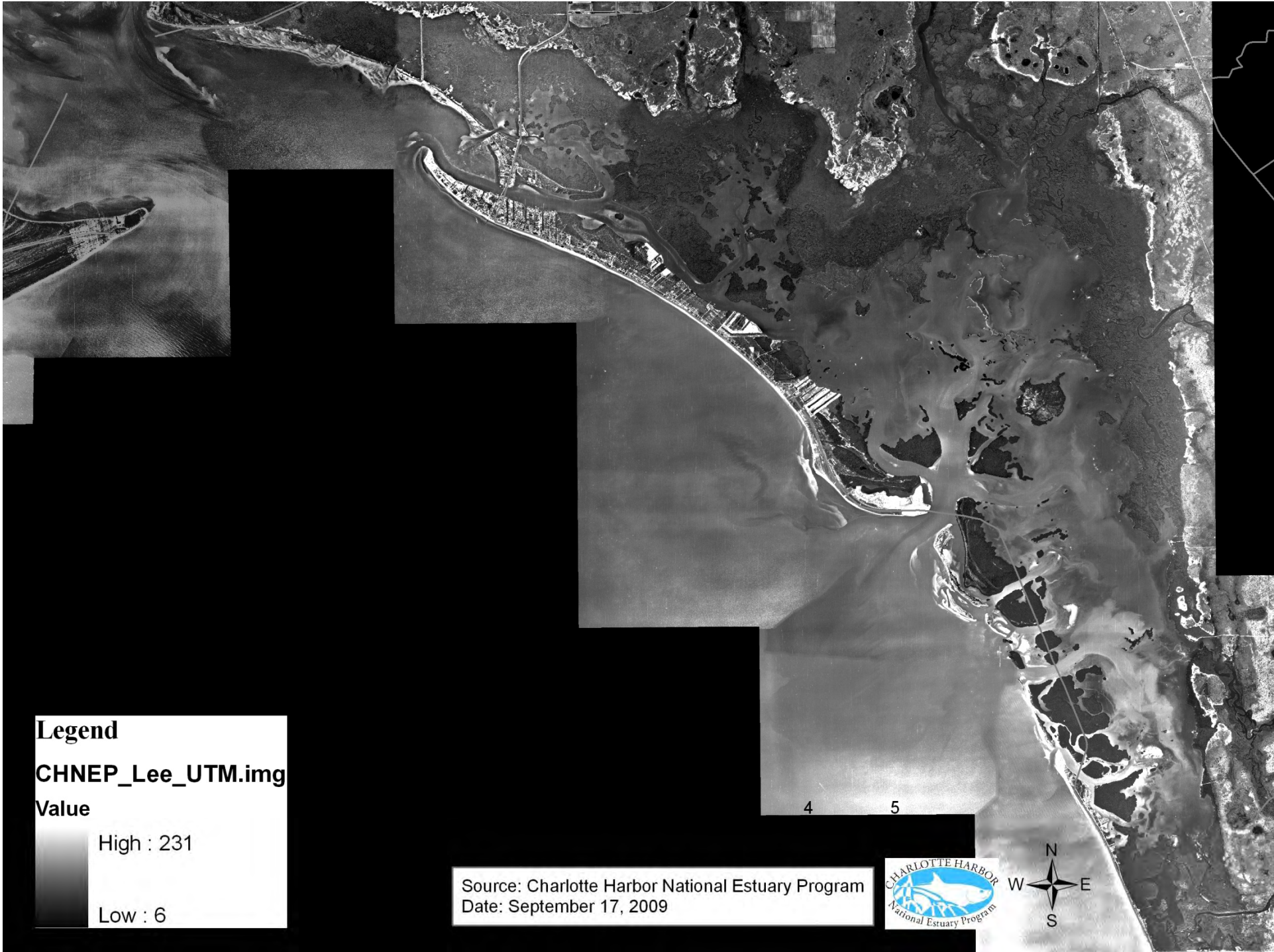


Legend
CHNEP_Lee_UTM.img
Value
High : 231
Low : 6



Source: Charlotte Harbor National Estuary Program
Date: September 17, 2009

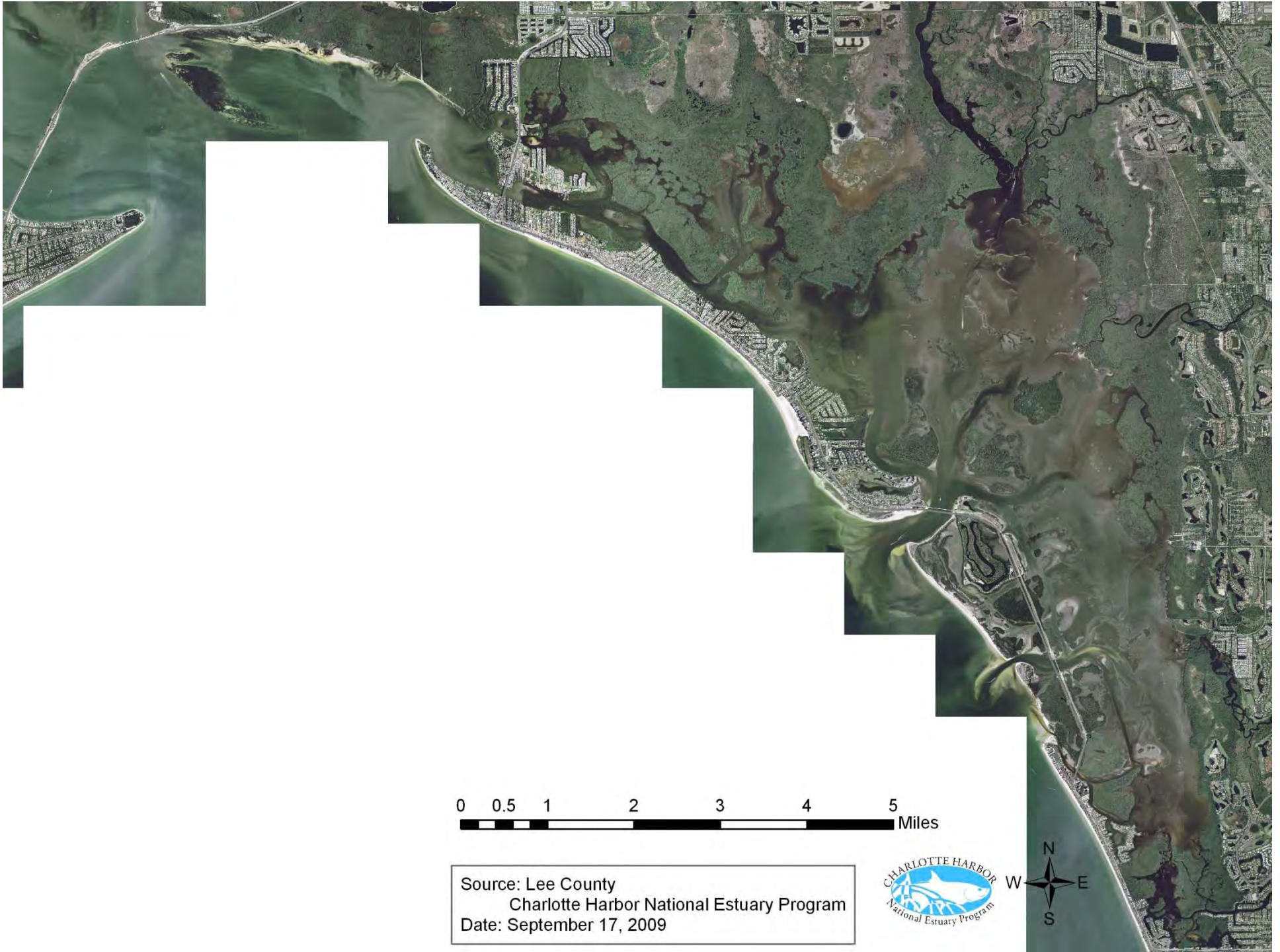




Legend
CHNEP_Lee_UTM.img
Value
High : 231
Low : 6

Source: Charlotte Harbor National Estuary Program
Date: September 17, 2009





0 0.5 1 2 3 4 5 Miles

Source: Lee County
Charlotte Harbor National Estuary Program
Date: September 17, 2009





Legend
1950s Seagrass

0 0.5 1 2 3 4 5 Miles

Source: Charlotte Harbor National Estuary Program
South Florida Water Management District
Date: September 17, 2009



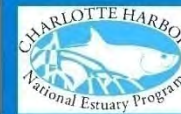


Legend

 1982/1990 Composite Seagrass

0 0.5 1 2 3 4 5 Miles

Source: Charlotte Harbor National Estuary Program
South Florida Water Management District
Date: September 17, 2009





Legend
1999 Seagrass

0 0.5 1 2 3 4 5 Miles

Source: Charlotte Harbor National Estuary Program
South Florida Water Management District
Date: September 17, 2009







Legend
2006 Seagrass

0 0.5 1 2 3 4 5 Miles

Source: Charlotte Harbor National Estuary Program
South Florida Water Management District
Date: September 17, 2009





Legend
2008 Seagrass

0 0.5 1 2 3 4 5 Miles

Source: Charlotte Harbor National Estuary Program
South Florida Water Management District
Date: September 17, 2009



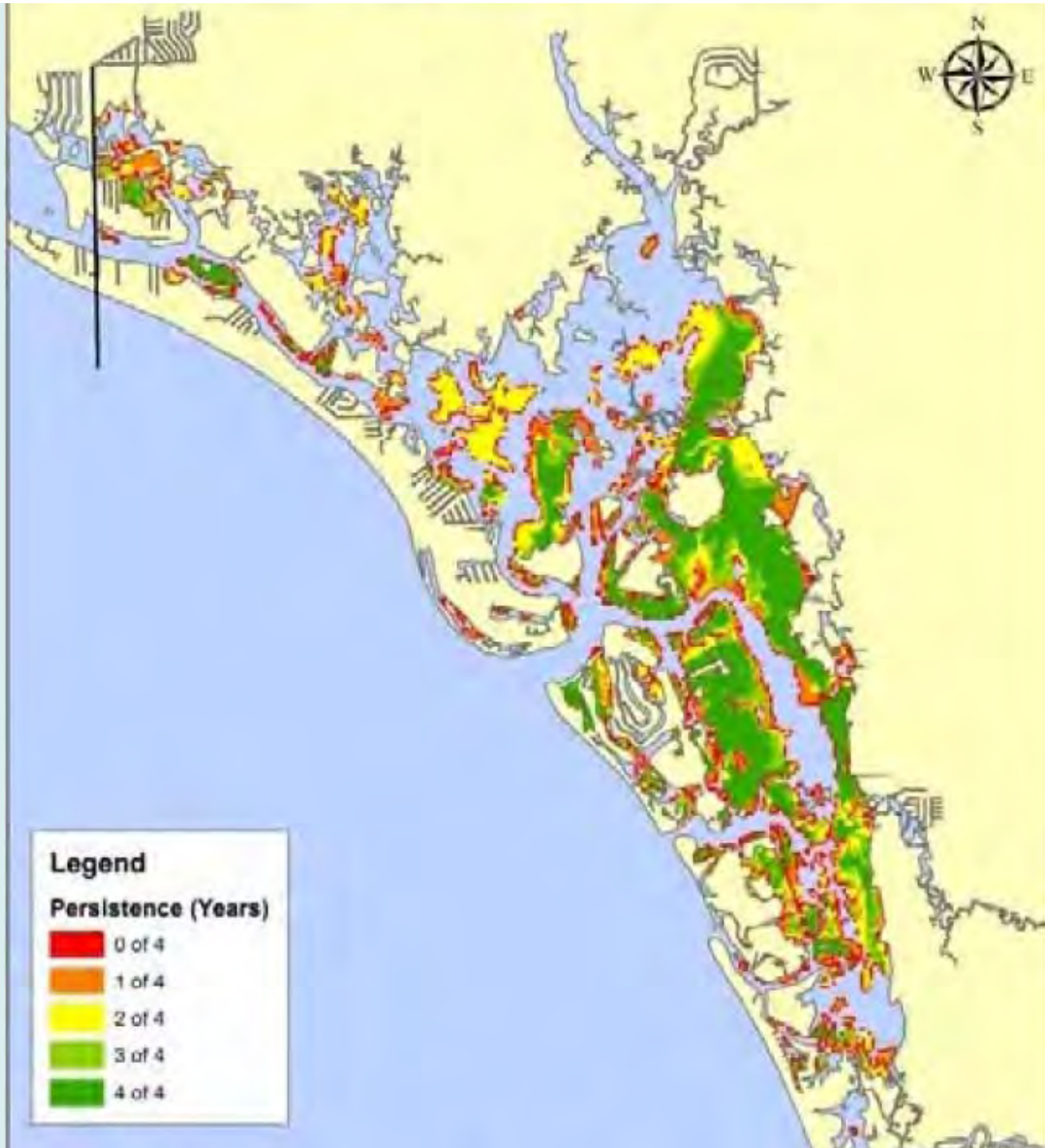
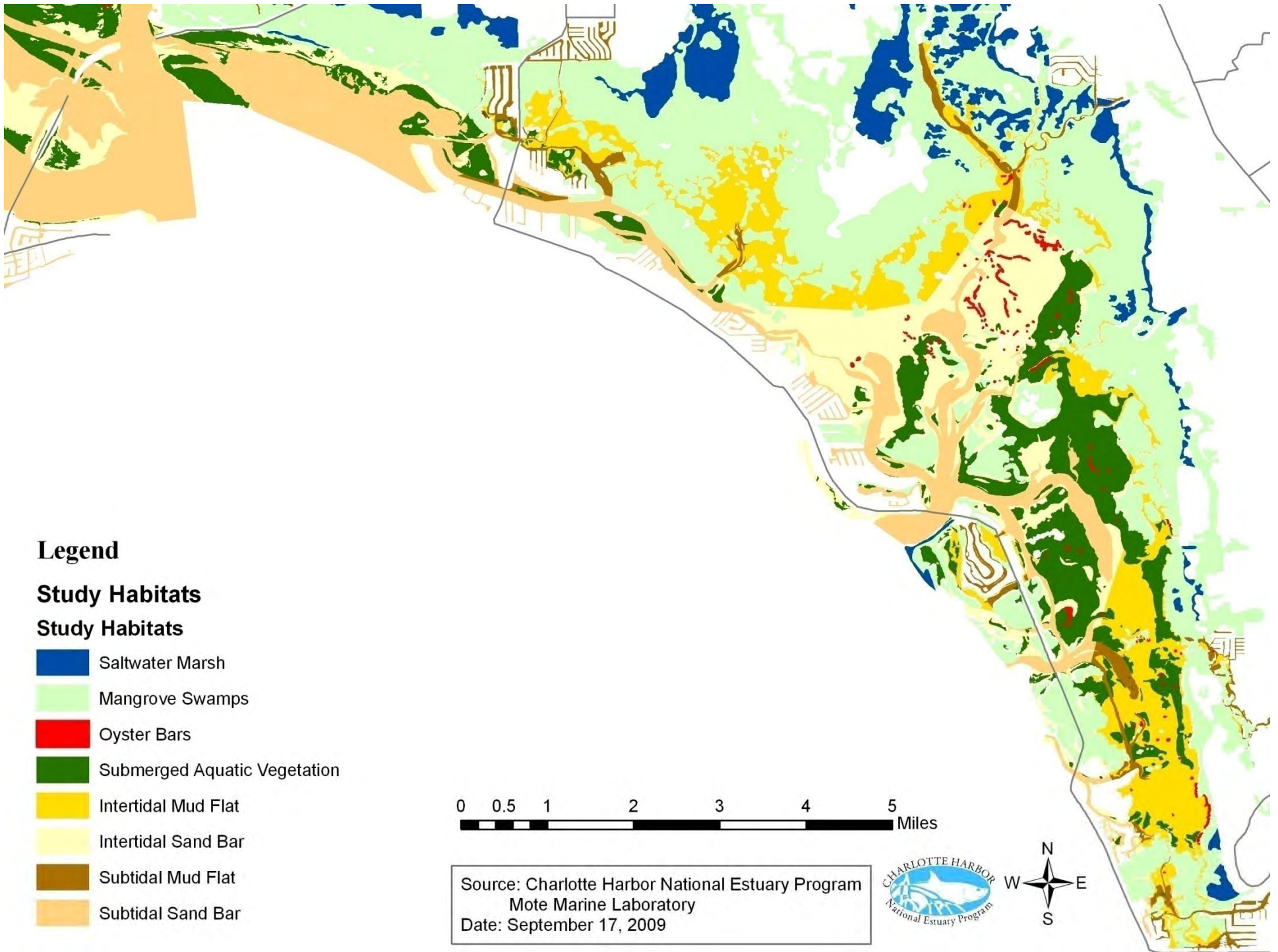
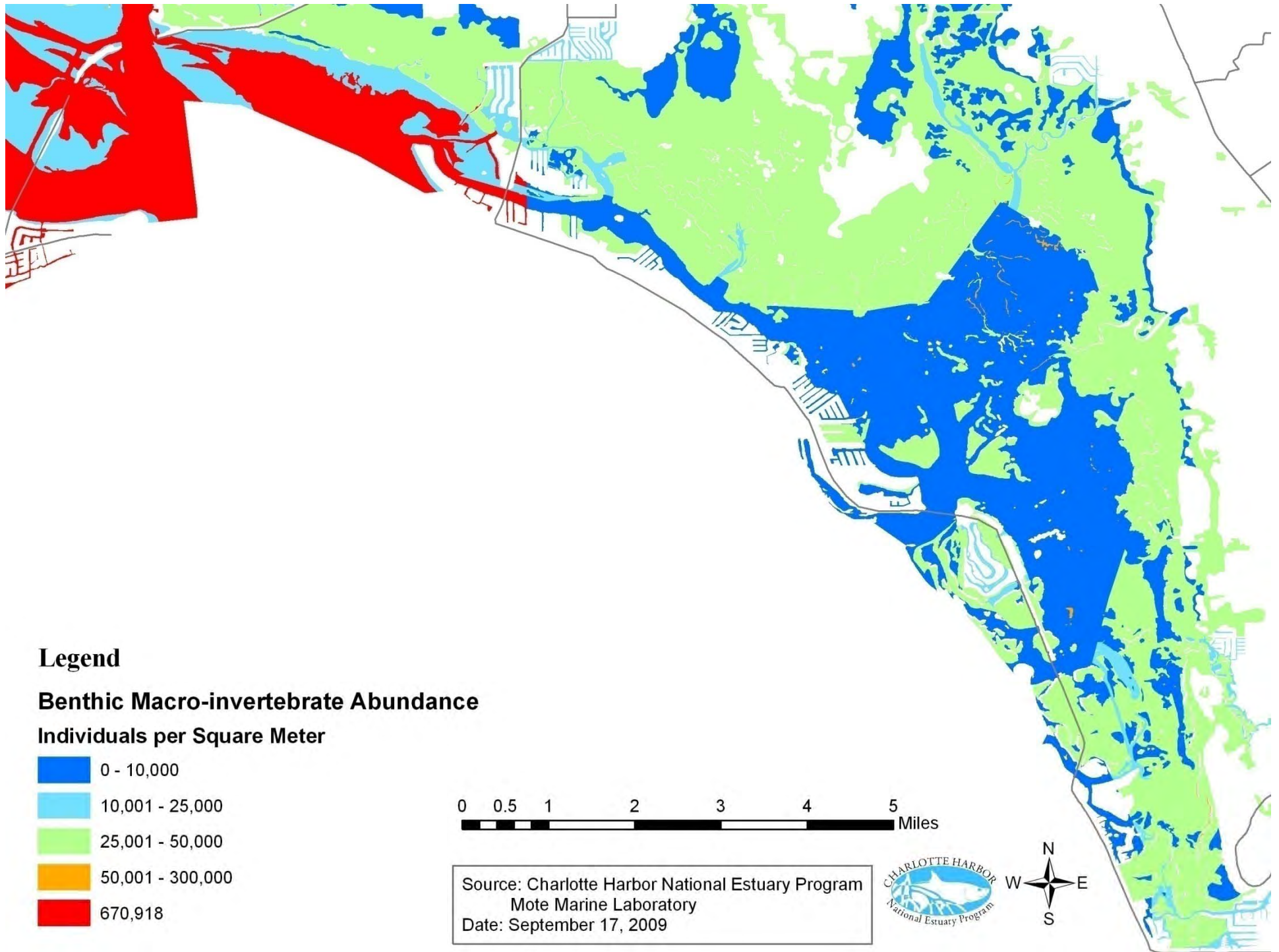
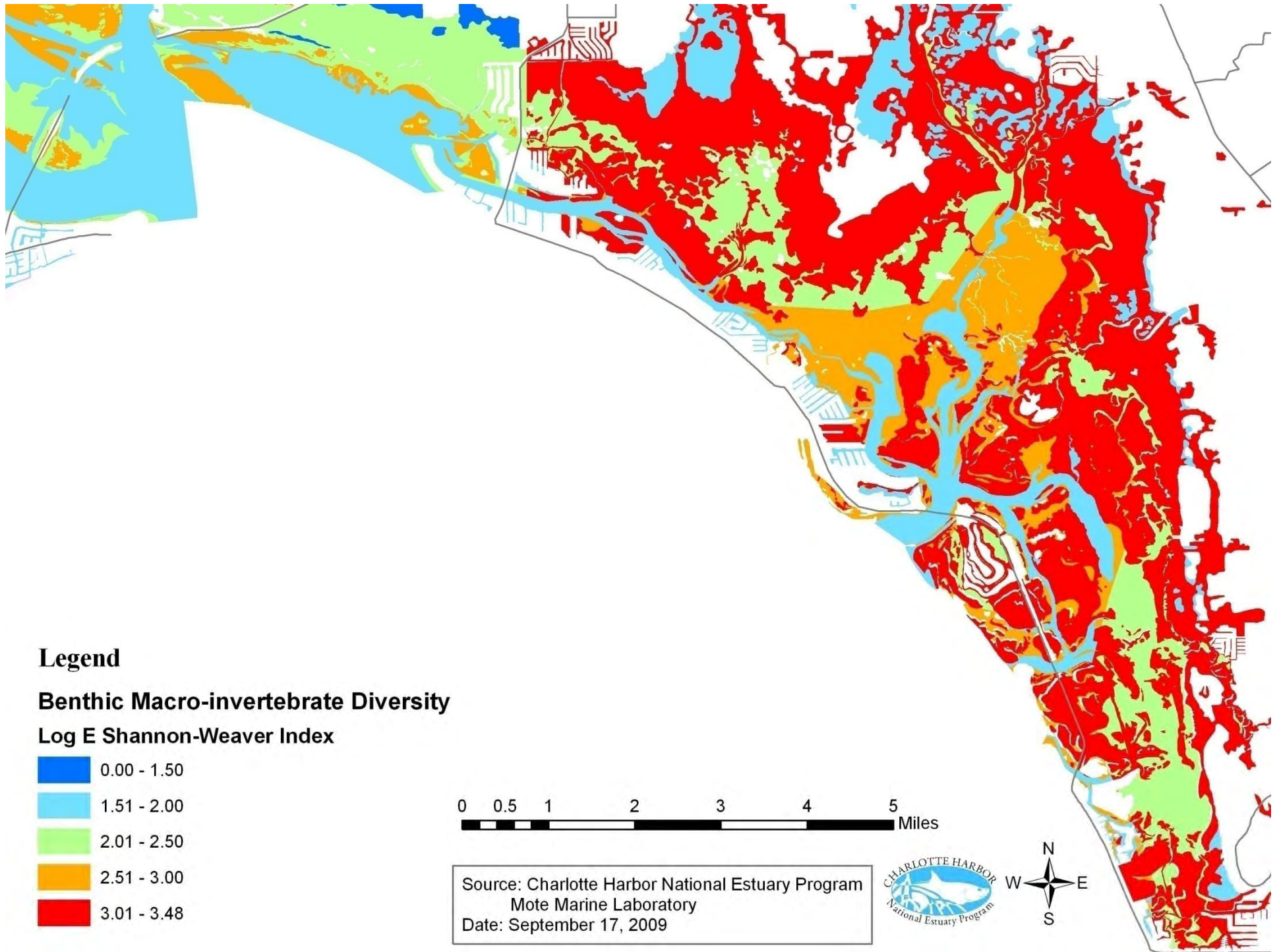


Table 3-4. Draft CHNEP Seagrass Targets

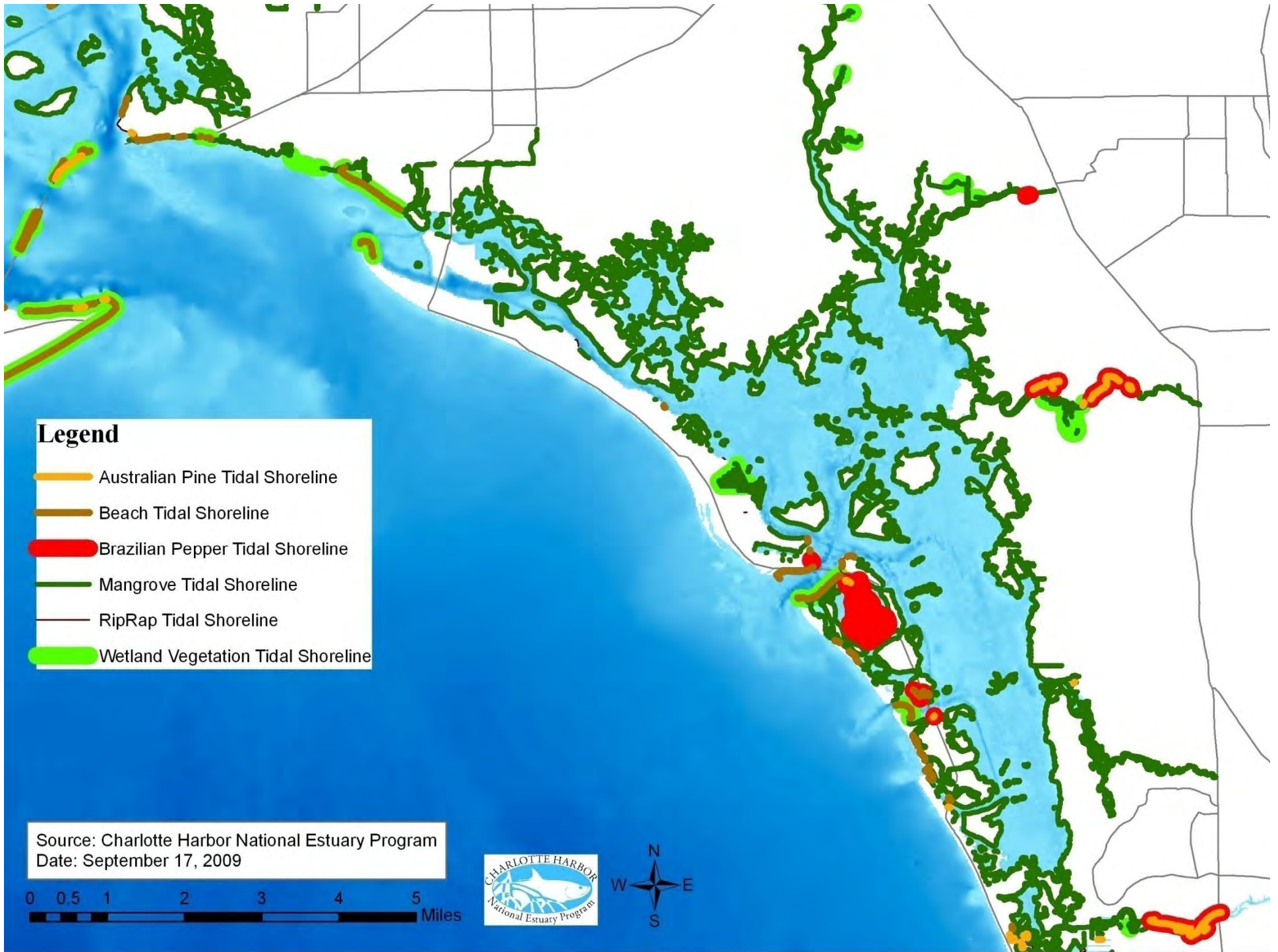
Harbor Segment	Baseline, adjusted (B)	Mean Annual Extent all years (A)	Protection Target	Restoration Target	Total Target	Target Range
Dona and Roberts Bay	112	91	91	21	112	70-124
Upper Lemon Bay	880	1,009	1,009		1,009	949-1,175
Lower Lemon Bay	2,882	2,502	2,502	380	2,882	2,396-2,597
Tidal Myakka River *	344	456	456		456	331-539
Tidal Peace River *	975	384	384	591	975	295-573
West Wall	2,106	1,907	1,907	199	2,106	1,676-2,121
East Wall	3,898	3,465	3,465	433	3,898	3,275-3,591
Cape Haze	5,670	6,998	6,998		6,998	6,709-7,464
Lower Charlotte Harbor	2,964	3,342	3,342		3,342	3,101-3,520
Pine Island Sound	23,757	26,837	26,837		26,837	25,941-29,204
Matlacha Pass	9,315	7,582	7,582	1,733	9,315	6,055-7,619
San Carlos Bay	3,118	4,372	4,372		4,372	3,709-5,376
Tidal Caloosahatchee*	93	87	87	6	93	2-103
Estero Bay	3,662	3,071	3,071	591	3,662	2,393-3,409
TOTAL	59,776	62,103	62,103	3,954	66,057	N/A







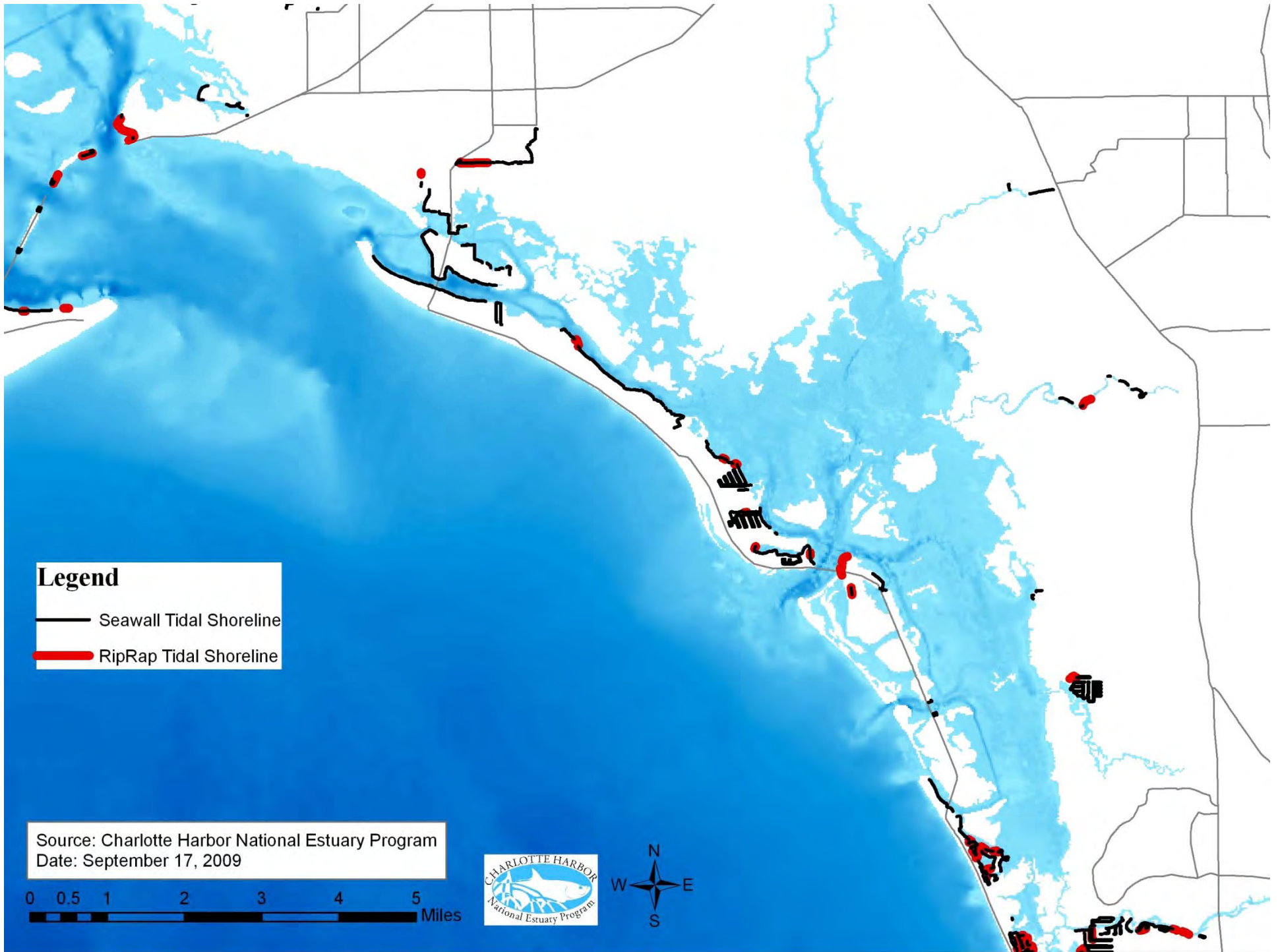




- Legend**
- Australian Pine Tidal Shoreline
 - Beach Tidal Shoreline
 - Brazilian Pepper Tidal Shoreline
 - Mangrove Tidal Shoreline
 - RipRap Tidal Shoreline
 - Wetland Vegetation Tidal Shoreline

Source: Charlotte Harbor National Estuary Program
Date: September 17, 2009



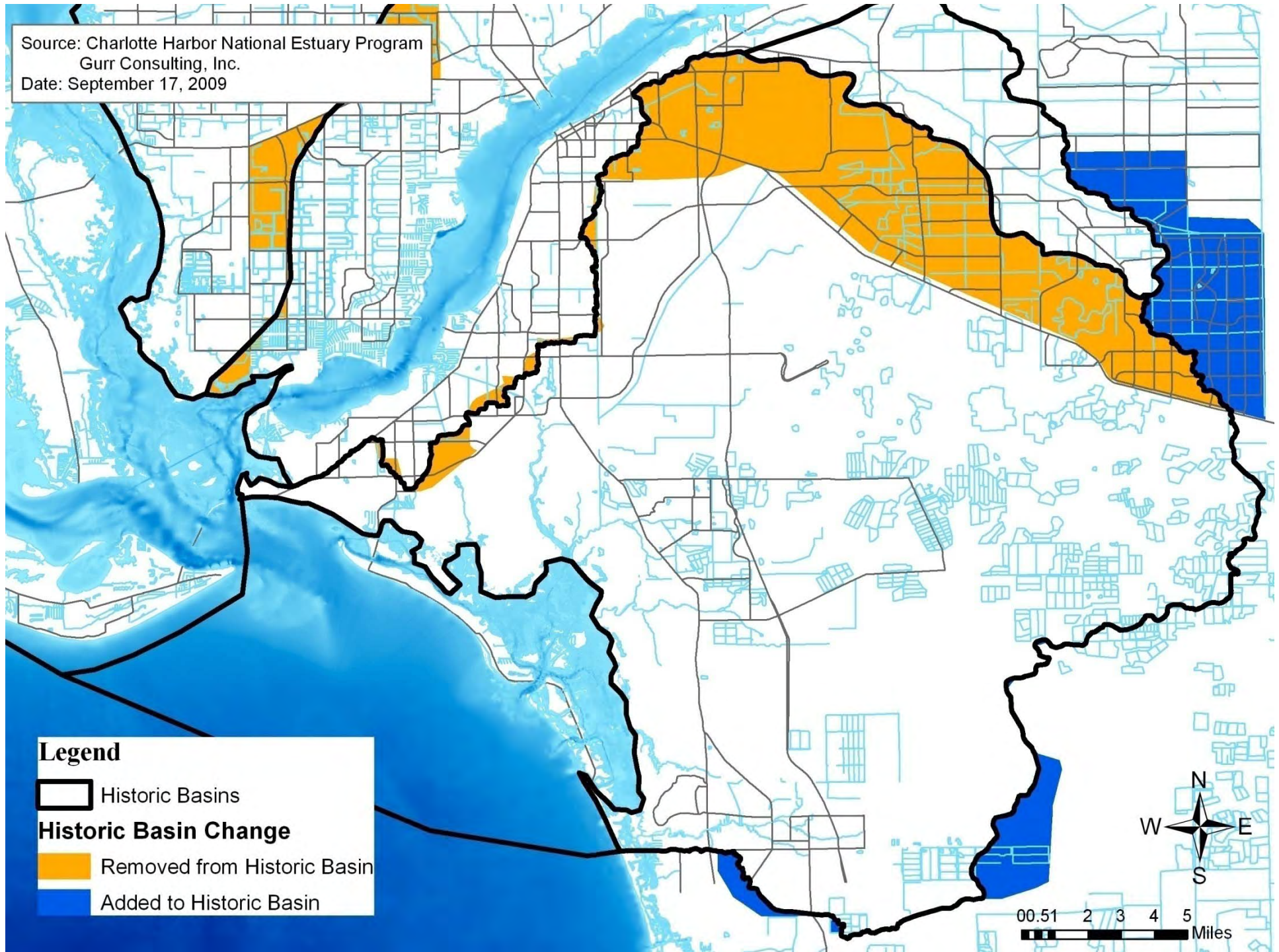


Legend
— Seawall Tidal Shoreline
— RipRap Tidal Shoreline

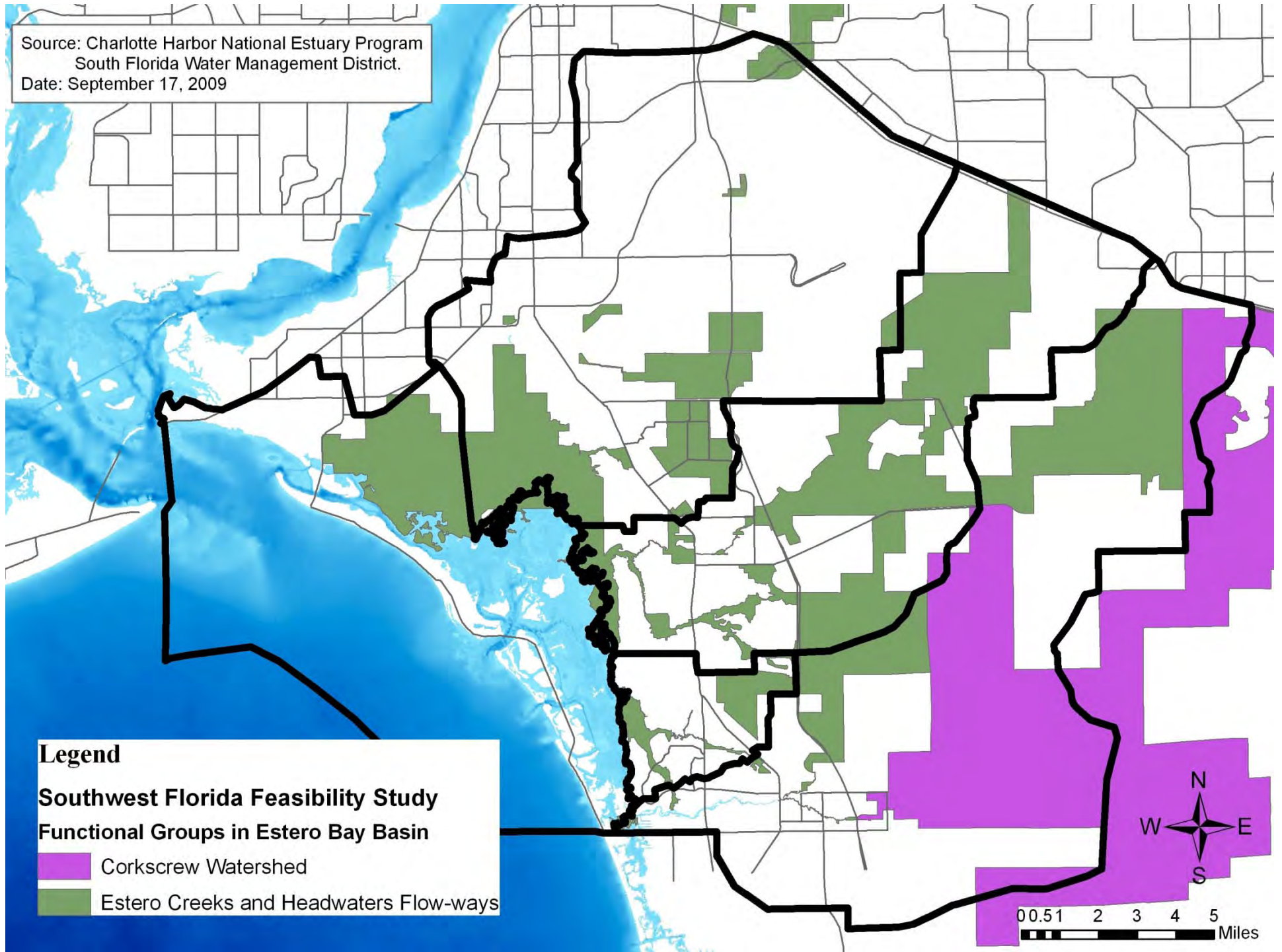
Source: Charlotte Harbor National Estuary Program
Date: September 17, 2009



Source: Charlotte Harbor National Estuary Program
Gurr Consulting, Inc.
Date: September 17, 2009





Source: Charlotte Harbor National Estuary Program
South Florida Water Management District.
Date: September 17, 2009

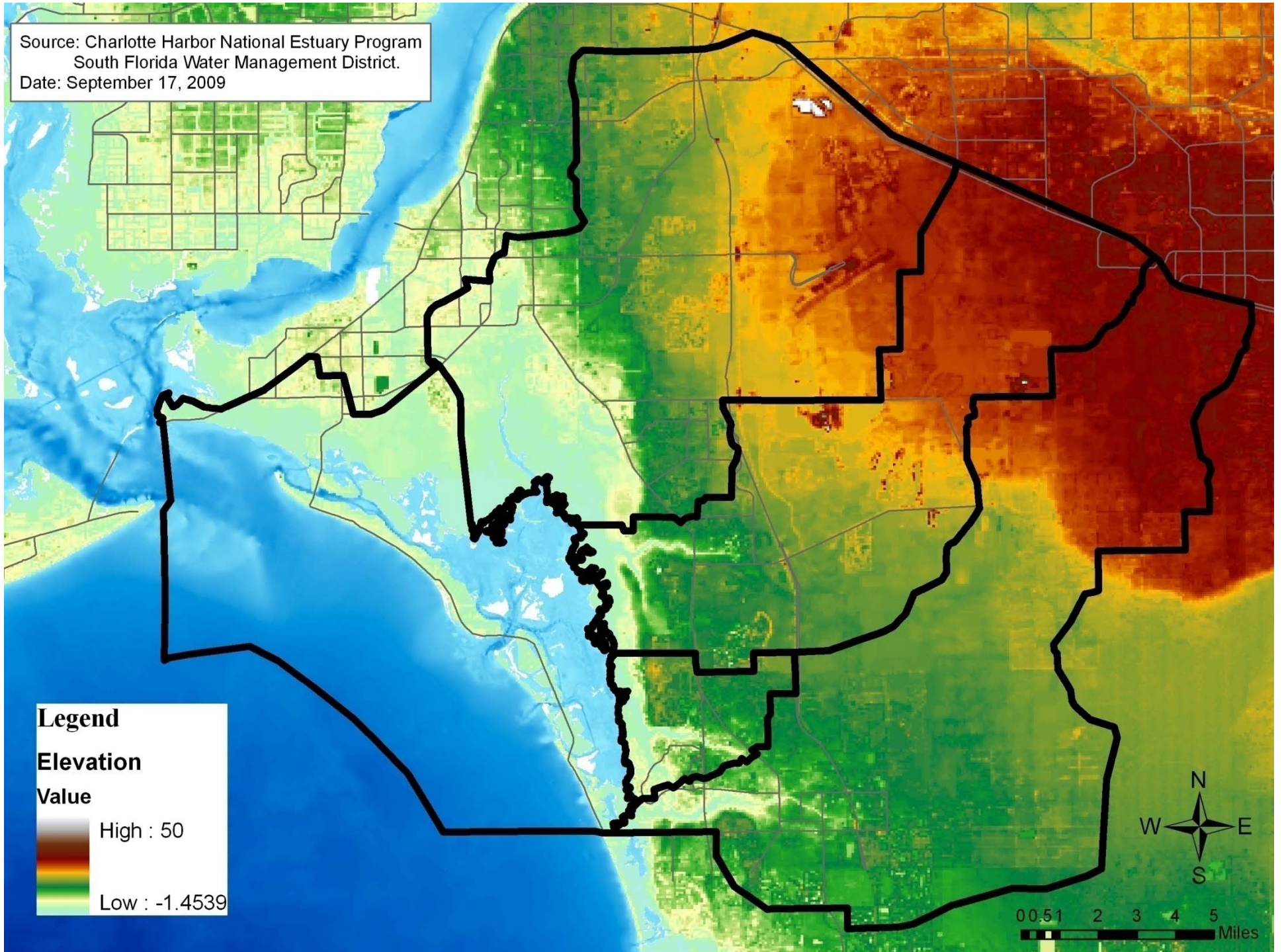


Legend

**Southwest Florida Feasibility Study
Functional Groups in Estero Bay Basin**

-  Corkscrew Watershed
-  Estero Creeks and Headwaters Flow-ways

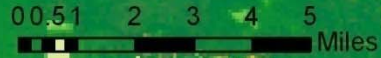
Source: Charlotte Harbor National Estuary Program
South Florida Water Management District.
Date: September 17, 2009



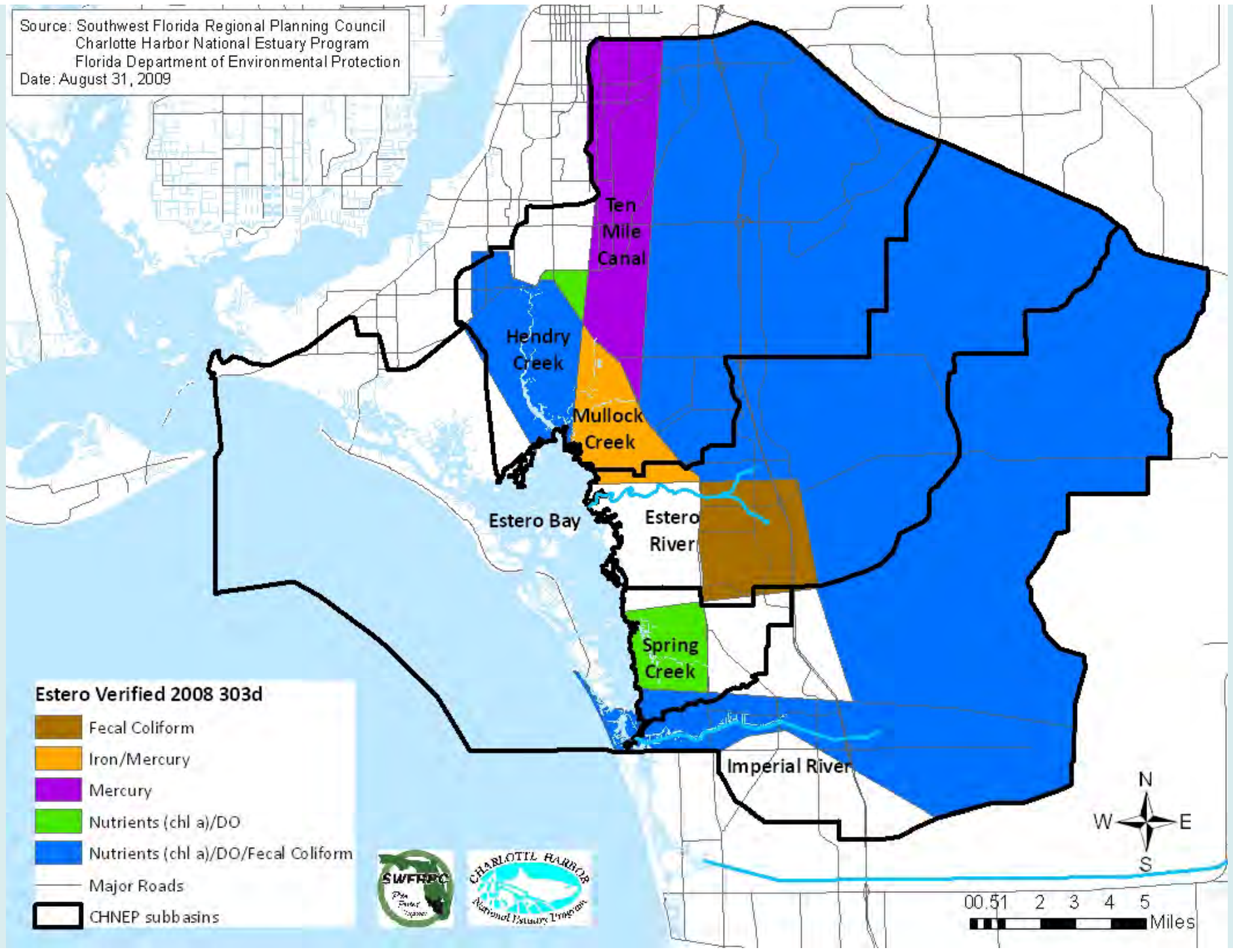
Legend
Elevation
Value

High : 50








Low : -1.4539

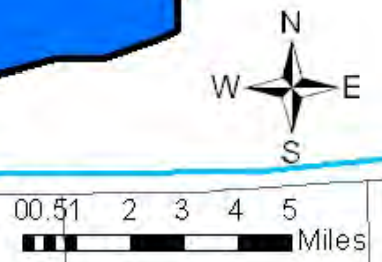


Source: Southwest Florida Regional Planning Council
Charlotte Harbor National Estuary Program
Florida Department of Environmental Protection
Date: August 31, 2009



Estero Verified 2008 303d

-  Fecal Coliform
-  Iron/Mercury
-  Mercury
-  Nutrients (chl a)/DO
-  Nutrients (chl a)/DO/Fecal Coliform
-  Major Roads
-  CHNEP subbasins

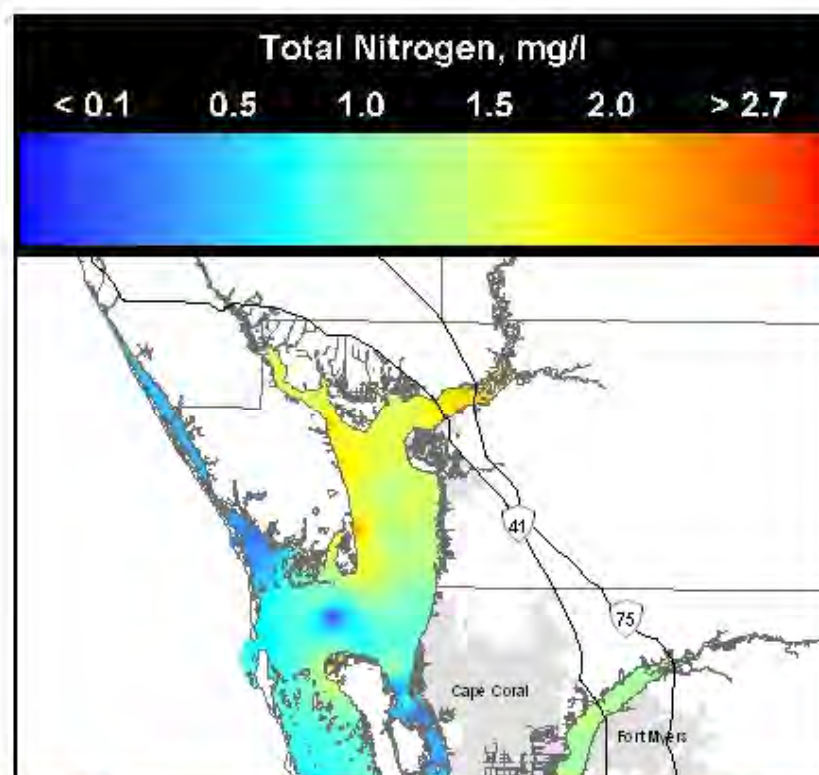
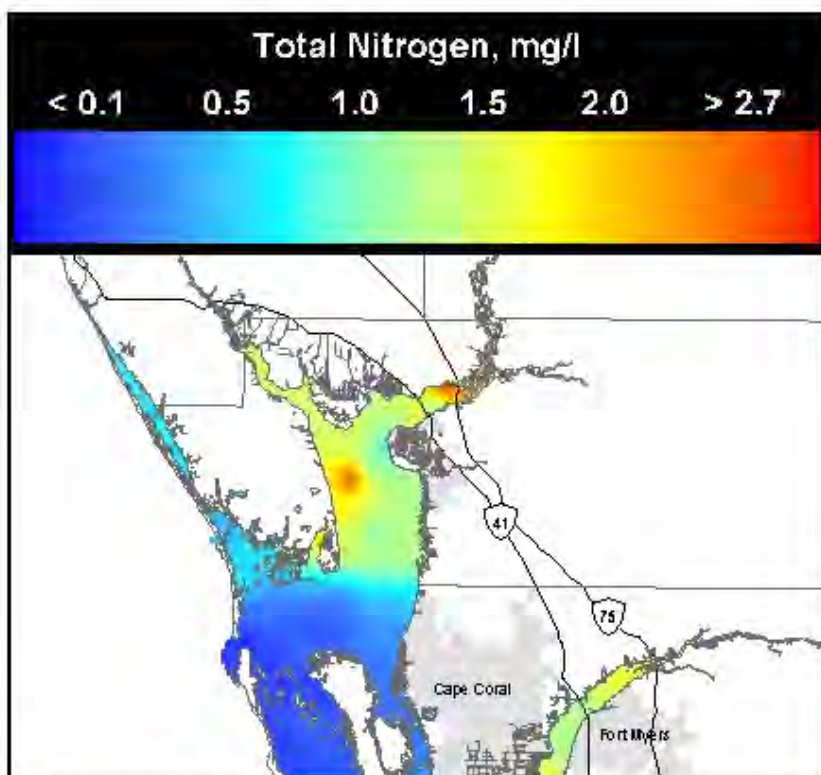


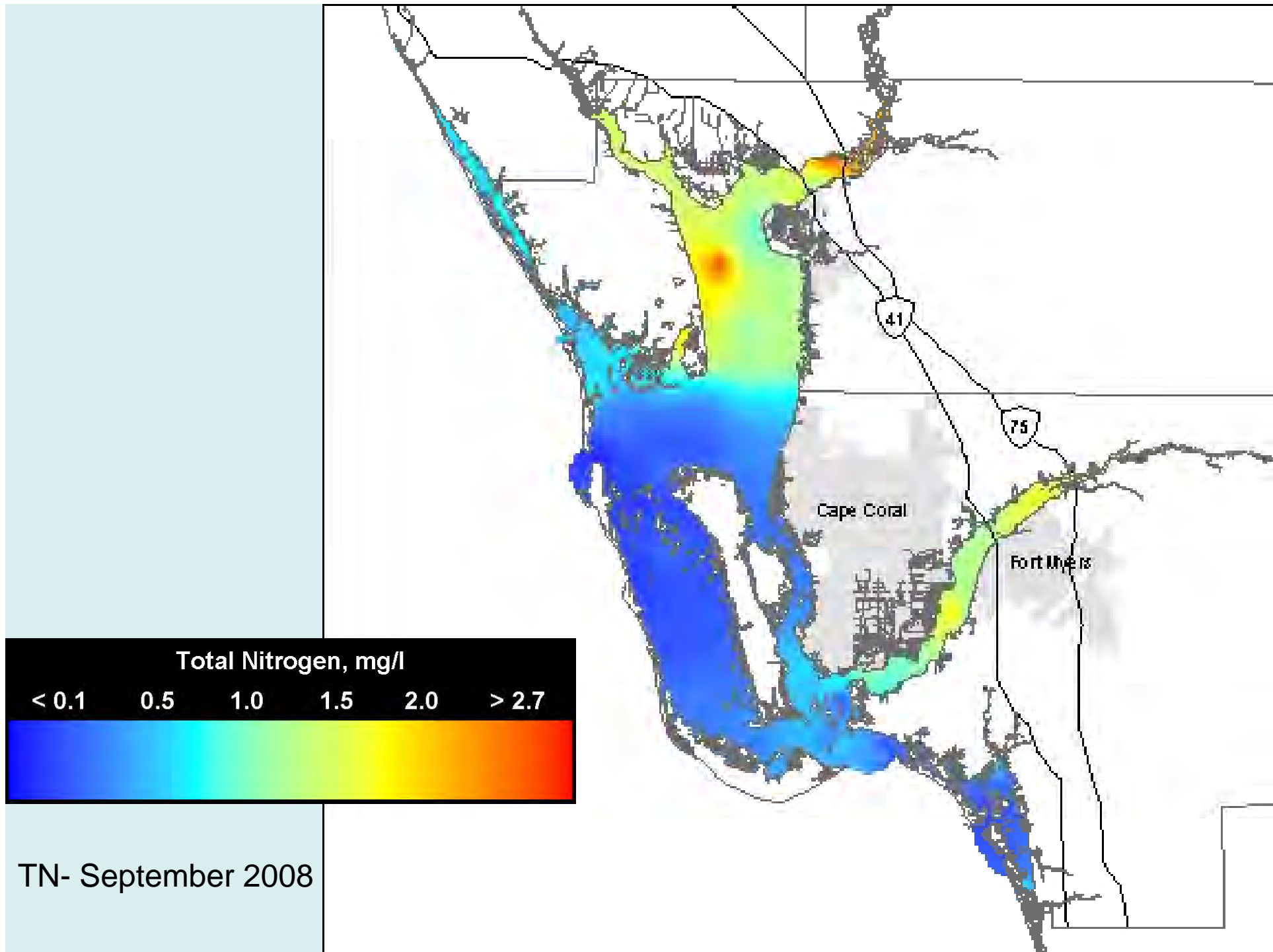
Charlotte Harbor Environmental Center, Inc.

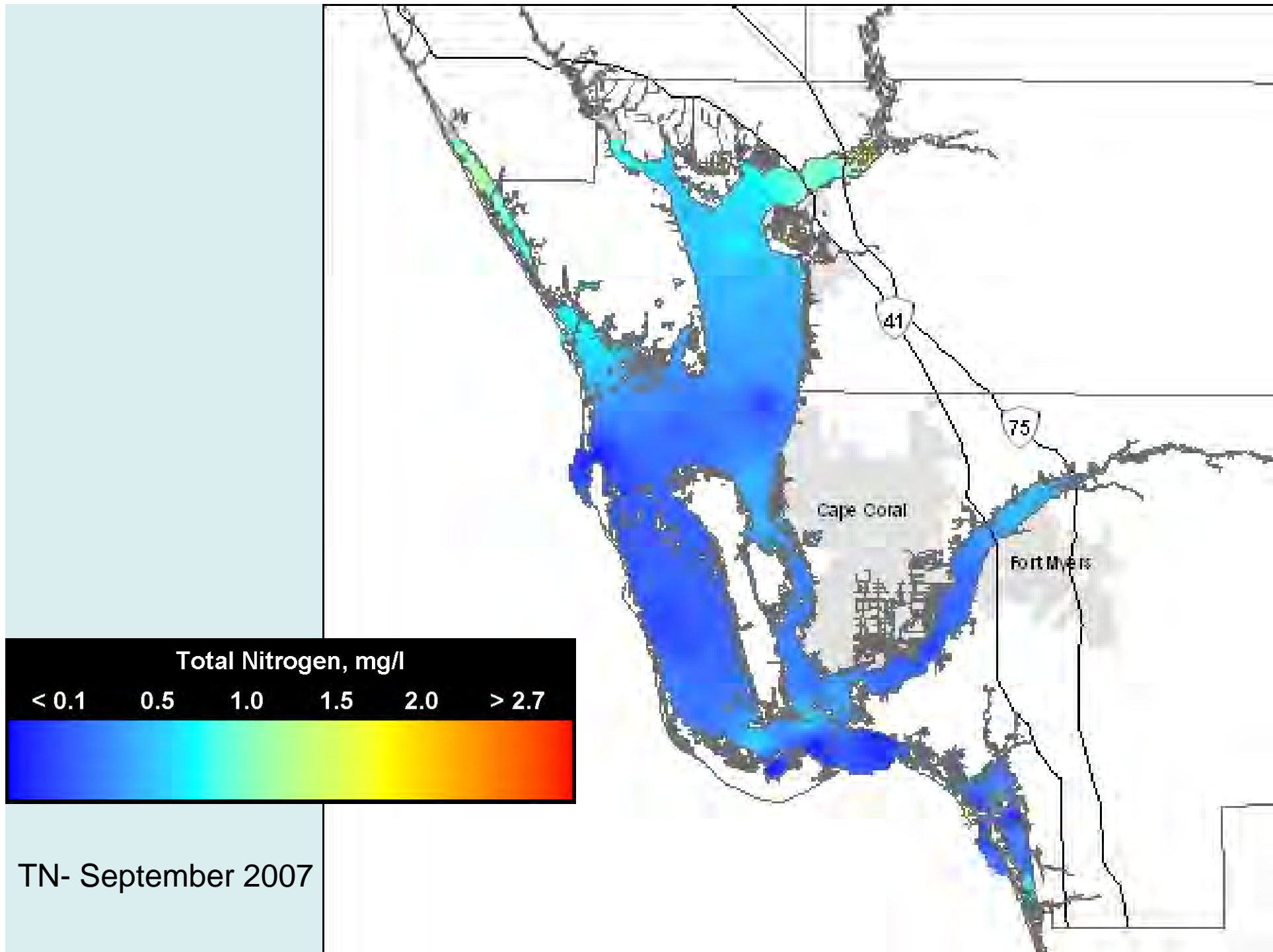
Serving citizens and visitors of the greater Charlotte Harbor area Since 1987

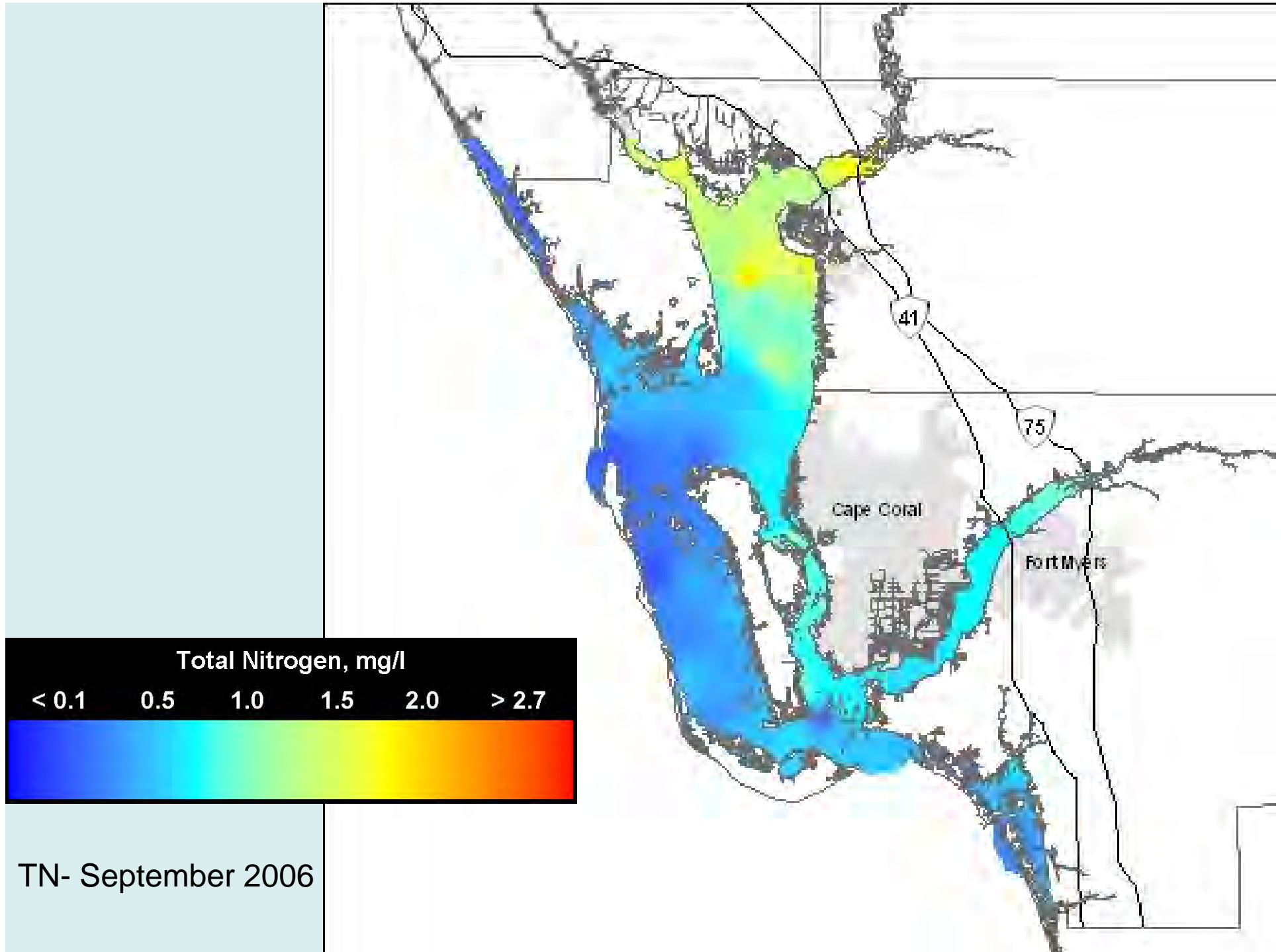
Total Nitrogen September 2008 Find Map

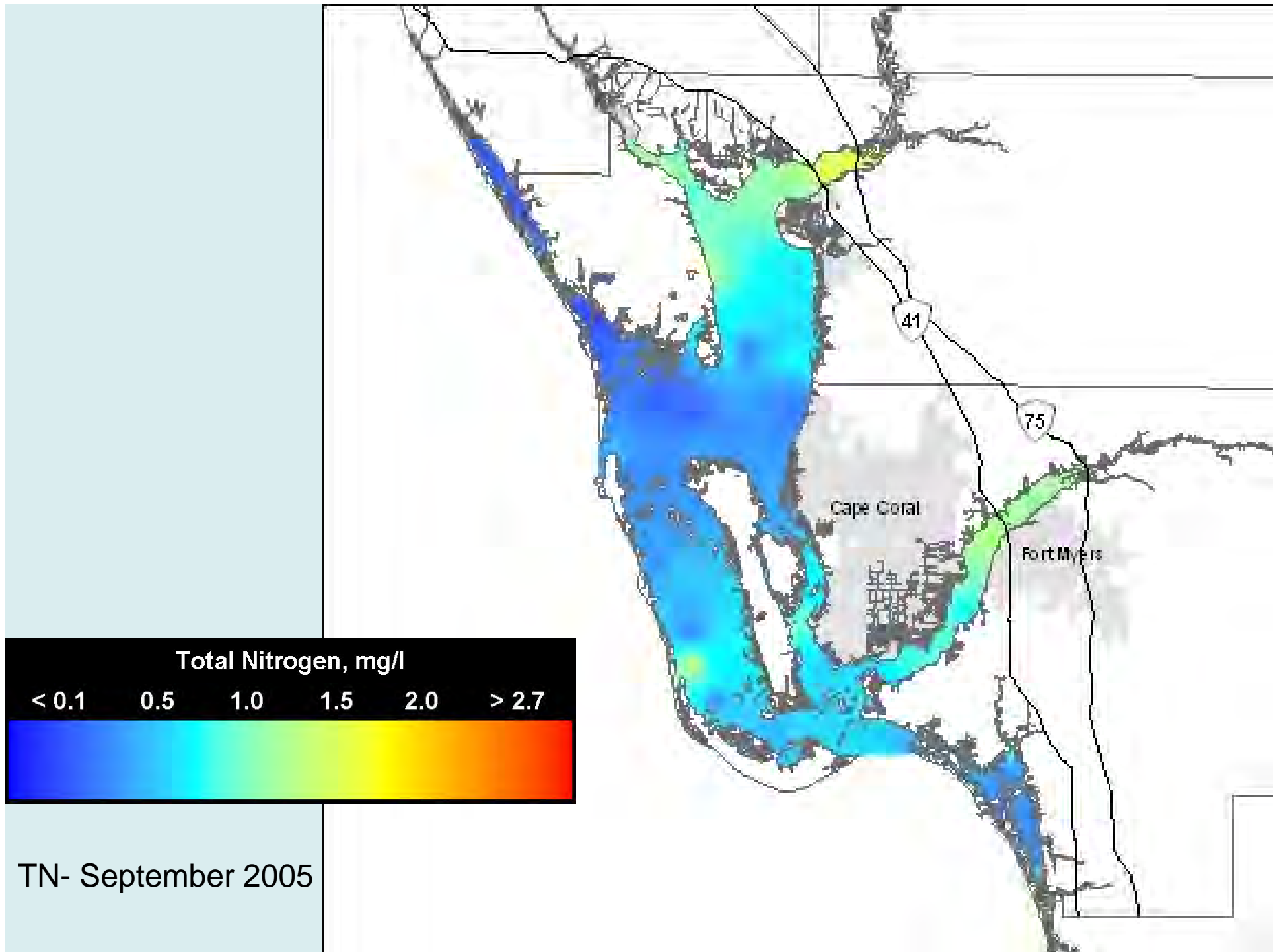
Total Nitrogen September 2004 Find Map

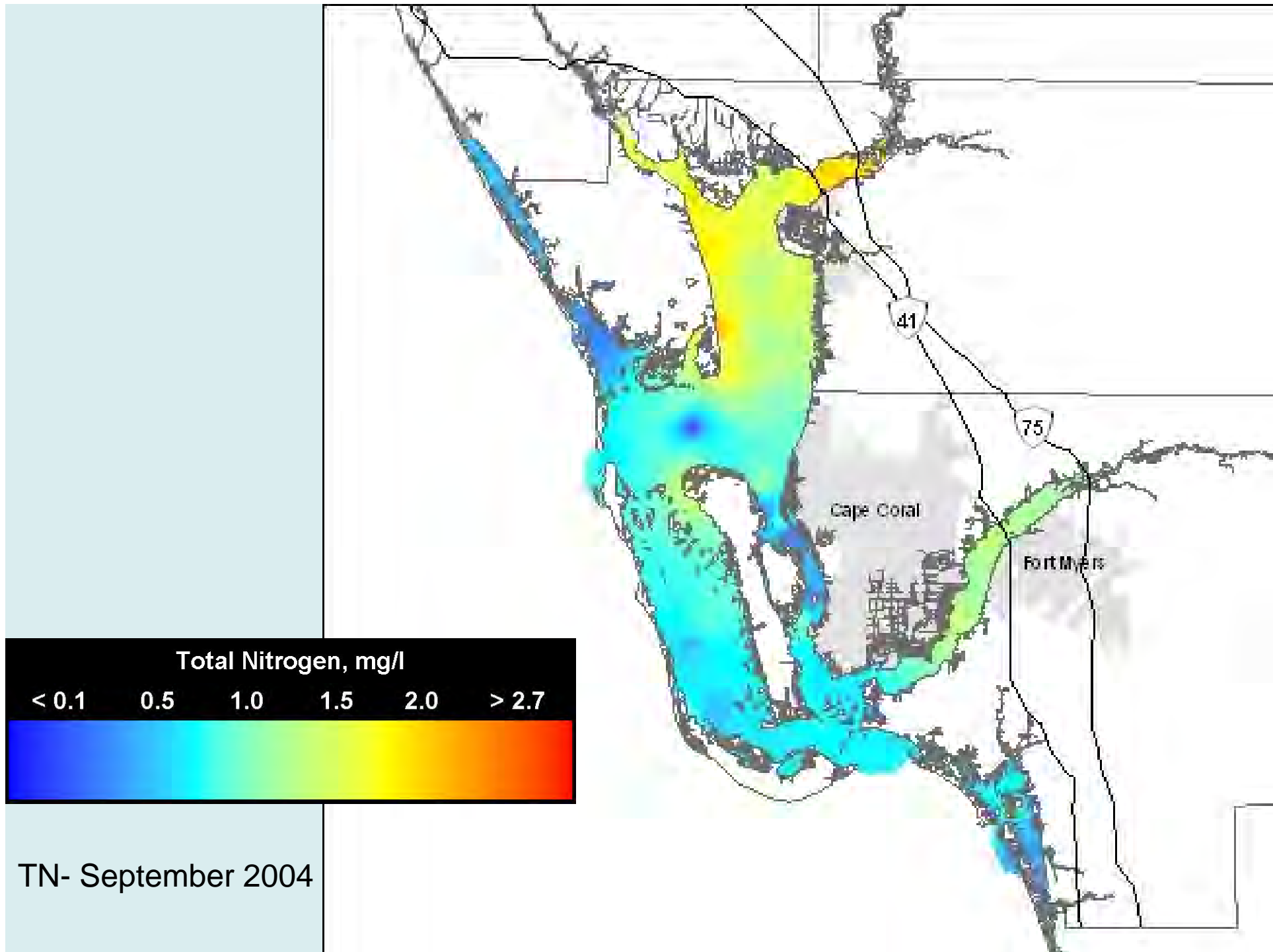












Source: Southwest Florida Regional Planning Council
 Charlotte Harbor National Estuary Program
 Florida Department of Environmental Protection
 Janick Environmental, inc.
 Date: September 18, 2009

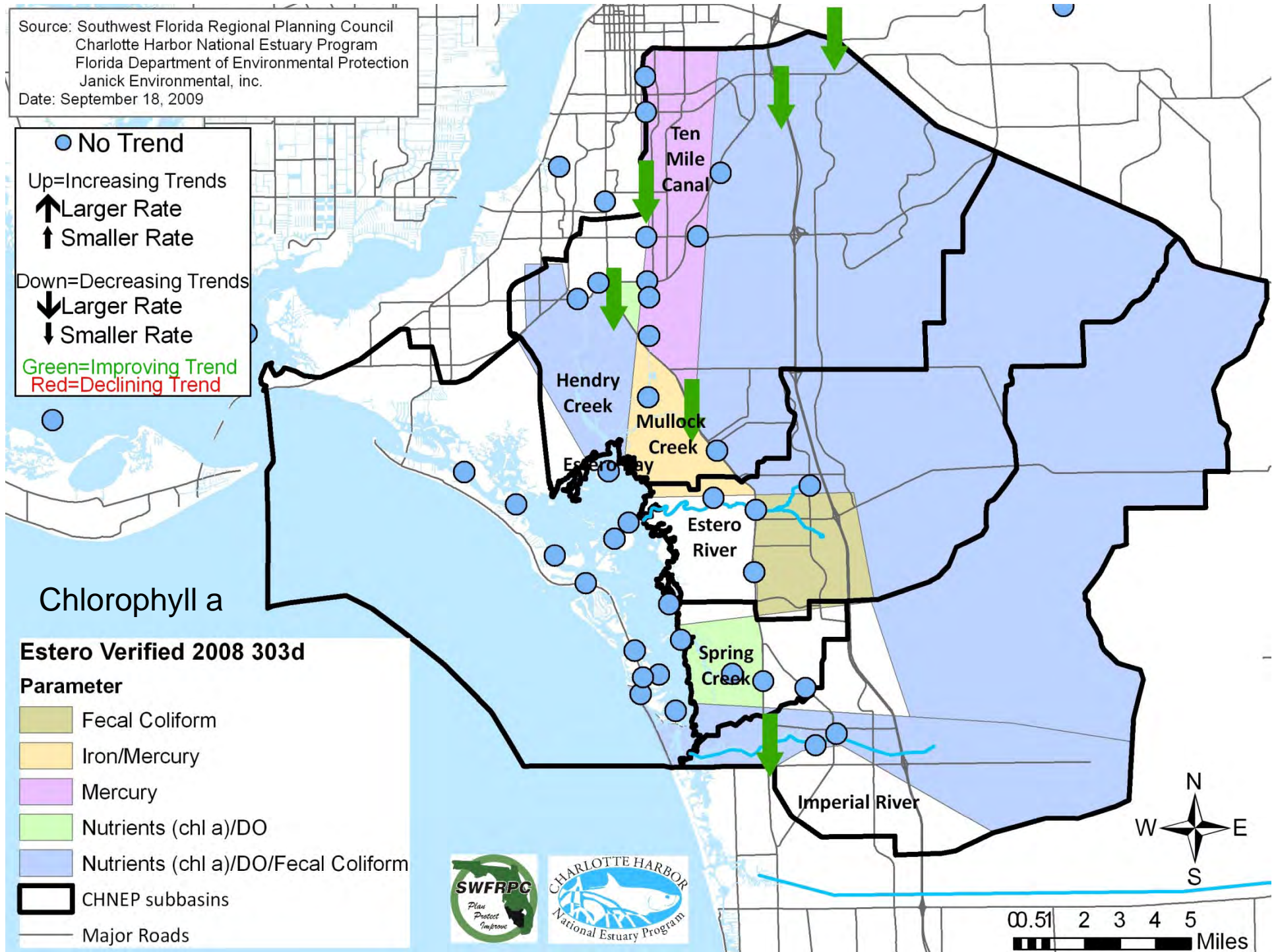
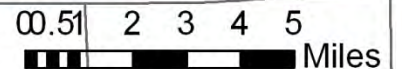
● No Trend
 Up=Increasing Trends
 ↑ Larger Rate
 ↑ Smaller Rate
 Down=Decreasing Trends
 ↓ Larger Rate
 ↓ Smaller Rate
 Green=Improving Trend
 Red=Declining Trend

Chlorophyll a

Estero Verified 2008 303d

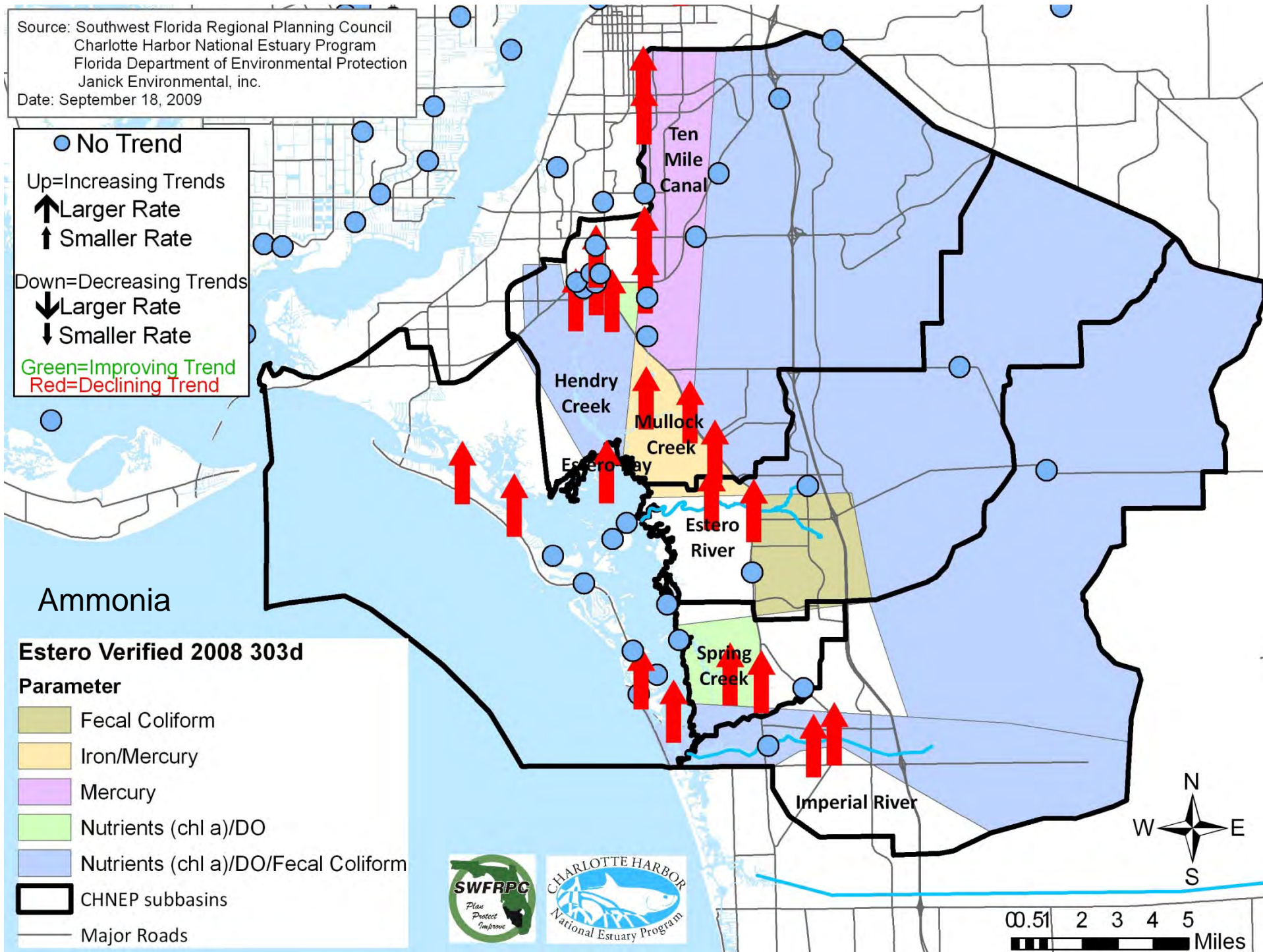
Parameter

- Fecal Coliform
- Iron/Mercury
- Mercury
- Nutrients (chl a)/DO
- Nutrients (chl a)/DO/Fecal Coliform
- CHNEP subbasins
- Major Roads



Source: Southwest Florida Regional Planning Council
 Charlotte Harbor National Estuary Program
 Florida Department of Environmental Protection
 Janick Environmental, inc.
 Date: September 18, 2009

● No Trend
 Up=Increasing Trends
 ↑ Larger Rate
 † Smaller Rate
 Down=Decreasing Trends
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 † Smaller Rate
 Green=Improving Trend
 Red=Declining Trend

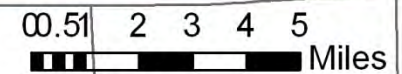


Ammonia

Estero Verified 2008 303d

Parameter

- Fecal Coliform
- Iron/Mercury
- Mercury
- Nutrients (chl a)/DO
- Nutrients (chl a)/DO/Fecal Coliform
- CHNEP subbasins
- Major Roads



Source: Southwest Florida Regional Planning Council
 Charlotte Harbor National Estuary Program
 Florida Department of Environmental Protection
 Janick Environmental, inc.
 Date: September 18, 2009

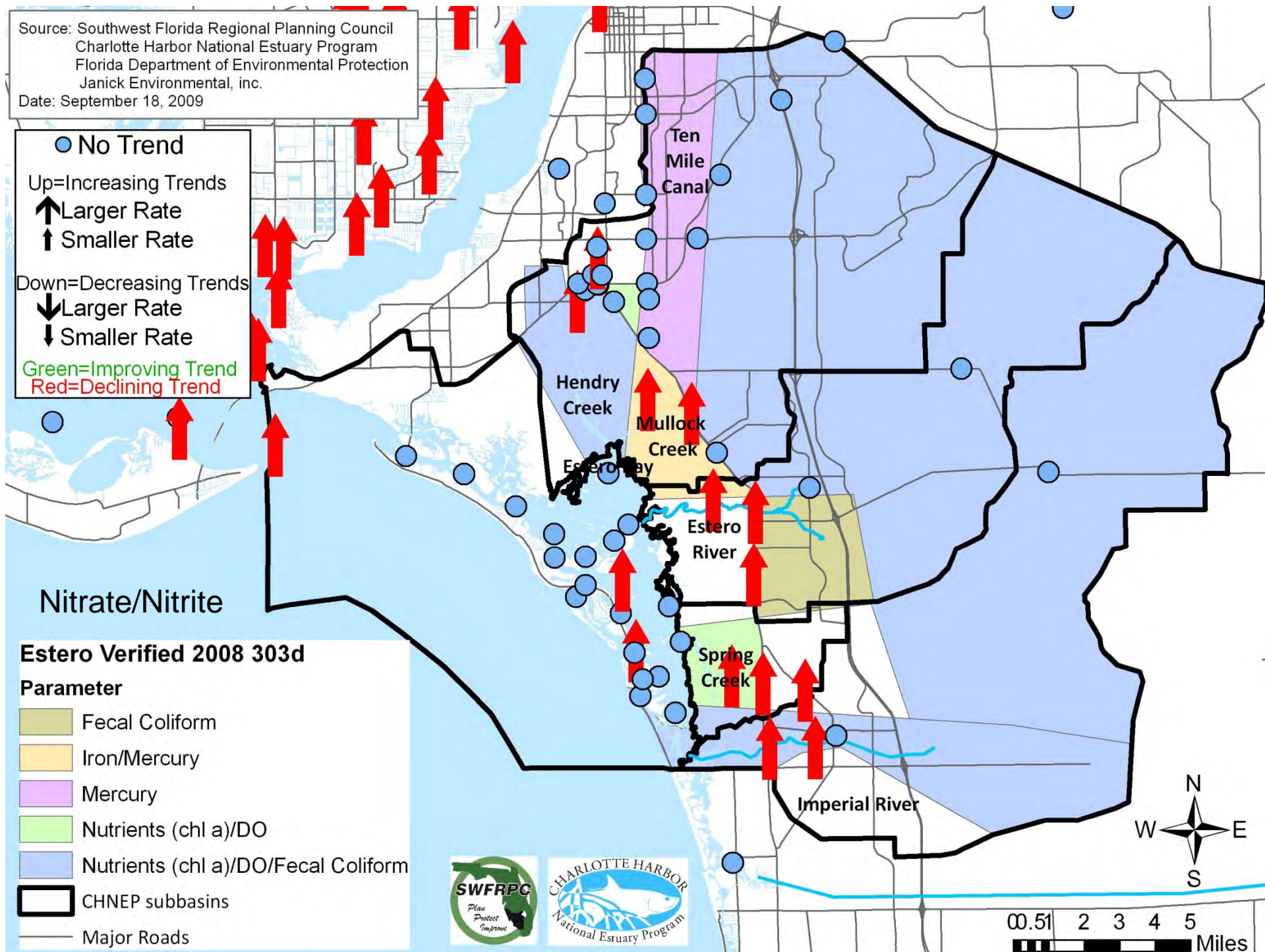
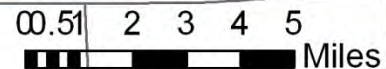
● No Trend
 Up=Increasing Trends
 ↑ Larger Rate
 † Smaller Rate
 Down=Decreasing Trends
 ↓ Larger Rate
 † Smaller Rate
 Green=Improving Trend
 Red=Declining Trend

Nitrate/Nitrite

Estero Verified 2008 303d

Parameter

- Fecal Coliform
- Iron/Mercury
- Mercury
- Nutrients (chl a)/DO
- Nutrients (chl a)/DO/Fecal Coliform
- CHNEP subbasins
- Major Roads



Source: Southwest Florida Regional Planning Council
 Charlotte Harbor National Estuary Program
 Florida Department of Environmental Protection
 Janick Environmental, inc.
 Date: September 18, 2009

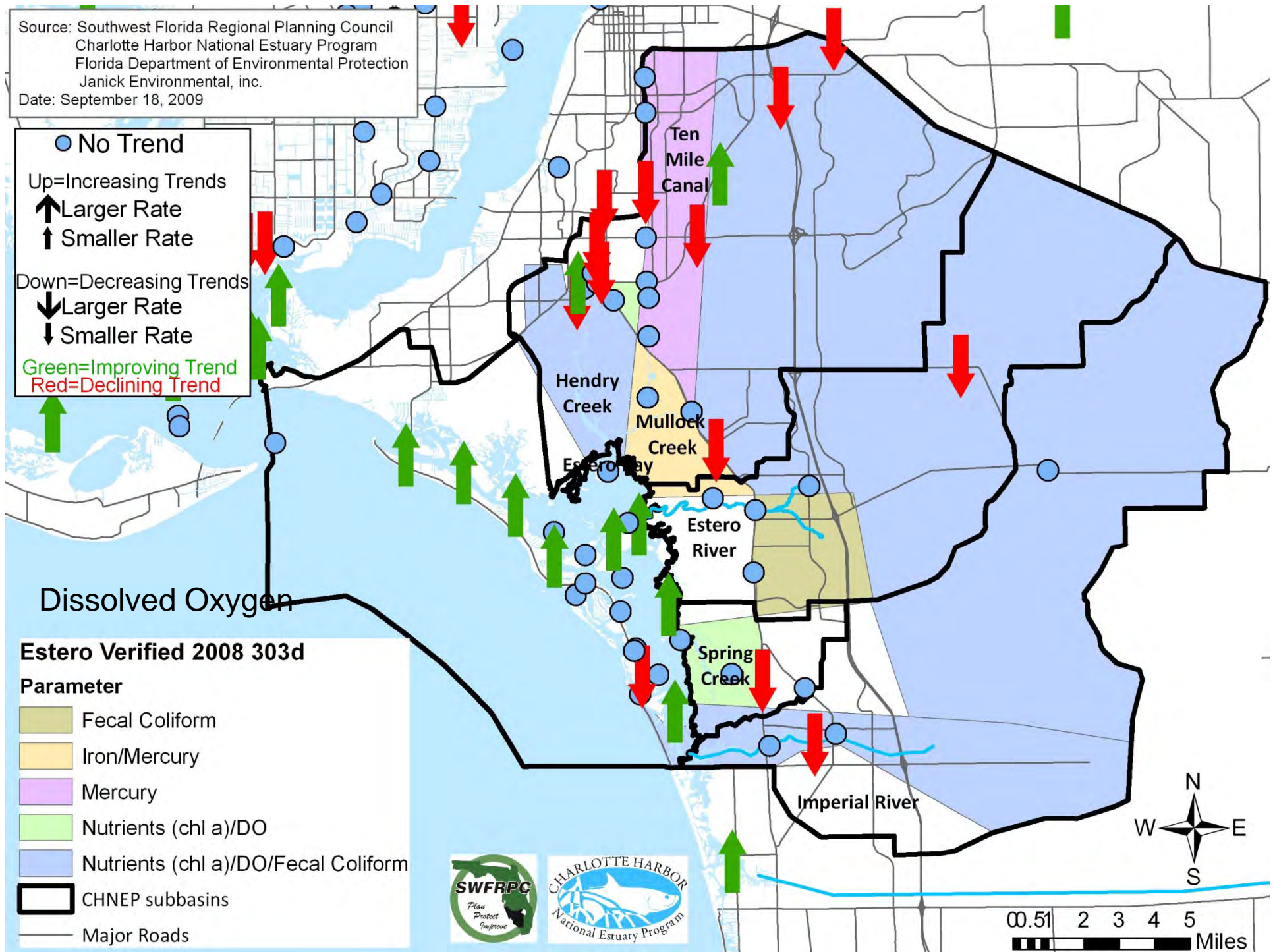
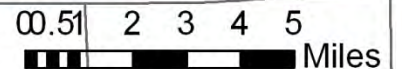
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 ↓ Larger Rate
 † Smaller Rate
 Green=Improving Trend
 Red=Declining Trend

Dissolved Oxygen

Estero Verified 2008 303d

Parameter

- Fecal Coliform
- Iron/Mercury
- Mercury
- Nutrients (chl a)/DO
- Nutrients (chl a)/DO/Fecal Coliform
- CHNEP subbasins
- Major Roads



Source: Southwest Florida Regional Planning Council
 Charlotte Harbor National Estuary Program
 Florida Department of Environmental Protection
 Janick Environmental, inc.
 Date: September 18, 2009

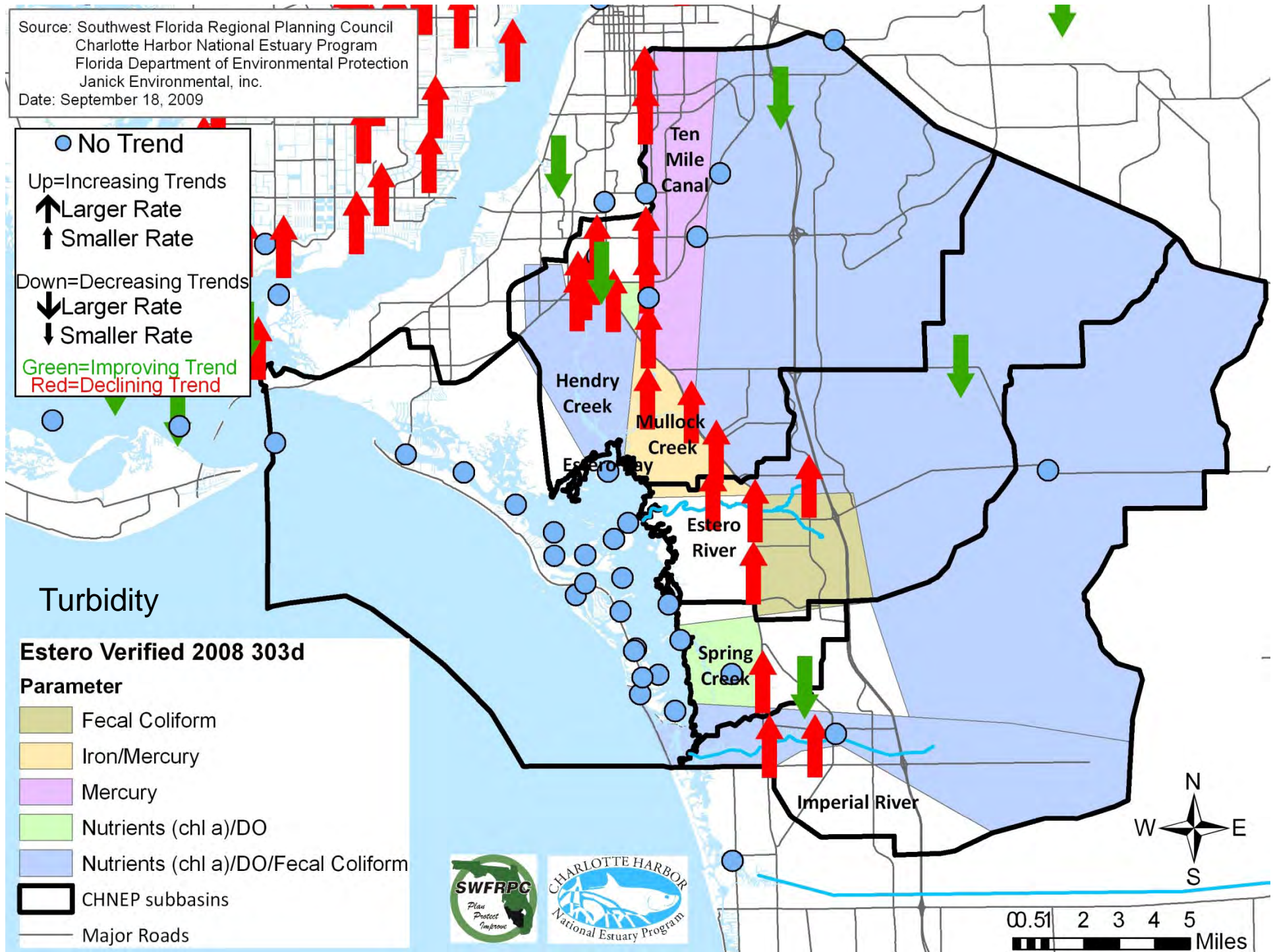
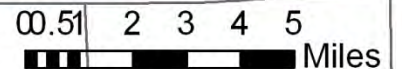
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 † Smaller Rate
 Down=Decreasing Trends
 ↓ Larger Rate
 † Smaller Rate
 Green=Improving Trend
 Red=Declining Trend

Turbidity

Estero Verified 2008 303d

Parameter

-  Fecal Coliform
-  Iron/Mercury
-  Mercury
-  Nutrients (chl a)/DO
-  Nutrients (chl a)/DO/Fecal Coliform
-  CHNEP subbasins
-  Major Roads



Source: Southwest Florida Regional Planning Council
 Charlotte Harbor National Estuary Program
 Florida Department of Environmental Protection
 Janick Environmental, inc.
 Date: September 18, 2009

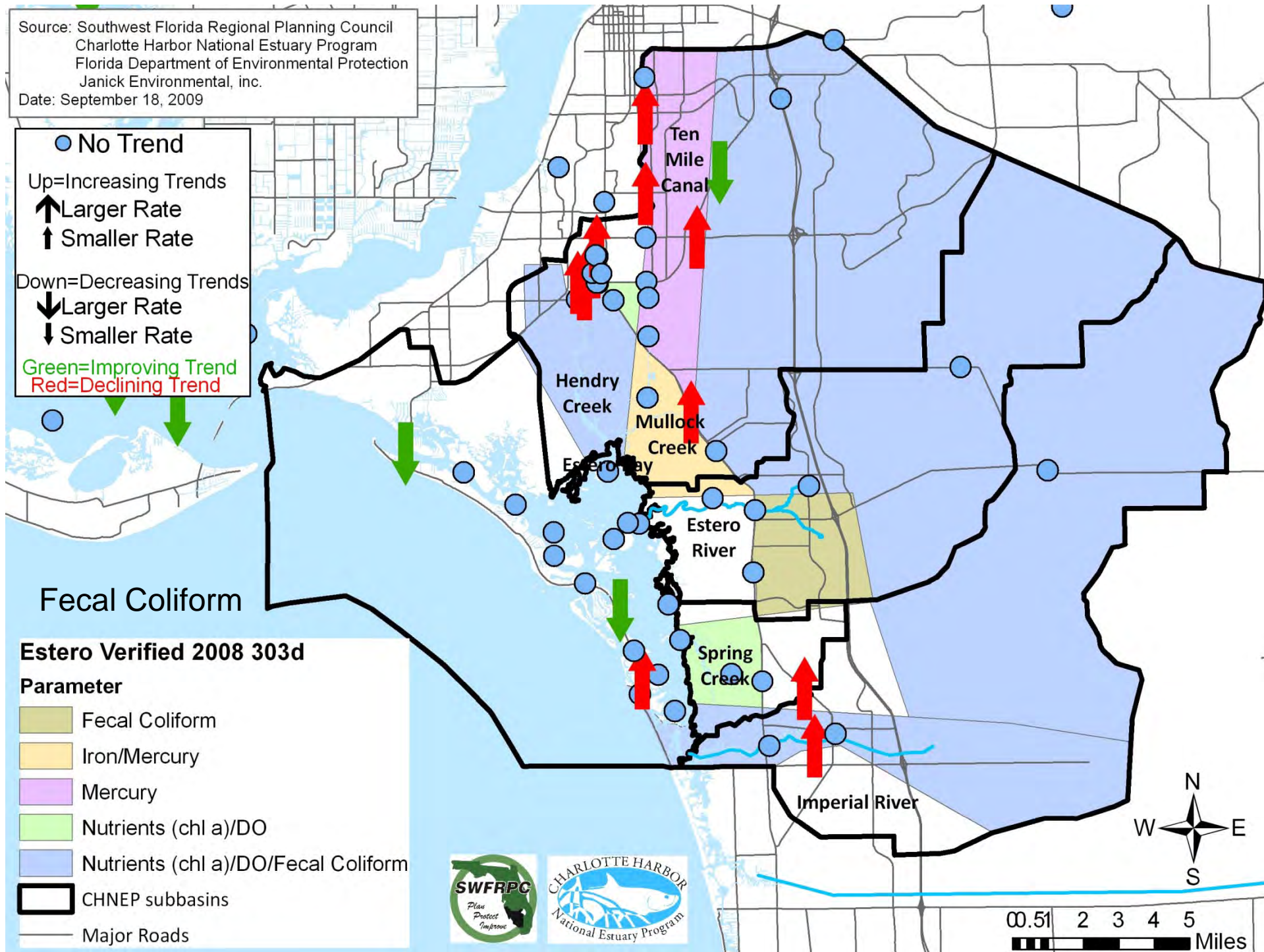
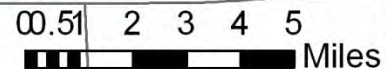
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 ↓ Larger Rate
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 Green=Improving Trend
 Red=Declining Trend

Fecal Coliform

Estero Verified 2008 303d

Parameter

- Fecal Coliform
- Iron/Mercury
- Mercury
- Nutrients (chl a)/DO
- Nutrients (chl a)/DO/Fecal Coliform
- CHNEP subbasins
- Major Roads



**Hendry Creek Basin Onsite Treatment & Disposal Systems
Implementing a Voluntary Homeowner Management Program**

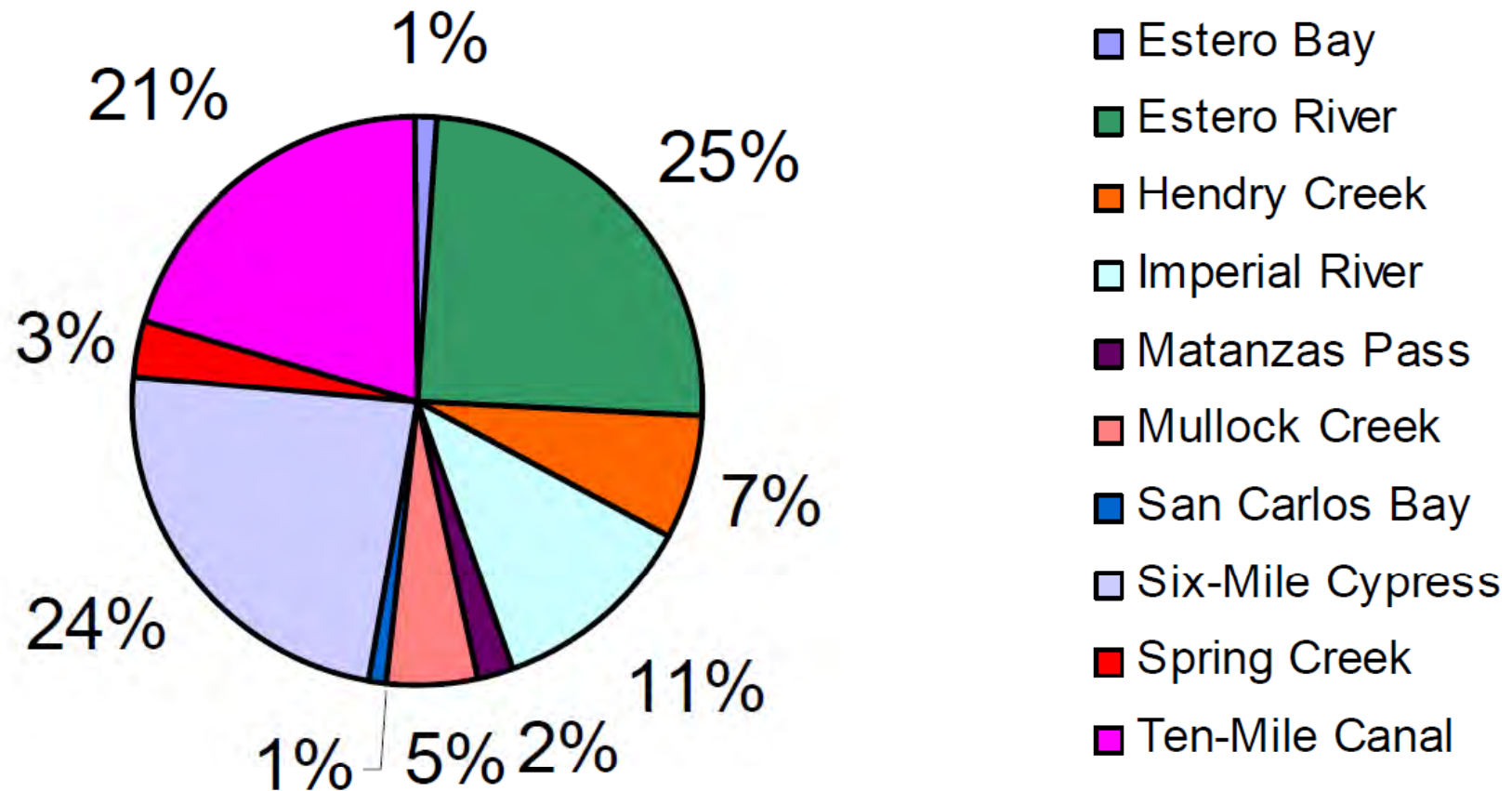


**Charlotte Harbor National Estuary Program
Technical Report 07-2
October 9, 2007**



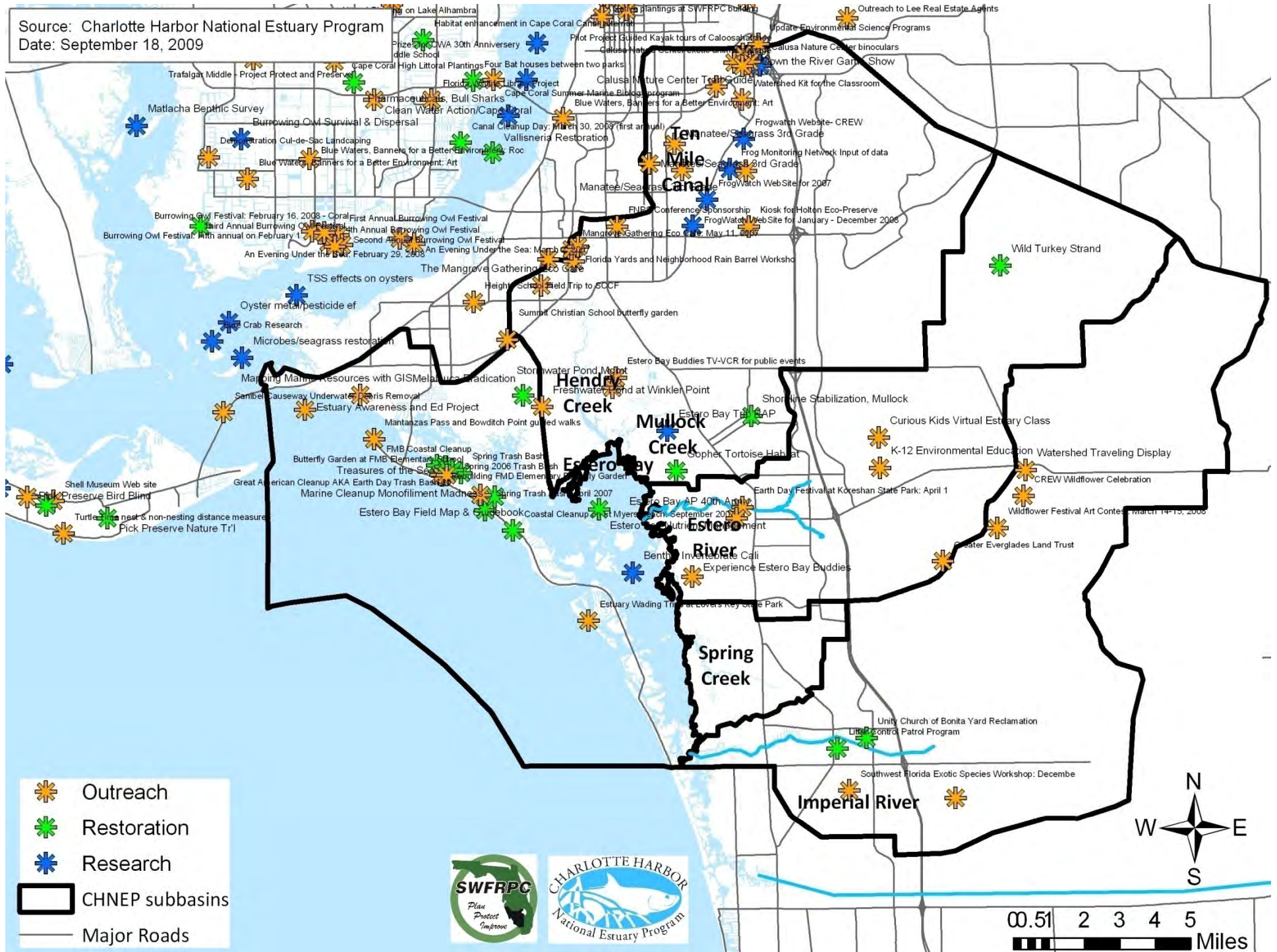
7 of 64
homeowners
participated,
June-August
2007

Estero Bay ERP Permits 2006-2007

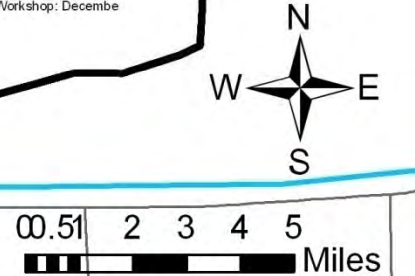


There were 18 projects (5%) that had a total loss of 580.06 acres of wetland losses with no mitigation required.

Source: Charlotte Harbor National Estuary Program
 Date: September 18, 2009



-  Outreach
-  Restoration
-  Research
-  CHNEP subbasins
-  Major Roads



Estero Projects under “Construction”

- Pollutant Loading (w/ and w/out BMPs)
- Restoration Tracking
- Water Quality Status and Trends to 2008
- Shoreline Conditions Update
- FDEP Data Quality Assurance
(CHEVWQMN, etc.)
- Watershed Report (State of the Estuary)
- Climate Ready Estuaries

Charlotte Harbor National Estuary Program

Director: Lisa B. Beever, PhD, AICP

Deputy Director: Liz Donley, esq.

Program Scientist: Judy Ott, MS

Communications Manager: Maran Hilgendorf

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www.CHNEP.org