Status of Listed Sturgeon in the Chesapeake Bay

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Shortnose Sturgeon

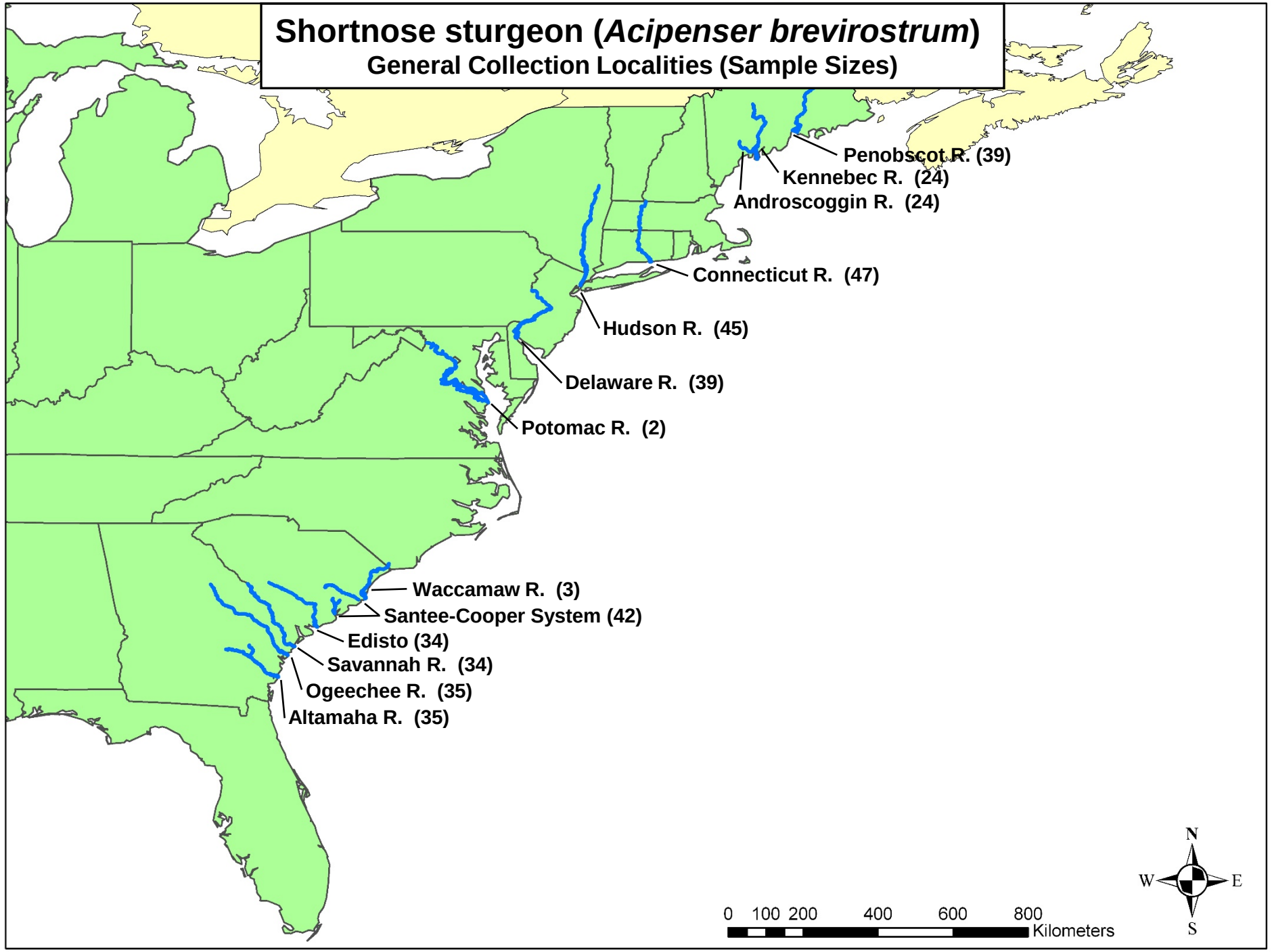
- Potomac River (2003-2005)
  - 40 individuals
  - Migratory behavior
- James River (2016)
  - 1 individual

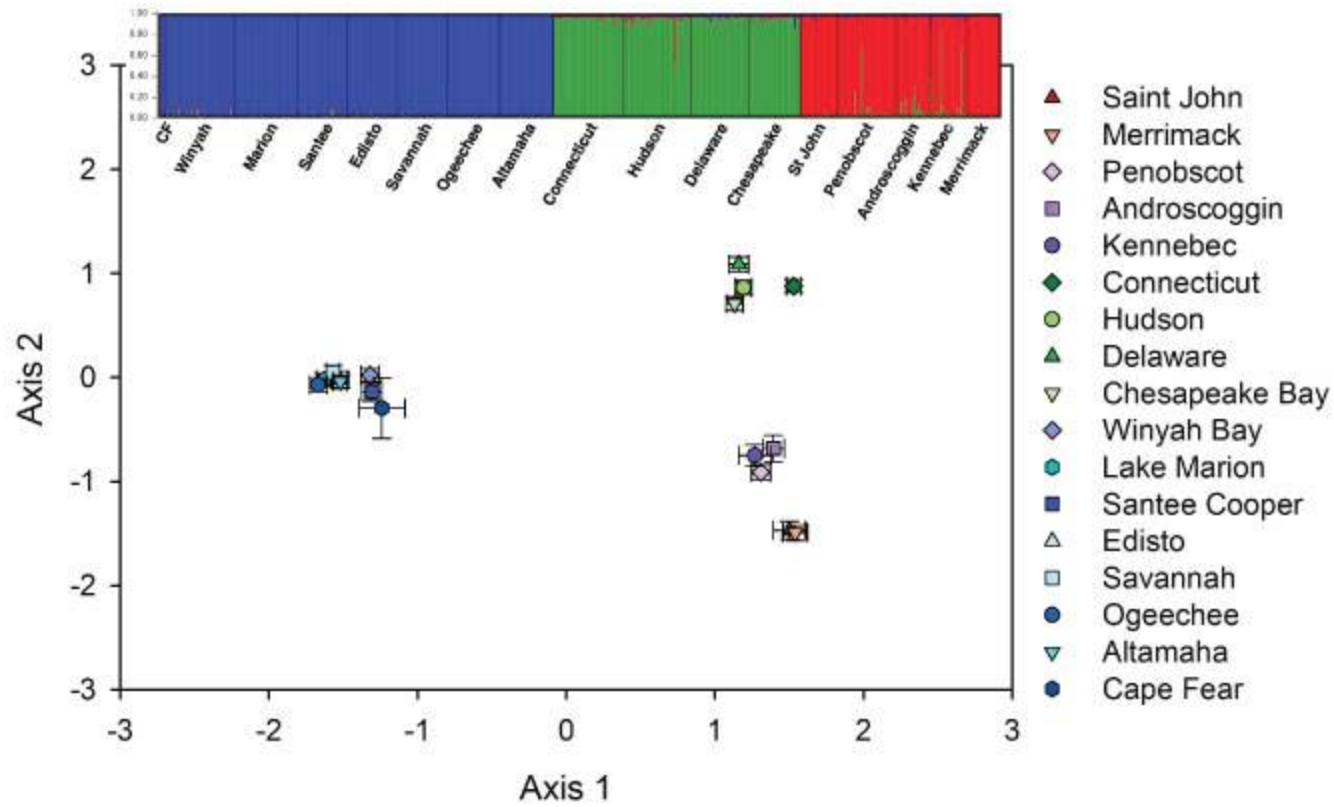
Shortnose Sturgeon Status

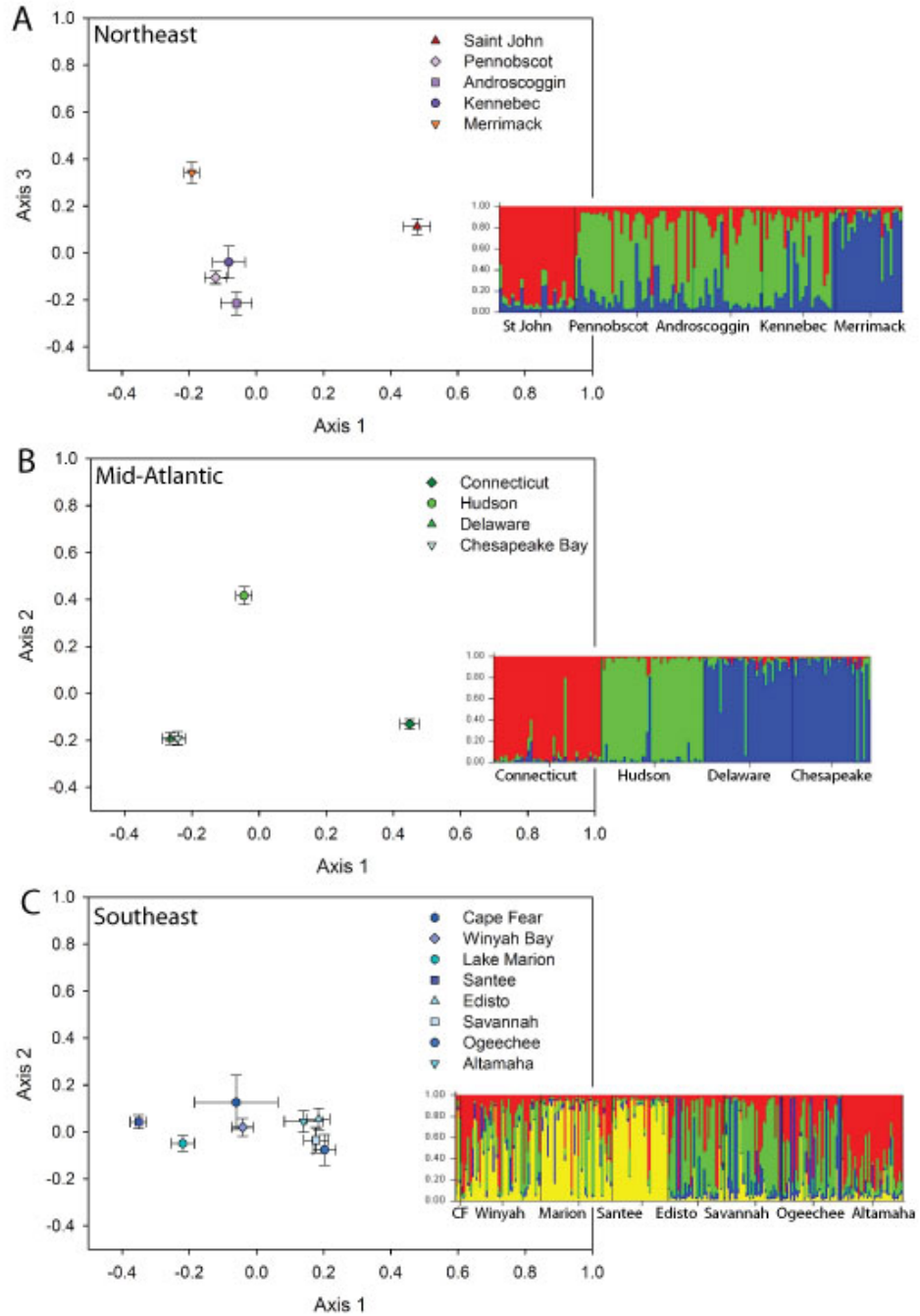
Very Rare

Transient through C&D Canal

Unknown resident status


Shortnose sturgeon (*Acipenser brevirostrum*)
General Collection Localities (Sample Sizes)
Penobscot R. (39)
Kennebec R. (24)
Androscoggin R. (24)
Connecticut R. (47)
Hudson R. (45)
Delaware R. (39)
Potomac R. (2)
Waccamaw R. (3)
Santee-Cooper System (42)
Edisto (34)
Savannah R. (34)
Ogeechee R. (35)
Altamaha R. (35)
0 100 200 400 600 800
Kilometers
N
W
E
S


CF
Winyah
Marion
Santee
Edisto
Savannah
Ogeechee
Altamaha
Connecticut
Hudson
Delaware
Chesapeake
St John
Penobscot
Androscoggin
Kennebec
Merrimack
Axis 2
Axis 1
3
2
1
0
-1
-2
-3
Saint John
Merrimack
Penobscot
Androscoggin
Kennebec
Connecticut
Hudson
Delaware
Chesapeake Bay
Winyah Bay
Lake Marion
Santee Cooper
Edisto
Savannah
Ogeechee
Altamaha
Cape Fear


A
Northeast
Saint John
Pennobscot
Androscoggin
Kennebec
Merrimack
Axis 3
Axis 1
St John
Pennobscot
Androscoggin
Kennebec
Merrimack
B
Mid-Atlantic
Connecticut
Hudson
Delaware
Chesapeake Bay
Axis 2
Axis 1
Connecticut
Hudson
Delaware
Chesapeake
C
Southeast
Cape Fear
Winyah Bay
Lake Marion
Santee
Edisto
Savannah
Ogeechee
Altamaha
Axis 2
Axis 1
CF
Winyah
Marion
Santee
Edisto
Savannah
Ogeechee
Altamaha

Atlantic Sturgeon

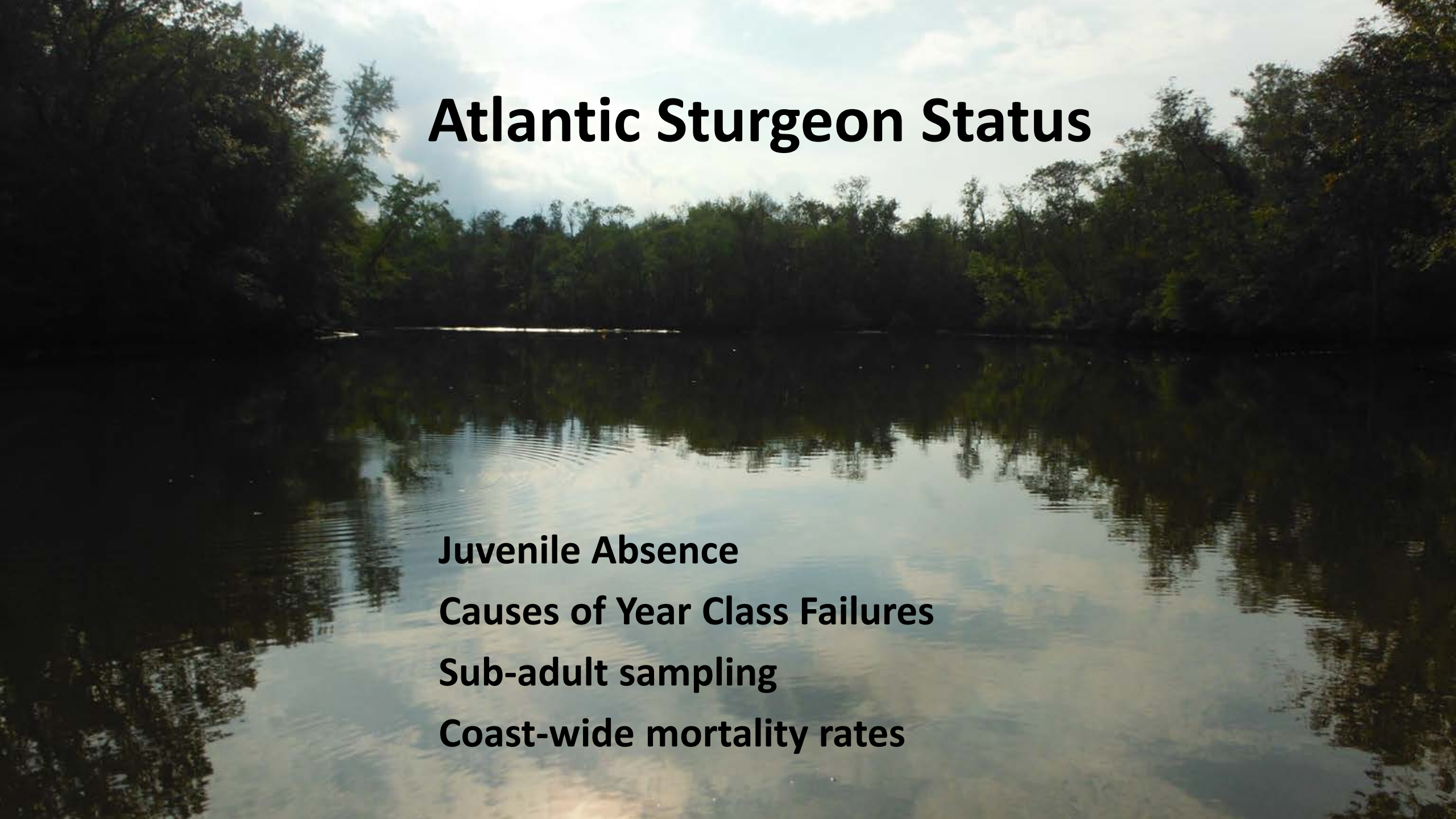
James River

York River

Rappahannock River

Nanticoke River

Pocomoke River



Atlantic Sturgeon Status

Juvenile Absence

Causes of Year Class Failures

Sub-adult sampling

Coast-wide mortality rates

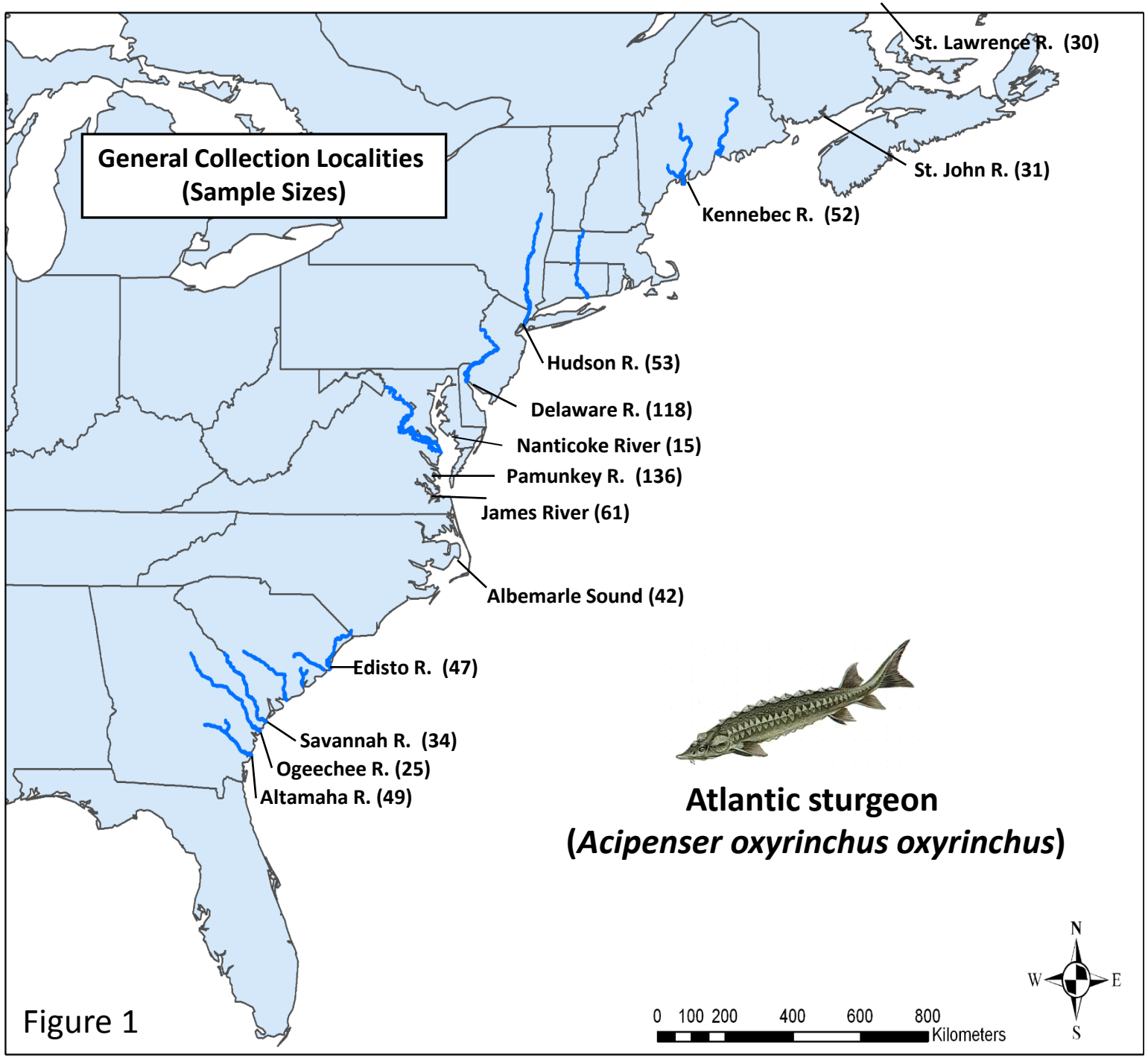
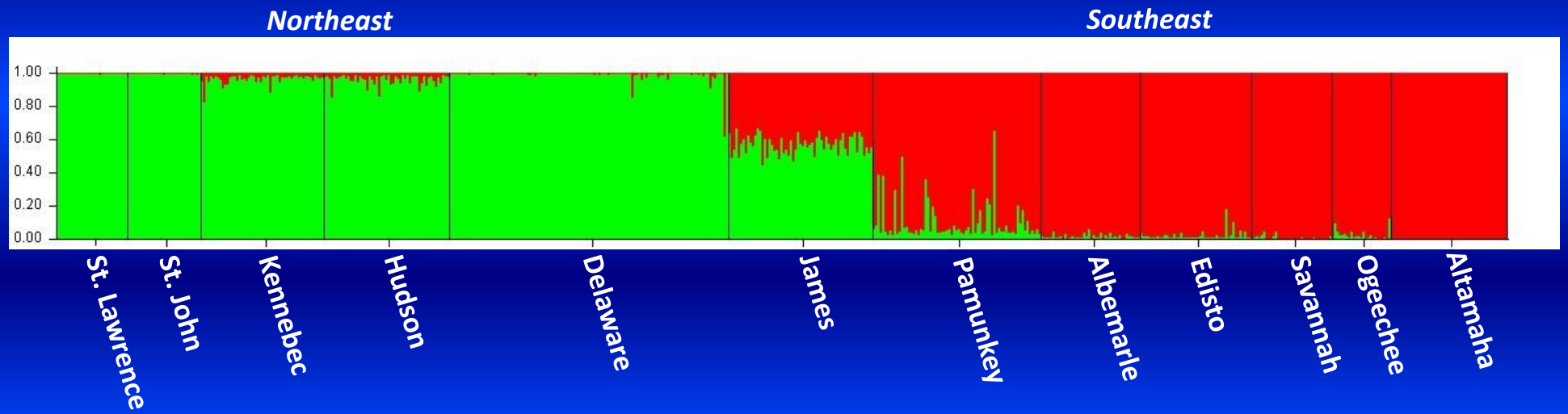

General Collection Localities
(Sample Sizes)
St. Lawrence R. (30)
St. John R. (31)
Kennebec R. (52)
Hudson R. (53)
Delaware R. (118)
Nanticoke River (15)
Pamunkey R. (136)
James River (61)
Albemarle Sound (42)
Edisto R. (47)
Savannah R. (34)
Ogeechee R. (25)
Altamaha R. (49)
Atlantic sturgeon
(Acipenser oxyrinchus oxyrinchus)
0 100 200 400 600 800
Kilometers
N
W
E
S

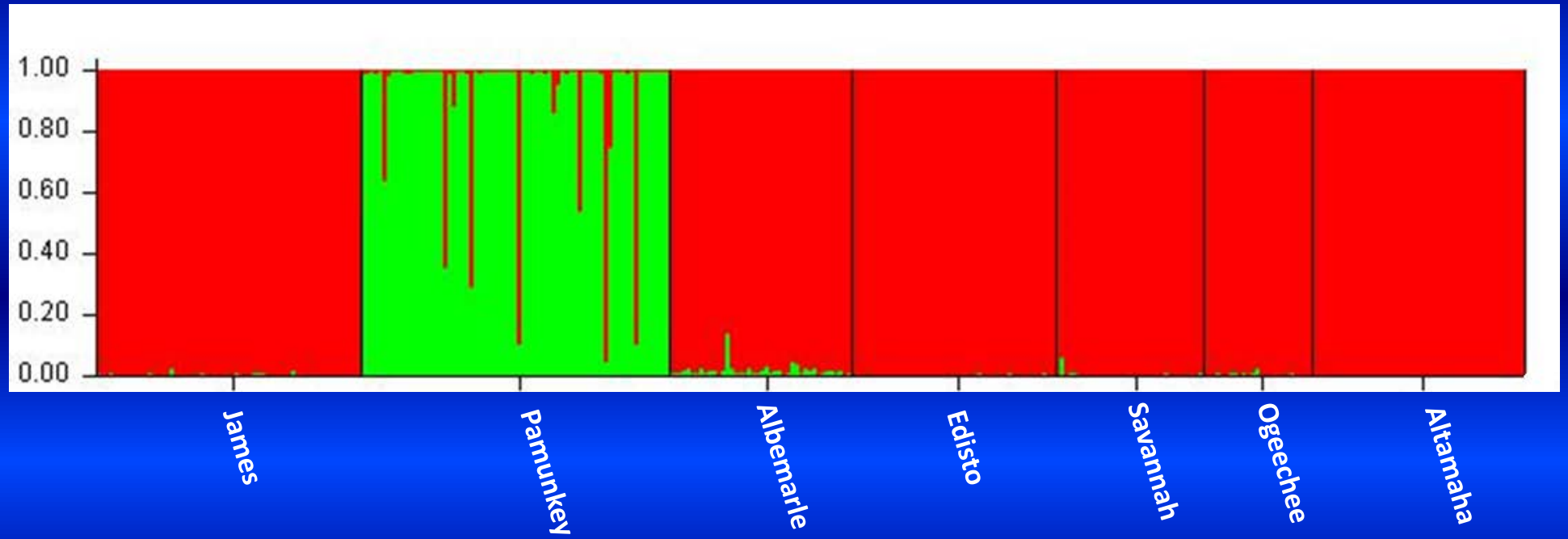
Figure 1

STRUCTURE Analysis

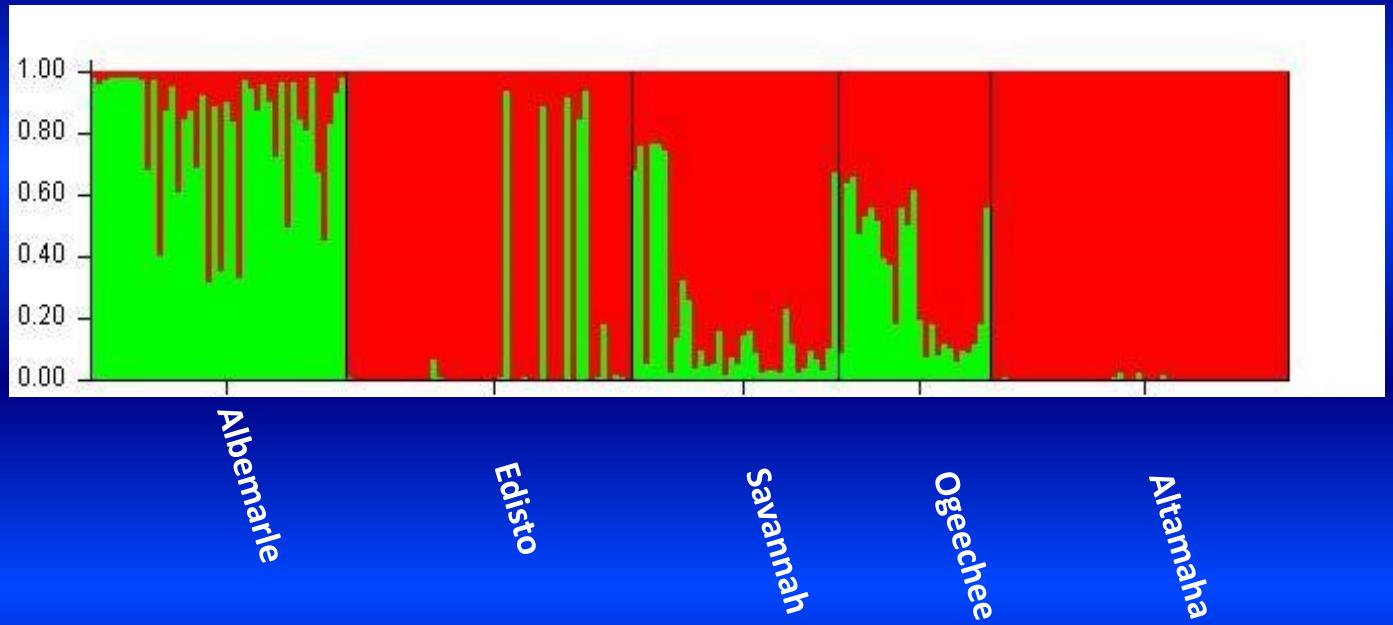
K = 2



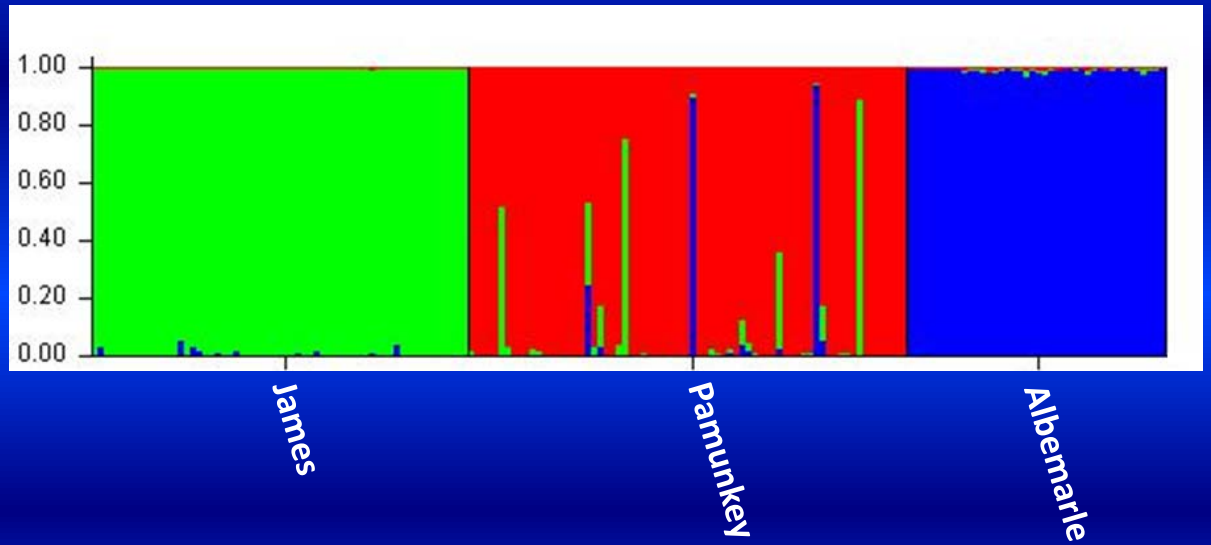
Southeast Analysis

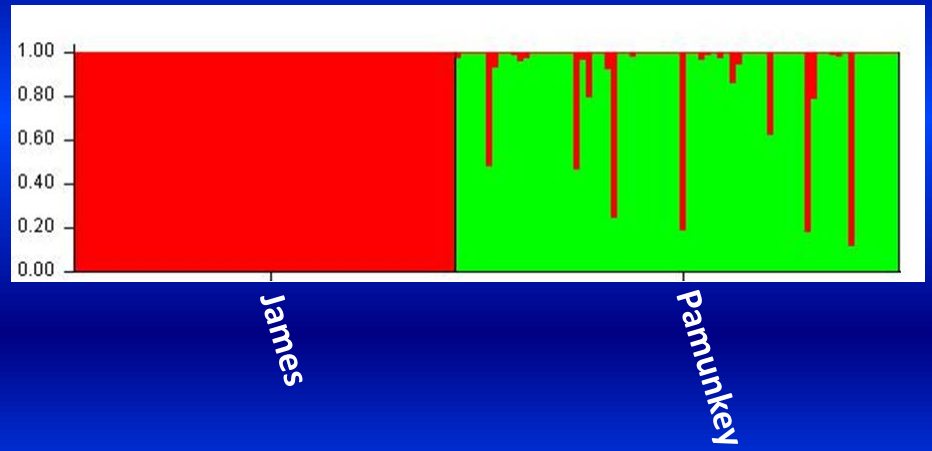


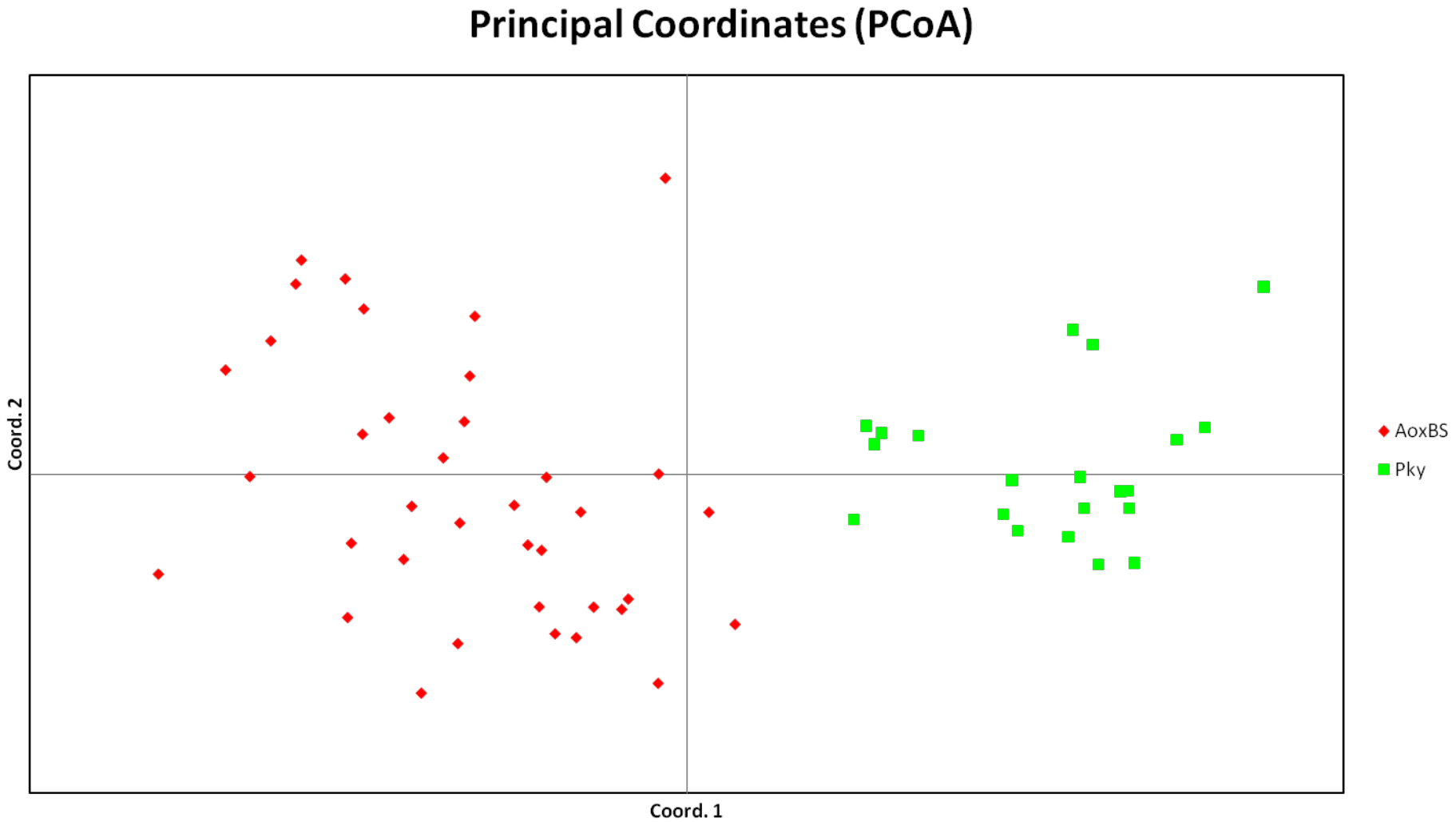
Southeast Analysis: Southern Extent



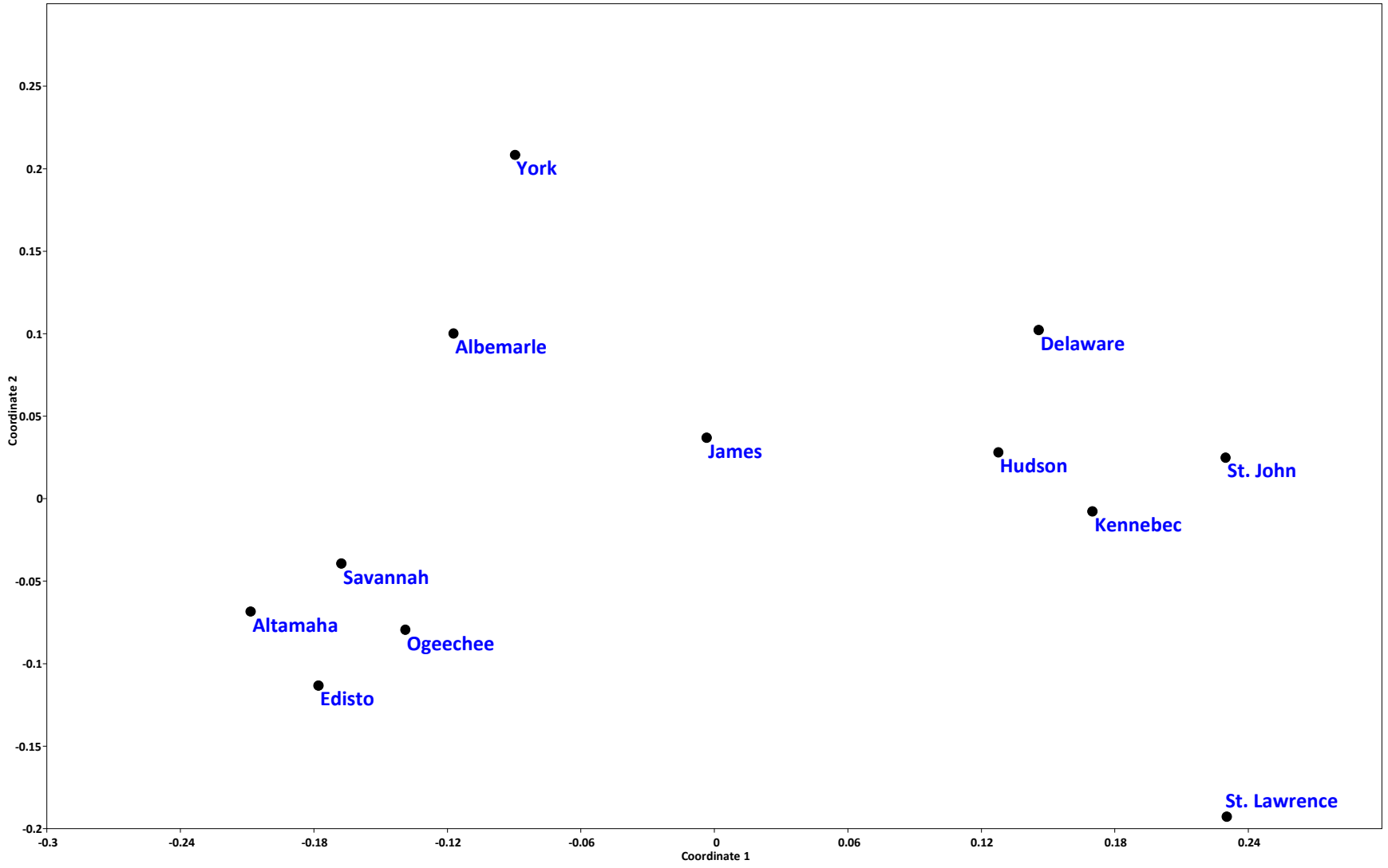
Pamunkey and Neighbors



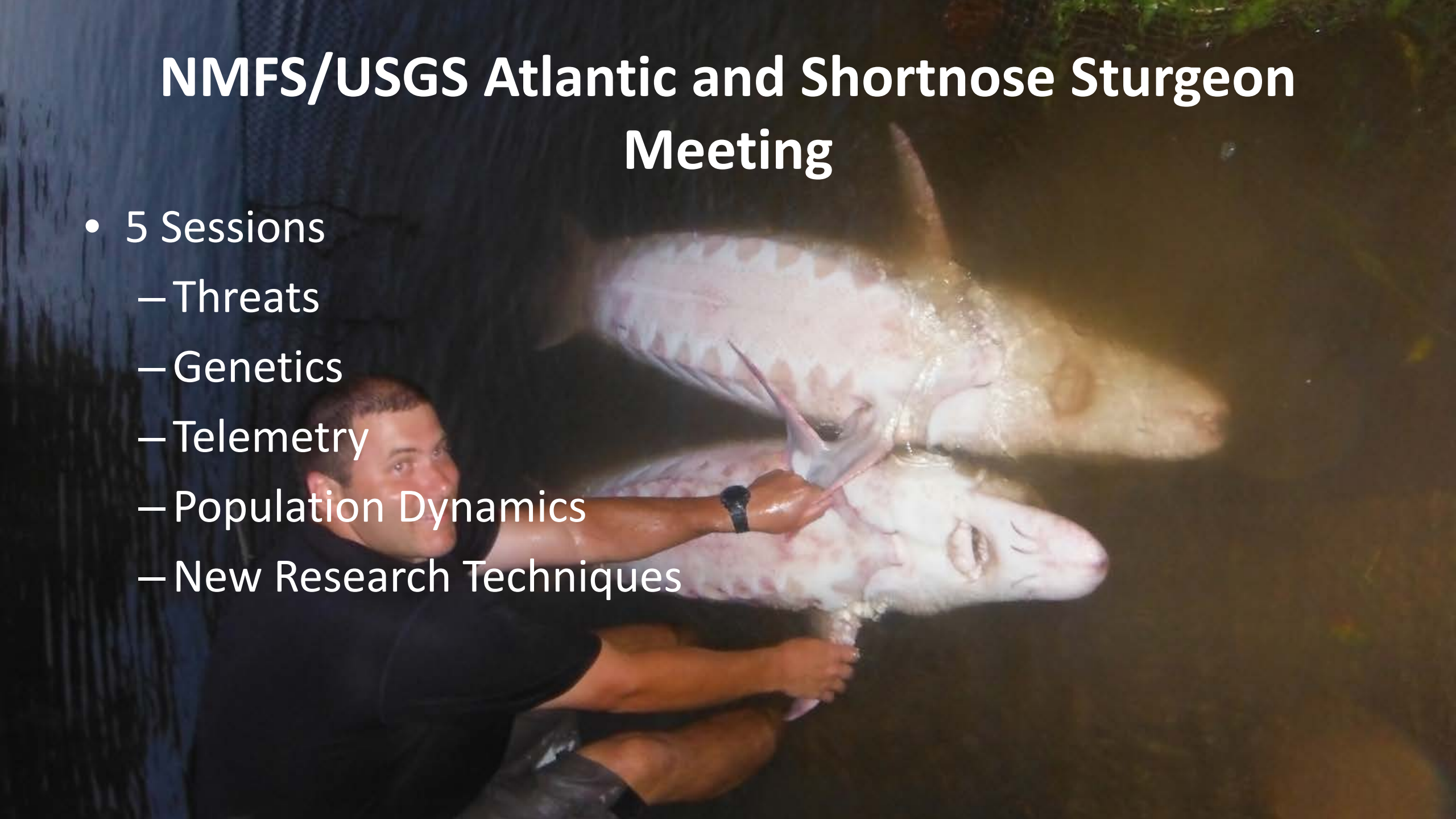



Principal Coordinates (PCoA)
Coord. 2
Coord. 1
AoxBS
Pky

Principal Coordinates Analysis
Pairwise F'_{ST} Values



NMFS/USGS Atlantic and Shortnose Sturgeon Meeting



- 5 Sessions
  - Threats
  - Genetics
  - Telemetry
  - Population Dynamics
  - New Research Techniques

Outcomes for the Chesapeake Bay DPS

- Top threats
  - Blue catfish
  - ship strikes
  - bycatch
- DNA Results
  - James and York Rivers are distinct
  - York and Nanticoke closely related
  - More Nanticoke samples needed

Outcomes for the Chesapeake Bay DPS

- Telemetry
  - NOAA agreement with ATN
  - How best to utilize resources
- Population Dynamics
  - Need to find juveniles
  - Need further work on predation
  - Need further work on habitat use
  - Need more adult estimates

Outcomes for the Chesapeake Bay DPS

- New Research Techniques
  - Side scan sonar abundance estimates
  - On site sex identification
  - Gliders and other offshore telemetry
  - Major data gaps in coastal residency