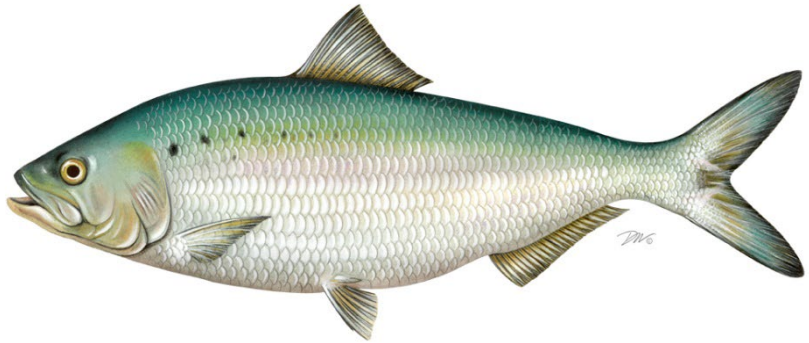
Potomac River Fisheries Commission American Shad SFMP Update



ASMFC Shad and River Herring Management Board

August 1st, 2023

Background

- Amendments 2 & 3 of the Shad and River Herring FMP require states wishing to have a fishery must submit a Sustainable Fishery Management Plan that will:
  - "demonstrate their stock could support a commercial and/or recreational fishery that will not diminish the future stock reproduction and recruitment."
- Plans are updated and reviewed every 5 years to reassess stock status and sustainability

Plan Update for Board Consideration

- May 2023: TC evaluated the PRFC American shad SFMP update
- **The TC recommended approval of the plan based on the presented update with the recommendation of exploring additional sustainability metrics in future plans.**

Potomac River Update

- The PRFC is requesting continuation of their limited commercial bycatch allowance in the portion of the Potomac River under PFRC jurisdiction
  - Shad encountered in pound and gill net fisheries
  - Cooperatively managed by Maryland and Virginia

- The updated plan remains unchanged from the previous Board approved plan (2017)

- Management Measures
  - Seasons
    - Pound net: Feb. 15th-Dec. 15th
    - Gill net: Nov. 7th-Mar. 25th
  - 2-bushel limit per day
  - Mandatory daily reporting including discards/releases

Potomac River Update

Management Unit. The SFMP has a river-specific management unit of the Potomac River from Washington, D.C to the Chesapeake Bay

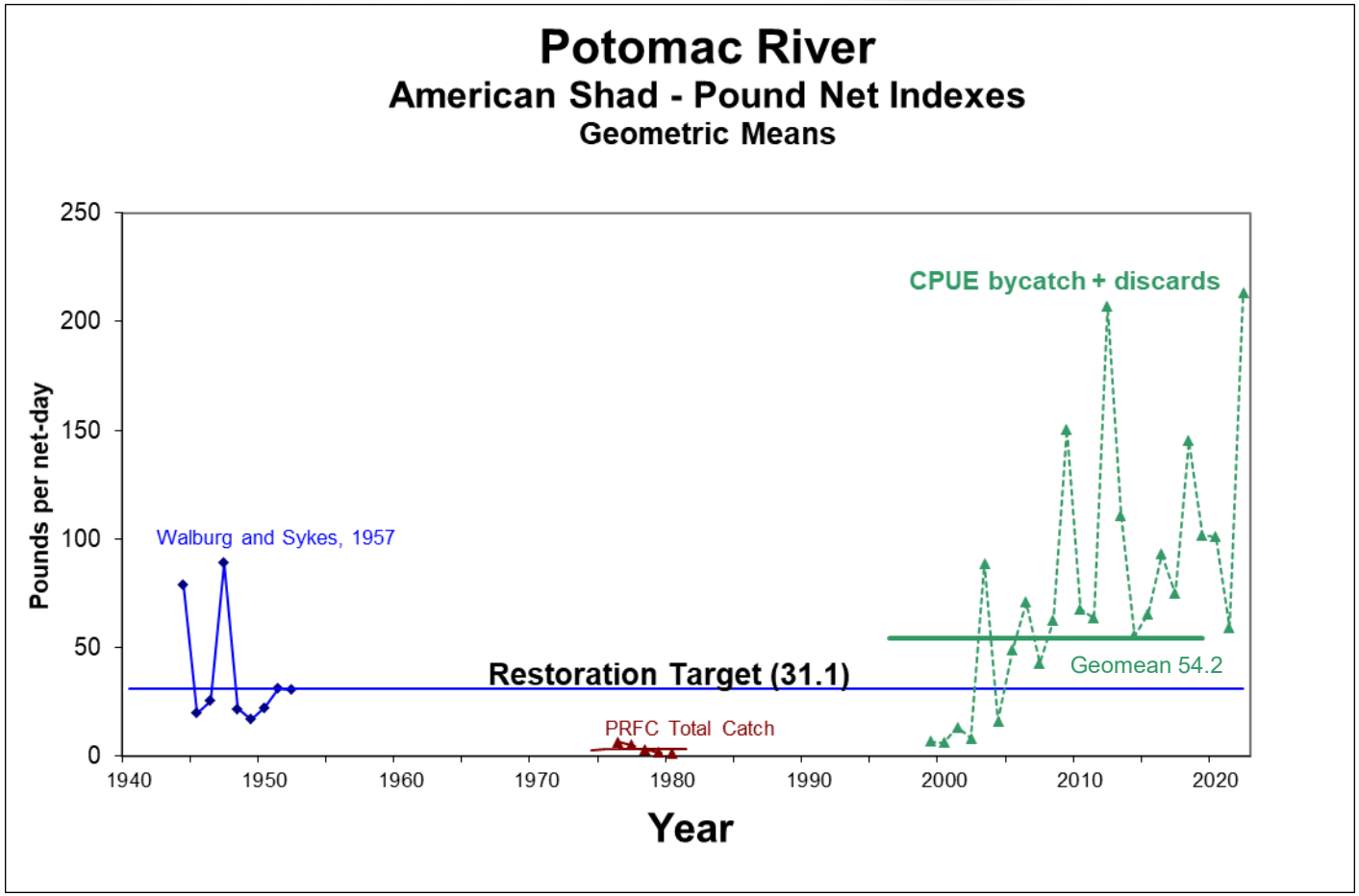
Sustainability Measures. Timeseries GM CPUE of pound net landings (catch + discards)

Sustainability Target. One fishery-dependent sustainability target will be used. Restoration target set in 2007 assessment (31.1 lbs per net-day)

Management Action Threshold. Three consecutive years with the GM CPUE below the restoration target

Management Actions. Reduction or elimination of the two bushel by-catch allowance and/or limiting or restricting the take of broodstock/egg collections by other agencies

Potomac River Update



Geometric Mean (GM) of Pound Net CPUE Data												
Time Series	1944-1952	1976-1980	1999-2002	1999-2003	1999-2004	1999-2005	1999-2006	1999-2007	1999-2008	1999-2009	1999-2010	1999-2011
GM	**31.1**	3.0	8.1	13.1	13.6	16.3	19.6	21.3	23.8	28.1	30.2	32.0

Geometric Mean (GM) of Pound Net CPUE Data												
Time Series	1999-2012	1999-2013	1999-2014	1999-2015	1999-2016	1999-2017	1999-2018	1999-2019	1999-2020	1999-2021	1999-2022	
GM	36.6	39.4	40.3	41.4	43.3	44.6	47.3	49.1	50.7	51.0	54.2	

Questions?

USGS Alosine Genetic Tissue Repository

Miluska Olivera-Hyde, David Kazyak, Kirby Rootes- Murdy

USGS Eastern Ecological Science Center (EESC)

August 1, 2023

Overview

- Bycatch of alosines in estuarine & marine fisheries present challenges to recovering spawning populations
- Distinguishing stock composition can support efforts to assess status and trends of specific populations

Objective

- Use genomic markers, i.e. single nucleotide polymorphisms (SNPs) to build and expand genomic baseline information for:
  - American Shad (*Alosa sapidissnima*)
  - Blueback Herring (*Alosa aestivalis*)
  - Alewife (*Alosa pseudoharegnus*)
- Characterize populations of Blueback Herring & Alewife using SNP baseline augmented with additional samples.
- Develop new SNP panel and genomic baseline for American Shad
  - Provide enhanced resolution of stock structure, greater repeatability, and cost savings when compared to previous genetic analyses using microsatellite markers.

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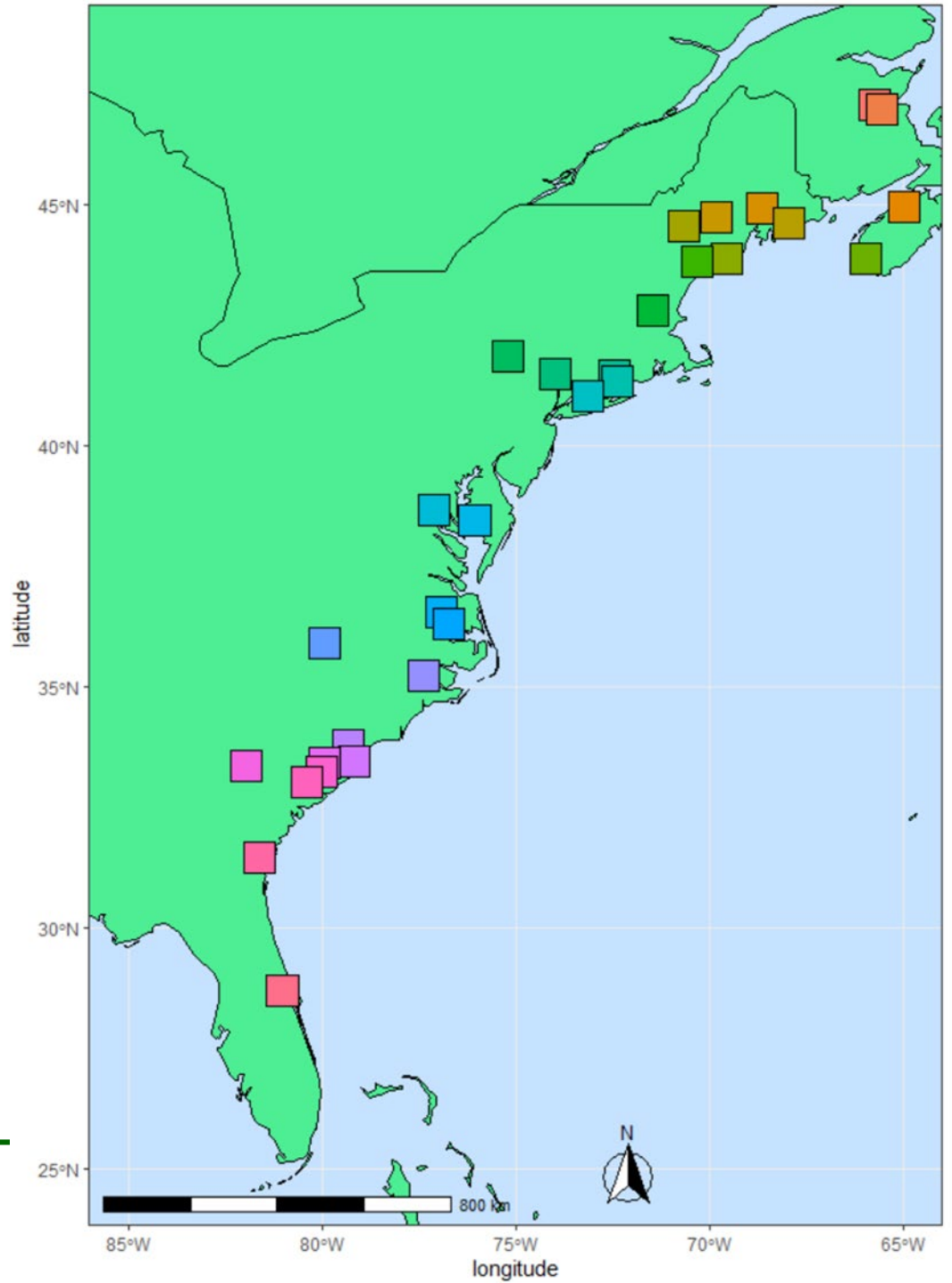
Sample collection send out

- Sample kits sent to: Canada DFO, U Maine, SC DNR, NJ DFW, MD DNR, PA F&BC, CT DEEP, NY DEC GA DNR, VIMS

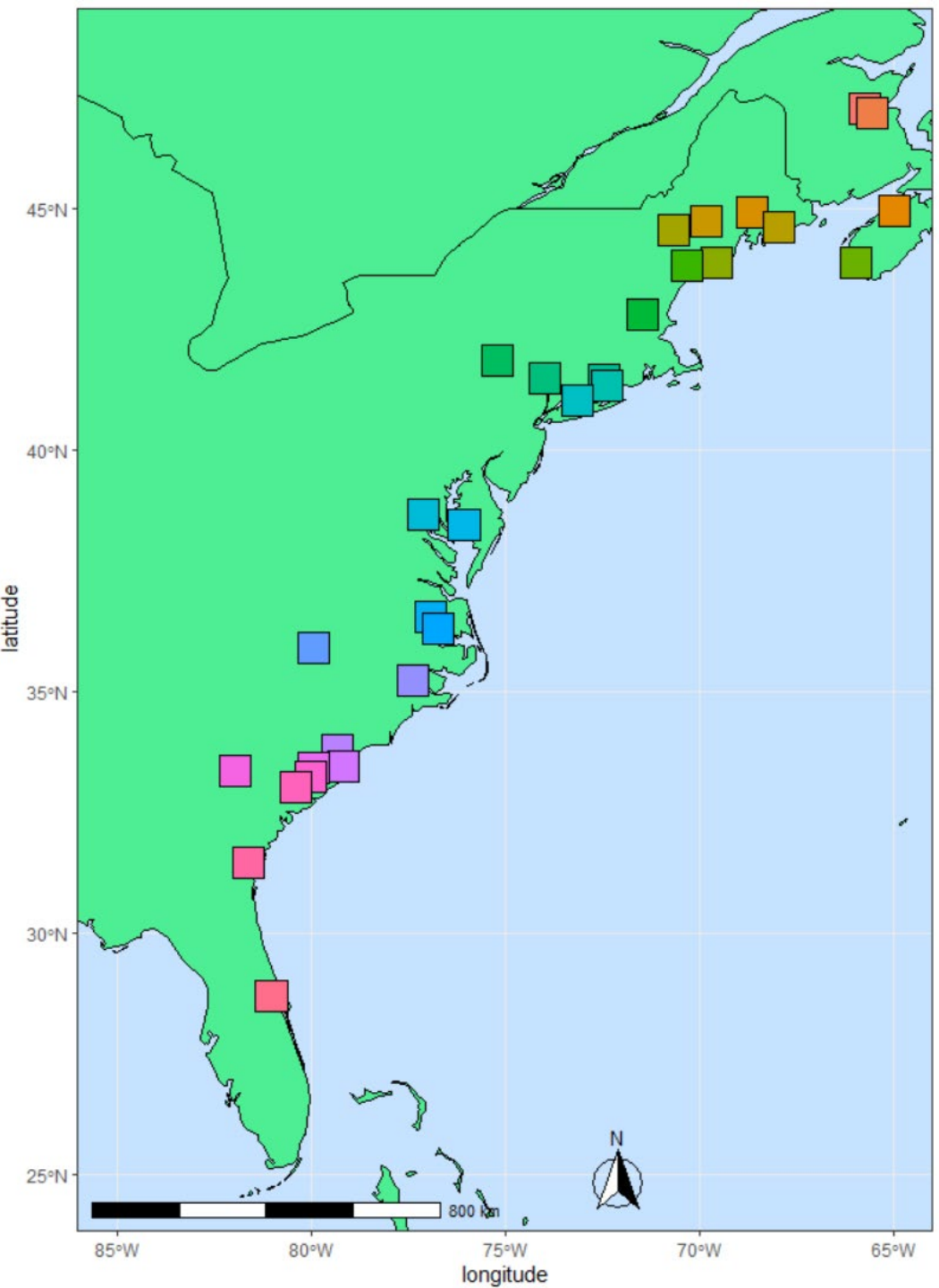
- Data Requested:
  - **species**,
  - **sampling location** (e.g. river name, state, park, county, nearest town)
  - **GPS coordinates** including datum and latitude, longitude or UTM with zone, etc.) **collection date**,
  - **size class** (total length, fork length).

Work to date (American shad)

- A total of 2280 fin clip samples of American shad have been collected
  - largest # of samples between 2019-2022
  - Domestic: UMaine, MA, CT, NY, PA, USFWS (PA), MD, NC, GA, SC, FL
  - Canada: Gulf of St. Lawrence, New Brunswick, Novia Scotia, Bay of Fundy
    - Canada DFO, Ducks Unlimited, CBCL Limited



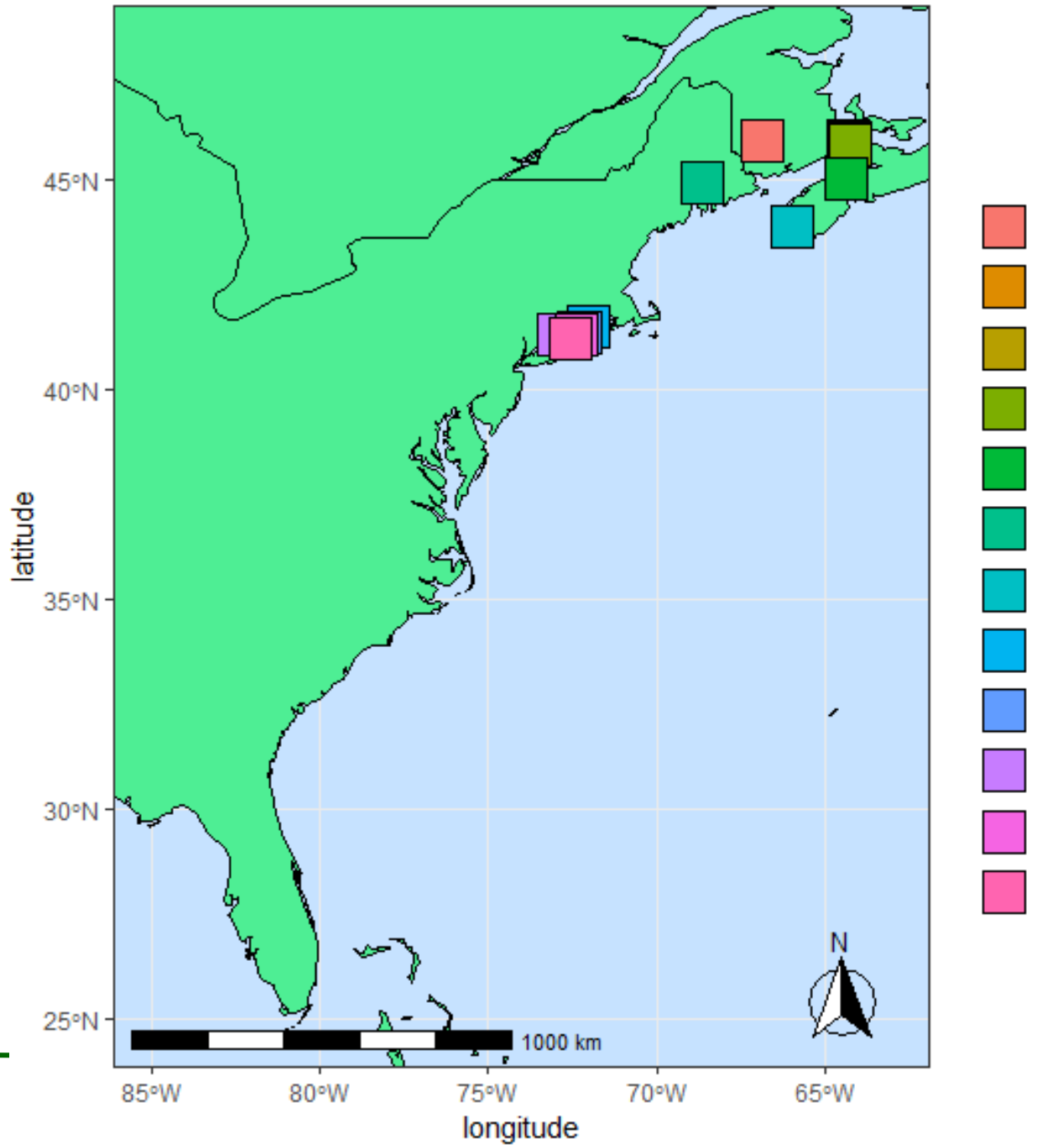
American Shad samples from populations along the coast



- Northwest Miramichi
- Southwest Miramichi
- Annapolis West
- Penobscot
- Kennebec
- Narraguagus
- Androscoggin
- Sheepscot
- Tusket River
- Saco
- Merrimack
- Delaware
- Hudson
- Salmon River
- Connecticut
- Long Island Sound
- Potomac
- Susquehanna
- Nottoway
- Chowan Blackwater
- Roanoke
- Tar
- Great Pee Dee
- Waccamaw
- Santee Cooper
- Savannah
- Cooper
- Edisto
- Altamaha
- Saint Johns

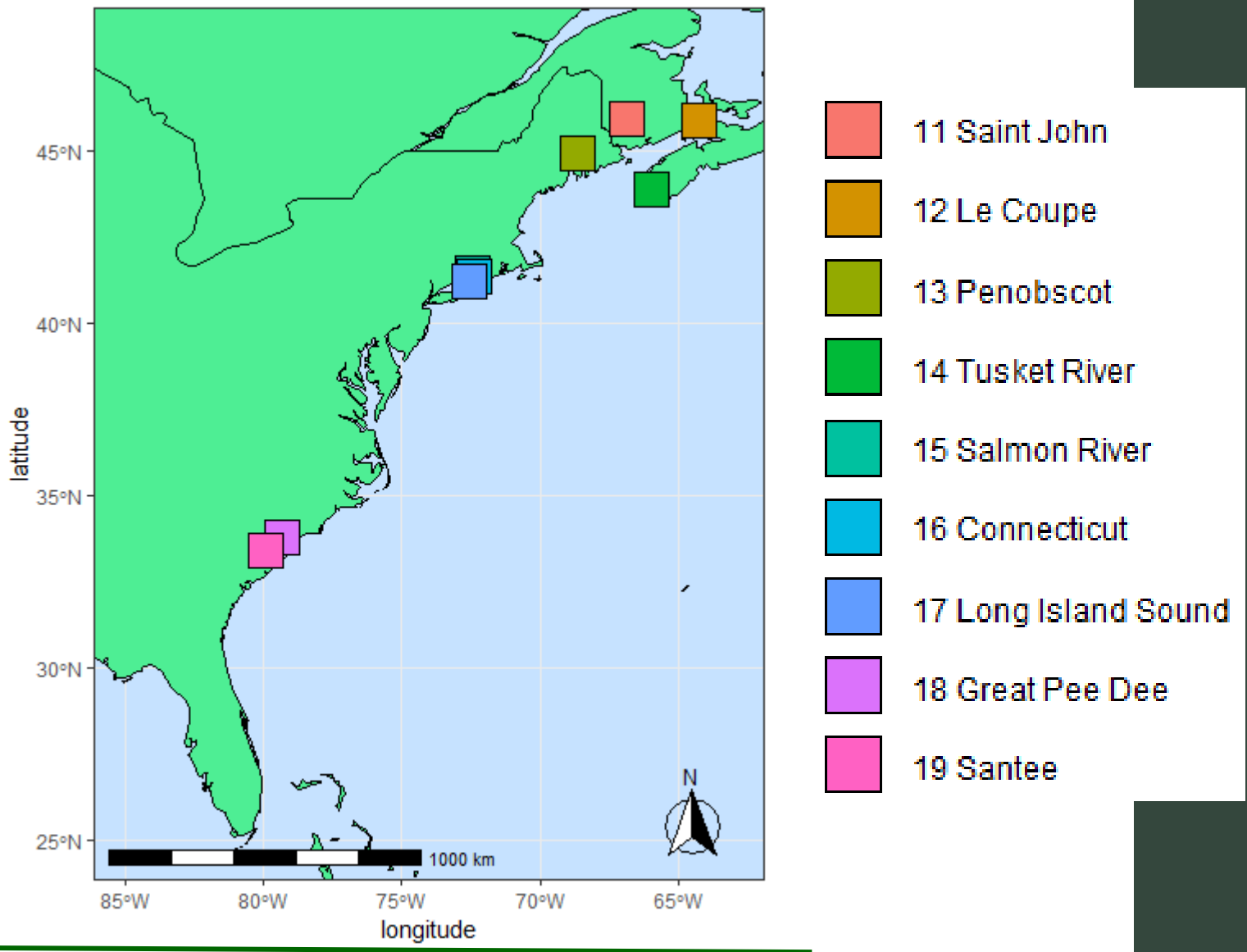
Work to date (Alewife)

- A total of 981 fin clip samples of Alewife have been collected
  - Domestic: UMaine, MA, CT, NY
  - Canada: Gulf of St. Lawrence, New Brunswick, Novia Scotia, Bay of Fundy
    - Canada DFO, Ducks Unlimited, CBCL Limited

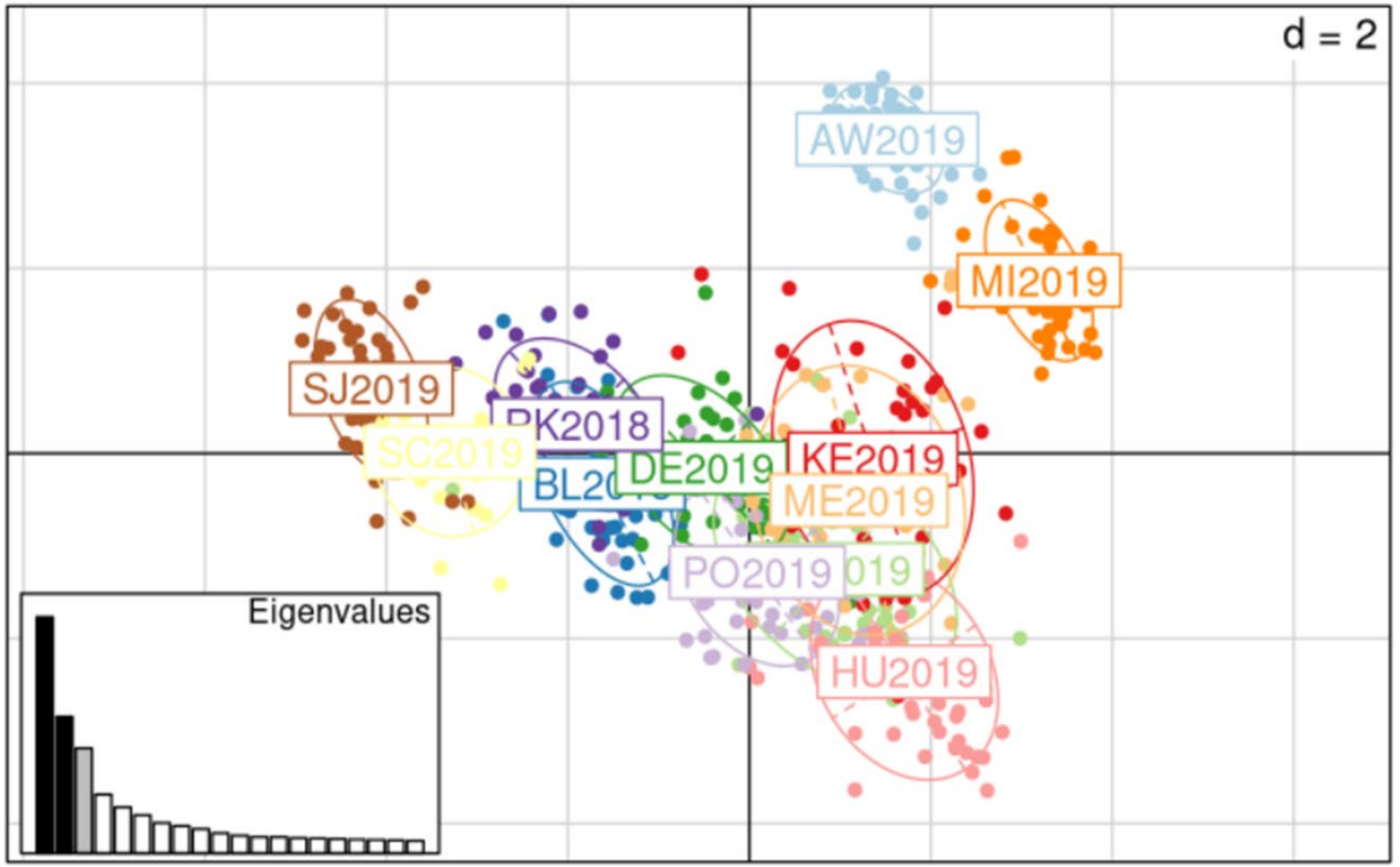


Work to date (Blueback Herring)

- A total of 218 fin clip samples of Blueback Herring have been collected
  - Domestic: UMaine, CT, NY
  - Canada: New Brunswick, Novia Scotia, Bay of Fundy
    - Canada DFO, Ducks Unlimited, CBCL Limited



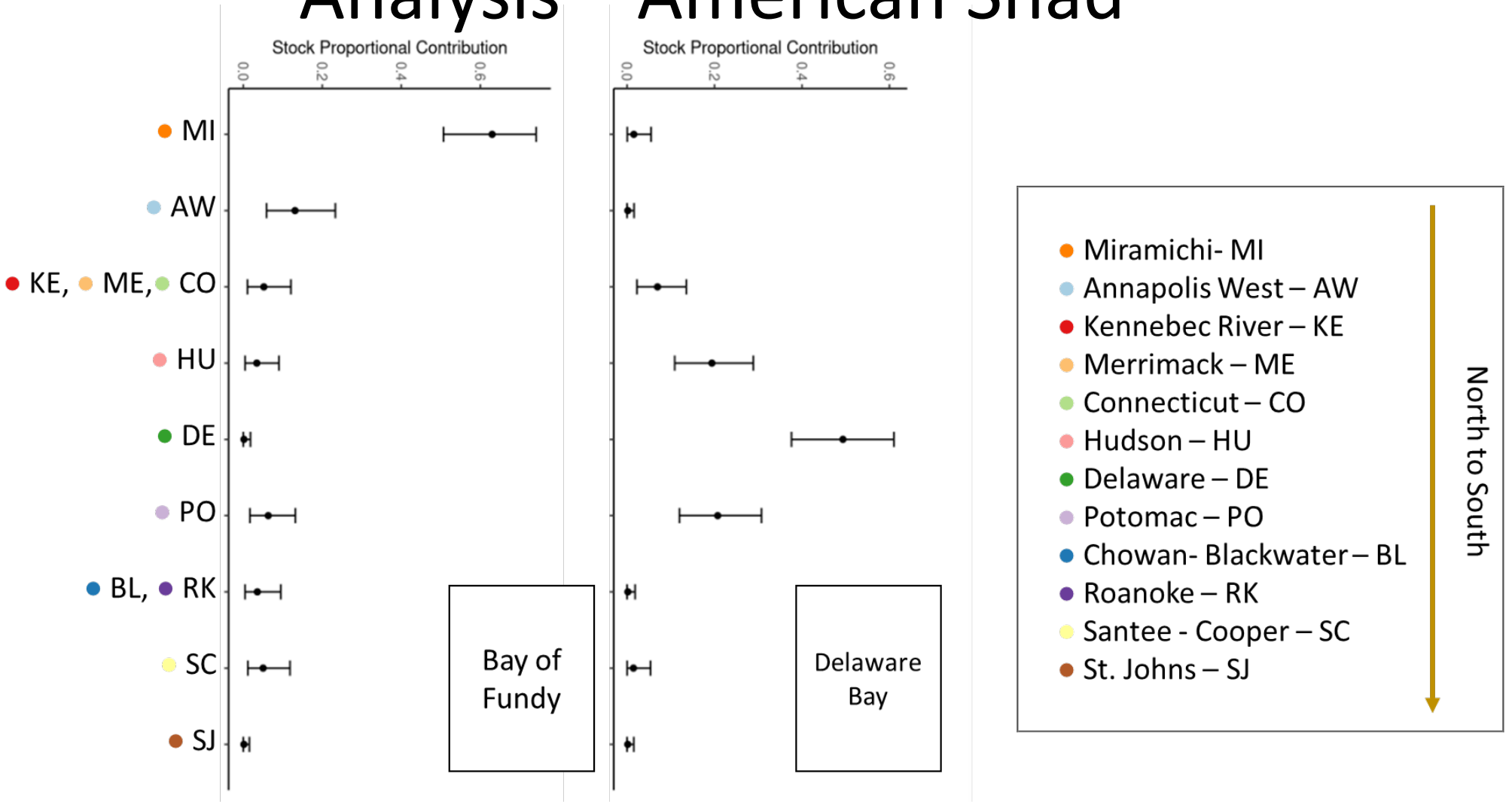
Analysis – American Shad



- Miramichi- MI
- Annapolis West – AW
- Kennebec River – KE
- Merrimack – ME
- Connecticut – CO
- Hudson – HU
- Delaware – DE
- Potomac – PO
- Chowan- Blackwater – BL
- Roanoke – RK
- Santee - Cooper – SC
- St. Johns – SJ

North to South

Analysis – American Shad



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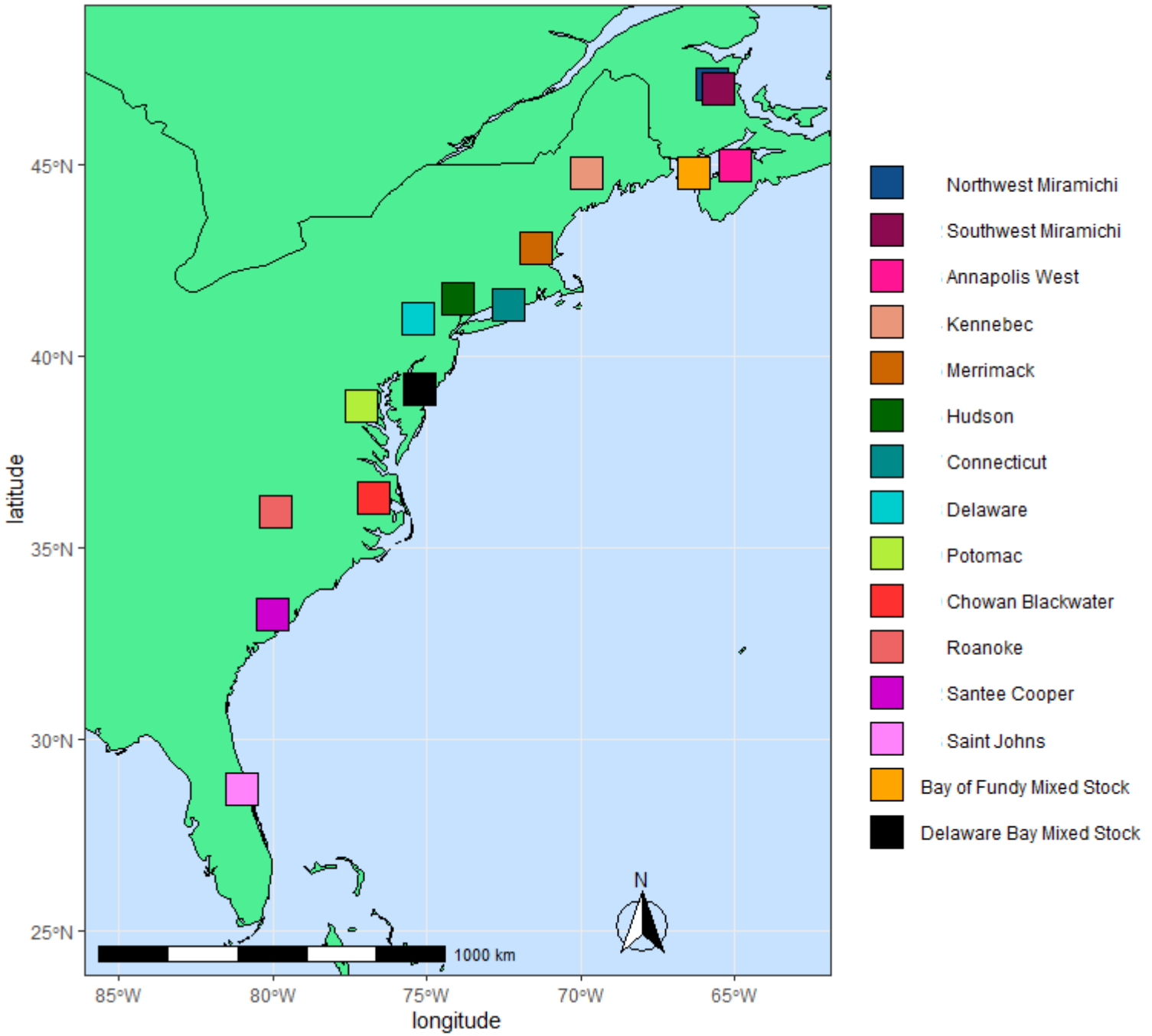
Summary

- American Shad: Work with Corne colleagues to undertake population assignment analysis using 12 baseline populations.
- River Herring: more work to do, starts with more samples
- More mixed-stock samples needed for analysis

- Got samples? Send to Miluska Olivera-Hyde, USGS

mhyde@usgs.gov



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Questions?

Special thanks to all partners who've sent in samples!

Learn more by visiting USGS EESC