



August 1, 2022

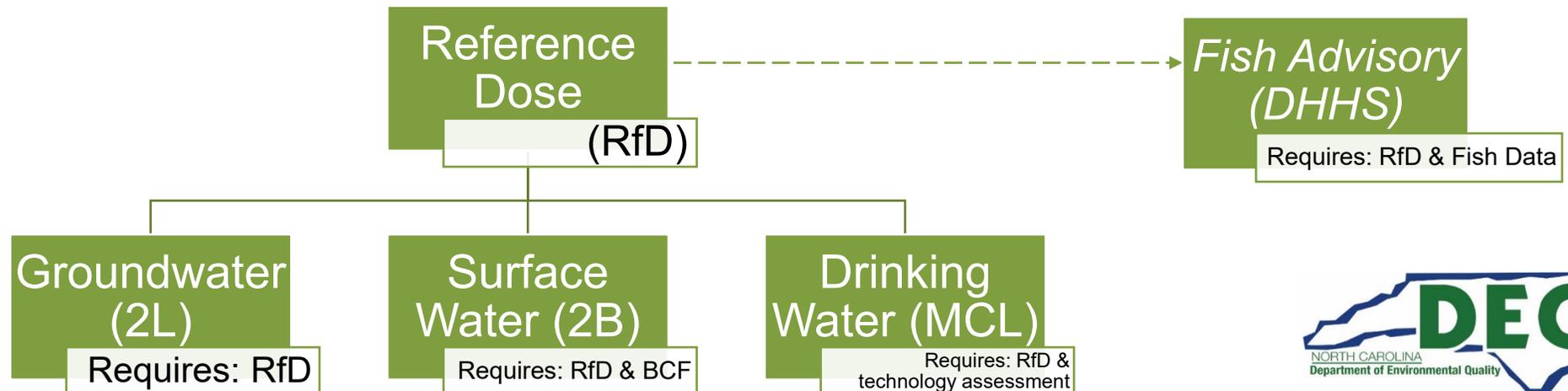
Summer 2022 Water and Fish Collection Event

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DEQ Environmental Toxicologist*



Project Plan

- During the summer of 2022, between May and August, a large-scale fish collection event will take place in the Middle and Lower Cape Fear River for PFAS analysis.
- There will be ~300 individual fish collected that represent both migratory and non-migratory freshwater fish and saltwater fish that are all commonly consumed by North Carolinians. Water samples will be collected at each location for BAF derivation.
- The data will serve DEQ surface water standards development for a suite of PFAS compounds and DHHS fish consumption advisories if appropriate.
- The water and fish tissue samples will be analyzed at GEL laboratories for the suite of Consent Order PFAS and any other PFAS that can be analytically detected.
- This will enable 2B regulatory values to be generated once the EPA and/or NC SSAB derive RfDs.



Collaborative Effort

Summer 2022 Fish Collection Event

NCDEQ

Division of
Marine
Fisheries

Division of
Water
Resources

Secretary's
Office

NCDHHS

Public Health

NCWRC

Inland
Fisheries
Division

PFAS in North Carolina – all will be reported for fish tissue and any other PFAS able to be analytically detected.

EPA PFAS RoadMap Compounds

PFBS

PFHxS

PFOS

PFOA

PFBA

PFHxA

PFNA

GenX

PFDA

Non-EPA PFAS RoadMap Compounds

PFHpA

PFMOAA

PMPA

PFO2HxA

PEPA

PFO3OA

PFO4DA

PFO5DA

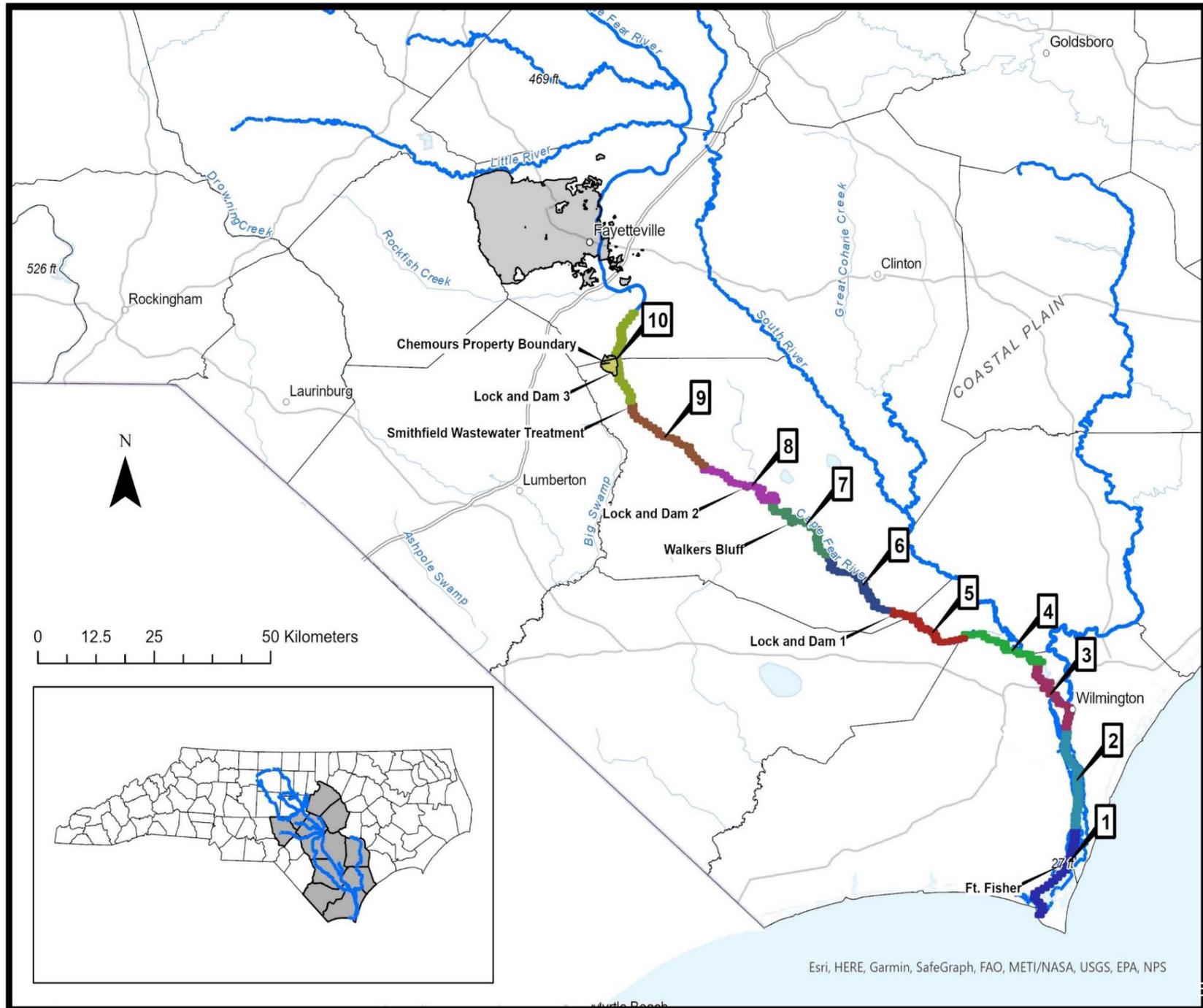
HydroEVE

PFPeA

Nafion BPs

2022 Fish & Surface Water Collection Project

BAF Derivation



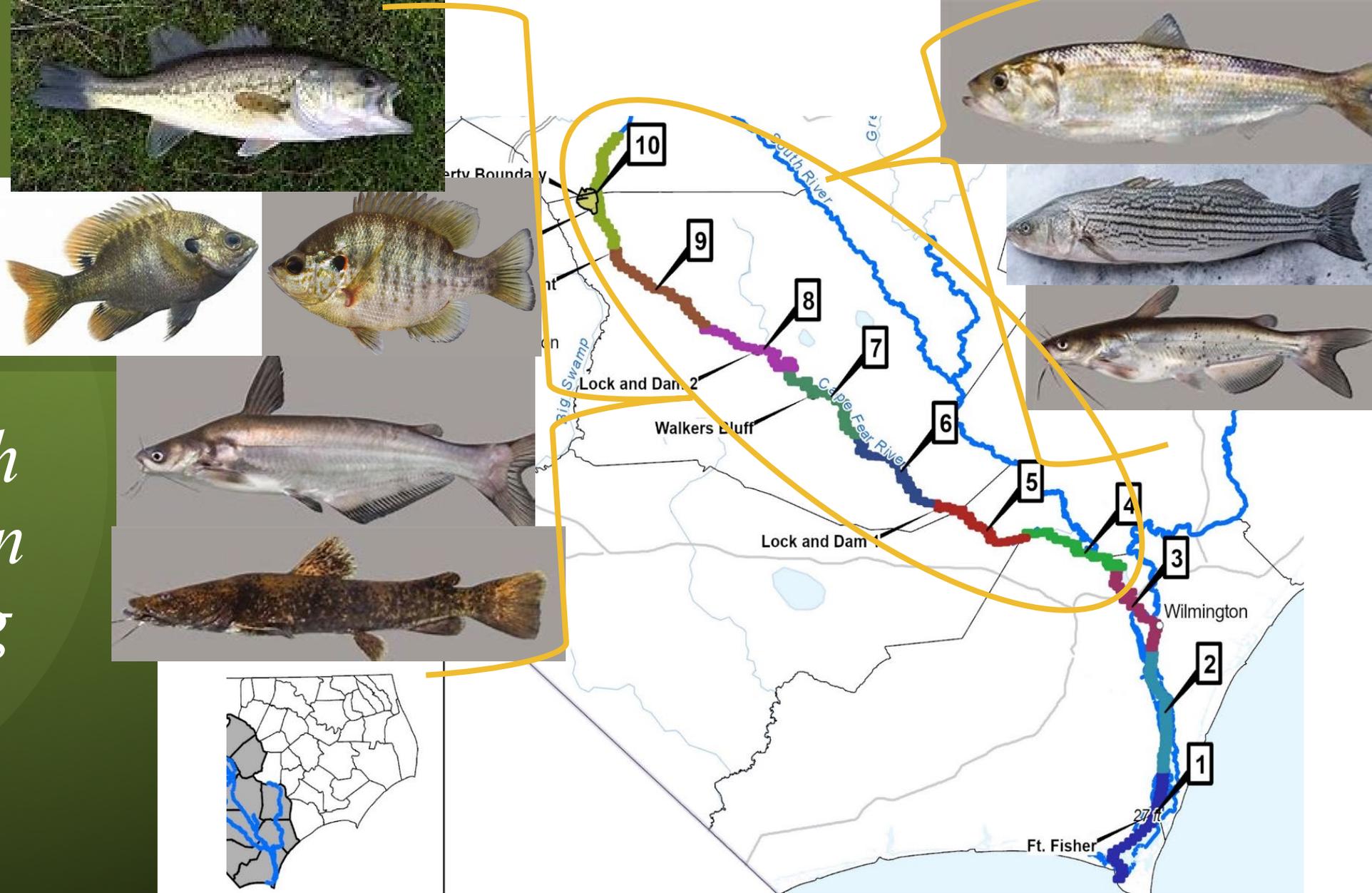
Bio-concentration and Bio-accumulation Factors

BCF/BAF - an indicator of a chemical substance's tendency to accumulate in the living organism.

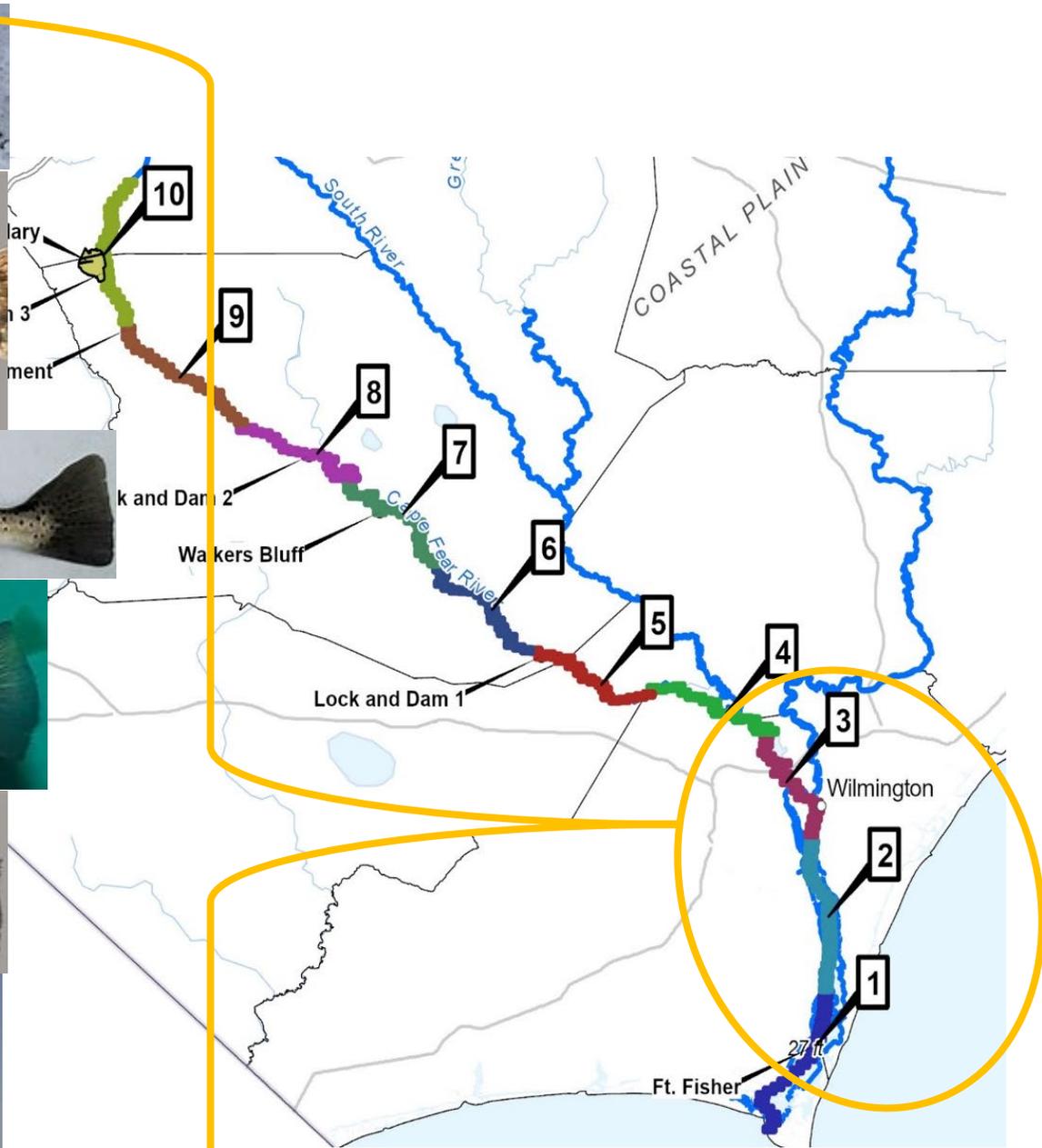
- Can be expressed as the ratio of the concentration of a chemical in an organism to the concentration of the chemical in the surrounding environment.
 - Water and fish tissue concentrations
- A measure of the extent of chemical sharing between an organism and the surrounding environment.
- A value greater than 1 is indicative of accumulation.



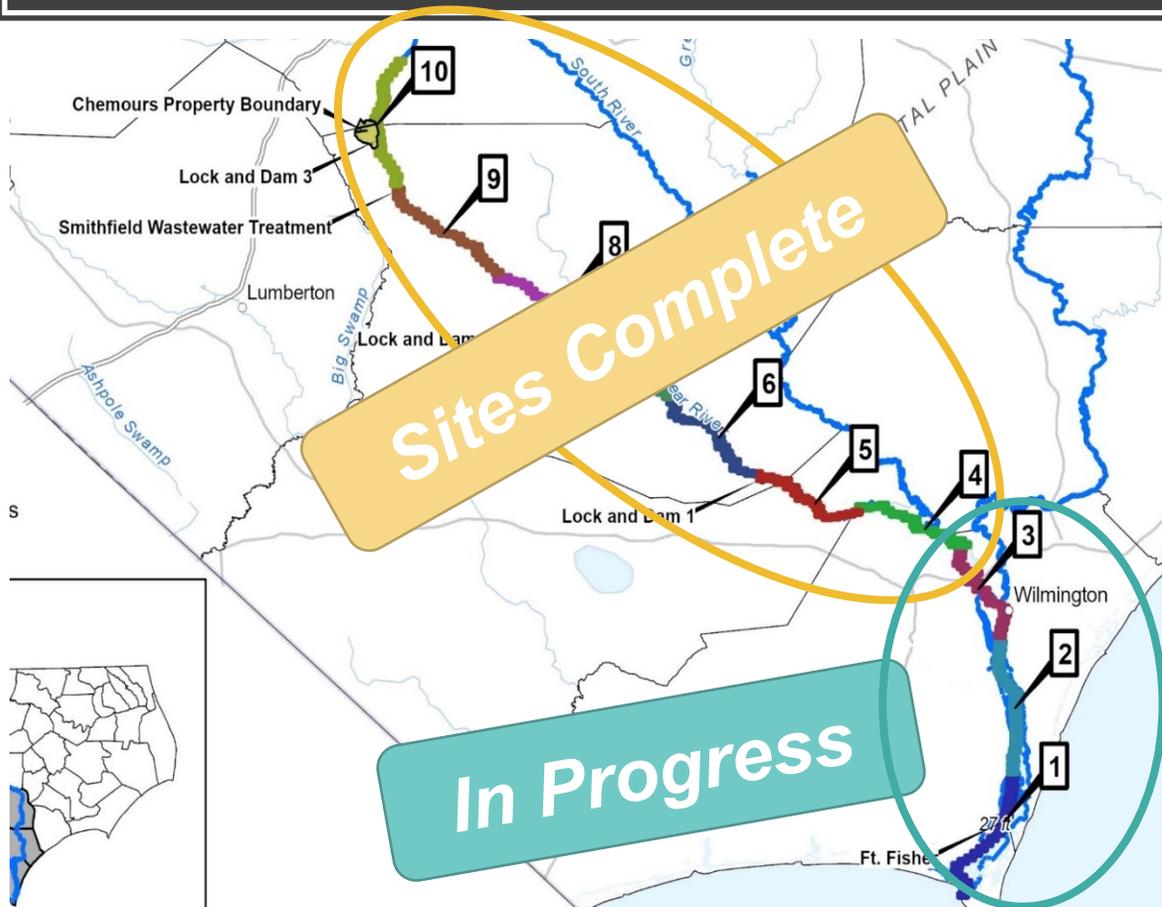
2022 Fish Collection Sampling Plans



2022 Fish Collection Sampling Plans



2022 Fish Collection Sampling Progress



July 19 2022

Total Fish Collected: 224

SITE COMPLETE

Site 10	
Spp	Count
Redear Sunfish	4
Bluegill Sunfish	5
American Shad	5
Largemouth Bass	6
Flathead Catfish	5
Blue Catfish	5

SITE COMPLETE

SITE COMPLETE

Site 9	
Spp	Count
Redear Sunfish	5
Bluegill Sunfish	5
Largemouth Bass	2
Flathead Catfish	5
Blue Catfish	5

SITE COMPLETE

SITE COMPLETE

Site 8	
Spp	Count
Redear Sunfish	5
Bluegill Sunfish	5
Striped Bass	5
Largemouth Bass	5
Flathead Catfish	5
Blue Catfish	5

SITE COMPLETE

SITE COMPLETE

Site 7	
Spp	Count
Redear Sunfish	5
Bluegill Sunfish	5
Largemouth Bass	5
Flathead Catfish	5
Blue Catfish	5

SITE COMPLETE

SITE COMPLETE

Site 6	
Spp	Count
Redear Sunfish	5
Bluegill Sunfish	5
Largemouth Bass	5
Blue Catfish	5
Flathead Catfish	5

SITE COMPLETE

SITE COMPLETE

Site 5	
Spp	Count
Striped Bass	5
Bluegill Sunfish	5
Channel Catfish	5
Redear Sunfish	5
Largemouth Bass	5
Flathead Catfish	5
Blue Catfish	5

SITE COMPLETE

SITE COMPLETE

Site 4	
Spp	Count
Redear Sunfish	5
Bluegill Sunfish	5
Largemouth Bass	5
Blue Catfish	5
Flathead Catfish	5

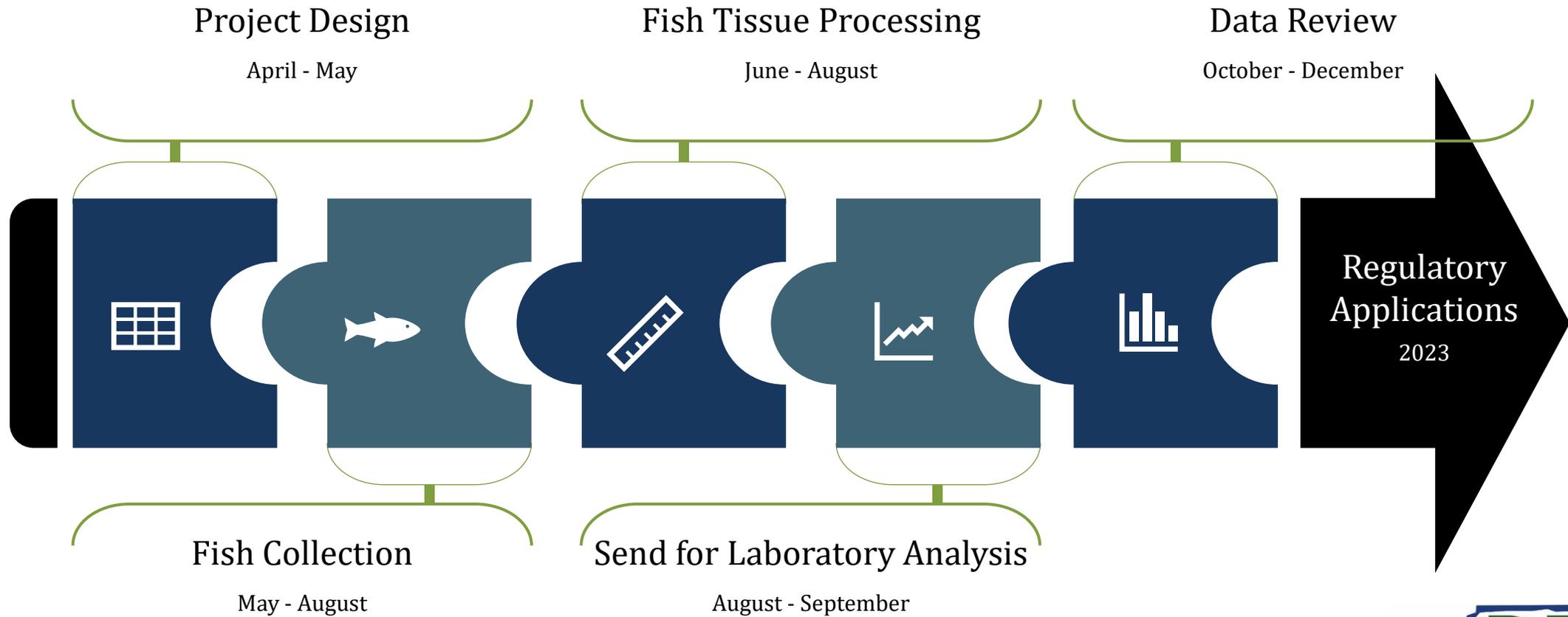
SITE COMPLETE

Site 3	
Spp	Count
Flathead Catfish	2
Blue Catfish	4
Striped Bass	8

Site 2	
Spp	Count
Southern Flounder	2
Black Drum	3

Site 1	
Spp	Count
Black Drum	2
Southern Flounder	4
Atlantic Croaker	5
Sheepshead	2

2022 Fish & Water Collection Event Estimated Timeline



2022 Fish & Water Collection Event Estimated Timeline



Fish Collection

June - August

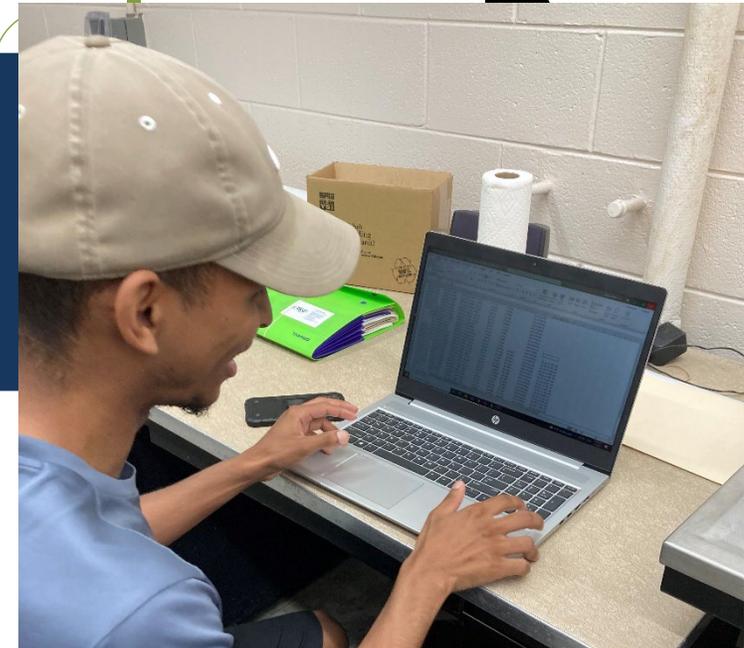
Fish Tissue Processing

June - August



Data Review

October - December



Thank you



Department of Environmental Quality

