CLEAN WATER ACT AND TMDL IMPLEMENTATION

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FEDERAL WATER QUALITY LAW

CLEAN WATER ACT (CWA): 33 U.S.C. §1251 et seq. (1972)

Define Water Quality Goals → Adopt Water Quality Standards

Section 303(d)

- Identify waters that are impaired or in danger of becoming impaired.
- Calculate and allocate pollutant reduction levels necessary to meet approved water quality standards.

Monitor Waters

Assess Waters

List Impaired & Threatened Waters

Develop TMDLs (TMDL=WLA+LA+MOS)

Hierarchy 1 (H1) TMDLs

Some Reasonable Assurance Plans (RAPs)

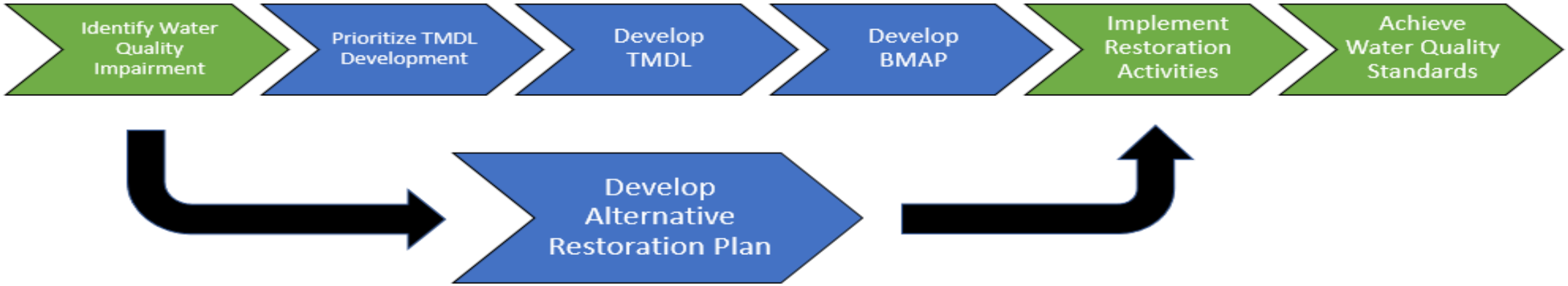
Alternative Restoration Plans (4e or 4b)

Implementation → Control Point Sources via NPDES Permits

Manage Nonpoint Sources via Stormwater Program and MS4

NPDES – National Pollutant Discharge Elimination System
TMDL – Total Maximum Daily Load
WLA – Waste Load Allocation
LA – Load Allocation
MOS – Margin of Safety
MS4 – Municipal Separate Storm Sewer System

PATHWAYS TO RESTORATION



Alternative Restoration Plans (Stakeholder Driven)

- Pollutant Reduction Plan (PRP):
  - Defers TMDL development by DEP to allow time for restoration project to improve water quality.
  - Assessment Category 4e.
- Reasonable Assurance Plan (RAP):
  - Replaces a TMDL and basin management action plan (BMAP).
  - Agricultural best management practices (BMPs) are not automatically required as in a BMAP.
  - Assessment Category 4b.

RAP REQUIREMENTS (NINE ELEMENTS)

Identify Sources

Identify causes and sources of pollution.

Information and Education

Develop an information and education component

Implementation Schedule

Develop an implementation schedule

Estimate Resources

Estimate amount of technical and financial assistance needed to implement the plan

Monitoring Plan

Develop a monitoring component

Estimate Reductions

Estimate Pollutant loading and required reductions.

Indicators of Progress

Identify indicators to measure progress.

Management Activities

Describe management activities.

Set Milestones

Describe interim measurable milestones.

TOTAL MAXIMUM DAILY LOADS

- Maximum amount of a pollutant that can be introduced into a waterbody without causing exceedances of water quality standards.
- Restoration target (attain standards).

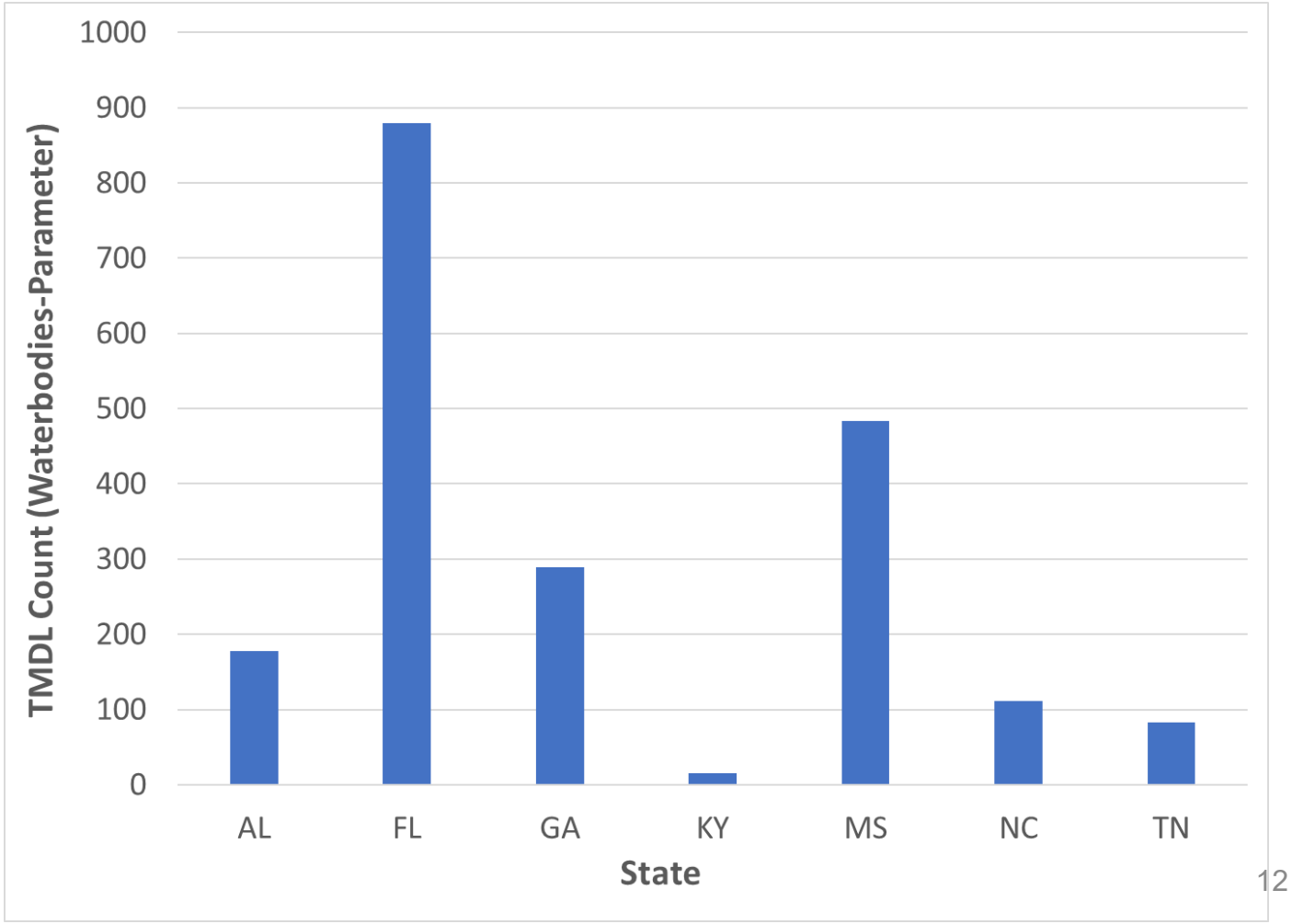
TMDL = LA + WLA + MOS

LA = **L**oad **A**llocation to non-point sources

WLA = **W**aste **L**oad **A**llocation

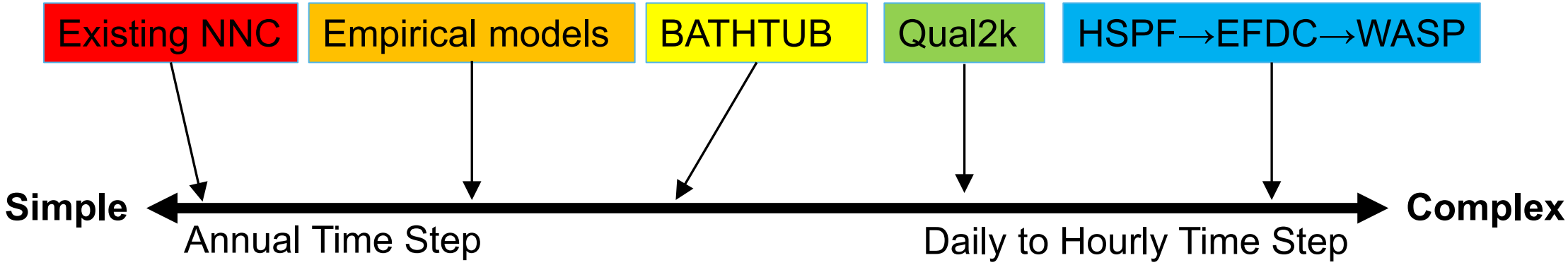
MOS= **M**argin of **S**afety

Florida Nutrient TMDLs Compared to U.S. Environmental Protection Agency Region 4 States



TMDL APPROACHES

MODEL COMPLEXITY AND DEVELOPMENT TIME



Non-H1 | Site-Specific Interpretations (H1)

NNC – Numeric Nutrient Criteria
HSPF – Hydrological Simulation Program
EFDC – Environmental Fluid Dynamics Code
WASP - Water Quality Analysis Simulation Program

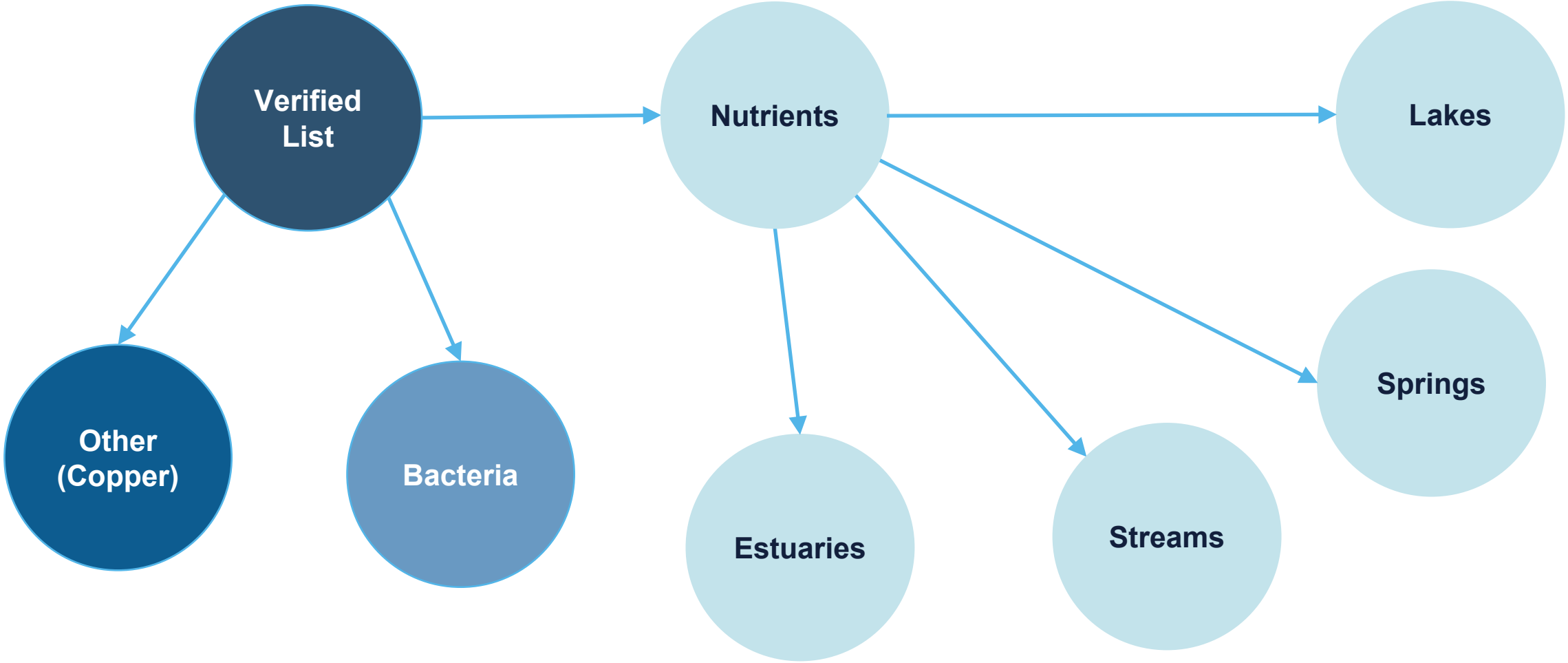
TMDL PRIORITIZATION 2.0

Year	BA	Prioritization Activity	TMDL Activities	Bacteria TMDLs
2022		Develop 10-year Prioritization Process and Establish Two-Year Workplan		Pilot-EWC
2023				
2024		Set Second Two-year Workplan (IR)		
2025				
2026		Set Third Two-year Workplan (IR)		
2027				
2028		Set Fourth Two-year Workplan (IR)		
2029				
2030		Set Fifth Two-year Workplan (IR)		
2031				

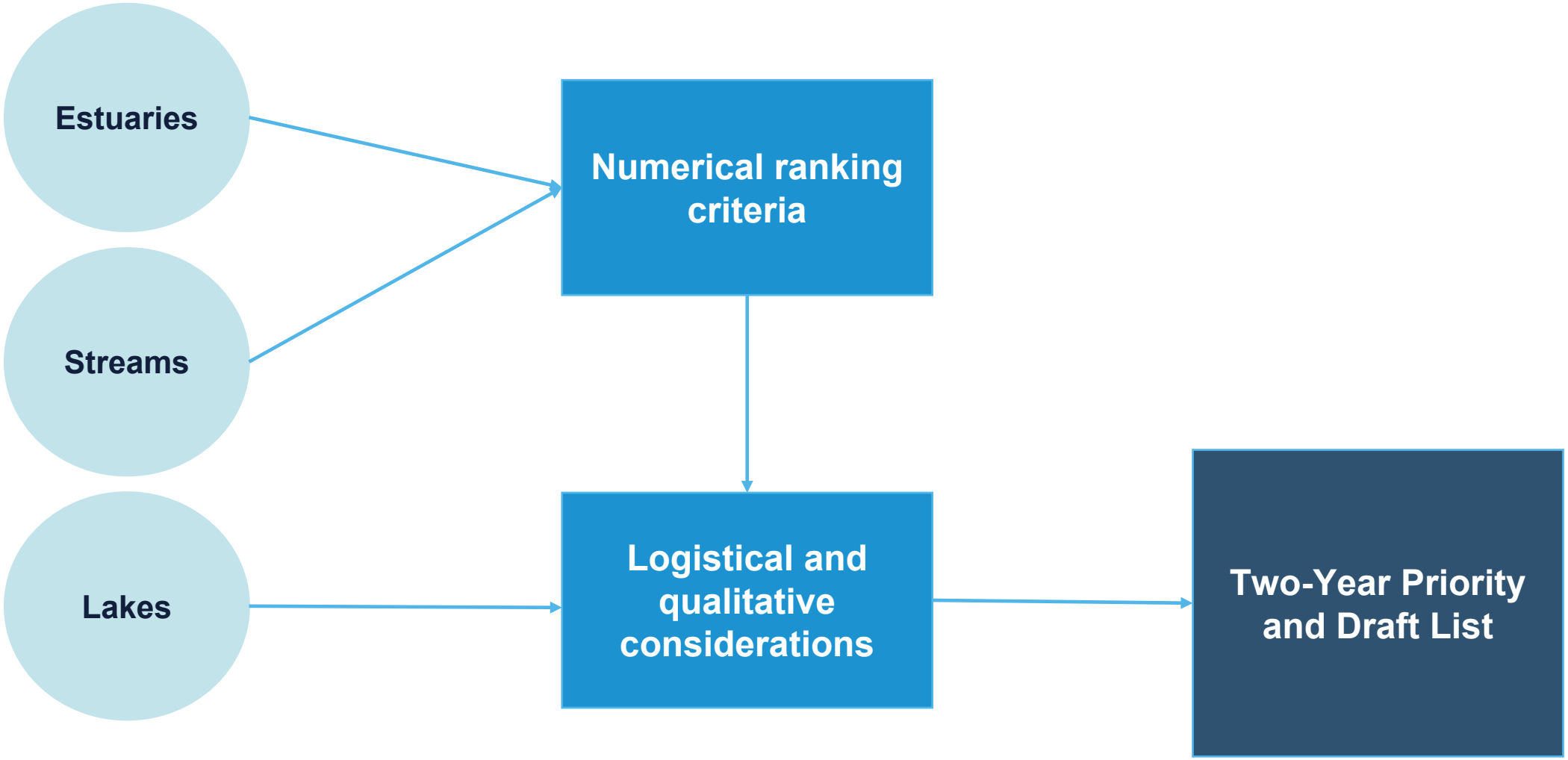
BA – Biennial Assessment | IR – Integrated Report | EWC – Everglades West Coast

PRIORITY SETTING PROCESS

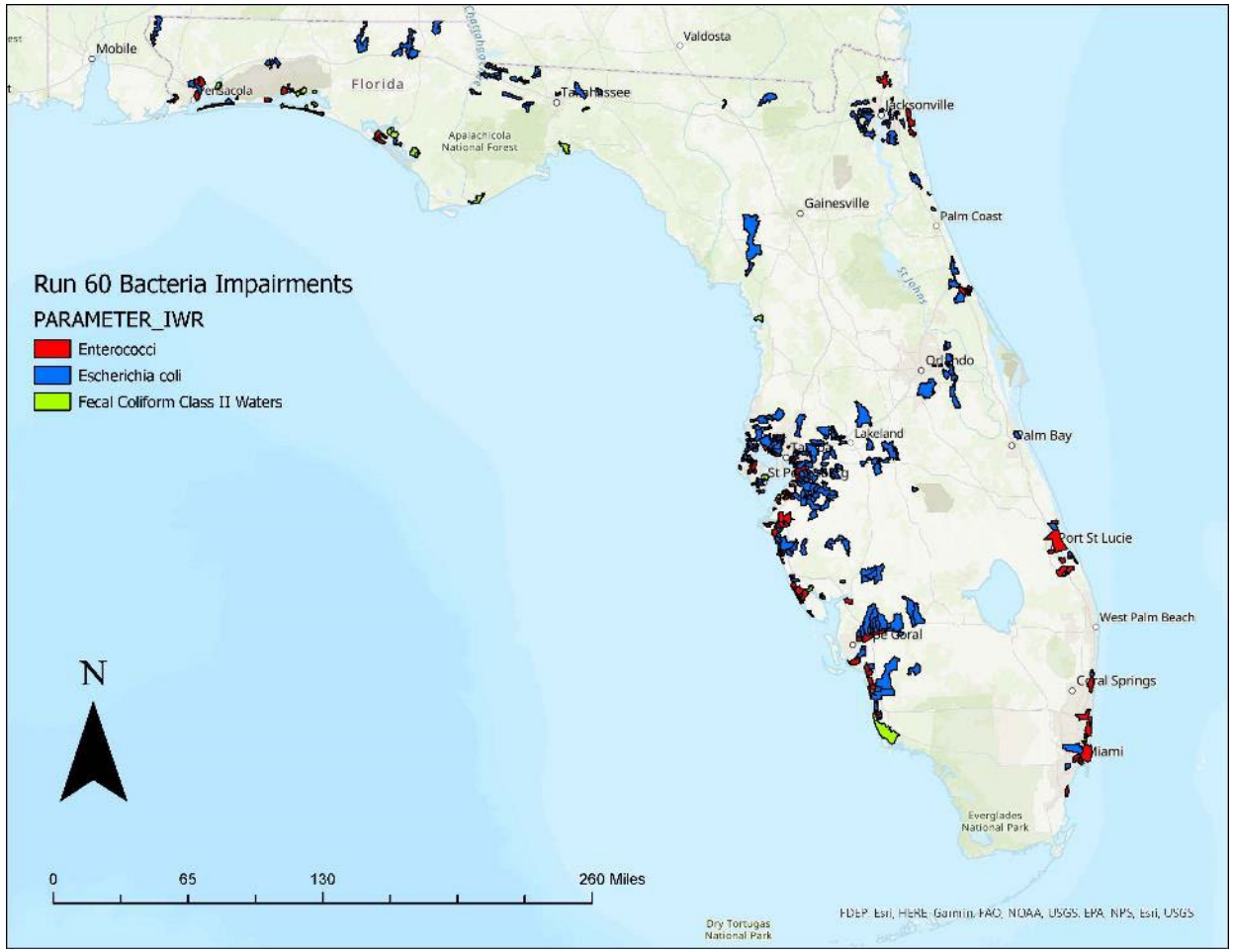
DEPENDENT ON IMPAIRED PARAMETER AND WATERBODY TYPE

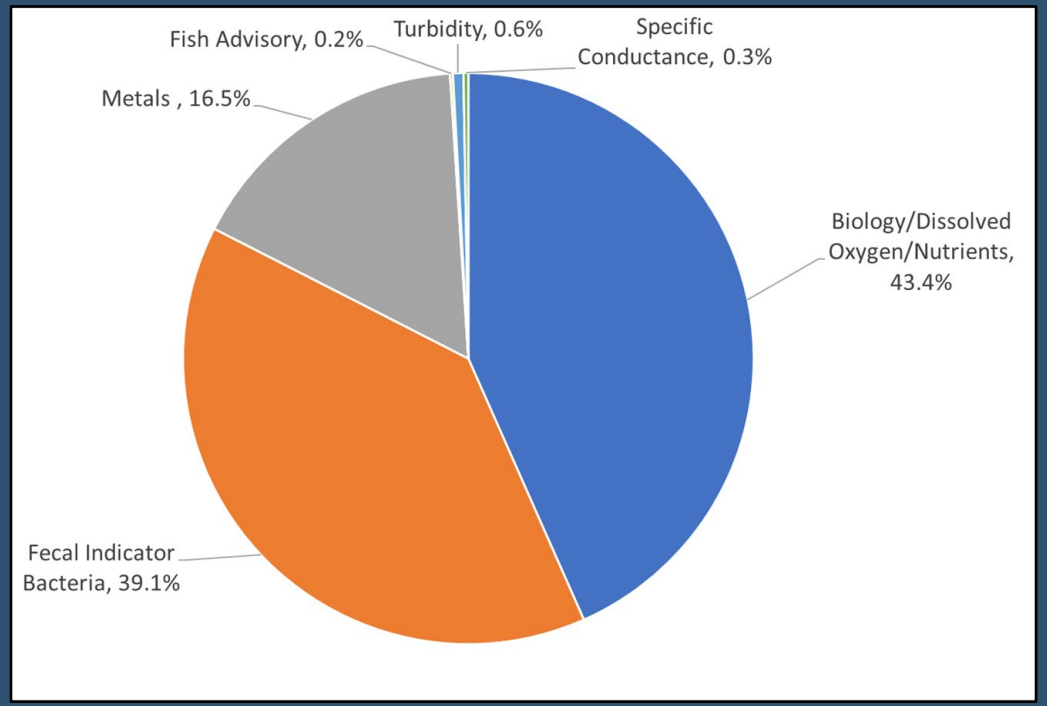


NUTRIENT PRIORITY SETTING



STATEWIDE BACTERIA IMPAIRMENTS
INDICATIVE OF NUTRIENT SOURCES?





THANK YOU

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