

# Navigating NJPACT & MS4

## Mastering Municipal Ordinances for Compliance and Innovation



The  
**Watershed**  
Institute

ANJEC Congress  
Sept. 27, 2024

# Our Mission



Keeping water clean, safe and healthy is the heart of our mission.

We work to protect and restore our water and natural environment in central New Jersey through conservation, advocacy, science and education.

# Agenda

- The Why
- Review of NJPACT REAL
- Review of MS4 Permit
- Municipal Action/Enhancements



## Incorporating Water Quality Concerns- CWA

The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

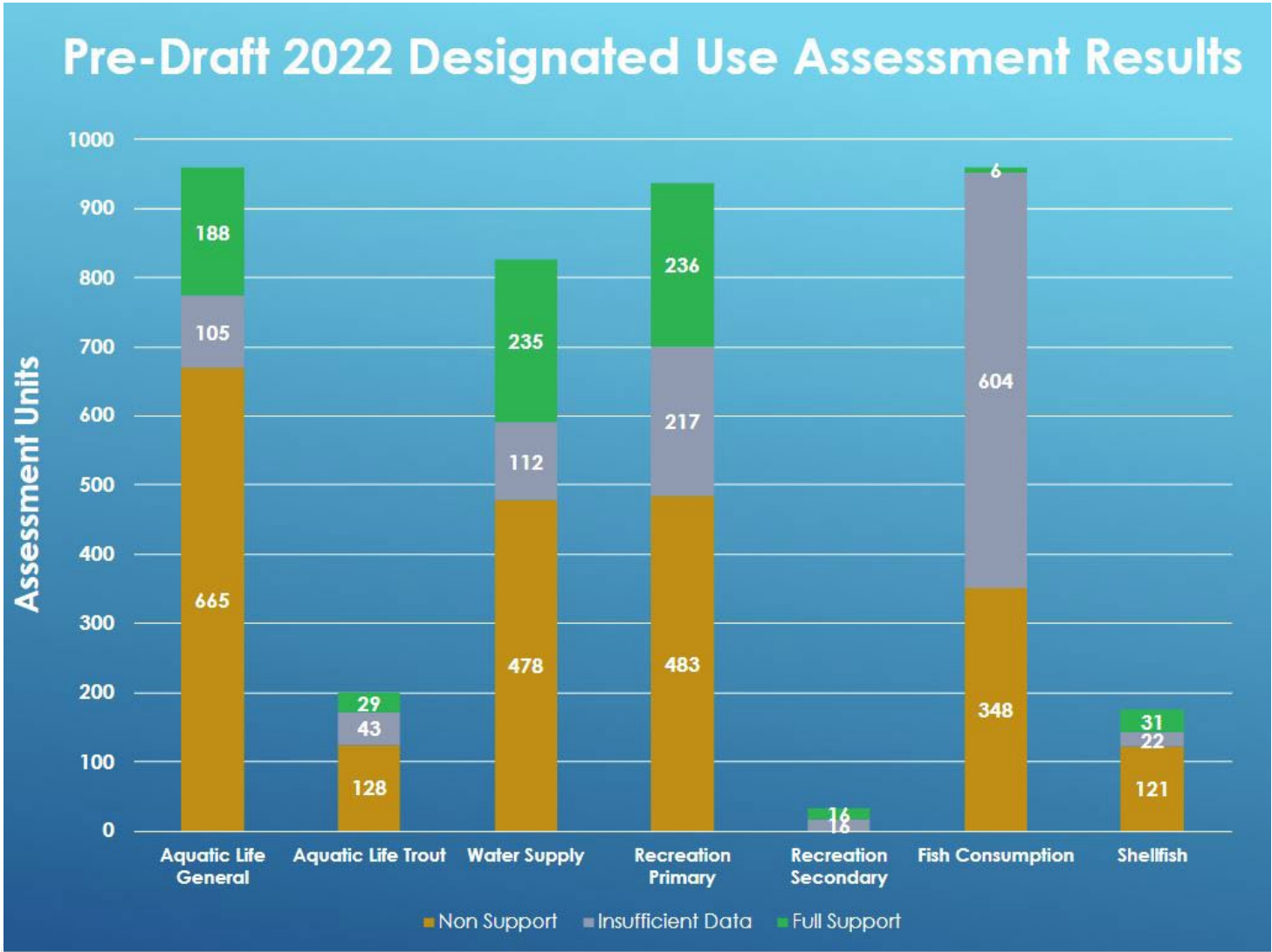
It is the national goal that the discharge of pollutants into the navigable waters be eliminated by **1985**;



It is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by **July 1, 1983**;

# Water Quality

2022 Integrated Water Quality Assessment Report



# New Jersey Water Pollution Issues

**Declining water quality trends** for nitrate, total dissolved solids (TDS) and chlorides were also observed. Ammonia reduction measures implemented at waste treatment plants oxidize ammonia to form nitrate, resulting in increased nitrate concentrations over time. **Runoff from urban and agricultural areas, including runoff of salt used to control ice on roadways**, are the likely cause of increased TDS and chloride concentrations over time.

-2016 Draft New Jersey Integrated Water Quality Assessment Report

## New Jersey Water Pollution Issues

However, there was an observable trend in the number of “Excellent” conditions and “Poor” conditions migrating toward the “Good” and “Fair” categories. **The trends also show a correlation between biological impairment and anthropogenic factors** such as land use, total urban land, increase in impervious surface, and decrease in forests and wetlands in a stream’s drainage basin. **The replacement of pervious land with impervious surfaces increases storm water and the associated impacts** such as degraded riparian zones, unstable streambanks, higher turbidity, nutrients and other chemicals.

-2016 Draft New Jersey Integrated Water Quality Assessment Report

# State Stormwater Management Challenges

- Current program may be **slowing** not stopping the rate at which the stormwater problem is getting worse.
- But only large developments are addressed.
- Program not addressing existing stormwater problems.
- *Current rules do not address volume of runoff.*
- Current rules do not *in practice* address Redevelopment



# What is NJPACT REAL



New  
Jersey  
Protecting  
Against  
Climate  
Threats

Resilient  
Environments  
And  
Landscapes

# Stormwater Management: NJ PACT REAL rule update



# Stormwater-Volumetric Reduction

Reducing Volume- i.e. Flooding

Currently:

- Standards do not reduce volume.
- Increases volume.
- Reduces rate

Proposed:

- Retain on-site- 1.25' (WQDS) in 2 hours
- Use Green Infrastructure or
- Reduction of impervious surfaces



# Stormwater: Reduces Redevelopment Loophole



Currently: sites may not have to address Quantity, Quality or Recharge

Proposed:

- Must address Quality-
- 80% TSS removal/95% for C1
- Nutrients to MEP
- Incorporate- Volumetric Reduction Standard

# Stormwater: Water Quality

Total Maximum Daily Loads or TMDLs must be addressed  
Additional Measures in a TMDL must be incorporated into the project design.

Table 9. Distribution of TSS WLAs and LAs among source categories for parts of the Carnegie Lake Watershed

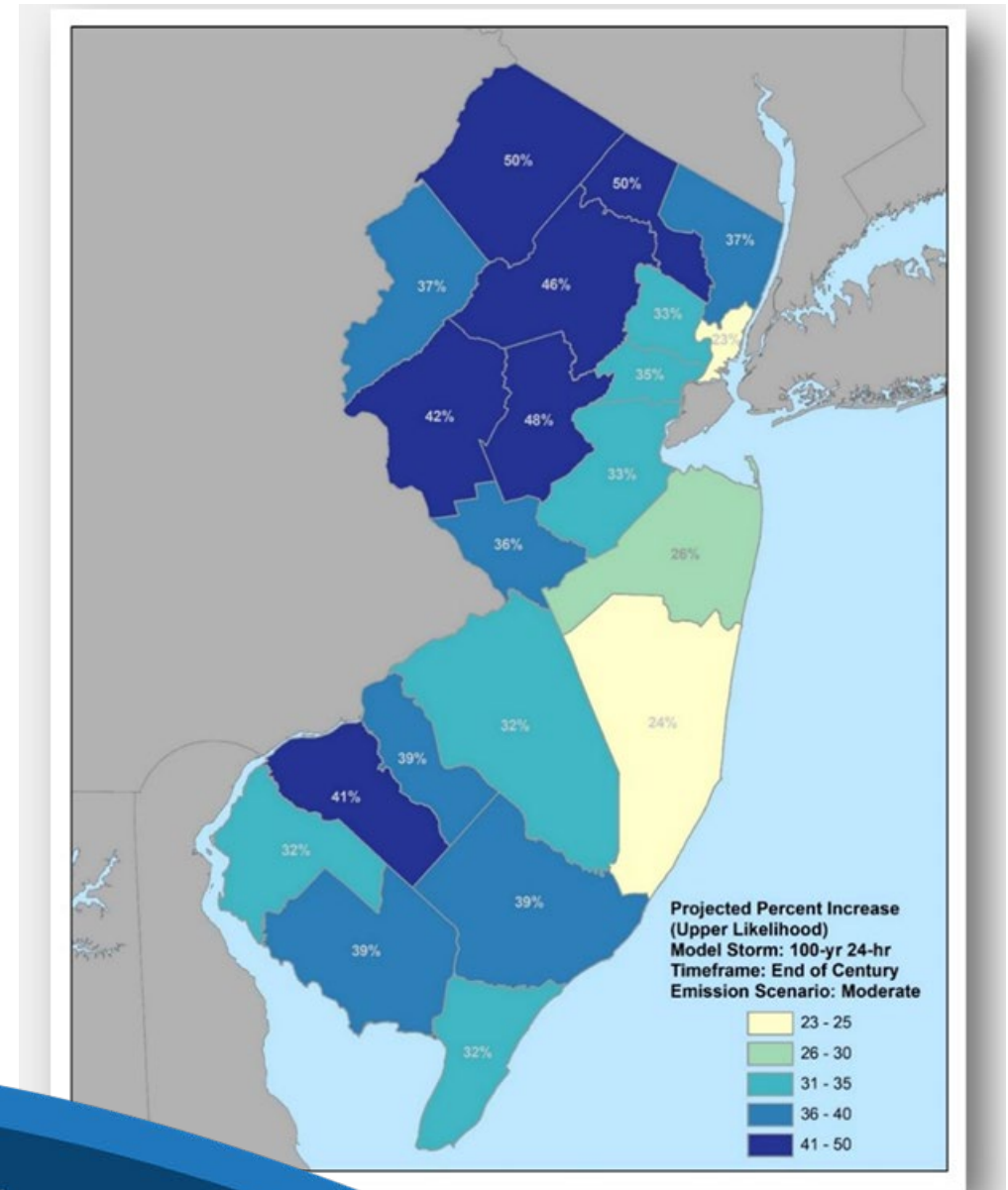
Long Term Average Daily Load (kg/d TSS)	Upper Millstone River Watershed			Stony Brook Watershed			Carnegie Lake Direct Watershed		
	Existing Condition	TMDL Allocation	Percent Reduction	Existing Condition	TMDL Allocation	Percent Reduction	Existing Condition	TMDL Allocation	Percent Reduction
Sum of Wasteload Allocations (WLAs)	3,961	1,506	62.0%	2,286	401	82.5%	602	96	84.0%
Treated Effluent from WWTP Discharges <sup>#</sup>	502	953	-89.6%	20	38	-89.6%	0	0	0%
Stormwater from Residential Land Cover Areas	1,615	258	84.0%	1,529	245	84.0%	272	44	84.0%
Stormwater from Other Urban Land Cover Areas	1,843	295	84.0%	737	118	84.0%	329	53	84.0%
Sum of Load Allocations (LAs)	2,775	2,060	25.8%	2,624	1,328	49.4%	58	49	14.9%
Boundary Inputs	0	0	0.0%	0	0	0.0%	0	0	0.0%
Tributary Baseflow	1,267	1,267	0.0%	297	297	0.0%	29	29	0.0%
Stormwater from Agricultural Land Cover Areas	851	136	84.0%	1,543	247	84.0%	10	2	84.0%
Stormwater from Forest and Barren Land Cover Areas	51	51	0.0%	525	525	0.0%	6	6	0.0%
Stormwater from Wetlands Land Cover Areas	605	605	0.0%	260	260	0.0%	13	13	0.0%
Total Margin of Safety (% of LC)	n/a	172	4.5%	n/a	152	8.0%	n/a	24	14.4%
Reserve Capacity (% of WWTP load)	n/a	103	10.8%	n/a	25	66.5%	n/a	0	n/a
Loading Capacity (LC)	6,735	3,841	43.0%	4,909	1,906	61.2%	660	170	74.2%

<sup>#</sup> Although the TSS TMDL allocation is reflective of discharging up to current permitted flow and existing NPDES permit TSS limits, the WLAs for total phosphorus effectively limit loadings due to TP being present in suspended solids in WWTP effluent.  
n/a - not applicable

# Stormwater: Climate Change Resiliency

How does Sea Level Rise, Increased frequency of flooding; increase rainfall amounts, increased intensity, etc. impact stormwater management?

What can a Municipality do to address impacts to system?





Flood Hazard Area Control Act



# Big Picture Changes:

## Enhancements to Riparian Zones:

- Providing 25' setback from a bulkhead, retaining wall along tidal or impounded fluvial waters
- Adding riparian zones to landward side of barrier islands
- Enhancing protections for isolated waters- i.e. karst by providing for riparian zones
- Protecting riparian zones along human created channels
- Expanding T&E species that utilize/dependent on habitat to qualify for 150' Riparian zones.



# Big Picture Changes:

Climate Adjusted Flood Elevation- flood hazard elevation anticipated to occur because of climate change **and** sea level rise. Replacing Flood Hazard Area Design Flood Elevation”

Compelling Public Need to evaluate hardship requests:

- Will Serve essential health or safety need
- Public Health and safety benefit from proposal is required to serve existing needs
- No other means available to meet the established public need.
- Replicates requirements from Freshwater Wetlands regulations

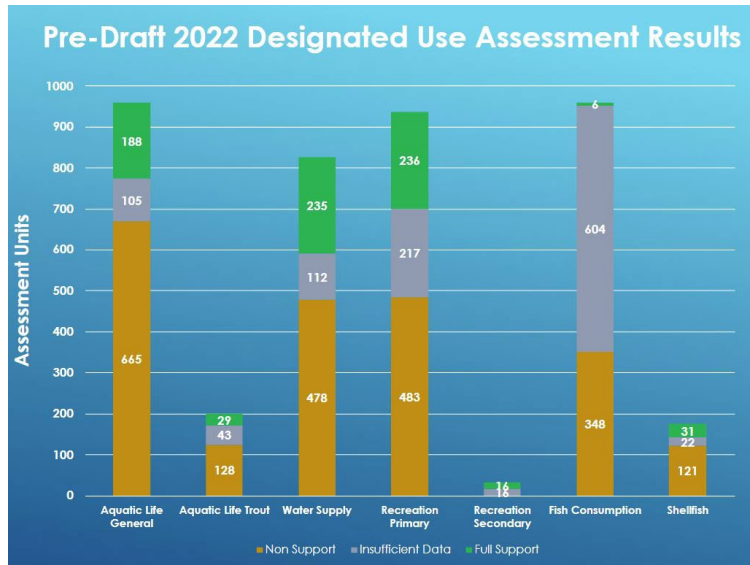


Municipal Enhancements

# Incorporating Water Quality Concerns- CWA

The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

It is the national goal that the discharge of pollutants into the navigable waters be eliminated by **1985**;

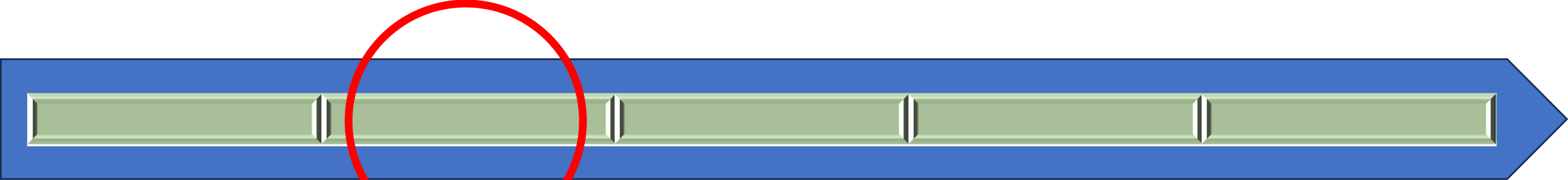


It is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by **July 1, 1983**;

## MS4- Watershed Improvement Plan

- Objective
  - Improve water quality by reducing contribution of pollutant parameters found in a Total Maximum Daily Load (TMDL)
  - Improve water quality by reducing contribution of pollutant parameters causing water quality in Integrated Report
  - Reduce and/or eliminate stormwater flooding in the municipality, prioritizing the areas of flooding for corrective actions based on threat to human health and safety, environmental impacts, and frequency of occurrence.

# MS4 Timeline



## Phase 1

Watershed Inventory Report:  
MAPPING

DUE DATE: End of 2025

## Phase 2

Watershed Assessment Report:  
PLANNING

DUE DATE: End of 2026

## Phase 3

Watershed Improvement Plan:  
PROJECTS

DUE DATE: 2027

# Enhancements: Stormwater

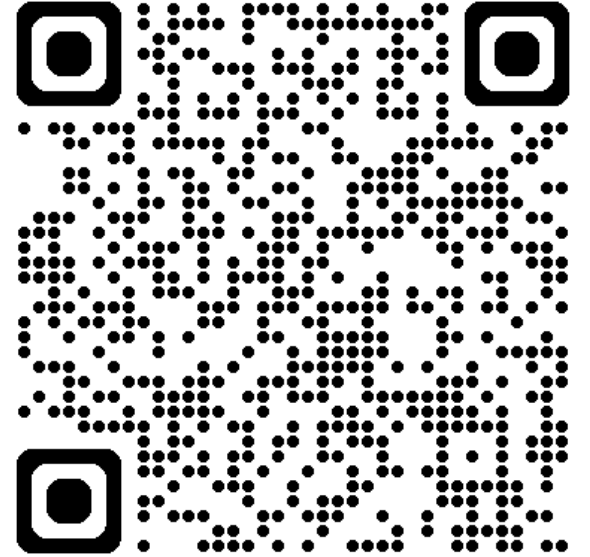
This sample ordinance represents the *minimum standards and expectations*, except where noted otherwise. It is the goal of stormwater management to minimize pollution caused by stormwater in order to restore, enhance and maintain the integrity of waters of the State. **Federal, as well as, State water pollution laws permit municipalities to undertake additional actions** including ordinances with standards stronger than the statewide minimum requirements. **Under New Jersey Municipal Separate Storm Sewer System Permits (MS4), the stormwater program may also include Optional Measures (OMs), that prevent or reduce the pollution of the waters of the State. A municipality may choose these stronger or additional measures in order to address local water quality and flooding conditions as well as other environmental and community needs.** For example, municipalities may choose to define “major development” with a smaller area of disturbance and/or smaller area of regulated impervious cover or regulated motor vehicle surface; apply stormwater requirements to both major and minor development; and/or require groundwater recharge, when feasible, in urban redevelopment areas.

-Stormwater BMP Manual- Appendix D - DEP Model Ordinance



# Ordinance Enhancements

- Redefine Major Development
- Address smaller developments
- Address Redevelopment
- Low Impact Design
- Incorporate Water Quality
- Capture stormwater onsite
- Enhanced analysis of environmental impacts from development
- Permitting and Reporting Requirements





# Major Development

## Existing:

- 1 acre of soil disturbance
- ¼ new impervious cover
- Water Quality treatment only for regulated motor vehicle surfaces

## Enhanced:

- ½ acre of soil disturbance
- 5,000 square feet of impervious coverage
- Water Quality treatment for all impervious surfaces

# Minor Development

- Define as 250 SF or more of impervious surface
- Treat 2 gallons of stormwater per square feet of impervious surface
- Retention Storm
- Include Redevelopment
- Require mitigation fee to secure waiver of requirements

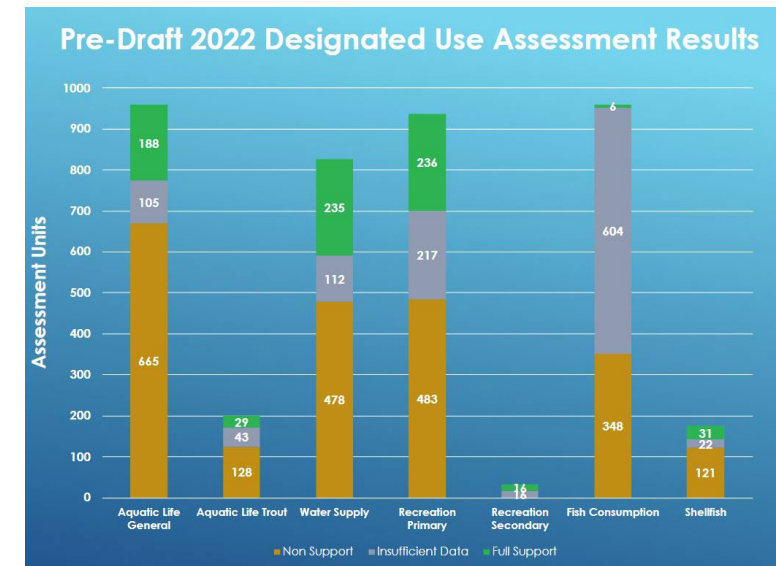
# Redevelopment

- Address Q,Q,R
- Use forest in good condition as baseline for calculations
- Assume no pre-existing impervious coverage
- Design BMPs as if site is a greenfield



# Incorporating Water Quality Concerns

- Improve water quality by reducing contribution of pollutant parameters found in a Total Maximum Daily Load (TMDL)
- Improve water quality by reducing contribution of pollutant parameters causing water quality in Integrated Report



# Volume vs. Rate Reduction

## Current Rule

- Does not address volume
- Reduces rate of runoff
- Increases volume

## Enhanced

- Onsite Retention Standard
- Quantity Standards- analysis demonstrates no increase in downstream flooding

# Enhanced Stream Corridor: Why?

Buffers along streams provide several benefits:

- Removal of nitrogen, TSS, ammonia, etc.
- Temperature moderation
- Buffer for flood water
- Reduces runoff volumes into waterways
- Habitat for wildlife including threatened and endangered species surface



# Stream Corridor



Stream Corridor requirements:

- 150' on each side of waterway for all waters
- Except C-1- 300'
- Allowances for steep slopes and floodplains
- Includes lakes, ponds, etc.
- Decouples ordinance from FHACA rules/permits.

# Stream Corridor

## Stream Corridor Reductions:

- Must meet the requirements of a “C” Variance
- Larger incursions into buffer permissible with maintenance or restoration of buffer to healthy vegetation.





# NJ Watershed Conference

*Resiliency Through Restoration*

Save the Date

Don't miss out on the opportunity to be part of the 2025 NJ Watershed Conference on

**February 21, 2025**

Scan here  
for more  
information



# Mastering Municipal Ordinances for Compliance and Innovation

Thank You!

Learn more at [thewatershed.org](https://thewatershed.org)

Stay in touch: 609-737 3735 | [mpisauro@thewatershed.org](mailto:mpisauro@thewatershed.org)



theH2Oshed



theh2oshed



TheWatershedInstitute

