

The background image is a scenic landscape. In the foreground, there is a dense forest of tall, dark evergreen trees. The trees are silhouetted against a lighter, misty background. In the middle ground, a body of water is visible, reflecting the light from the sky. The background features rolling mountains and hills, partially obscured by mist or low clouds. The overall color palette is muted, with shades of blue, gray, and green.

Topics in Water Resource Management

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Division of Water Quality

Agenda

- Rule-making priorities
- Climate Change
- Stormwater Utilities
- Combined Sewer Overflows
- Harmful Algal Blooms
- Water Bank





Rule-making Priorities



Rule-making Priorities

- Over a dozen active rule priorities are currently underway in WRM
- Spurred by NJPACT and Environmental Justice
- Continued emphasis on robust stakeholder engagement
- Significant cross-program interaction



Rule-making Priorities

- Water Quality Accountability Act (N.J.S.A. 58:31-1 *et seq.*)
 - Asset Management Rules (N.J.A.C. 7:10 and 7:19)
- Safe Drinking Water Act (N.J.S.A. 58:21A-1 *et seq.*)
 - New Jersey Lead and Copper Rules (N.J.A.C. 7:10)
- Stormwater Management (N.J.A.C. 7:8)
- Water Bank (N.J.A.C. 7:22)



Rule-making Priorities

- **Water Quality Accountability Act (N.J.A.C. 7:10 and 7:19)**
 - Codifies WQAA criteria
 - Establishes water loss accounting audits
 - Advances asset management goals and activities
 - Target: Filing Proposal Q1 2021 (contingent on legislative changes)



Rule-making Priorities

- **Safe Drinking Water Act (N.J.AC. 7:10)**
 - Additional water quality parameter monitoring
 - Revising corrosion control treatment requirements
 - Requiring full lead service line replacement
 - Increased public education
 - Target: Filing Proposal Q1 2021 (subject to legislative and federal rule changes)



Rule-making Priorities

- **Stormwater Management (N.J.AC. 7:8)**
 - Resolving application of small-scale BMPs for transportation agencies
 - Several NJPACT-related amendments
 - Aligning definition of major development
 - Increasing TSS removal rate for redevelopment from 50% to 80%
 - Target: Filing Proposal Q1 2021



Rule-making Priorities

- **Water Bank Rules (N.J.AC. 7:22)**
 - Expand scope to construction of stormwater and drinking water facilities
 - Amend rules to reflect program administration
 - Include consideration of climate change for project submission
 - Merge and streamline engineering requirements at NJAC 7:22
 - Target: Filing Proposal Q2 2021



Climate Change

Climate Change

[Executive Order 89](#): Creates Climate and Flood Resilience Program and directs DEP to publish a scientific report, and [Climate Change Resilience Strategy](#)



[Executive Order 100](#): Directs DEP to propose and adopt PACT rules



[Administrative Order 2020-01](#): Directs Assistant Commissioners' actions



[Rules](#) currently stakeholdering:
Flood Hazard Area, Coastal Zone Management,
Freshwater Wetlands, Stormwater Management

Climate Change

Sea-level rise:

Table ES-1: New Jersey Sea-Level Rise above the year 2000 (1991-2009 average) baseline (ft)*

		2030	2050	2070			2100			2150		
				Emissions								
Chance SLR Exceeds				Low	Mod.	High	Low	Mod.	High	Low	Mod.	High
Low End	> 95% chance	0.3	0.7	0.9	1	1.1	1.0	1.3	1.5	1.3	2.1	2.9
Likely Range	> 83% chance	0.5	0.9	1.3	1.4	1.5	1.7	2.0	2.3	2.4	3.1	3.8
	~50 % chance	0.8	1.4	1.9	2.2	2.4	2.8	3.3	3.9	4.2	5.2	6.2
	<17% chance	1.1	2.1	2.7	3.1	3.5	3.9	5.1	6.3	6.3	8.3	10.3
High End	< 5% chance	1.3	2.6	3.2	3.8	4.4	5.0	6.9	8.8	8.0	13.8	19.6

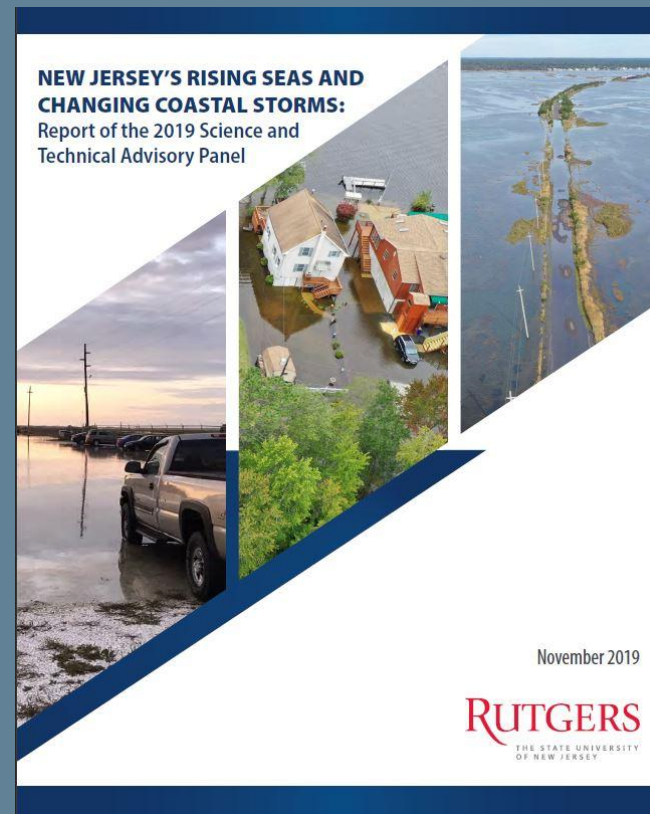
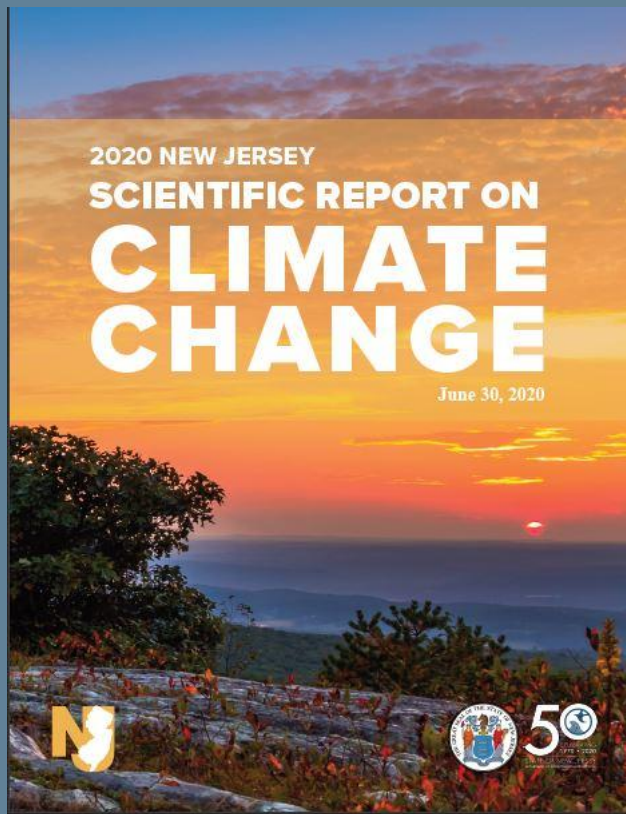
*2010 (2001-2019 average) Observed = 0.2 ft

Rutgers University's Science and Technical Advisory Panel (STAP) Report indicates a 50% probability that sea level rise will exceed 3.3 feet and a 17% probability that sea level rise will exceed 5.1 feet by 2100 assuming moderate emissions.

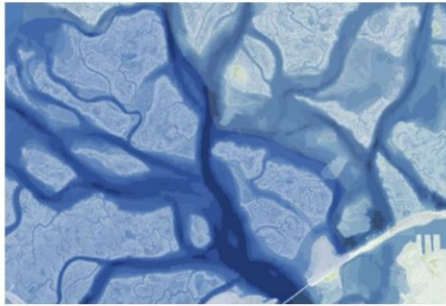
Climate Change

- Recent Cornell study indicates that precipitation in the NJ/NY metro area is likely to increase by 30 to 35% by 2100 for the 2-, 10-, and 100-year storms assuming moderate emission levels. Ongoing research with Rutgers and Cornell Universities is underway to determine how these storms will change throughout NJ.
- As precipitation increases due to climate change, today's stormwater management systems may not be able to collect and transport the additional volumes of runoff anticipated for the future.
- DEP is considering amending the threshold for major development due to increased precipitation.
- DEP is considering adopting new standards for redevelopment activities, such as requiring water quality treatment for runoff from reconstructed impervious surface, even if no new impervious surface is proposed.

Climate Change



Climate Change

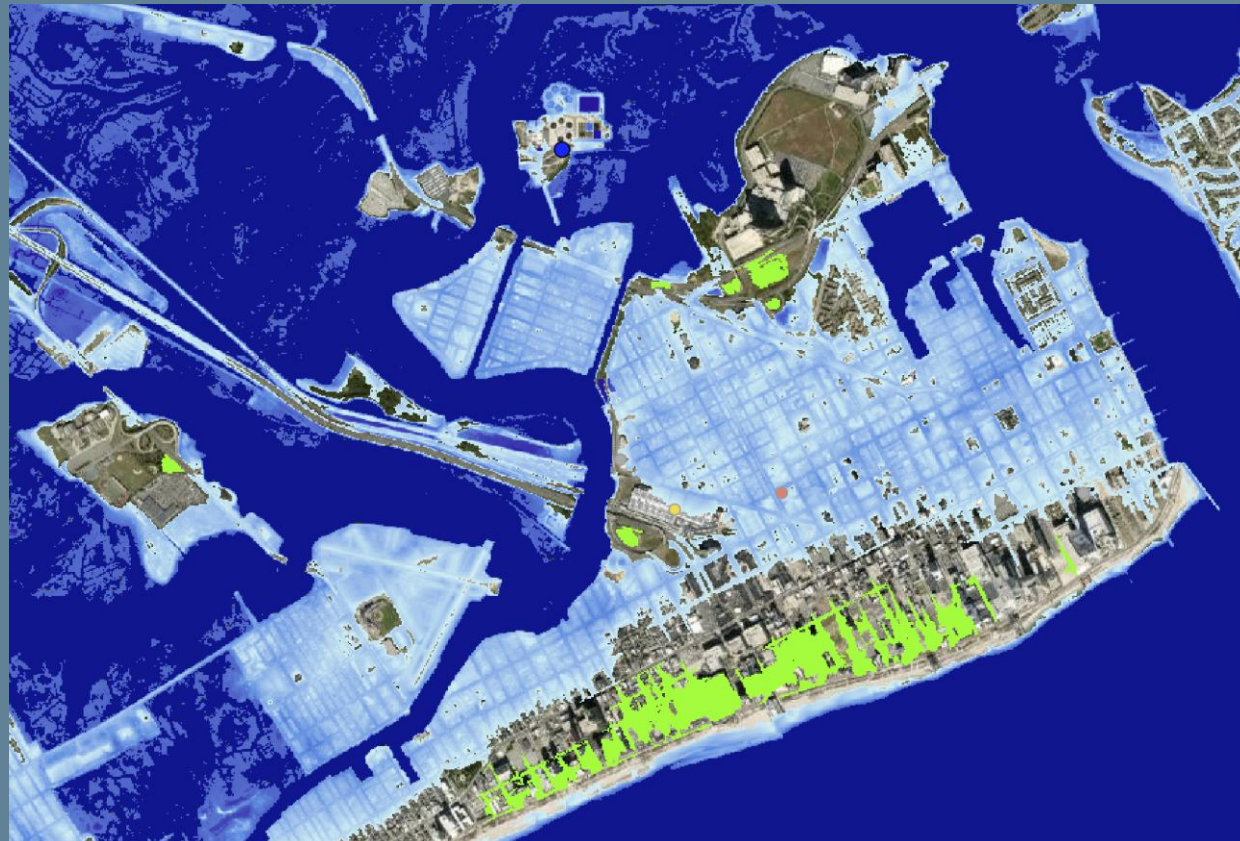


NJ FloodMapper

Flood exposure mapping tool

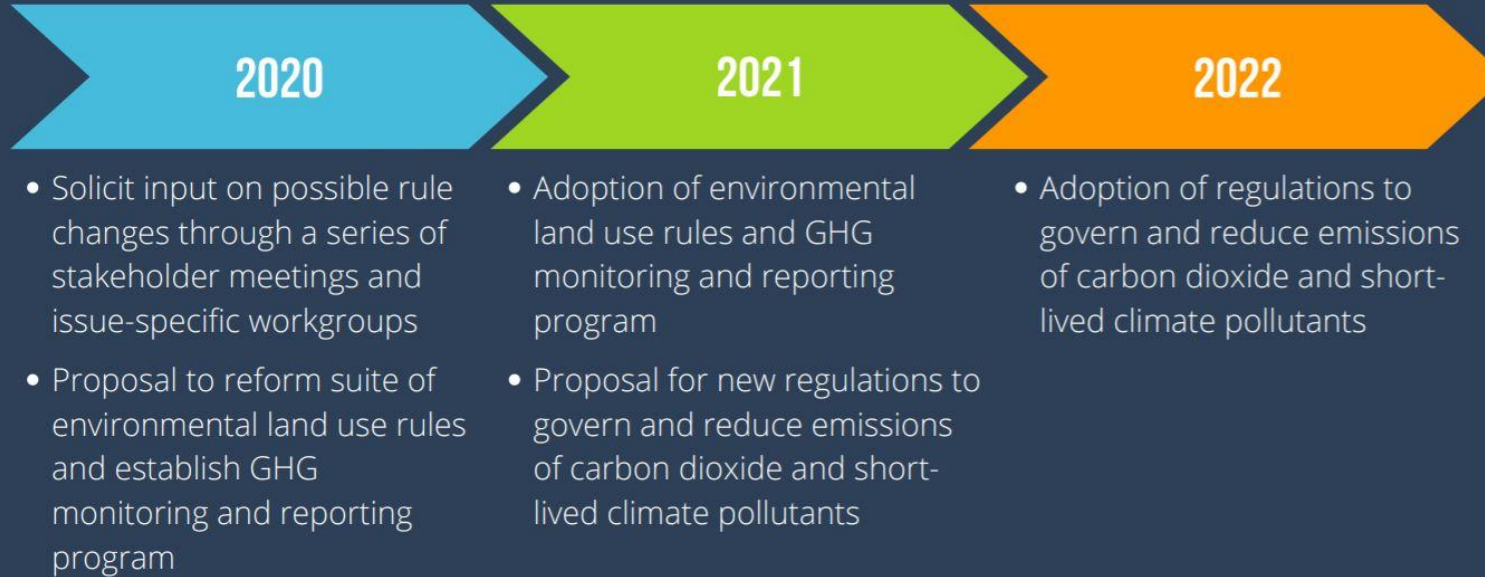
NJ FloodMapper is an interactive mapping tool that allows users to conduct flood exposure analysis based on the best available science for sea-level rise and numerous other parameters, including total water levels, hurricane surge, FEMA flood zones, and Hurricane Sandy surge. Additional map layers depict infrastructure, environmental hazards, marsh and open space, social vulnerability, flood insurance payments for property loss, and land use.

Utilities, Atlantic City, 5-feet SLR



Climate Change

PACT Regulatory Timeline



Climate Change

- For Stormwater Management Rules (NJAC 7:8)
 - Require onsite retention of stormwater
 - Remove outdated “rational method”
 - Require climate change to be considered within municipal stormwater plans
 - Require system designers to use climate change projects precipitation data and updated 2020 rainfall
- Significant tie-in between stormwater and land use regulation rules



Stormwater Utilities

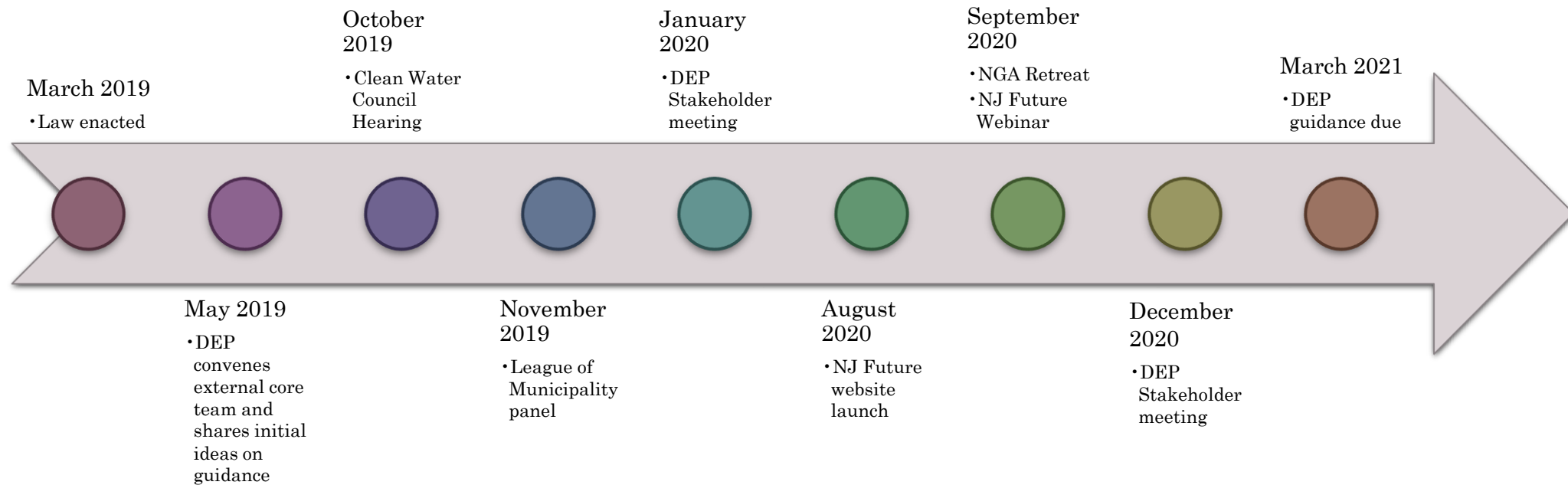
Clean Stormwater and Flood Reduction Act (NJSA 40A:26B *et seq.*)

- Who can establish a stormwater utility (Sec. 4, 5, 6)
- What a stormwater utility can collect fees for (Sec. 8)
- Shared services agreement (Sec. 7)
- DEP's guidance manual (Sec. 16)
- Creation of Clean Stormwater and Flood Reduction Fund (Sec. 17)
- Provisions relative to budget of certain regional sewerage authorities (amends NJSA 40:14A-4.2)
- Certain contracting requirements (amends NJSA 40A:11-4.1 and 15)

DEP Guidance

- Technical assistance for counties, municipalities, and authorities seeking to establish a stormwater utility
- Factors for counties, municipalities, and authorities to consider when establishing and revising stormwater utility fees and other charges and appropriate credits
- Information on how to develop an asset management program for a stormwater management system
- Information on how counties, municipalities, and authorities can conduct public outreach related to stormwater management

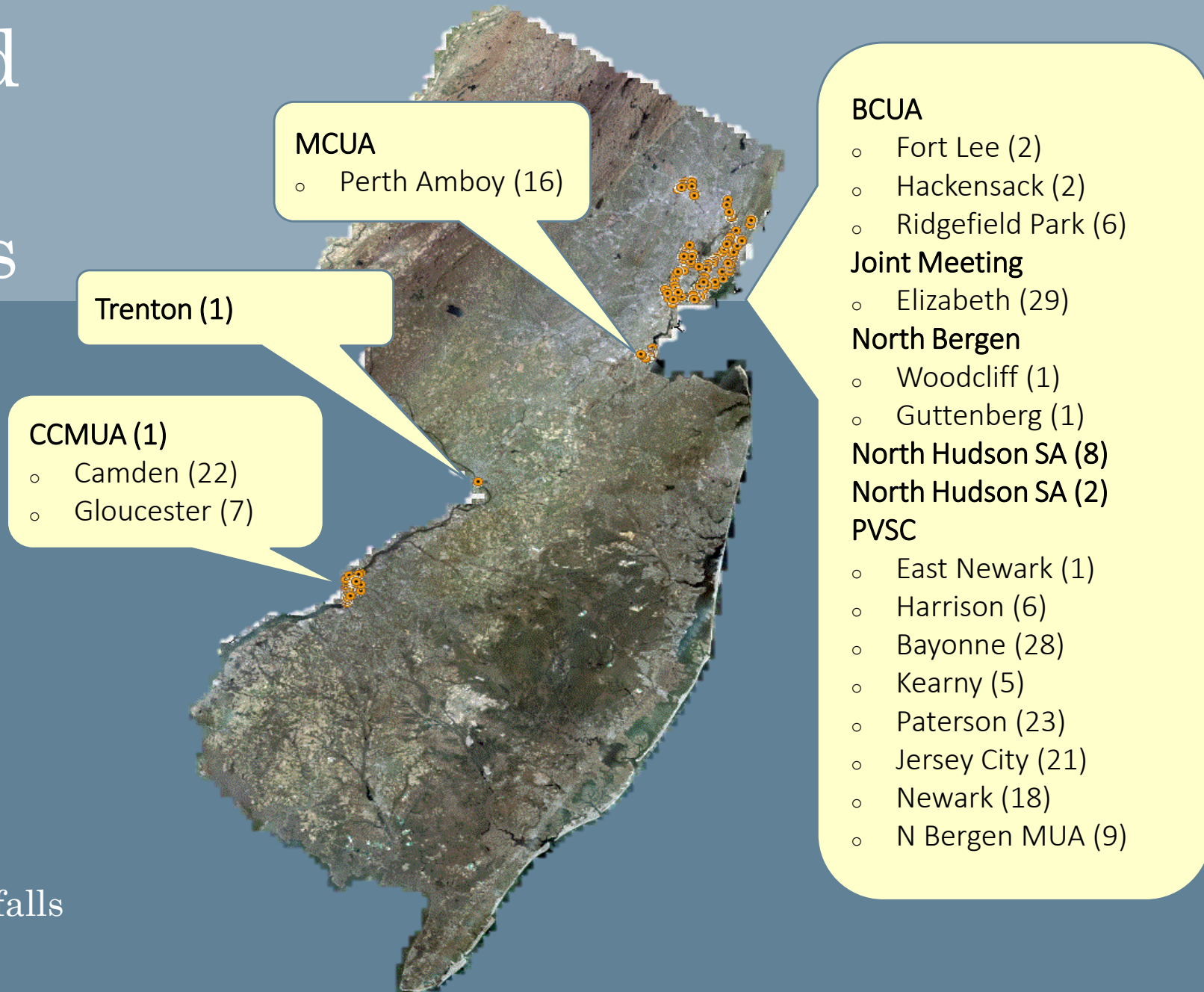
Timeline of Activity





Combined Sewer Overflows

Combined Sewer Overflows

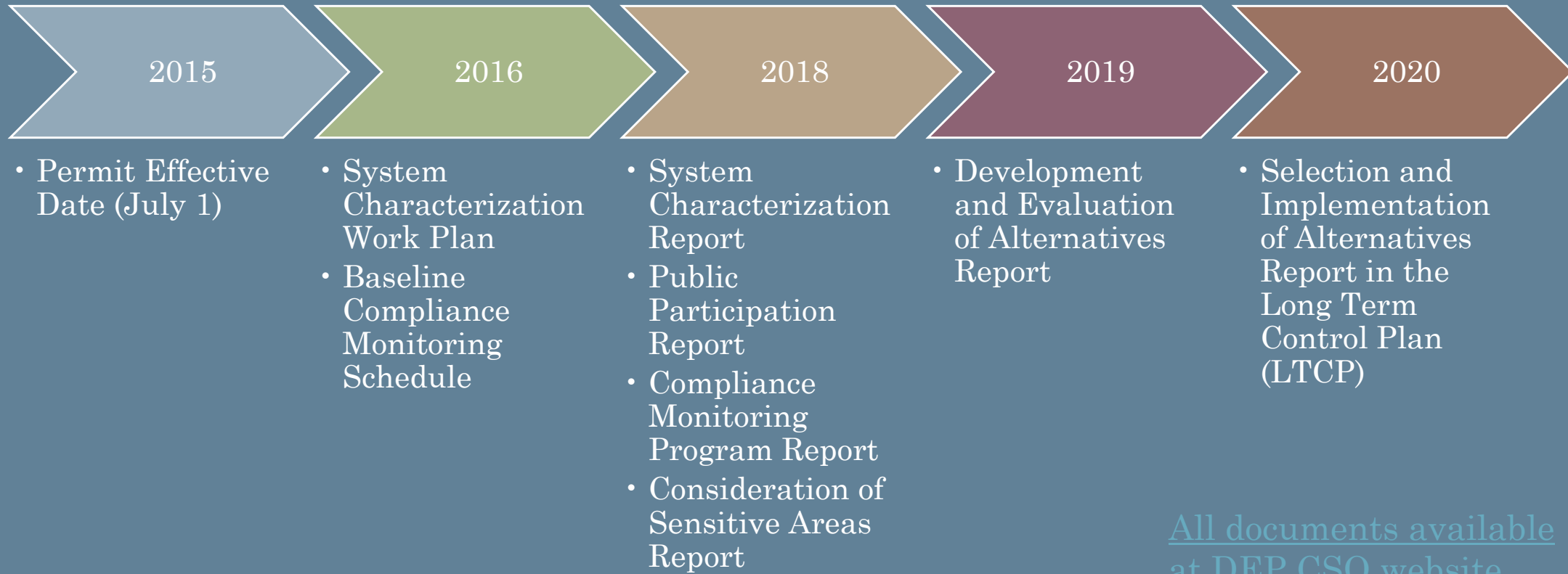


Total: 209 outfalls

Combined Sewer Overflows

- Use of **CSO Team Leader** and **multi-program CSO Team**
- **Cross-division support** from:
 - Bureau of Non-Point Pollution Control
 - Municipal Finance and Construction
 - Water Compliance and Enforcement
 - Bureau of Environmental Analysis, Restoration and Standards (BEARS)
 - Bureau of Pretreatment and Residuals
- **Communicate, communicate, communicate**
 - Communication occurs internally, externally, with interested parties, and with the public to help bridge the gap.
- **Adaptive** and **flexible** approach to get the job done

Combined Sewer Overflows



Combined Sewer Overflows

- **Federal CSO Control Policy (and NJPDES Regulations) allow two approaches for compliance:**
 - 1) **Demonstration Approach**

Demonstrate that water quality standards are attained through modeling
 - 2) **Presumption Approach – 3 options**

85% of the wet weather flow volume collected by the combined sewer system is captured and receives treatment. (option 2)
- **All 24 permittees are choosing 85% capture as a target under the Presumption Approach.**

Combined Sewer Overflows

- **How will we measure progress (in future permit)?**
 - Duration of Discharge (number of days an outfall discharges)
 - Flow Meters at select locations – volume, frequency, duration
 - Solids/Floatable Removal
 - Adaptive Management requirements

Combined Sewer Overflows

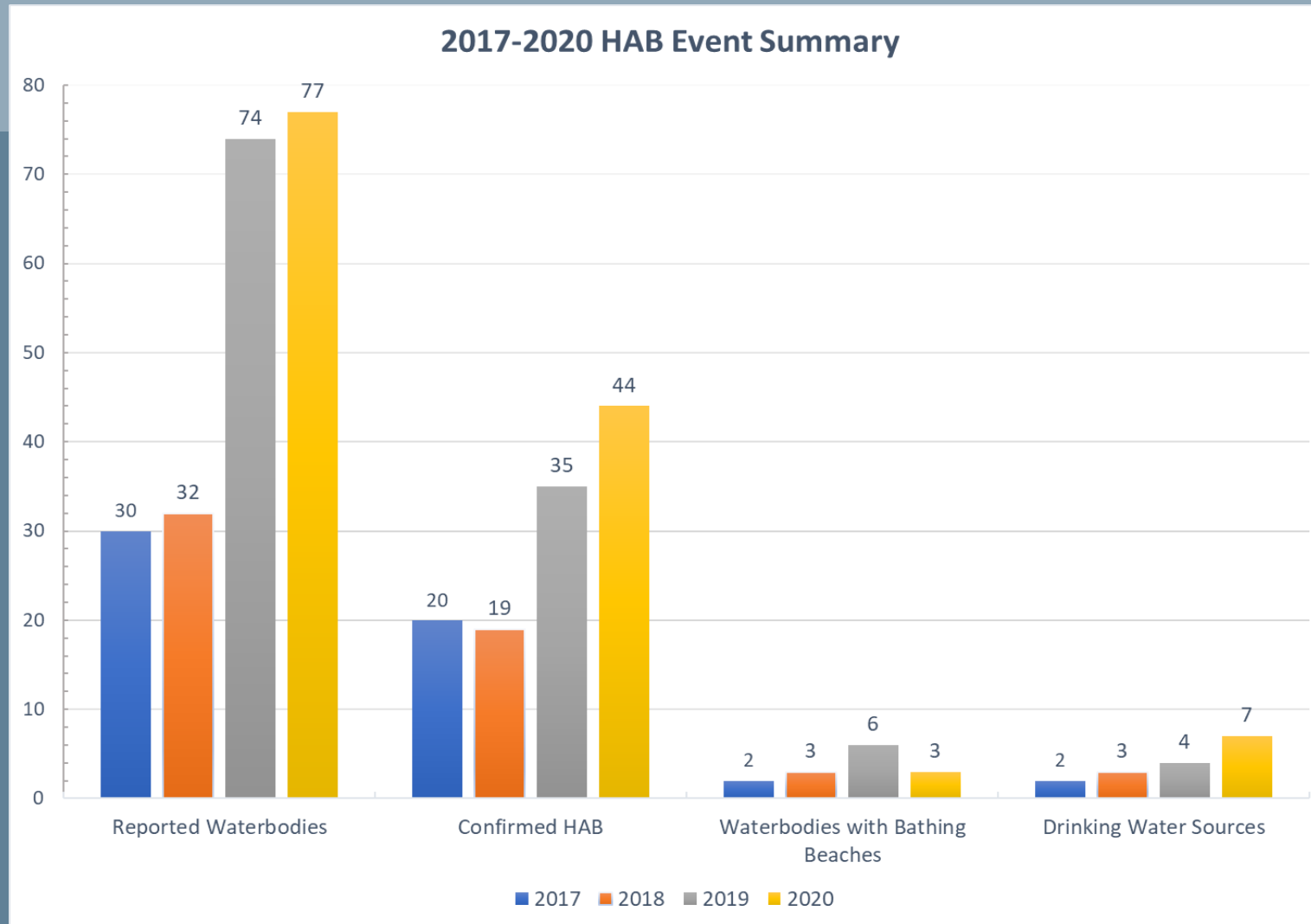
- **Next Steps**

- LTCPs will continued to be reviewed by DEP teams
- Formation of Core team of stakeholders to guide stakeholder process
- Stakeholder sessions will commence in 2021
- Issues to cover:
 - Public Engagement
 - Compliance with approved projects



Harmful Algal Blooms

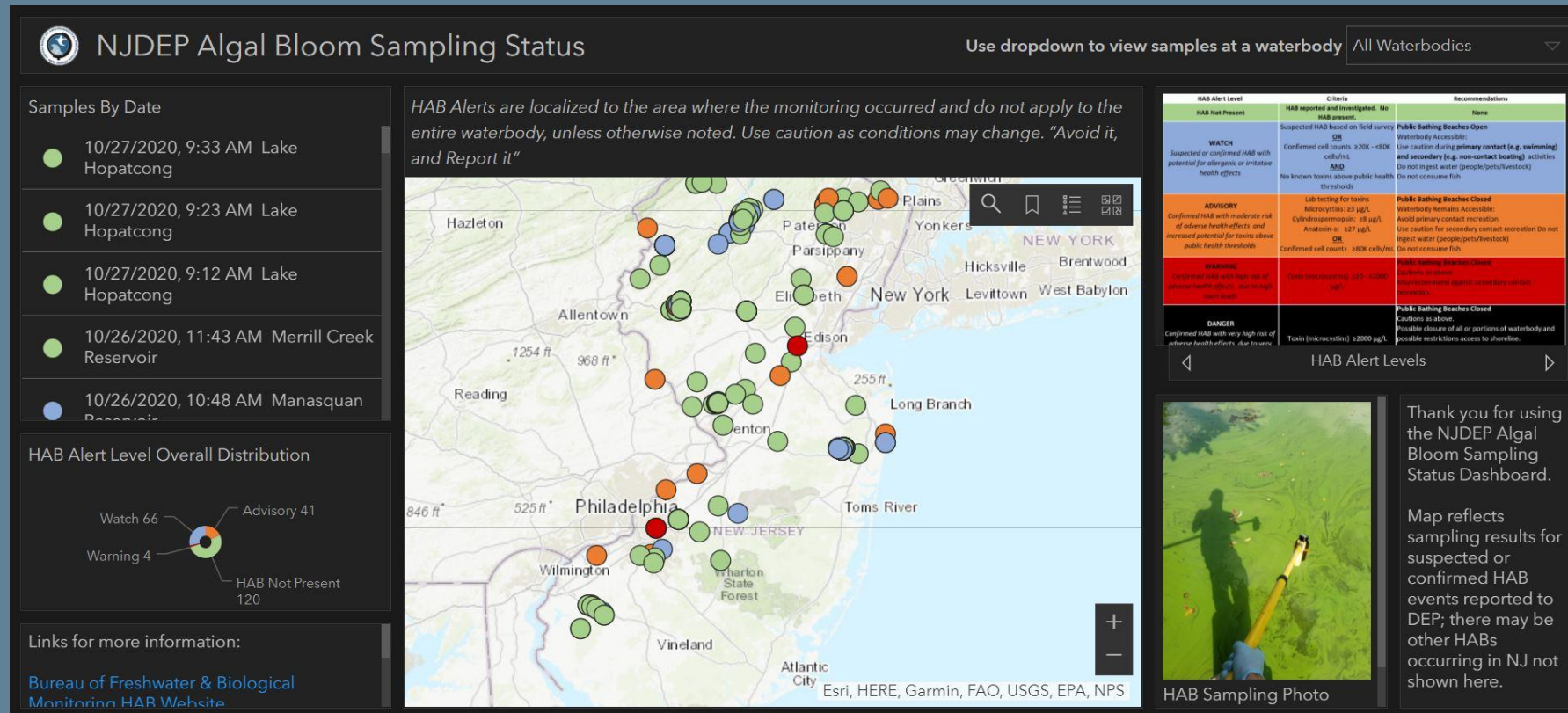
Harmful Algal Blooms



Harmful Algal Blooms

- Governor Murphy's HABs Initiative (Nov. 2019)
 - Over \$13 million in grants made available
 - Building an expert team
 - Building a Statewide HAB Monitoring Program
 - Regional HAB summits
 - Web Tools
 - Assisting Local Governments

Harmful Algal Blooms





Water Bank

Water Bank Program

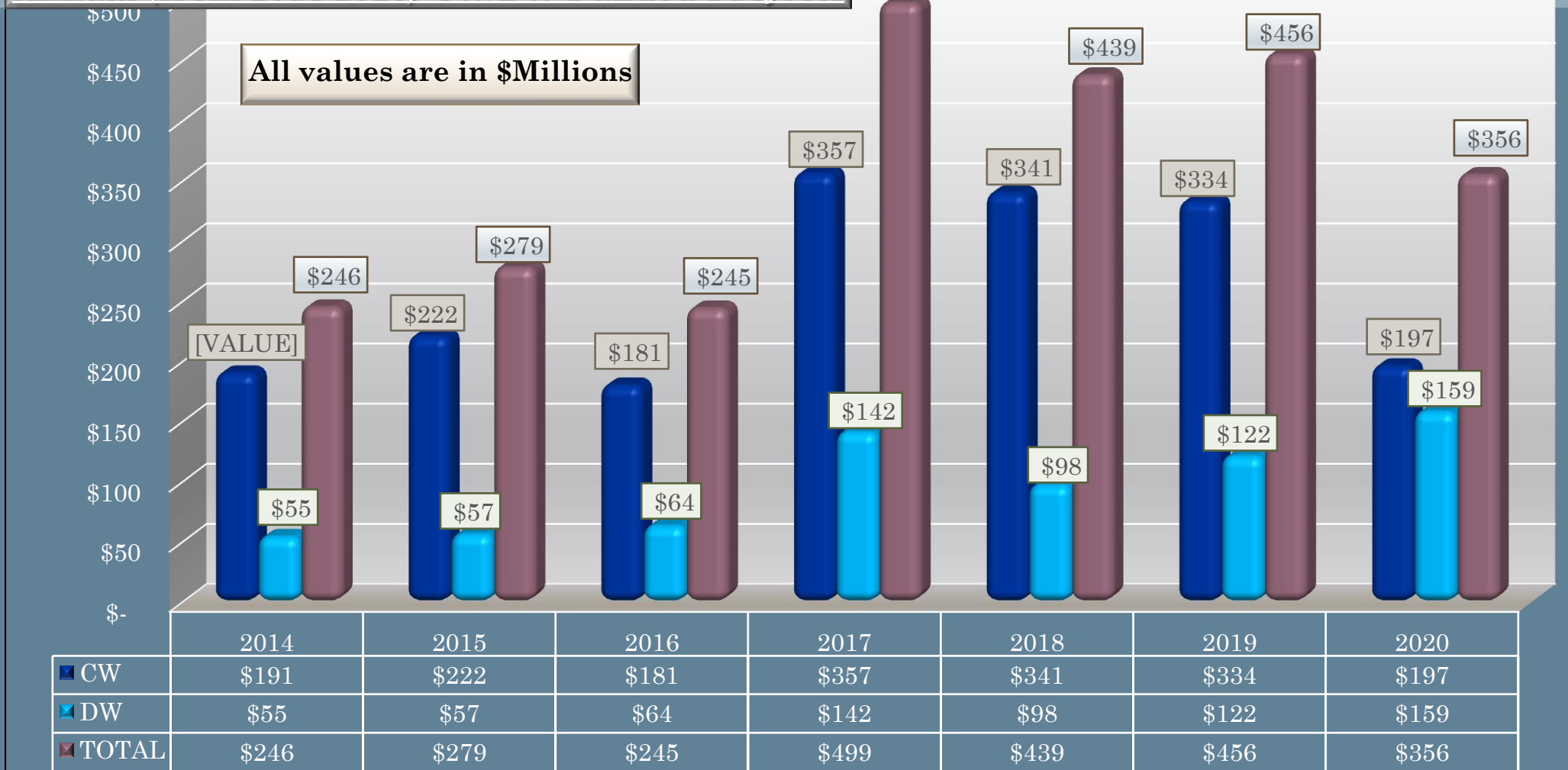
- Background
 - Partnership between the New Jersey Department of Environmental Protection and the New Jersey Infrastructure Bank
- Objectives
 - To incentivize and facilitate the investment required to sustain and improve NJ's aging environmental infrastructure systems.
 - To provide low-cost financing for projects that improve water quality and protect public health.
 - To act as a fiduciary and steward NJ's SRF financing program for future participants in perpetuity.

Water Bank Program

- Program Highlights
 - Current baseline program (50/50)
 - CSO Sewershed projects
 - \$28M principal forgiveness available (capped at \$2M per applicant)
 - Small System Asset Management Planning
 - \$0.5M in principal forgiveness (capped at \$100K per applicant)
 - Short-term loans are provided to cover planning, design, and construction costs, with long-term loan terms set at the time of certification of construction contract.
 - Assessing future changing demand within clean water SRF program

Water Bank Program

Annual (from 2014-2020) CW/DW Funded Projects



Water Bank Program

- Water Infrastructure Finance and Innovation Act (WIFIA)
 - Federal credit program available to various entities
 - Covers up to 49% of eligible project costs
- Water Bank's proposed use
 - Projects already certified by DEP were pooled together and submitted to USEPA as part of a letter of intent.
 - I-Bank will blend WIFIA money into loan packages when WIFIA interest rates are more advantageous than market rates
 - DEP published a notice on October 22, 2020 proposing to amend prior IUPs
 - Provided the rationale for using WIFIA
 - Explained how using WIFIA achieves an equivalent interest rate for affected loans
 - No comments received to date



Thank you

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