BREAKING DOWN DRBC'S FRAMEWORK FOR RESILIENCE

April 30, 2026

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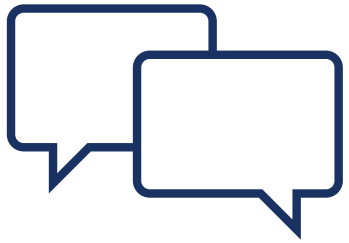
Introduce DRBC and the WRRP



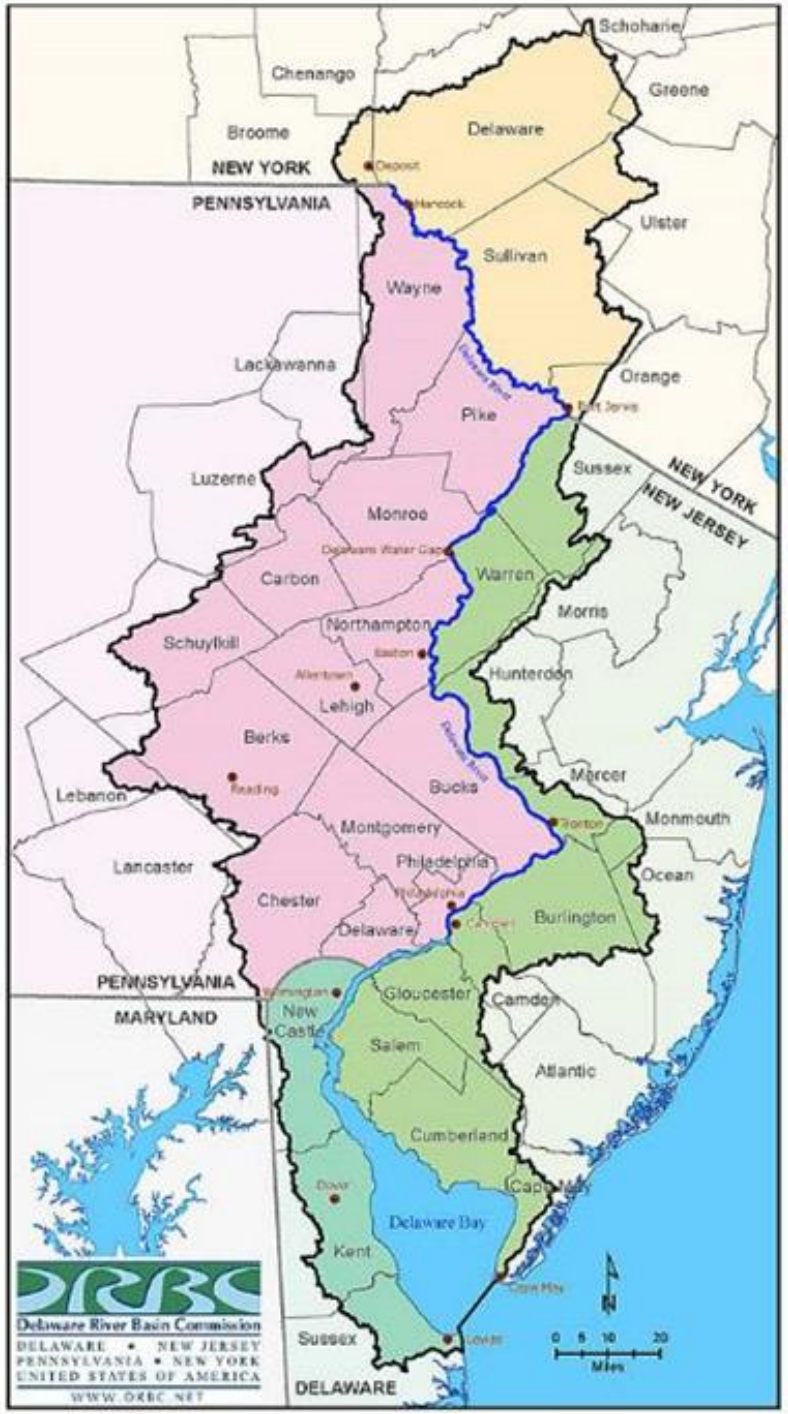
Phase 1 Stakeholder Engagement

WRRP Framework

What’s Coming in Phase 2?

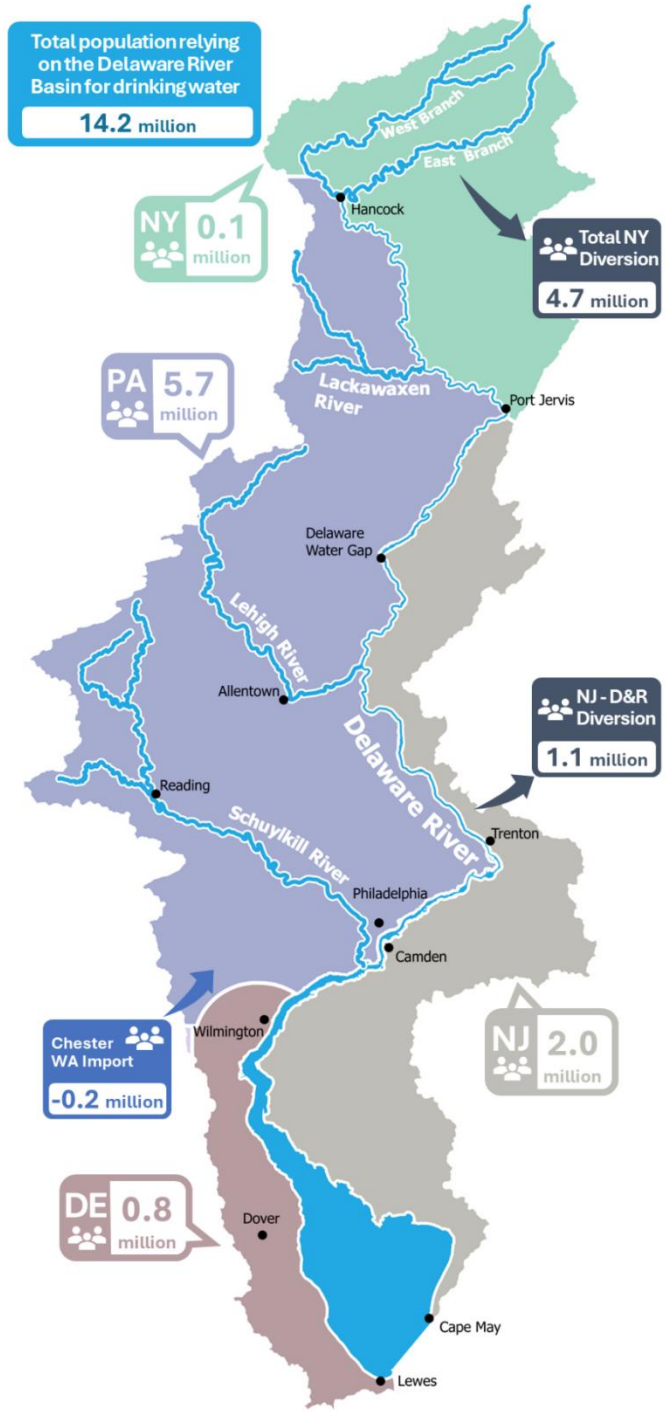
The Delaware River

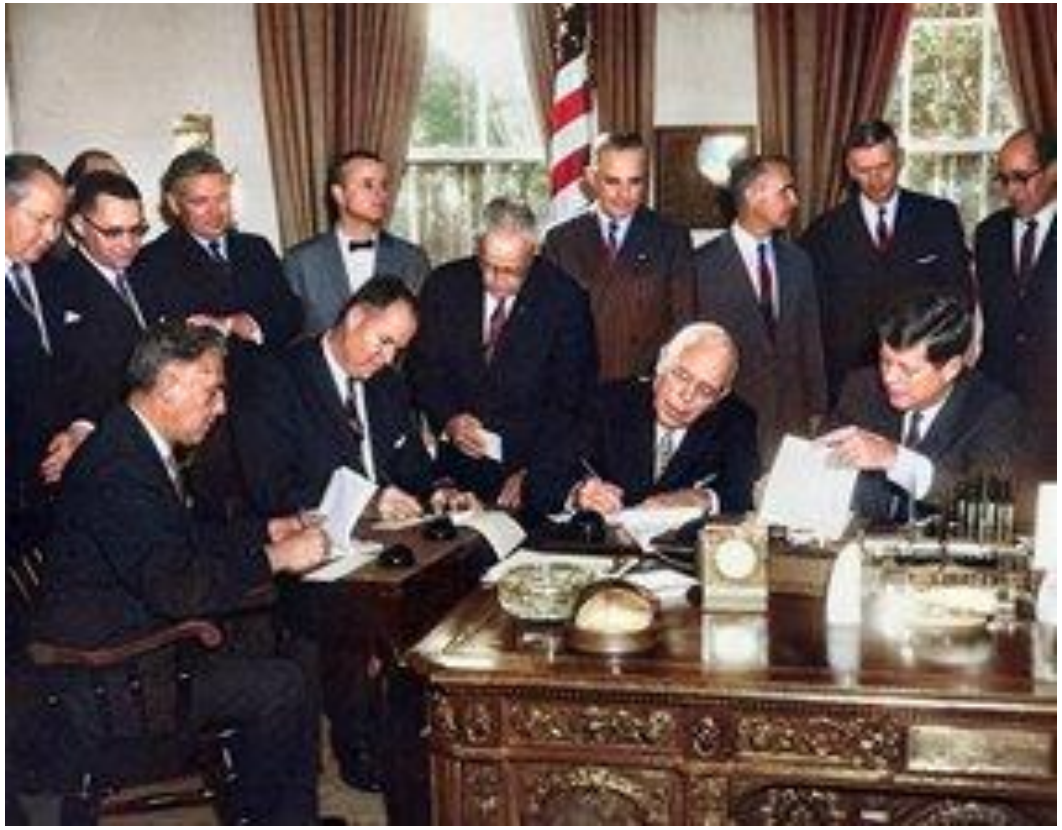
- 13,500 mi^2 watershed with parts of NY, PA, NJ, and DE
- Free-flowing mainstem is 330 miles long and tidal to Trenton, NJ



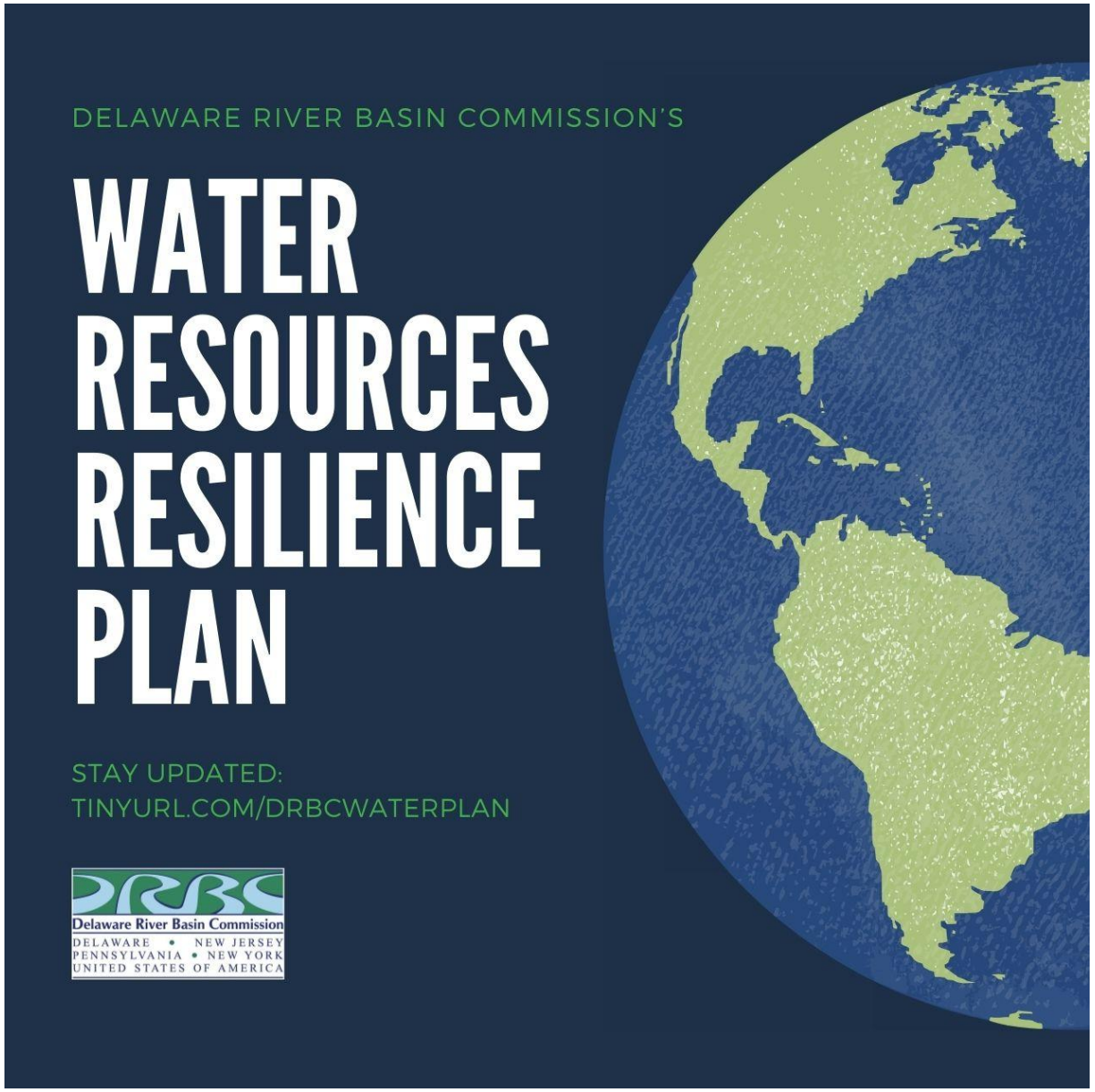
The Delaware River meets our needs.

- Drinking water for 14.2 million
- $21+ billion in economic value
- Cooling for power generation
- Recreation
- Habitat to endangered species
- Commercial navigation





The DRBC has been **managing, protecting, and improving the water resources** of the Delaware River Basin since 1961.



The DRBC's work on a Water Resources Resilience Plan (WRRP) launched in 2024.

Vision for the Water Resources Resilience Plan

Recommend actions DRBC can take to **manage the Basin's shared water resources** through the **known and potential impacts of climate change** and other challenges.

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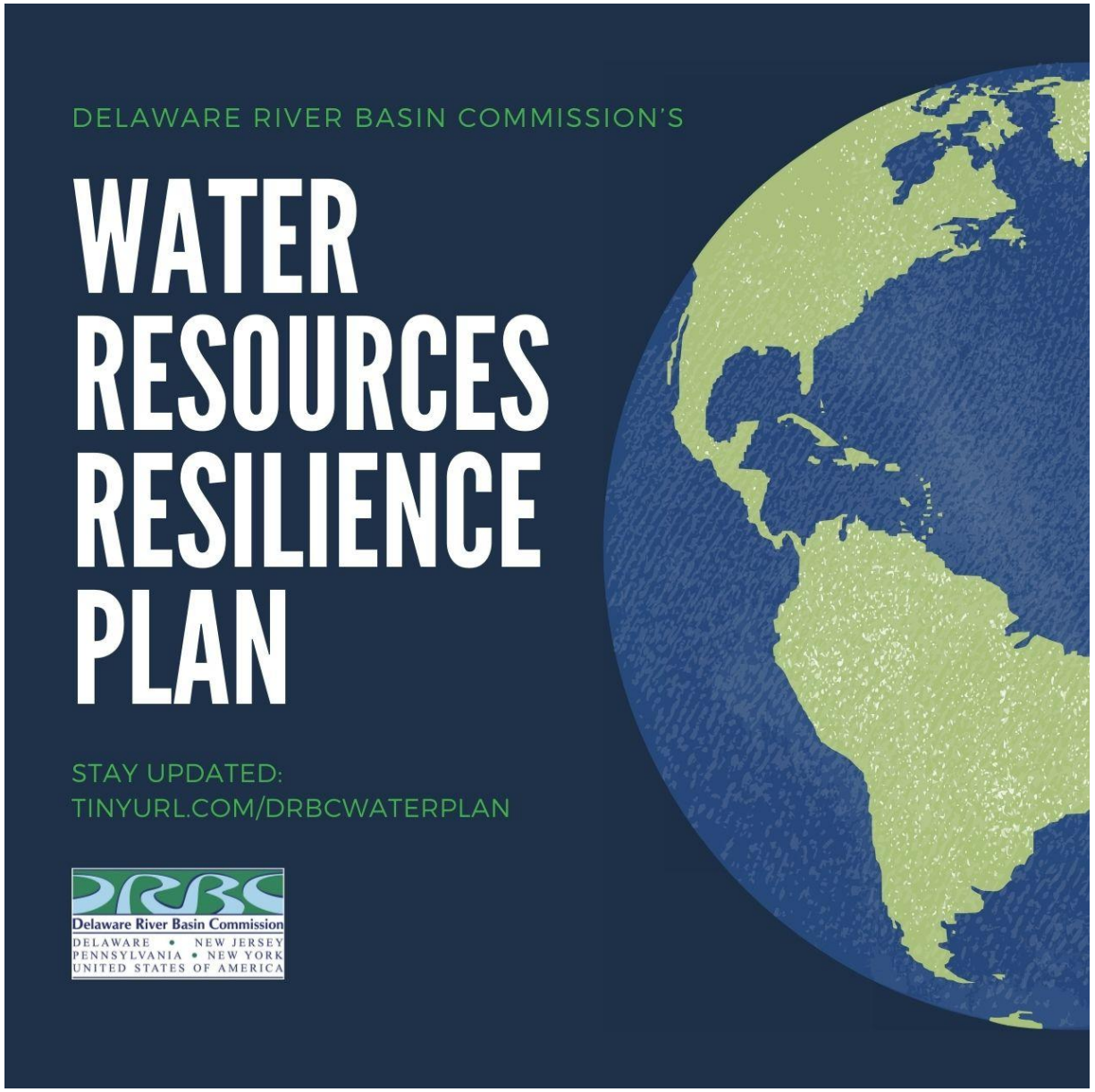

Partners and Advisors

- Advisory Committee on Climate Change
- DRBC member agencies
- State climate offices
- Our Shared Waters network

Thank you!

The WRRP is being completed in three phases.

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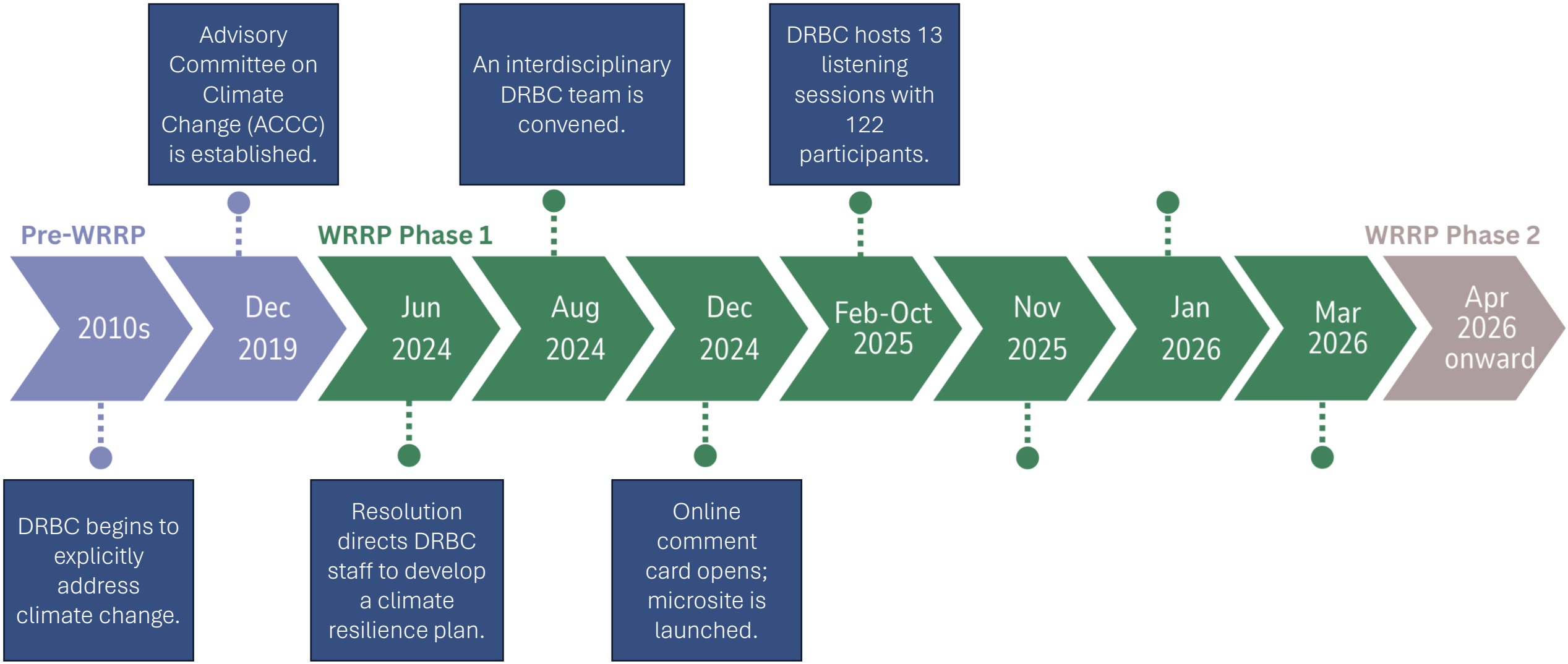
- **Phase 1:** A Framework for DRBC's Water Resources Resilience Plan

you are here

- **Phase 2:** Advancing Resilience of the Delaware River Basin's Water Resources to Climate Change

- **Phase 3:** Advancing Resilience of the DRB's Water Resources to Additional Challenges

Where are we in this process?



Thank you to our partners who co-hosted listening sessions with us during Phase 1

RUTGERS–NEW BRUNSWICK
New Jersey Climate Change Resource Center

DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

POWR
Pennsylvania Organization for Watersheds & Rivers

TROUT UNLIMITED

Partnership for the DELAWARE ESTUARY

pec
pennsylvania environmental council

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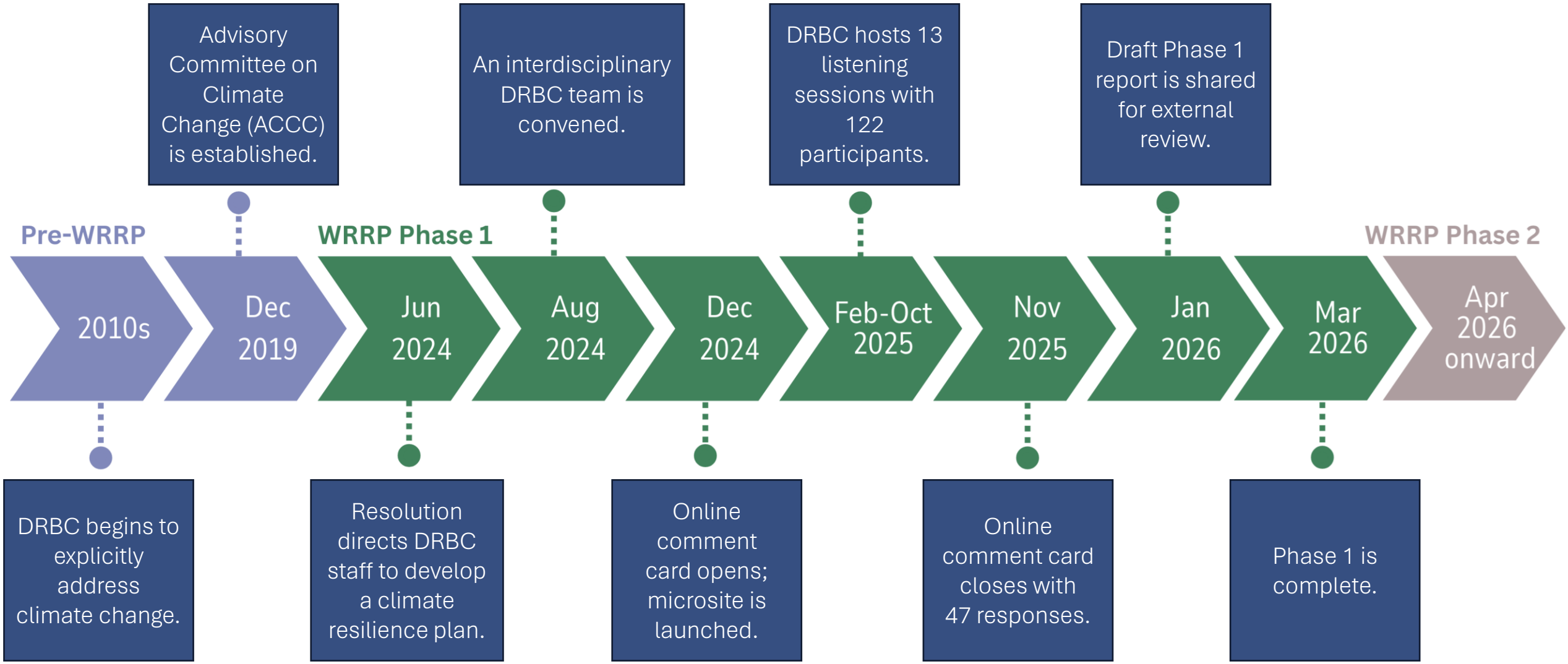

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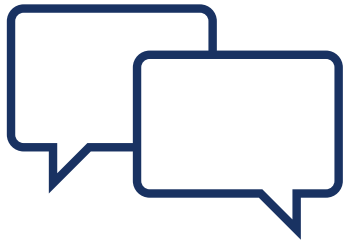
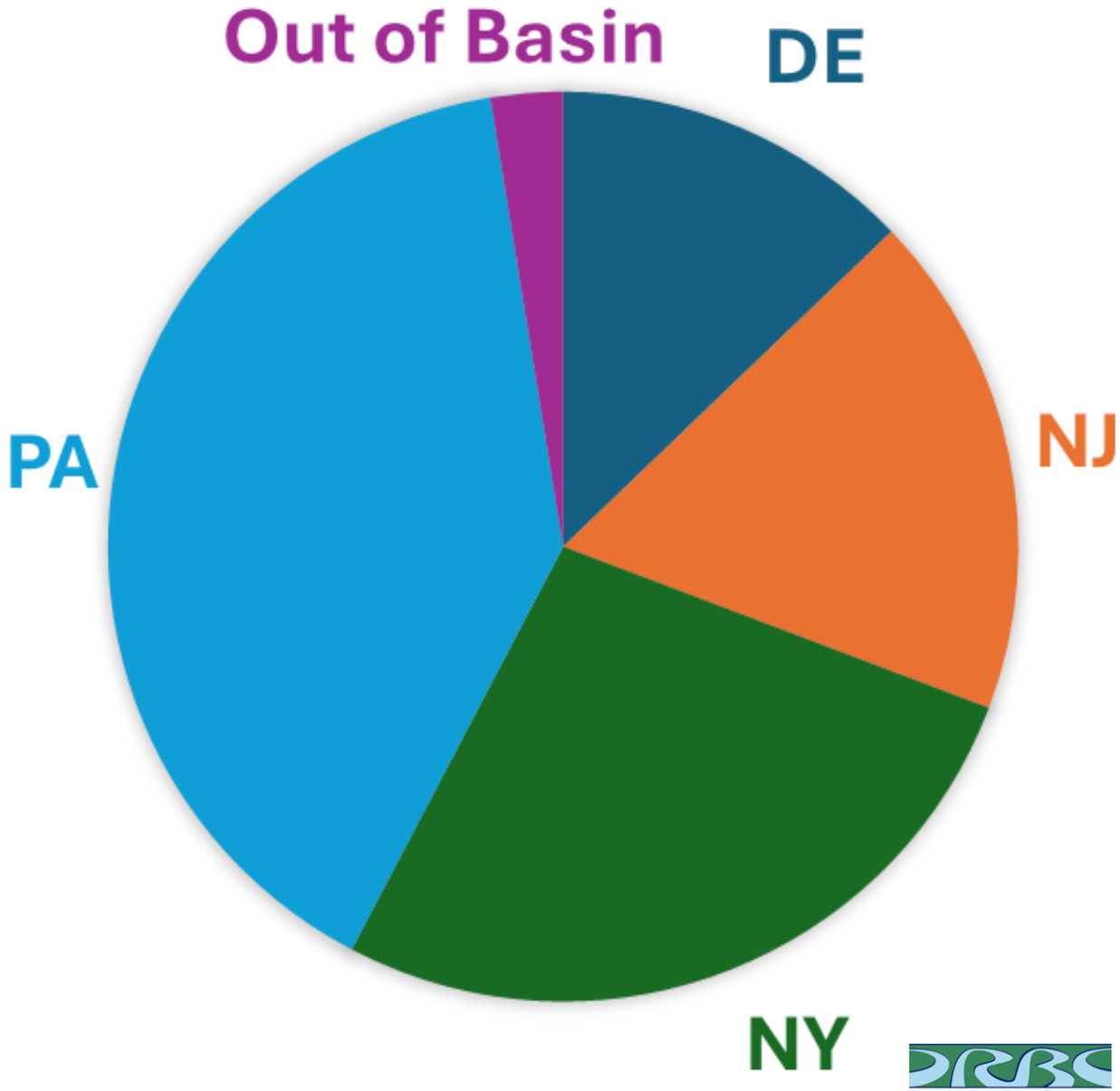


Phase 1 Stakeholder Engagement

WRRP Framework

What's Coming in Phase 2?

Over 150 people engaged during Phase 1 from all four Basin states.



PHASE 1 GOAL

Ensure the scope of the WRRP considers the breadth of public and partner concerns about climate change and water resources.

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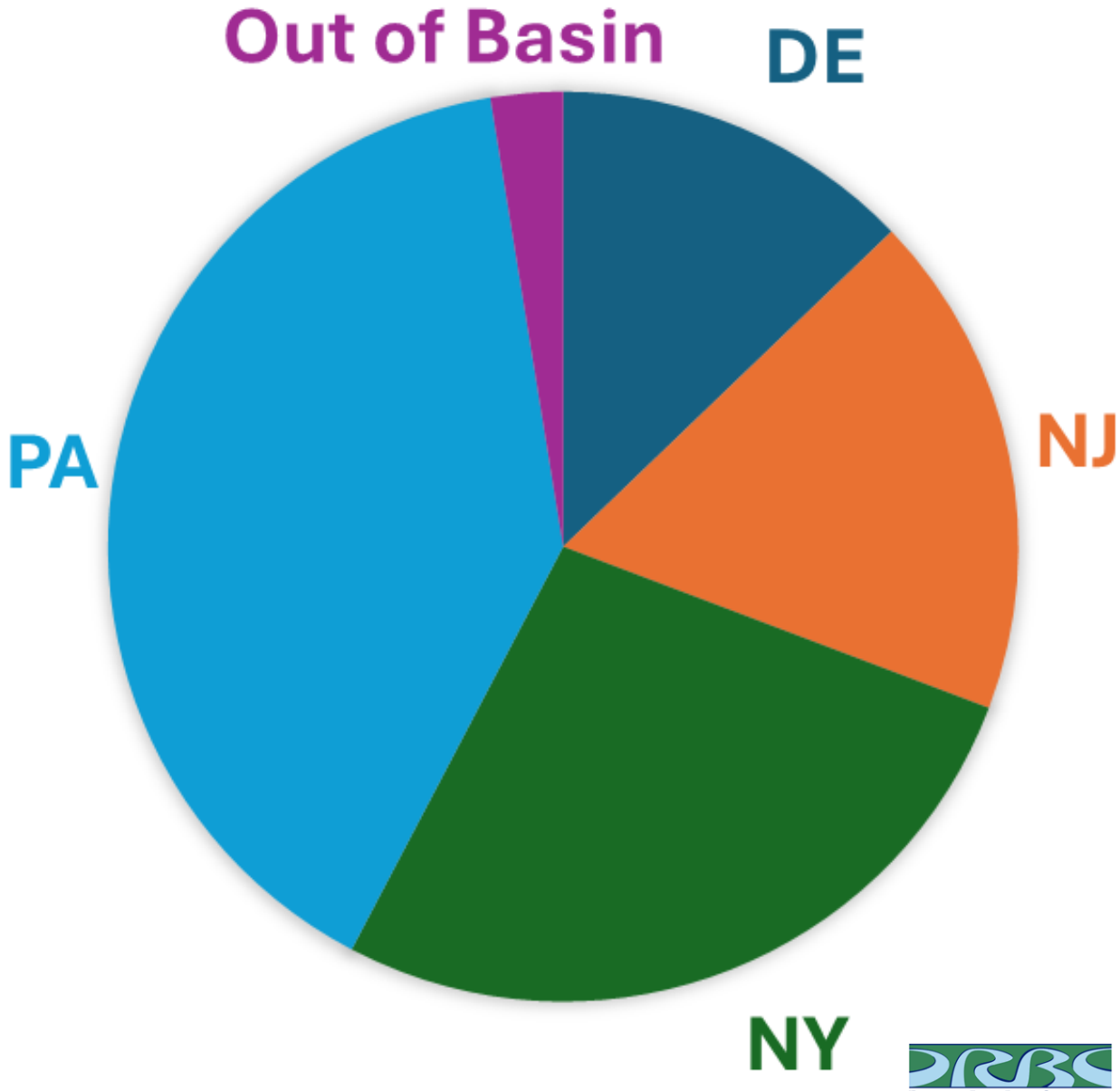
Over 150 people engaged during Phase 1 from all four Basin states.

We heard from:
State government, non-profits, Basin residents, public utility, academia, private utility, faith-based groups, federal government, youth, community groups



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“I just enjoy [the Delaware River’s] existence and beauty…

Many stakeholders noted the Basin’s **aesthetic beauty**, partake in a range of **recreational activities**, and acknowledged the River as an important **source of water**.

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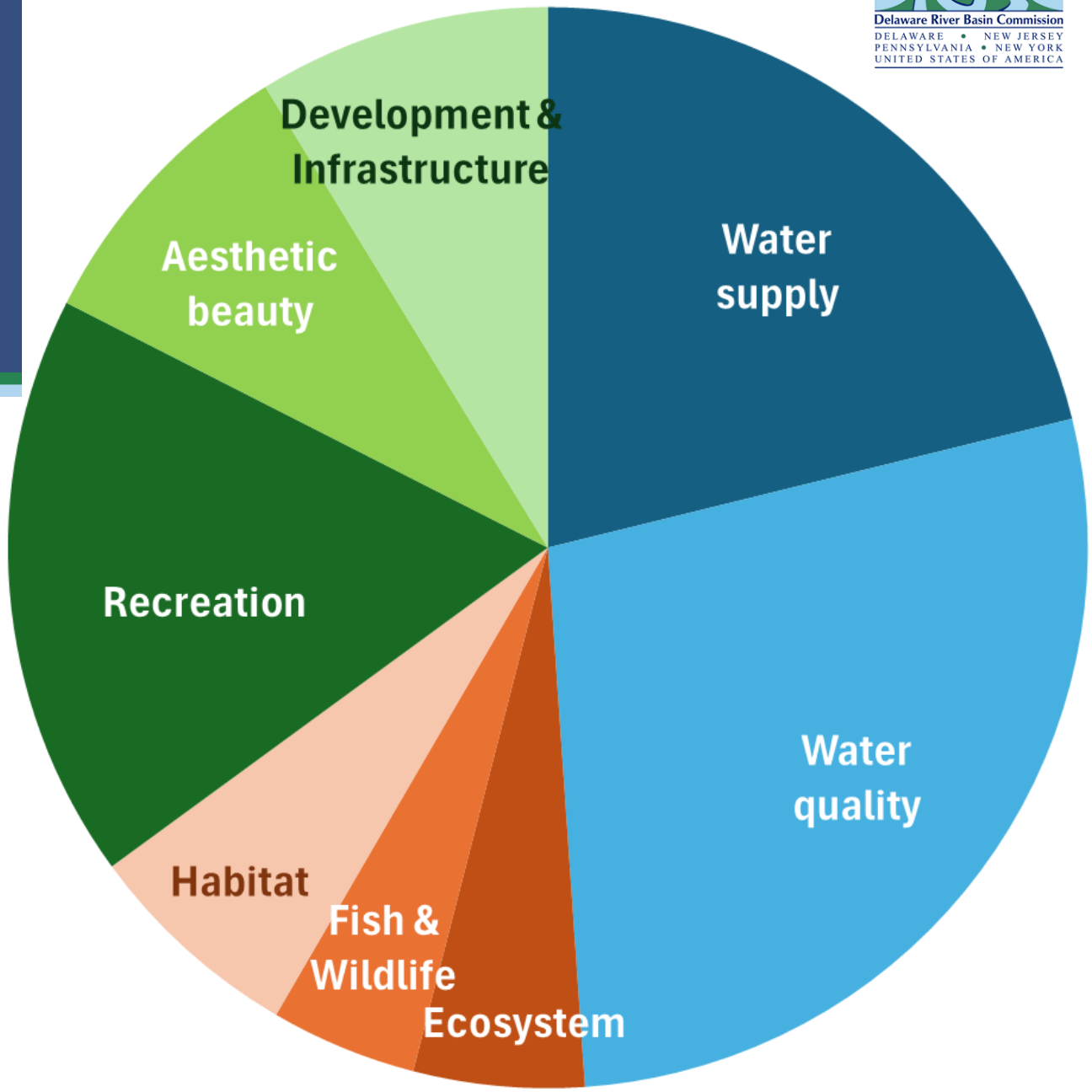
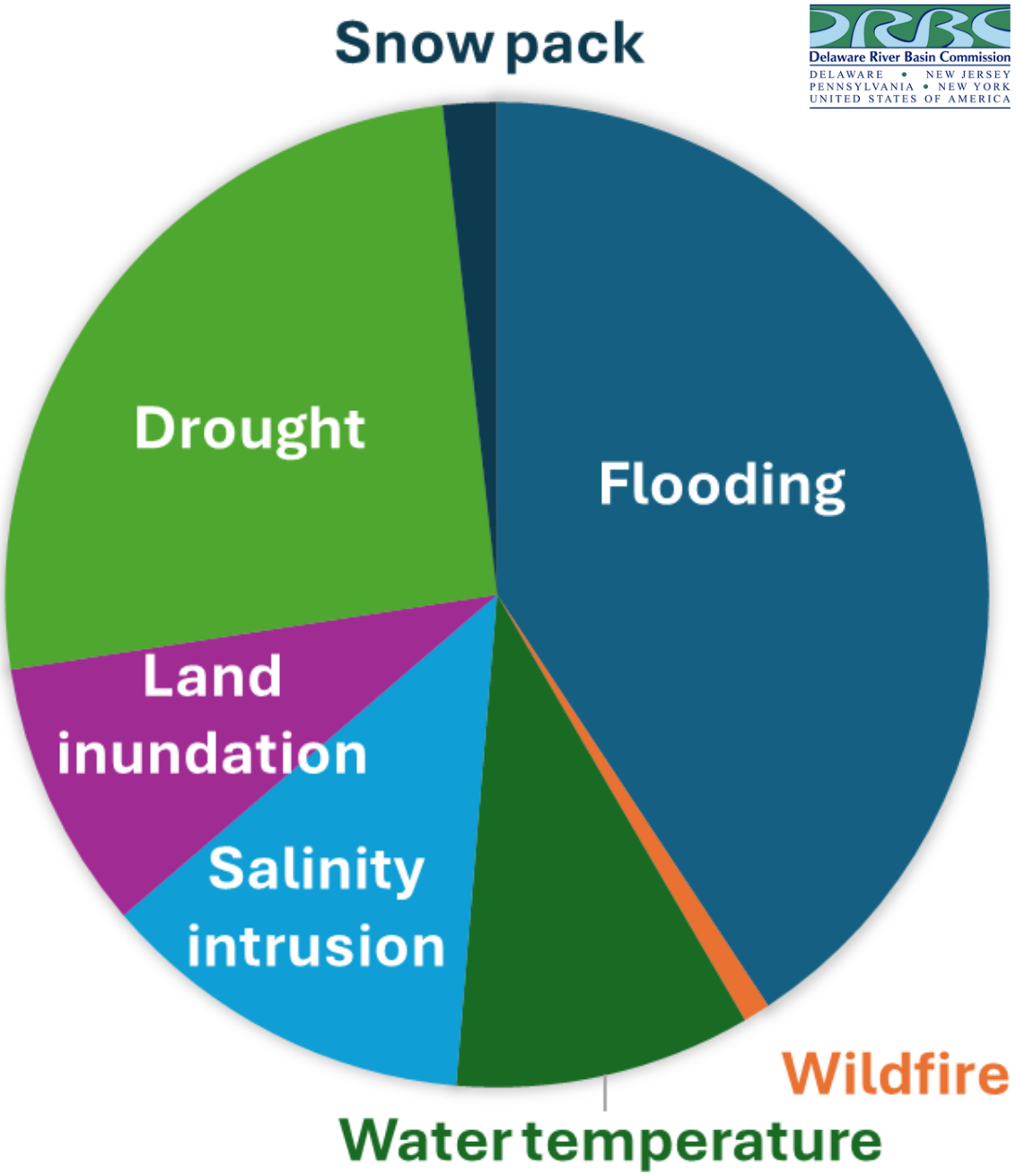
Stakeholders' responses communicated **what they value**

Many stakeholders noted the Basin's **aesthetic beauty**, partake in a range of **recreational activities**, and acknowledged the River as an important **source of water**.



Flooding and **drought** were of greatest concern

- Reflects public knowledge as well as their concerns
- Other challenges mentioned (for consideration in Phase 3):
  - PFAS and other contaminants
  - Non-point source pollution
  - Aging infrastructure
  - Freshwater salinization
  - Public perception
  - Dredging
  - Hydraulic fracturing



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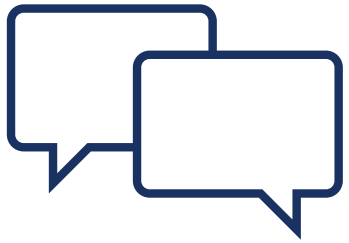

Stakeholder engagement helped clarify shared values and concerns

WRRP Framework

What’s Coming in Phase 2?

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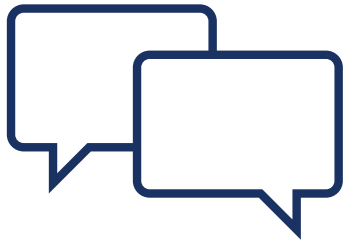

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WRRP Framework

What's Coming in Phase 2?

The WRRP will focus on protecting and managing **three Basin-wide water resource assets**

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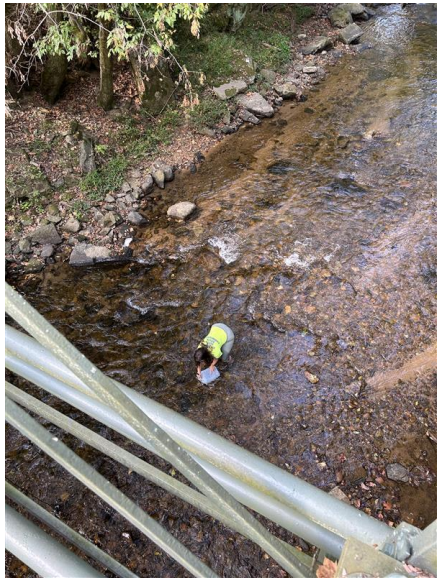
WATER AVAILABILITY	Water supply (streamflow, groundwater, reservoirs) and water quality



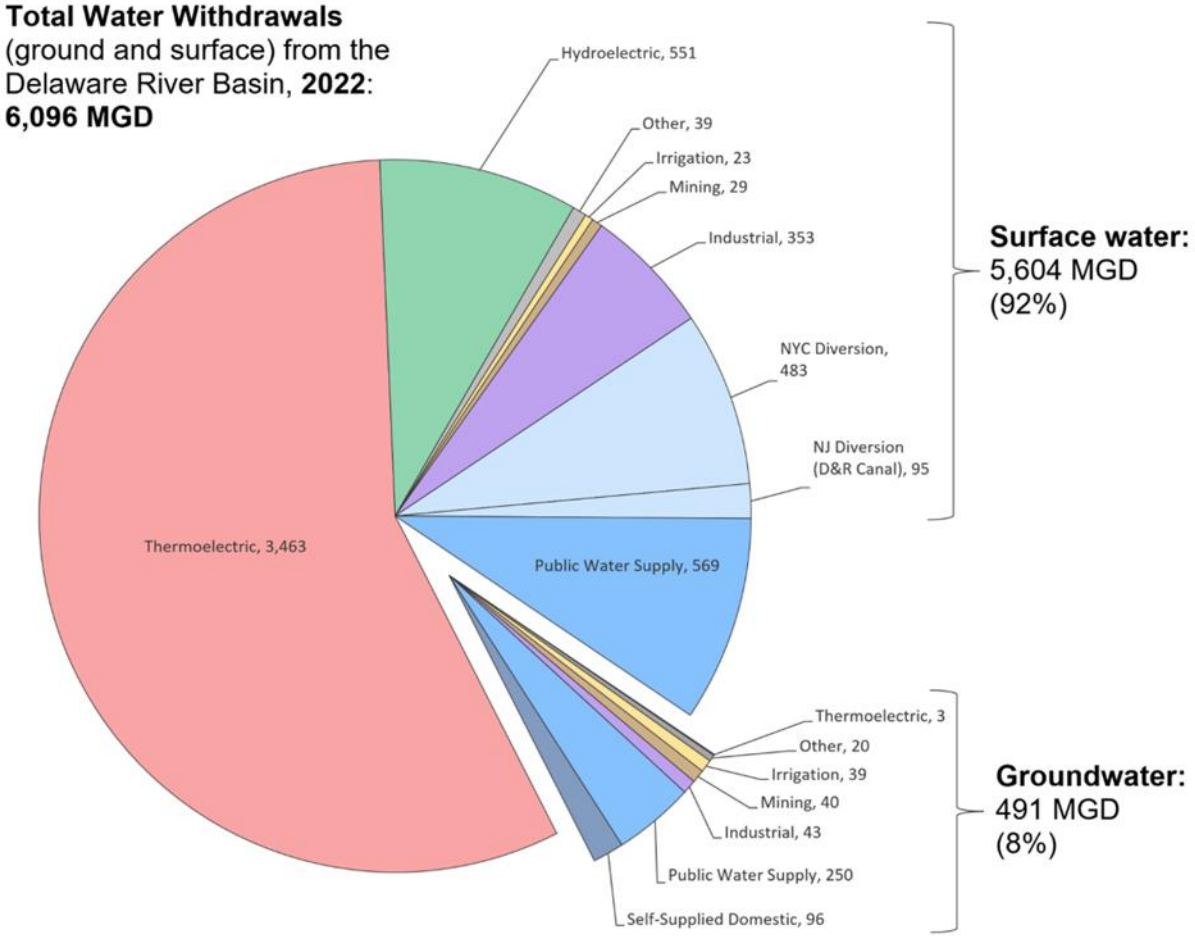


Image credits: DRBC

The WRRP will focus on protecting and managing **three Basin-wide water resource assets**

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WATER AVAILABILITY	Water supply (streamflow, groundwater, reservoirs) and water quality
AQUATIC LIFE	All species that live in and/or rely on water bodies in the Basin and their habitat

Image credits: maine.gov, DNREC, Haskins Shellfish Research Laboratory, NPS, John Whyte of the Ontario B.A.S.S. Nation, DNREC, PDE

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LANDSCAPE	Water-adjacent land and infrastructure that supports quality of life and recreation

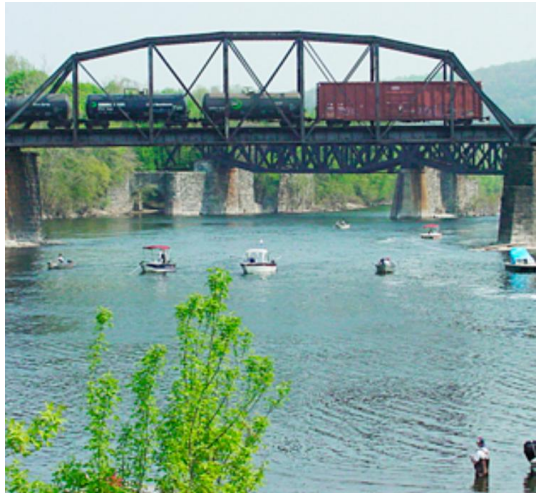

Image credits: NPS, Susan Owens (DRBC), DRBC

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LANDSCAPE	Water-adjacent land and infrastructure that supports quality of life and recreation

- This list reflects stakeholder input: What we **collectively value** about water resources in the Basin
- Each water resource asset includes many **inter-connected components**

CLIMATE CHANGE DRIVERS

HAZARDS TO WATER RESOURCES

EXAMPLE CONSEQUENCES TO WATER RESOURCE ASSETS

Changing air temperature patterns

Changing precipitation patterns

Sea-level rise

Water temperature increase → Stress to temperature-sensitive species → **Aquatic life**

Brook trout
Image credit: maine.gov

Slimy sculpin
Image credit: Jason Freund, Trout Unlimited

Invasive northern snakehead
Image credit: invadingspecies.com

Limerick generating station
Image credit: Constellation Energy

Blue-green algae
Image credit: DNREC

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CLIMATE CHANGE DRIVERS	HAZARDS TO WATER RESOURCES	**EXAMPLE** CONSEQUENCES TO WATER RESOURCE ASSETS
Changing air temperature patterns	**Changing winter weather**	Alters streamflow seasonality → **Water availability**
Changing precipitation patterns		
Sea-level rise		

Road salting
Image credit: Stroud Water Research Center

Snow in the Catskills Mountains, NY
Image credit: Jenny Flavin, Catskills Visitor Center

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CLIMATE CHANGE DRIVERS

HAZARDS TO WATER RESOURCES

EXAMPLE CONSEQUENCES TO WATER RESOURCE ASSETS

Changing air temperature patterns

Changing precipitation patterns

Sea-level rise

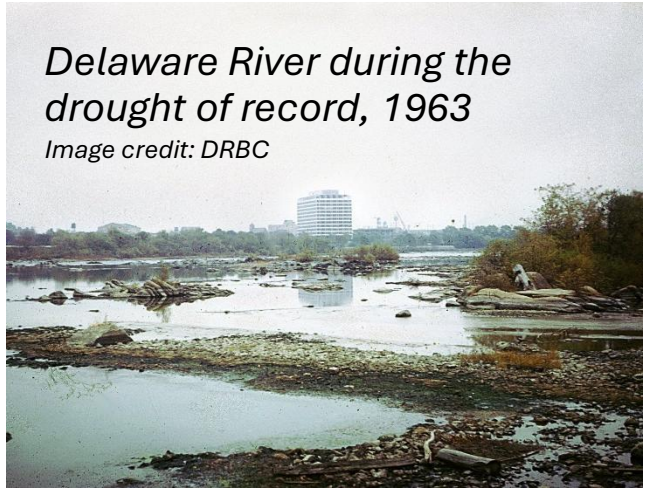
Pepacton Reservoir at 63% capacity in November 2024

Image credit: Delaware Currents

Drought

Saltwater moves farther upstream

Water availability



Delaware River during the drought of record, 1963

Image credit: DRBC

Eastern blacknose dace

Image credit: Ryan Hagerty, USFWS

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CLIMATE CHANGE DRIVERS

HAZARDS TO WATER RESOURCES

EXAMPLE CONSEQUENCES TO WATER RESOURCE ASSETS

Changing air temperature patterns

Changing precipitation patterns

Sea-level rise

Wildfire

Pollution from burned area

Water availability

Burned landscape after the 2013 Rim Fire in California

Image credit: USDA

Smoke rising from the South Moccasin Fire in Montana

Image credit: Lauren Kokinda, BLM

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CLIMATE CHANGE DRIVERS

HAZARDS TO WATER RESOURCES

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Changing precipitation patterns

Sea-level rise

Yardley, PA
June 29, 2006
Image credit: DRBC

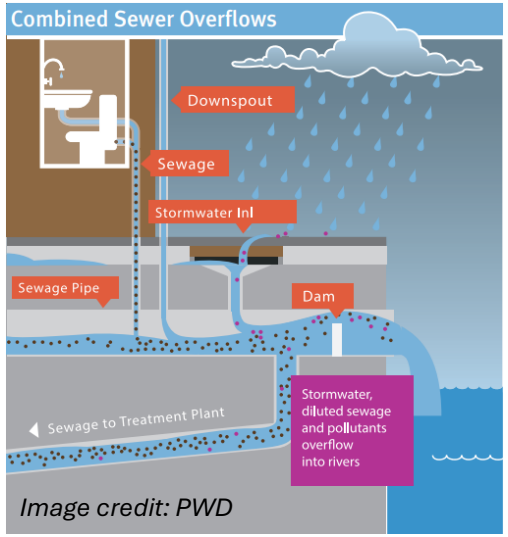

Image credit: PWD

Flooding → Damage to infrastructure → **Landscape**

Smallmouth bass nesting
Image credit: John Whyte of the Ontario B.A.S.S. Nation

Mussels in the Upper Delaware
Image credit: NPS

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CLIMATE CHANGE DRIVERS

HAZARDS TO WATER RESOURCES

EXAMPLE CONSEQUENCES TO WATER RESOURCE ASSETS

Changing air temperature patterns

Ghost forest near Delaware Bay
Image credit: Jerry Habraken, Delaware News Journal

Submerged road at king tide in CA
Image credit: California Ocean Protection Council

Changing precipitation patterns

Marshes and tidal wetlands provide critical habitat
Image credit: PDE

Sea-level rise → **Land inundation** → Loss of marsh vegetation → **Aquatic life**

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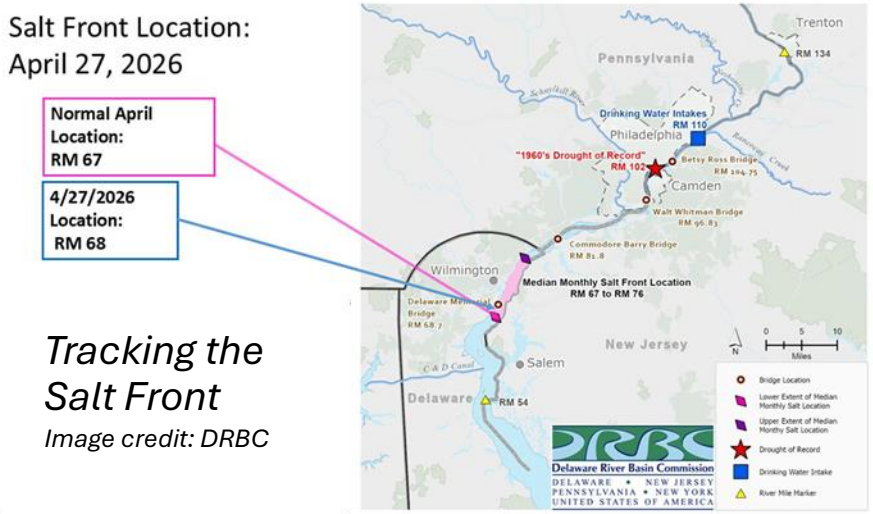
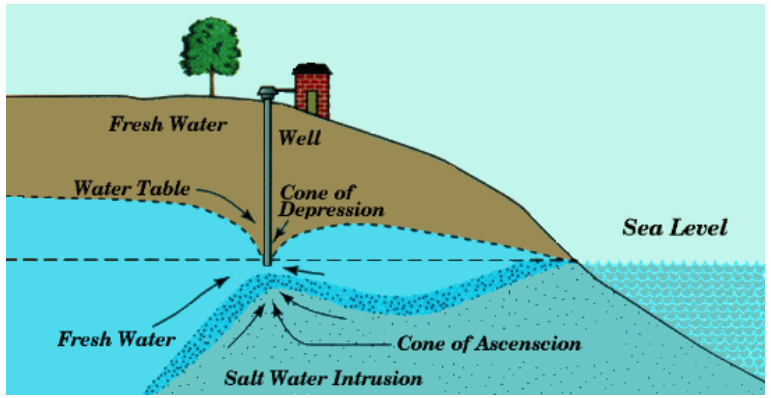


Tracking the Salt Front
Image credit: DRBC

Cultured oysters from Delaware Bay
Image credit: Haskins Shellfish Research Laboratory



Atlantic sturgeon
Image credit: DNREC

Saltwater intrusion into groundwater
Image credit: Lenntech.com

Salinity intrusion → Reduces GW as a freshwater source → **Water availability**

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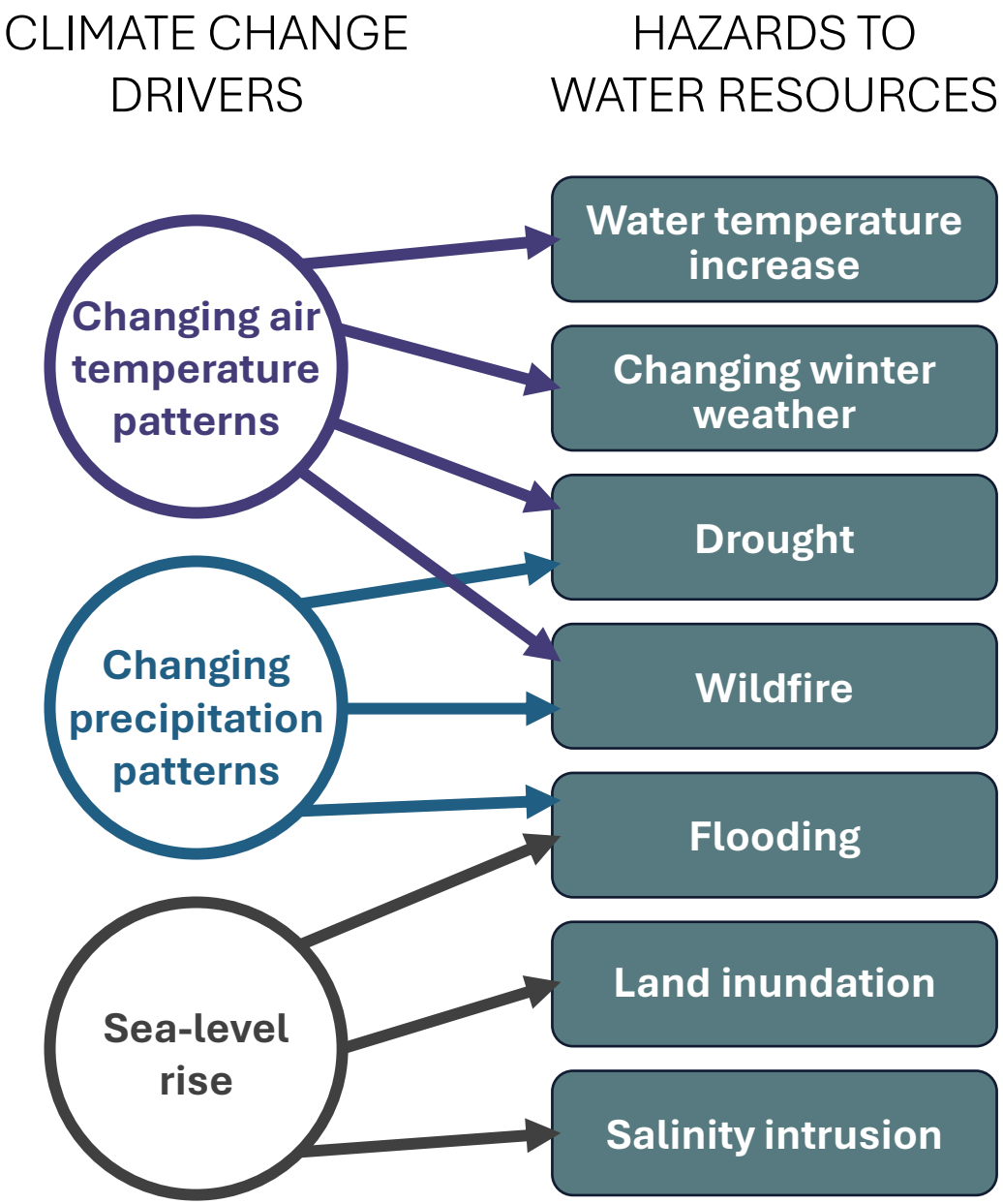

- This list aligns with specific climate concerns that stakeholders raised.
- We will also consider compounding effects of multiple simultaneous hazards and changing land use.

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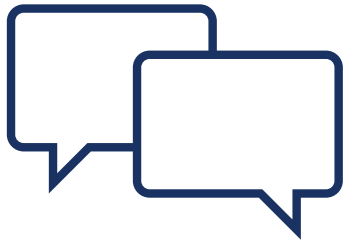

Stakeholder engagement helped clarify shared values and concerns

Three water resource assets
Seven climate change hazards

What's Coming in Phase 2?

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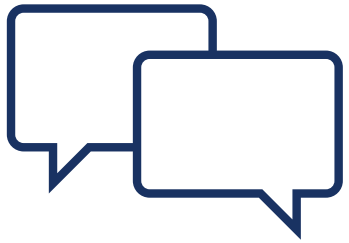

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What's Coming in Phase 2?

Vulnerability Assessment

How and where are the Basin's water resources most at risk?

- **Quantify changes expected** by 2060 and 2100 for two emissions scenarios.
- Characterize the impacts of those changes on the **Basin's water resources**.

Gap Analysis

What gaps exist in addressing those identified risks?

- Define a **strategic pathway to** advance toward a goal outcome.
- Identify gaps: Parts of the strategic pathway **not being addressed** by DRBC or partners throughout the Basin.

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Vulnerability Assessment

How and where are the Basin's water resources most at risk?

- *Example: A future drought of magnitude X, duration Y is more likely by 2060.*

Gap Analysis

What gaps exist in addressing those identified risks?

- *Example goal: Maintain water availability through that drought.*
- *Example components of the strategic pathway:*
  - *Technical study: Is additional freshwater storage needed?*
  - *Pursue additional storage options (in collaboration with USACE and others)*
  - *Equity consideration: How would costs of additional storage be distributed?*

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Recommended Actions and Activities

How can DRBC contribute to closing those gaps?

- Identify the actions DRBC is best-suited to address and **prioritize** by their impact, urgency, reach, relevance, feasibility, synergy, and adaptivity.

Collect stakeholder input and consult with the ACCC throughout

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Phase 2 Stakeholder Engagement Goals

Increase the number of stakeholder respondents and build upon Phase 1 participation.

Promote public awareness of the WRRP process and the identified assets/hazards.

Understand how the basin community prioritizes hazards related to climate change.

Phase 2 engagement in practice:

- Short ranking survey
- Attendance at partner and community outreach events, conferences, etc.
- Opportunity to interact with and get questions answered by DRBC staff
- Summer graduate intern

Take the Phase 2 Survey!

https://tinyurl.com/WRRP-Survey

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Stay Engaged

https://tinyurl.com/DRBC-WRRP

X: @DRBC1961
Instagram: @DRBC1961
LinkedIn: Delaware River Basin Commission

Connect with us at...

May 9	Chester River Festival (PA)
Jun 4	World Environment Day (DE)
Jun 10	Rutgers Climate Symposium (NJ)
Jun 20	Mercer Co. Juneteenth Celebration (NJ)
Sept 12	FUDR RiverFest (NY)
Sept 12	Trenton RiverFest (NJ)

...And more! ***Stay tuned.***

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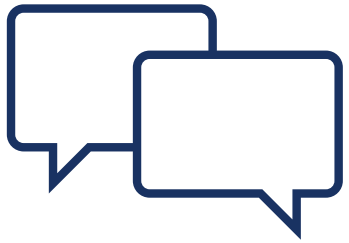

Stakeholder engagement helped clarify shared values and concerns

Three water resource assets
Seven climate change hazards

Stakeholder engagement will inform decisions in Phase 2

Thank you!

What questions do you have?

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sarah.beganskas@drbc.gov

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