

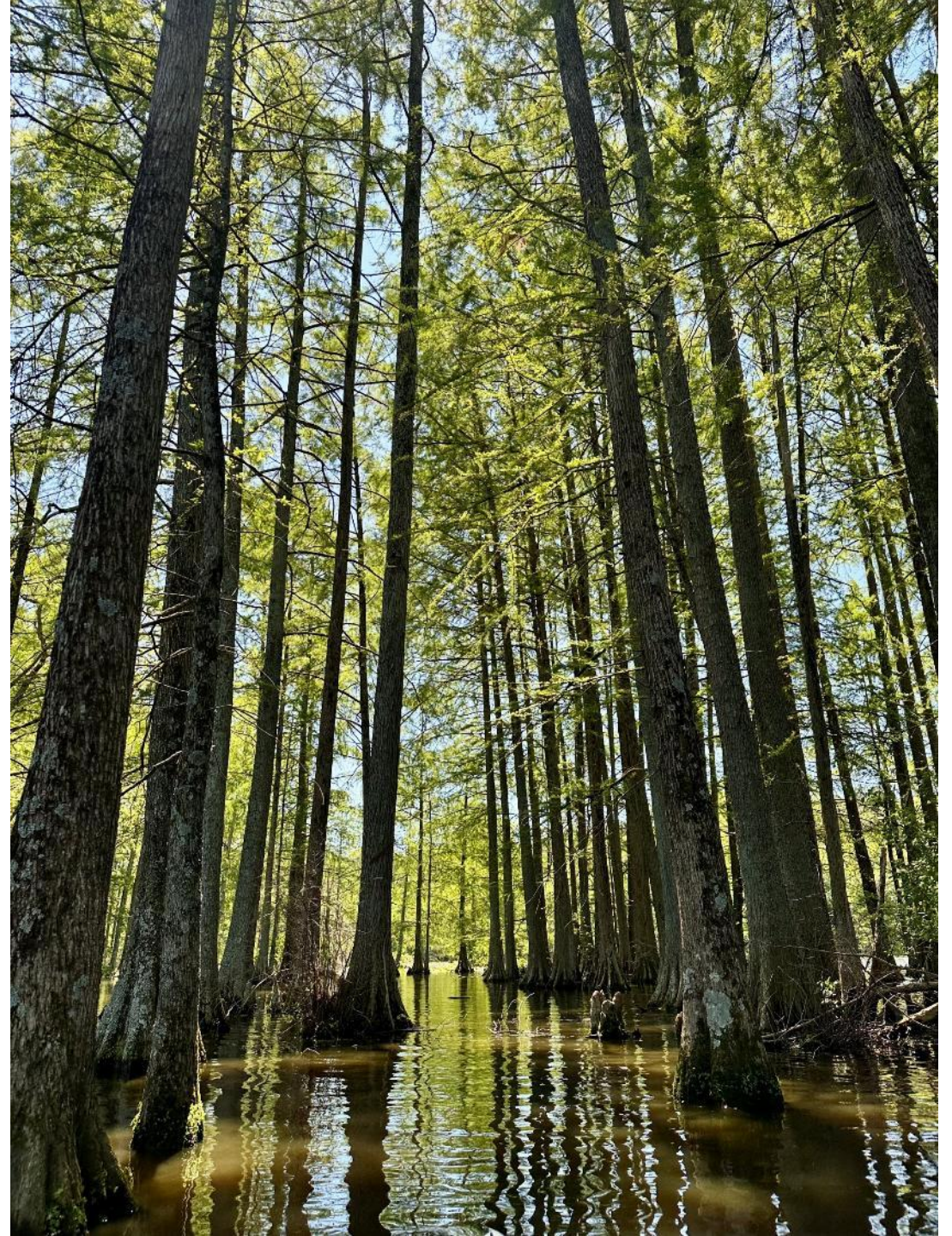
# Delaware Wetland Program Plan

Division of Watershed Stewardship

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Wetland Monitoring and  
Assessment Program

**Alison Rogerson – Environmental Scientist**



# Delaware Wetland Monitoring Strategy



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Last updated:  
 March, 2011

2011

April 2011



## 2016-2020 Delaware Wetland Program Plan

*A vision for developing a comprehensive wetland program*



## 2021-2025 Delaware Wetland Program Plan



A guidance for building a state of Delaware comprehensive wetland program.

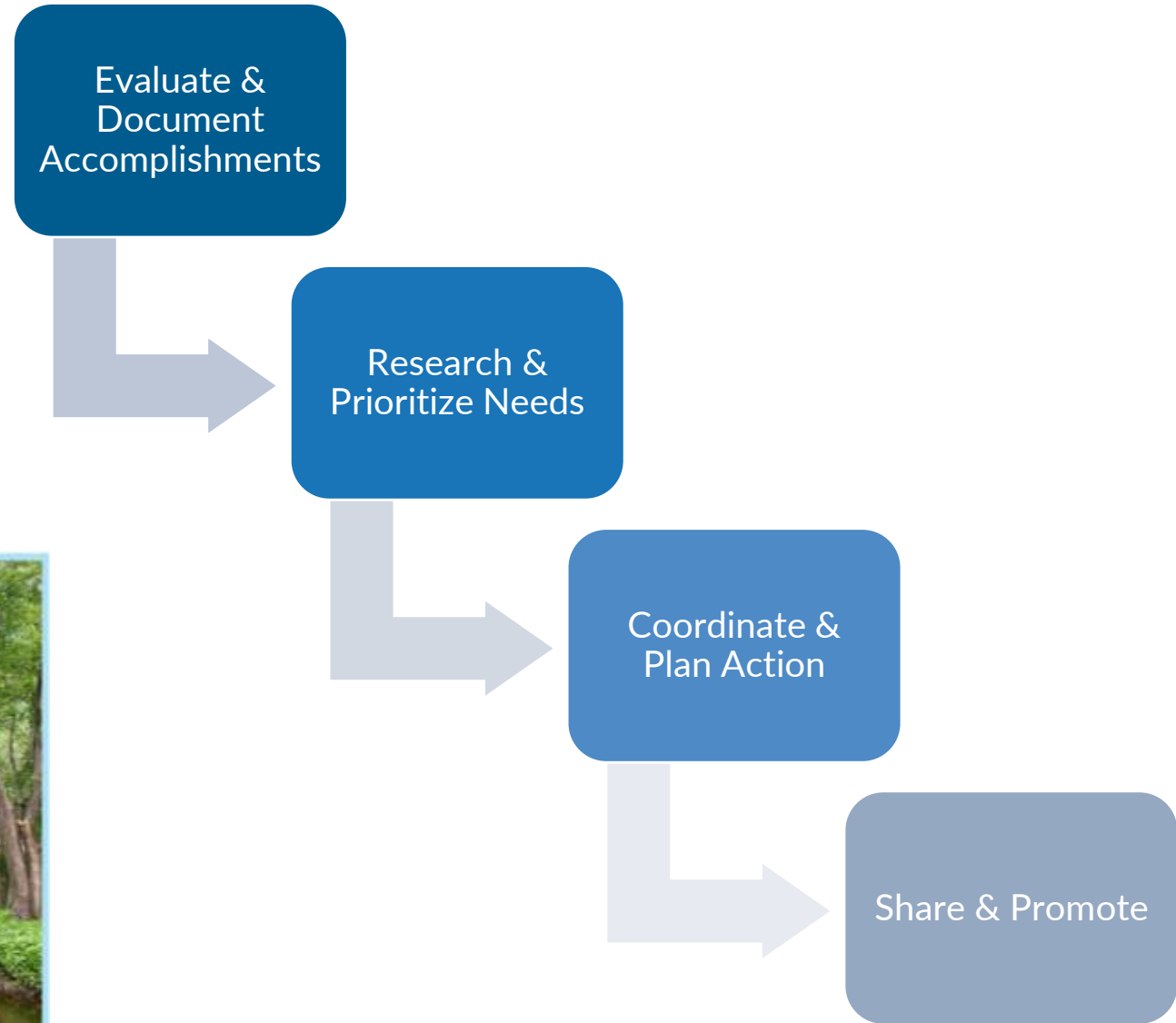


## 2026 - 2030 Delaware Wetland Program Plan

A guidance for developing and refining a state of Delaware wetland program.



# The Process



# Evaluate & Document Accomplishments (2021-2025)

## Objective 1: Monitoring and Assessment



| 2021-2025 Action Items   | Progress and Status  | Shareable Outputs   |
|--|--|---|
| <b>A-1</b> Utilize 2017 Statewide Wetland Mapping Project (SWMP) maps and report to further produce and analyze wetland status and trends results.   | Have used 2017 maps and related information to analyze unique wetland acreage and distribution, evaluate how the Sackett decision impacted regulated wetlands in Delaware and as an input for our updated marsh migration model. | <a href="https://documents.dnrec.delaware.gov/Watershed/Wetlands/delawares-unique-wetland-communities.pdf">https://documents.dnrec.delaware.gov/Watershed/Wetlands/delawares-unique-wetland-communities.pdf</a>   |
| <b>A-2</b> Develop up-to-date spatial data resources (e.g., land use, flooding, LIDAR, sea level rise predictions, ownership, protection status) to highlight overlapping areas prioritized for protection or restoration. | Delaware acquired updated statewide imagery and land use land cover layers in 2022 and made the 4ft marsh migration model available publicly on Delaware <a href="#">FirstMap</a> .  | <a href="https://de-firstmap-delaware.hub.arcgis.com/maps/9aef8e852c14445dbeb1f786259d3457/explore?location=39.123681%2C-75.553033%2C7">https://de-firstmap-delaware.hub.arcgis.com/maps/9aef8e852c14445dbeb1f786259d3457/explore?location=39.123681%2C-75.553033%2C7</a> |
| <b>A-3</b> Contribute to and promote use of a restoration tracking web mapper such as the Watershed Resource Registry to report, map and track wetland projects and opportunities.   | Continue to expand the map of living shoreline projects in the Delaware Bay as part of our A Tour of Living Shorelines Story Map. This spatial inventory tracks and promotes living shorelines.                                  | <a href="https://storymaps.arcgis.com/stories/7165a947d72441a18a0d9e9e4fd00b8c">https://storymaps.arcgis.com/stories/7165a947d72441a18a0d9e9e4fd00b8c</a><br><small>Ctrl+Click to follow link</small>   |
| <b>A-4</b> Increase use of mapping resources in related projects such as sea level rise research and planning, transportation projects and mitigation planning.  | Updated the marsh migration model to identify areas most suitable to become future tidal wetlands.   | <a href="https://dnrec.delaware.gov/watershed-stewardship/wetlands/marsh-migration/">https://dnrec.delaware.gov/watershed-stewardship/wetlands/marsh-migration/</a>   |
| <b>A-5</b> Develop more GIS capabilities to maintain wetland related data sets and layers and assist with spatial analysis needs.  | Added a mapping component to our Wetland Health Assessments by Watersheds web page. This map is color-coded by grade and provides pop-up information about the assessment results and links to                                   | <a href="https://dnrec.delaware.gov/watershed-stewardship/wetlands/assessments/">https://dnrec.delaware.gov/watershed-stewardship/wetlands/assessments/</a>   |



**B-1** Develop standardized sampling protocols for assessment and monitoring of natural, restored and created wetlands and streams.

Developed a modified DERAP rapid assessment method for evaluating restored, created or enhanced wetland projects in 2022. The method is designed to assess nontidal wetlands and used reference data to set scoring for hydrology, habitat and biotic criteria. The method was pilot tested for refinement. Although it has not been published online, it has been presented professionally (e.g. to the Delaware Restoration Work Group).

No online materials to share.

**B-2** Encourage adoption of standardized protocols and use of reference data for wetland restoration, mitigation, or creation.

No significant progress to report.

**B-3** Hold training workshops to teach and promote use of monitoring and assessment protocols, data collection methods and quality assurance techniques for environmental professionals, educators, and volunteer participants.

No progress to report. COVID paused in-person trainings, and our focus shifted to living shorelines.

**B-4** Use reference and assessment data to update and adapt DERAP, DECAP and MidTRAM to evaluate beaver impoundments.

No progress to report.



# Research



# Prioritize Needs

## Objective 1: Monitoring and Assessment



Geospatial Analysis



Monitoring

## Objective 2: Regulatory Activities



Regulatory

## Objective 3: Voluntary Restoration and Protection



Restoration



Protection

## Objective 4: Education and Outreach



Education



Outreach

Transfer knowledge and perspectives gained from 1-3. Increase awareness, contribute to overall program mission



# Plan Action

## Goal E: Protection Action Items, Descriptions and CEF Crosswalk

| Action Item | Description  | CE, Phase, Action  | Schedule  |
|-------------|--|--------------------|-----------|
| E-1         | Connect private landowners with guidance and resources about wetland improvements and promote participation in conservation efforts.         | VRC 1.c            | 2027-2030 |
| E-2         | Conduct targeted outreach to community groups and local governments to encourage wetland protection and develop long-term stewardship plans. | VRP 2.c            | 2026      |
| E-3         | Encourage enrollment into conservation easements through program promotion, networking, and information sharing.                             | VRP 2.c            | 2030      |
| E-4         | Promote native planting and increase invasive plant removal through messaging, education, and written materials.                             | VRP 1.c            | 2028      |
| E-5         | Improve buffer management through targeted messaging, education, and coordination with buffer incentive programs.                            | VRP 2.c<br>VRP 1.c | 2029      |



Figure 14. Citizens shopping for native plants at an event co-hosted by WMAP.



# Coordinate

## Core Element Framework Crosswalk Appendix

| Delaware WPP (2026)                    | WPP Goal Language   | CEF Objective reference           |
|--|---|-----------------------------------|
| Objective 1: Monitoring and Assessment | Gather data on the status and trends (quantity, quality, functions, and services) of wetland to track wetland condition and function over time                                    |                                   |
| Goal A                                 | Geospatial Analysis - Use geospatial analysis tools to gather information and develop resources about the extent of wetlands in Delaware.   |                                   |
| A-1                                    | Produce updated Statewide Wetland Mapping Project maps and report on the status and trends of Delaware’s wetlands. Incorporate maps into the National Wetland Inventory.          | MA 1.c<br>MA <a href="#">2.e</a>  |
| A-2                                    | Assist with the creation of spatial tools that assist in wetland project screening, tracking, and monitoring.   | MA <a href="#">2.d</a>            |
| A-3                                    | Increase use of mapping resources and geospatial analysis in related projects such as coastal resilience research and planning, transportation projects, and mitigation planning. | MA 3.b<br>MA <a href="#">3.d</a>  |
| A-4                                    | Incorporate wetland mapping into state agency decision-making.  | MA 1.b<br>Reg <a href="#">2.g</a> |
| A-5                                    | Make mapping resources and supporting data publicly available.  | MA 2.d<br>MA <a href="#">3.b</a>  |

|   |  |  |
|---|--|--|
| Objective 4:<br>Education and<br>Outreach | Inform the citizens and visitors of Delaware about the function, services, and critical importance of wetlands. Collaborate with a variety of partners to improve efficiency and effectiveness of educational materials, platforms for outreach, and public events.                  |  |
| Goal F                                    | Education - Enhance education efforts to broaden wetland understanding and strengthen environmental stewardship among the public and a variety of wetland stakeholders.  |  |
| F-1                                       | Expand upon efforts to reach audiences such as realtors, homebuyers, and HOA's on wetland regulations, conservation, and stewardship.  | MA 1.b<br>VRP <a href="#">1.b</a>            |
| F-2                                       | Increase engagement with K-12 students and youth-aged groups through the development and promotion of wetland education programs and events.   | Reg <a href="#">3.e</a>                      |
| F-3                                       | Communicate and provide educational information to diverse audiences on the benefits of protecting wetlands to economic development, tourism, recreation, human health, and quality of life.   | Reg 3.e<br>VRP 1.c                           |
| F-4                                       | Educate on the benefits of wetland regulation and policy, including tidal regulation and the need for non-tidal state jurisdiction and permitting.   | Reg 1.c<br>Reg <a href="#">3.e</a>           |
| F-5                                       | Develop and implement educational lectures and events to teach citizens, local leaders, and environmental stewards the importance of wetlands, how wetland services support the economy, the threats posed to our state resources, and the tools available to address those threats. | VRP 1.b<br>Reg <a href="#">3.e</a>           |
| F-6                                       | Create and disseminate printed and electronic materials such as social media, brochures, e-newsletters, and displays to address specific education and outreach needs to target audiences.   | MA 1.a<br>Reg 3.e<br>VRP <a href="#">1.b</a> |

# Share & Promote

- Webpage
- News release
- Social Media
- Direct sharing

The screenshot shows the Delaware.gov website. The top navigation bar includes 'Delaware.gov', 'Agencies', 'News', 'Topics', and 'Contact'. Below this, there are dropdown menus for 'DIVISIONS', 'ABOUT DNREC', 'ADMIN. LAW', 'DNREC NEWS', and 'CONTACT US'. The main heading is 'Wetland Program Planning'. Below the heading is a 'Listen' button. A sidebar on the left is titled 'Watershed Stewardship' and contains links for Home, Contact Us, Beaches, Coastal Construction, Waterways, Wetlands, Water Quality, Sediment / Stormwater, Drainage & Flooding, and Conservation Programs. The main content area starts with a paragraph: 'Delaware is a state rich with wetlands that vary from forested vernal pools to highly productive salt marshes, to unique Bald Cypress Swamps. As stewards of these great resources, it is our responsibility to slow the loss of wetland acreage, improve the health of remaining wetlands and work together to better understand and share with others the value of wetlands.' This is followed by contact information for Alison Rogerson. The section 'The Current Wetland Program Plan' explains that Delaware creates five-year wetland program plans to serve as guides to identifying wetland research, education, management and conservation needs. It highlights the '2026-2030 Delaware Wetland Program Plan' which has a vision to increase wetland acreage and improve conditions. It also identifies areas where information or action is needed. The plan is intended to outline gaps and needs to develop and refine a wetland program in Delaware, aligning with the Core Element Framework for wetland planning from the U.S. Environmental Protection Agency. To the right of the text is a graphic for the '2026-2030 Delaware Wetland Program Plan' featuring a photo of a wetland and the text: 'A guidance and resource for building a state of Delaware comprehensive wetland program.'

# The Benefits



# Highlight



## SB9

- Expanding state wetland program
- Requires:
  - Wetland maps
  - Identify sensitive wetlands
  - Online screening tool
  - Field verification protocol
  - Consultant training
  - Mitigation guidance
  - Educate landowners

## WPP

- Support expanded wetland program
- Develop actions in every goal to contribute to the requirements

# Tips

Budget extra  
time

Consult EPA  
guidance

Coordinate  
with others

Leave some  
wiggle room

Think ahead  
& Be  
inclusive

Share and  
Promote!



Thank You!

• Follow us!



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