

Delaware Wetlands

Wetland Loss Data and Functional Assessment:

How do they apply to Water Quality Standards
and Designated Uses?

Regulatory Structure

- The Corps of Engineers (Phila. District) currently regulates nontidal wetlands under Section 404 of the CWA.
- The State of Delaware regulated tidal wetlands under the The Wetlands Act (1973) using an SPGP.
- Delaware issues 401 WQ Certification in coordination with the Corps and either denies, issues or issues with conditions for the Nationwide Permits.
- Coastal Zone Consistency for any federal action (permits are considered federal actions)

Delaware Surface Water Quality Standards

- Updated in 2011 (3yr cycle).
- Contains designated uses and anti-degradation policy
- ERES waters (Exceptional Recreational and Ecological Significance) are accorded a level of protection and monitoring in excess of other waters of the State.
- Wetlands are considered “Waters of the State”

Waters of the State (in brief)

- (1) All surface waters of the State including but not limited to: (a) Waters which are subject to ebb and flow of tide; (b) All interstate waters, including interstate wetlands; © All other water such as lakes, rivers, streams, creeks, wetlands, ditches, mudflats, ponds, (etc.); (d) All impoundments of waters; (e) Wetlands adjacent to waters other than in (a)-(d);
- (2) Waste and stormwater treatment systems, including but not limited to treatment ponds or lagoons designated to meet the requirements of the CWA.

WQS – Designated Uses

- Public Water Supply Source
- Industrial Water Supply
- Primary Contact Recreation
- Secondary Contact Recreation
- Fish, Aquatic Life & Wildlife (incl. shellfish propagation)
- Agricultural Water Supply
- ERES Waters
- Harvestable Shellfish Waters

WQS Use for Wetlands

- Have not been used as strictly or specifically for wetlands in Delaware as with typical waters
- Reasons for this included:
 1. Protection by other regulatory programs;
 2. Wetlands viewed as a “different animal” than typical waters;
 3. Political pressure against – viewed as a “backdoor” attempt for the state to regulate nontidal wetlands
 4. Lack of detailed wetland data to help develop specific standards – and designated uses

Lawsuit

A lawsuit against EPA and the State contesting proper implementation of the CWA and WQS.

Led to the requirement for TMDL's.

Provided the State with additional federal funding to make improvements and to monitor and assess.

(This also enabled wetland specific data to be collected)

4 Comprehensive Mapping Efforts

State Tidal Wetland Act – 1973 (tidal maps only)

National Wetlands Inventory (1981/2)

Statewide Wetland Mapping Project (1992)
(aka SWMP)

Update to the SWMP (2007)

--considered an update but was a new photointerpretation

Map Uses

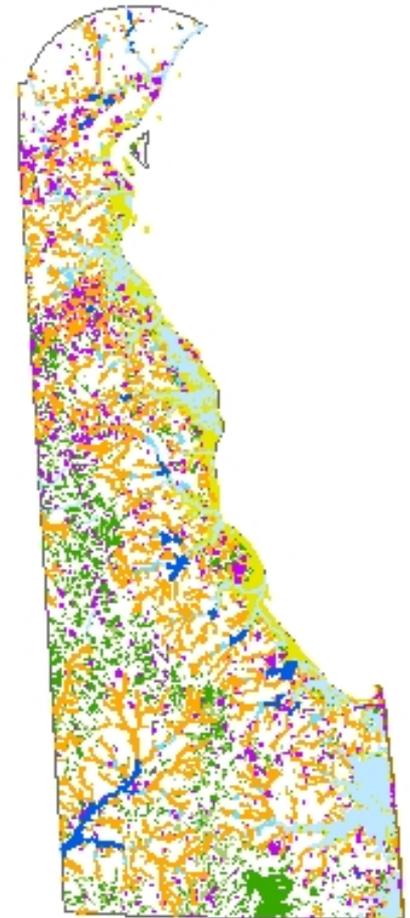
NWI was generally used for permitting by the Corps of Engineers, and to a lesser degree by the State for various regulatory and management efforts
(State still uses 1988 tidal maps for tidal permitting)

1992 SWMP was a more refined mapping effort (1/4 acre mmu vs. 1 acre for NWI) and was used for management, targeted restoration, loss/trends reporting, and nontidal legislation (failed).

2007 SWMP -- used for loss/trends reporting and compared to 1992 trends, and landscape level functional assessment.

Wetland Status and Trends

- Coordinated effort between the State and USFWS/NWI.
- First report assessed changes between the 1981/2 mapping and the 1992 mapping(10-years)
- Second report assessed changes from 1992 to 2007 (15-years)



Trend Results

First report (1982-1992) revealed a loss of **1,906** acres of vegetated wetlands. Major causes were agriculture conversion (50%) and residential/commercial development (35%).

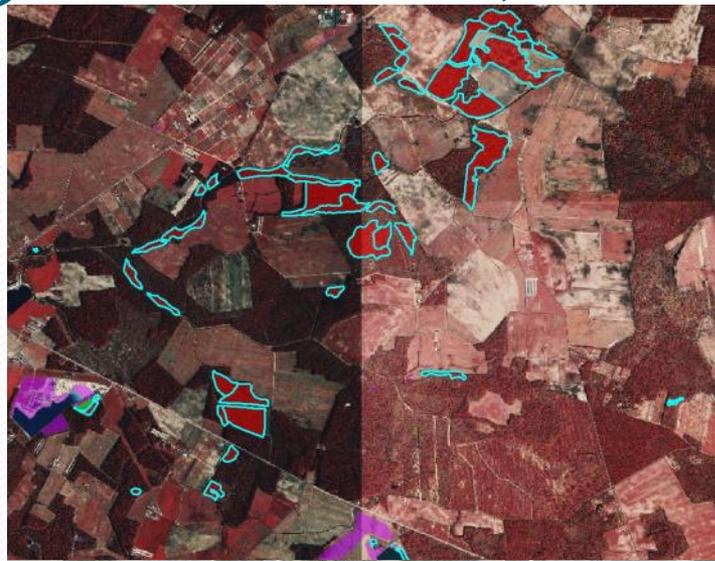
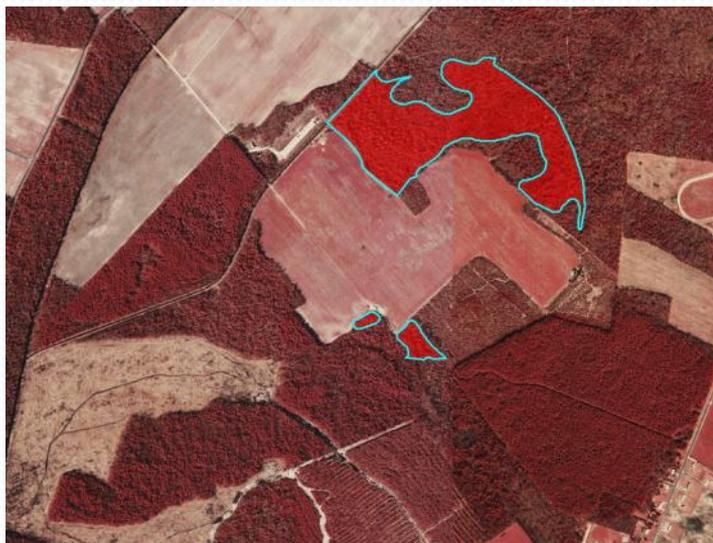
Second report (1992-2007) revealed a loss of **3,126** acres of vegetated wetlands. Major causes were mostly development (58%) and agriculture conversion (33%).

Roughly a **10% annual increase** in loss from the first report to the second.

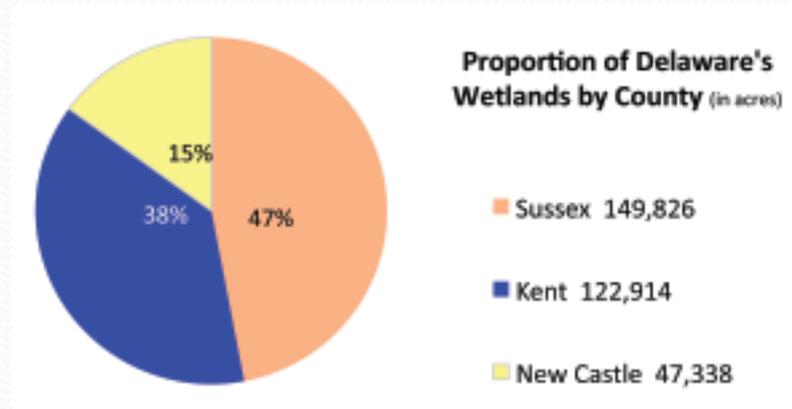
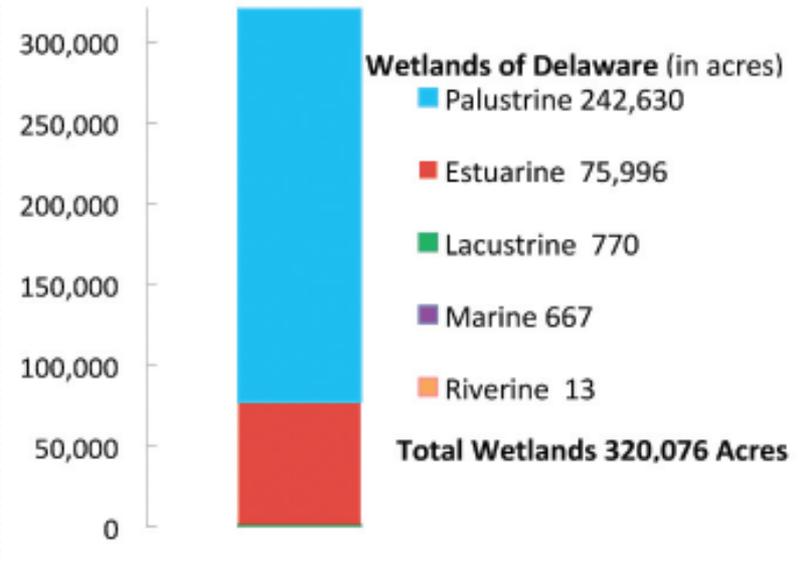
Loss examples (residential)



Loss Examples (agricultural)



2007 Wetland Mapping stats



Palustrine Loss – 2,287 acres

Estuarine Loss – 238 acres

**GAIN in ponds = 2,285 acres

(mostly stormwater ponds from development)

NWI-Plus

- Mapped wetlands both by ecological (Cowardin) properties and by abiotic properties (HGM – LLWW).
- Allowed for a landscape level wetland functional assessment.
- Use as baseline for watershed wetland-health assessment in the field.

Delaware Wetland Monitoring and Assessment Program

- Delaware Wetland Monitoring Strategy
- Delaware Comprehensive Assessment Procedure
- Delaware Rapid Assessment Procedure
- Mid-Atlantic Tidal Rapid Assessment Method

Watershed Wetland Health Assessment

- Grades wetlands on stressors by wetland type (flats, depressions, etc.)
- Completed the Nanticoke River Watershed
-- have also finalized the Restoration Plan
- Finalizing the Inland Bays Watershed which will also have a restoration plan
- Moving to other Delaware Bay watersheds (St. Jones River, Murderkill River, Appoquinimink River, etc.)



Wetland Data and Information

At the point where we now have excellent data and information where can discuss how Wetland Water Quality Standards should be developed and applied.

There is much of the state still to be assessed which will continue to add in more information to the process.

How does it fit?

- Investigating how other states are applying wetland water quality standards.
- In the interim, we have an EPA grant to take a closer look at our 401 WQC program to see what can be improved, and how wetland water quality standards would “fit” into the program.

Obstacles

- Political – continued push-back from special interest groups, and legislators (don't over regulate).
- Overlapping regulations (404, 402, 401, and other state regs).
- Resources (time, personnel, funding) and coordination with other programs

Going forward

- Need to “think outside the box”:
 - What designated uses should wetland have?
 - Should the standard simply be “ensure the wetland functions as a wetland (high functioning)?
 - Can we expect “reference standard” when many wetlands are already degraded (even some of our nicest wetlands)?
 - How different should wetlands be treated than typical waters? Should the wetland be tied to it’s waterway (if not isolated) or dealt with separately?
 - Should wetlands have TMDL’s?

Questions?

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