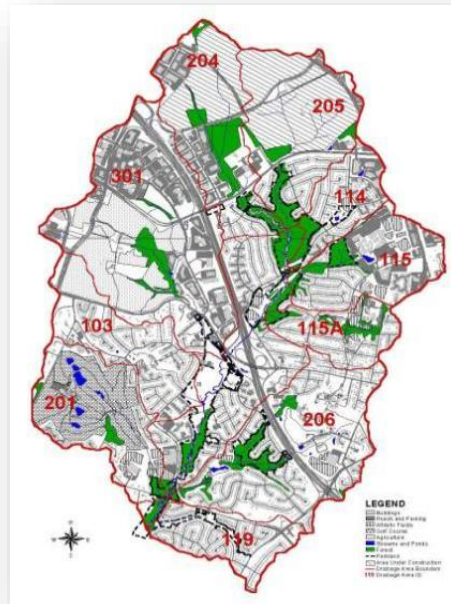


# CSN Updates



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# Key Themes Today

1. Update on Stream Restoration
2. Impervious Cover  
Removal/Disconnection BMPs  
Restoration
3. USWG 2021 Priority BMP Review  
Decisions

### 3 Remaining Stream Restoration Groups

1. Standards for Protocol 1 (Prevented Sediment)
2. Adjusting Protocol 2/3 to Capture Floodplain Reconnection
3. Applying Protocols to Legacy Sediment Removal Projects
4. New Ag Stream Restoration Group

# Group 3:

## Revisiting the Prevented Sediment Protocol

### **Status:**

- Approved by USWG on 10/15/2019!
- PADEP put a hold on its approval on 12/6/19 @ the WQGIT, and provided technical comments a few weeks later.
- No progress in resolving comments after 70 days

**Request:** USWG re-affirm its approval of the memo today and ask PA to opt out of the memo if it cannot resolve its differences with the Bay-wide consensus

# Group 4

## Revisiting Protocols 2 and 3

Steady progress working a series of issues:

- Defining raised streambed practice and qualifying conditions
- Denitrification rates and site adjustments
- Improved methods for “downstream” flow diversion modeling
- Incentives for increased floodplain reconnection
- Choosing which removal rates apply to the floodplain trapping zone
- Negative impacts of stream restoration construction and best practices for minimizing them

Next meeting is in a few weeks, hope to finish up by May

# Group 5

## Crediting Legacy Sediment Removal Projects

- Group formed 9/19 and finished 2/20
- Technical memo on crediting LSR projects to be shared with Group 4 and others next week

### **Some key headlines:**

- Split floodplain restoration into two categories: projects involving legacy sediment removal versus projects that raise the stream bed
- Expanded prevented sediment credit for sediments removed from the bank erosion zone.
- Defined an new expanded hyporheic zone for protocol 2 and applying the Paraol equation to adjust base denitrification rates
- Better methods for defining the floodplain trapping zone and other enhancements to Protocol 3

**Next Steps:** Get review and feedback of Group 4 by 4/1

# Agricultural Stream Restoration Driven by NRCS Specifications



- Several states have reported hundreds of miles and thousands of acres of ag stream restoration under:
  - NRCS Spec # 395: Stream habitat improvement and management
  - NRCS Spec # 580: Stream and shoreline protection
- Ag projects do not use protocols and rely on default removal rates
- Default rates are recommended for phase out by USWG and WQGIT

# Difference in Verification Required Urban vs Agricultural Stream Restoration



- **Urban:** *5 years* (after any post-construction permit monitoring requirements expire) with detailed protocol-driven indicators and field methods approved by USWG in June
- **Agriculture:** *10 years*, but no NRCS spec-driven verification procedures developed yet



# Next Steps for Ag Work Group to Resolve Differences



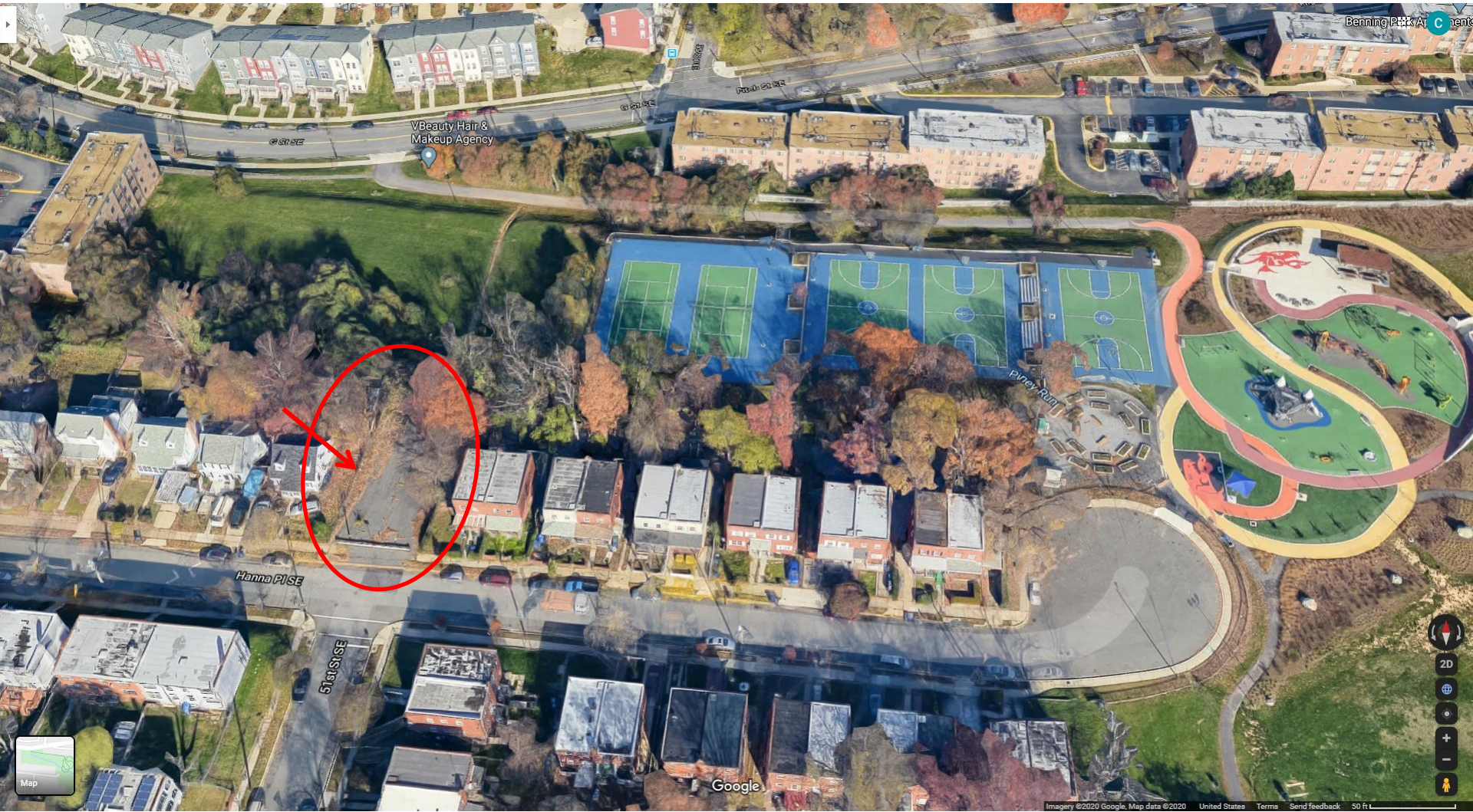
*Decision made at 11/19 WTWG and WQGIT meetings, as part of the Group 3 memo approval process*

- By 6/2021:
- Develop improved guidance and/or default rates *for ag/rural projects* using new expert panel or group
- May decide what new urban recommendations are appropriate for NRCS projects
- Need consistency crosswalk with Habitat GIT, USWG and Stream Health Work group

# Impervious Cover Crediting

- Past expert panels have touched on impervious cover removal, land use change, impervious cover disconnection and soil amendments a
- Impervious Cover Removal: A Practice or Just a Land Use Change?
- Soil -> Compacted Soil -> Impervious Cover -> Removal -> De-compaction + Amendments => Restored Soil
- Confusing to know what to apply





VBeauty Hair & Makeup Agency

Hanna Pl SE

51st St SE

Piney Run

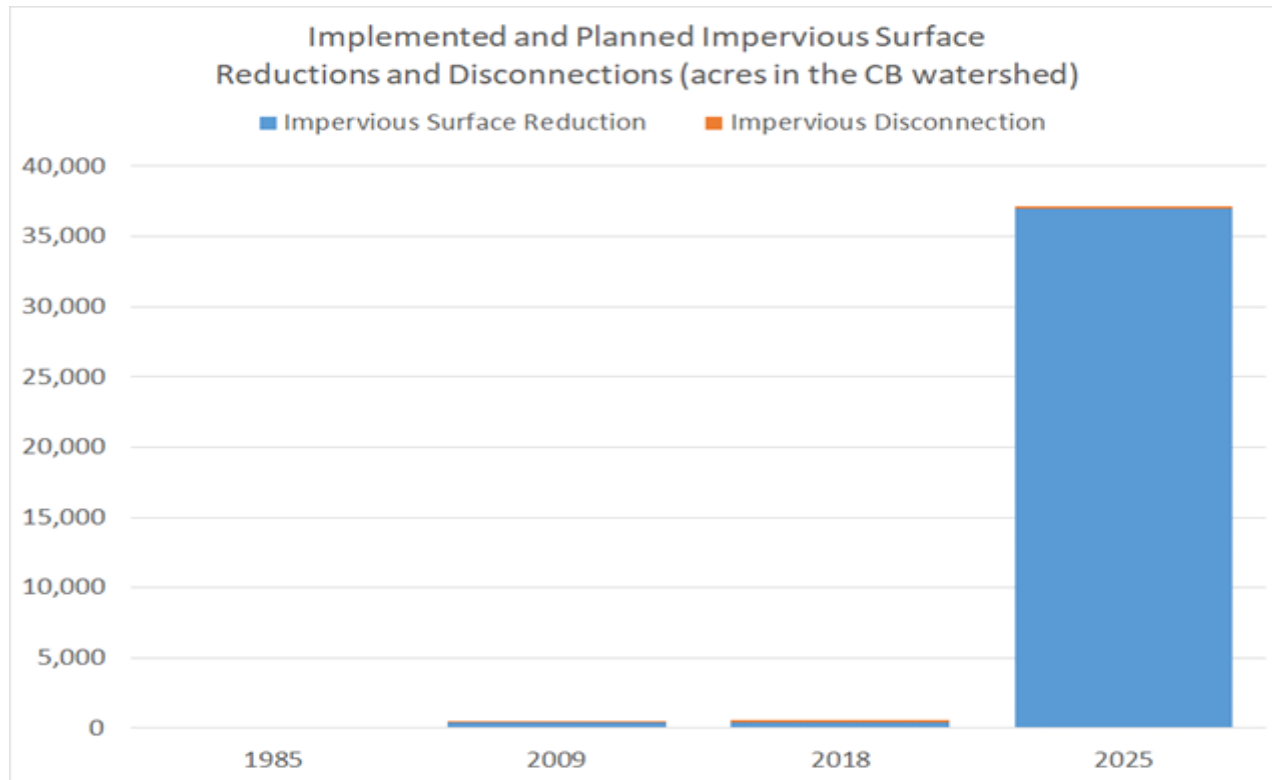
Google







# Historical Reporting of ICR and ICD



Not much, about 400 acres a year reported each year Bay-wide, but a huge jump by 2025 to 35K for VA.

Source: J. Sweeney

# ICR as a Land Use Change

- New pervious and impervious land use loading Rates in Phase 6 Model (2018)
- Improved resolution impervious and pervious cover
- No hydrologic adjustment for compacted urban soils in current watershed model
- Recent work of the Land Use Committee (K. Berger)

# State Stormwater Performance Standards EPR (2012)

- IC disconnection to amended or un-amended soils credited using the RR curves
- Credit for urban filter strip and rooftop disconnection
- VA only state at the time w/ detailed specs for the practices
- Most state manuals simply a trick to reduce the stormwater volume that must be treated by a more structural practice)



# Impervious Cover Disconnection EPR (2016)

- Panel done by CWP and VA Tech, good lit search
- Filter Strip EPR rates for disconnections to A and B amended soil
- RR curves from SPS EPR for disconnections to C and D amended soil
- Special MDE CN Protocol for MD (Appendix G)

# Hirschman PED Research Summary (2016)

- Mostly about better bioretention media
- Good research review on nutrient removal for soil amendments,
- Biochar, alum and water treatment residuals

# Suggested process

- Discuss what we need today
- Have small group recommend a more integrated crediting approach for ICR/ICD to USWG (guidance memo or full-blown EPR)
- Possible members: P. Clagget, D. Wood, K. Berger, Norm G, Karen Coffman (MDSHA) and other volunteers
- Short term: two or three month effort

# BMP Review Priorities

- The MDE Three: (1) coastal buffers or coastal restoration (2) soil amendments (3) quantity controls
- Enhanced urban riparian buffers
- Invasive species removal
- Wetland mitigation beyond 1 to 1
- Others?
- Useful contacts

# Sediment and nutrient dynamics in the floodplain

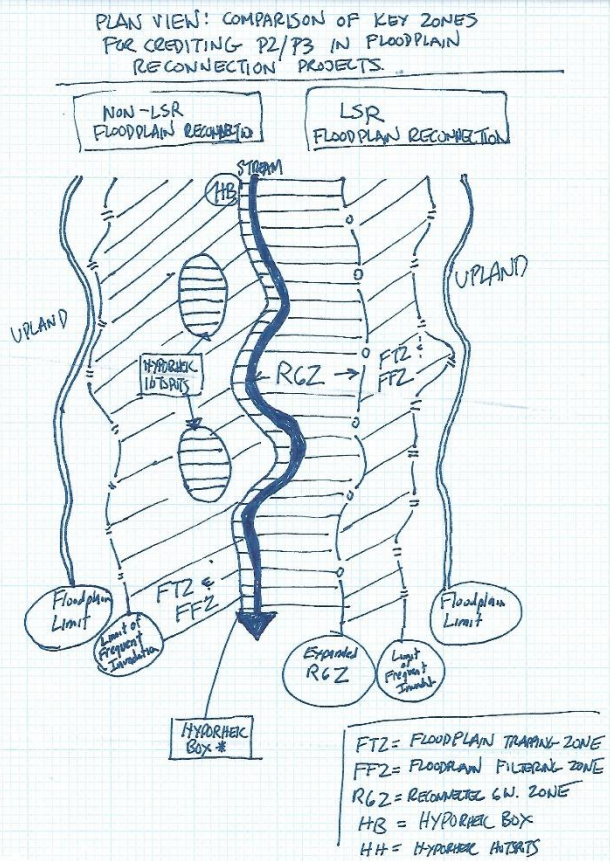


Courtesy of Greg Noe, USGS





# Next Steps to Support Better Stream Restoration



- Finish up floodplain reconnection credits
- Resiliency to extreme flooding
- Uplift achieved after 5 years?
- Focused stream research programs



# Sediment and Nutrient Reduction Crediting for the Chesapeake Bay TMDL

- Chesapeake Stormwater Network: [www.chesapeakestormwater.net](http://www.chesapeakestormwater.net)
- More than a dozen expert panels for BMPS since 2013
- Complex, consensus-based, multi-state approval process (i.e., the Bay partnership)
- Ongoing issues: BMP reporting and verification, un-intended environmental consequences, fragile male egos, definitions and qualifying conditions, providing regulatory certainty in an era of changing science



- BMPs for New and Redevelopment Projects
- Urban Stream Restoration
- Stormwater Retrofits
- Urban Nutrient Management
- Street Cleaning
- Nutrient Discharges from Grey Infrastructure
- Residential Stewardship Practices

- Enhanced Erosion and Sediment Control
- Floating Treatment Wetlands
- Septic System Upgrades
- Impervious Cover Disconnection
- Urban Tree Planting/Canopy Expansion
- Conservation Landscaping
- Shoreline Management Practices

