

Wetland Ecosystem Services: Stacking and Tracking

Pamela Mason –
WWG Chair

VIMS

So many
services, so
poorly valued

CBP Outcomes: Wetland Impacts

- Water Quality/ WIPS
- Blue crab
- Fish Habitat/ Forage Fish
- Black Duck
- Climate Resiliency
- Stream Health
- Healthy Watersheds
- Conservation
- Public Access.

Often co-occur with Streams, Floodplains, Riparian Buffers, SAV.

Ecosystem Services Getting Past H₂O

Water Quality

- N&P reductions
- Sediment trapping

Habitat

- Aquatic
- Terrestrial

Erosion Control

Socio-Eco

- Accessible
- Demonstration
- Recreation
- Social vulnerability

Flood Benefits

- FEMA SFHA
- SFHA 0.1 0.02

Socio-Economic

- CRS Credits
- Accessible
- Demonstration
- Recreation
- Social vulnerability
- Carbon Storage
- Climate Resilience
- UN Millennium Goal Framework

Habitat Services

- RTE Species/ At Risk (can include species/communities of State interest)
- Brook Trout
- Black Duck
- Connectivity: increasing corridors, enlarging existing features, filling in gaps
- Continuity: Re-connection to floodplain
- Rarity/ percent land use / land cover i.e. wetlands in urban landscapes
- Complexity
- Priority/ Plan (State Wildlife Action Plans, Conservation Targets)
- SAV (adjacent/ near)
- Fish nursery/ Refugia
- headwaters/sourcewater
- Indicator species? Terrapin

Confounding Factors for Wetlands Ecosystem Services

- Which services?
 - Funders, agencies, NGOs seeking differing outcomes
- Service Provision is place-based
 - Many wetland services are linked to the landscape
- Unit of accounting?
 - 2d (areal), 3d (volume)
- Services at variable scales
 - In situ, single wetlands
 - Cumulated services, watershed or regional scale
- **NEED: A scaled, unit and approach to integrated “stacked” services to properly account for wetland projects**