TWO UPDATES - SALTWATER INTRUSION PLAN RECOMMENDATIONS

Adaptation and Resiliency Workgroup

November 16, 2020
STATE AGENCY SALTWATER INTRUSION WORKGROUP

• Planning - facilitator
• DNR
• DNR Maryland Geological Survey
• MDE
• MDA
• UMD Sea Grant
• UMCES
• UMD Agro-Ecology Center
MCCC 2019 RECOMMENDATIONS

• Develop a report that presents specifics for how to establish and implement conservation easements in Maryland that *facilitate transitional land uses* (e.g., saltmarsh) for salt-impacted farmland.
MCCC 2019 RECOMMENDATIONS

• Develop the *first phase of a statewide wetland adaptation plan*, which would include marsh migration, and in some cases, measures to protect high priority wetlands in place, in response to sea-level rise inundation and salinization.
COASTAL RESILIENCE EASEMENT

• Delineates and establishes a Wetland Adaptation Buffer on a property (consider modeling and monitoring data).

• Easement restricts activities within the buffer to allow for migration of coastal wetlands landward.

• DNR is the lead.
COASTAL RESILIENCE EASEMENT

• First coastal resilience easement pilot project in Maryland established in 2013 on a property in Dorchester County.

• Second pilot project is underway and should be completed in late 2020 or early 2021.
COASTAL RESILIENCE EASEMENT

• Current pilot project - to facilitate migration and establishment of ideal coastal wetlands:
  ▪ Wetland Adaptation Buffer will restrict all activities except for the control of invasive species.
  ▪ Wetland Adaptation Buffer may allow restoration if appropriate to the site.
Coastal Resilience Easement

Coastal Resilience Management Plan concept:

- Specific to the property.
- Characterizes vulnerability and other parcel-scale attributes that are relevant to resiliency planning.
- Management recommendations for Wetland Adaptation Buffer and other considerations.
**Coastal Resilience Easement**

- Coastal Resilience Management Plan concept:
  - Leverages research findings and management recommendations from the scientific community (Kate Tully/University of Maryland, Keryn Gedan/George Washington University, others)
  - Update the Management Plan every 10 years to evaluate changing conditions:
    - May adjust Wetland Adaptation Buffer area if necessary.
    - May update or revise buffer management recommendations.
Coastal Resilience Easement

- Data and modeling to assess success of easement approach over time.

- Wetland migration and shift in condition takes place over many years.

- Site visit at the 10-year mark to evaluate wetland extent and condition (then compare to Buffer area and management plan recommendations)
MCCC 2019 RECOMMENDATIONS

• Develop the *first phase of a statewide wetland adaptation plan*, which would include marsh migration, and in some cases, measures to protect high priority wetlands in place, in response to sea-level rise inundation and salinization.
MARYLAND WETLAND ADAPTATION PLAN

• First phase: develop overarching goals

• MDP facilitating discussions among subject matter experts and compiling draft materials for their review

• DNR and state agency saltwater intrusion workgroup

• Seeking ARWG feedback and guidance
MARYLAND WETLAND ADAPTATION PLAN

• Revise and prioritize wetlands, based on new data, modeling, and analyses:
  ▪ Priority wetlands that could be protected in place (those most resilient to climate change impacts).
  ▪ Prioritize most important wetland migration corridors to protect.
MARYLAND WETLAND ADAPTATION PLAN

• Criteria for priority wetlands that could be protected in place (those most resilient to climate change impacts):
  
  ▪ *Blackwater 2100* plan criteria, such as greatest predicted longevity under sea level rise scenarios.
  
  ▪ Maryland EESLR project findings, such as wetlands providing risk reduction benefits (e.g., wave attenuation).
Maryland Wetland Adaptation Plan

• Criteria for priority wetlands that could be protected in place (those most resilient to climate change impacts):
  
  ▪ GreenPrint (Parcel Evaluation Tool), Watershed Resources Registry.
  
  ▪ U.S. Climate Alliance blue carbon grant - wetland carbon sequestration and storage.
Criteria for priority wetlands that could be protected in place (those most resilient to climate change impacts):

- Migratory bird habitat
- Sediment dynamics
MARYLAND WETLAND ADAPTATION PLAN

• Criteria for most important wetland migration corridors to protect:
  ▪ Barriers to migration (current or future)
  ▪ Likelihood of removing barriers
  ▪ Forecast future land use changes and possible new barriers
Maryland Wetland Adaptation Plan

• Criteria for most important wetland migration corridors to protect:
  
  ▪ Maryland EESLR project findings regarding future wetlands that will provide risk reduction benefits (e.g., wave attenuation).

  ▪ U.S. Climate Alliance blue carbon grant - future wetland carbon sequestration and storage.
MARYLAND WETLAND ADAPTATION PLAN

- Identify human community needs for wetlands to inform and modify the above efforts so that equity concerns are addressed.

- Acknowledge that the above efforts are missing an ability to analyze other important wetland ecological services (which can also help us set priorities).
• Implement adaptive measures to protect existing priority wetlands and priority wetland adaptation areas:
  
  ▪ For example, consult with the Maryland Port Authority and others regarding the possibility of bringing in sediment (e.g., from channel dredging) to particular areas (to protect priority wetlands in place)
Maryland Wetland Adaptation Plan

• Inform fiscal needs to support implementation of adaptive measures:
  
  ▪ For example, identify necessary level of incentives and/or funding for upgrades to water control structures on drainage ditches.
QUESTIONS?

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