Maryland
Department of
the Environment

Growing our Natural Carbon Sinks in Maryland

Mitigation Working Group Meeting

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MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

What are Natural and Working Lands?

- **Natural and working lands** (NWL) refer to the variety of land uses that make up our natural environment: forests and woodlands, grassland and shrubland, cropland and rangeland, wetlands and urban green spaces.

- From the US Climate Alliance NWL Challenge:
  - *Natural systems upon which we depend are essential to life and critical for reducing the impacts of climate change on our communities... including forests, farms, rangelands, and wetlands …*

- NWL are critical to achieve the reductions necessary to stay on a 1.5^{o}C pathway

Natural and Working Lands (GGRA)

- Improved forest management and tree planting
- Healthy soils program; recommended conservation practices
- Tidal wetland restoration

- Together, these programs project **~2 MMtCO2e** of additional carbon sequestration per year at 2030

Natural and Working Lands (Inventory)

- *First in nation* to develop forest carbon inventory estimates based on remote sensing (2020)
  - High-resolution spatial monitoring
  - Attribution of ongoing growth and disturbance
  - Seamless integration with forest carbon planning tools
- Ongoing work on agricultural soil carbon and blue carbon; target inclusion in 2023 inventory
- Tracking these sinks is important for ensuring growth
- Informs ongoing policy and planning

Leverage and Refine State Applications

- Current investment in advanced forest carbon science → quantify additional impact of new 5 million trees bill
- Improved carbon sequestration estimates for ag practices → better quantify impact of farmer stewardship
- Support, co-develop, and harness cutting-edge research → lead on blue carbon inclusion across applications
- Trusted quantification/monitoring across all NWLs → positions state for leadership/participation in markets

Focused attention on Ag Soils

- New science/tools targeted for GGRA 2022 Progress report
- Recent updates to COMET tool suggest improvements to ERCs
- Field-based “ground-truthing” and remote sensing-based studies led by UMD with engagement by the state
- Ongoing partnership between MDA & MDE will strengthen carbon accounting
- Continued development of tools to jointly estimate nutrient and carbon reductions

Expanding Carbon Markets

- Compliance market
  - RGGI offsets; constrained to 3.3% of compliance obligation
  - Forest/afforestation protocol exists but unutilized (low price, high cost)
  - Other opportunities may exist relative to blue carbon (cost dependent)
- Voluntary market
  - Access for companies/entities voluntarily reducing GHG emissions
  - Many project protocols exist across NWL categories
  - Innovations to reduce cost while maintaining low levels of uncertainty
  - Carbon + marketing to include stacked opportunities (co-benefits)
- Other incentive structures (e.g., pay-for-performance, carbon rental models, loan financing)

Requirements for Market Access

- Low uncertainty methods/approaches
- Technical support for landowners
- Transparent accounting and tracking
- Strong financial incentives
- Enabling land-use policy
- Cross-jurisdiction coordination (e.g., county, state, regional, national)

- Clarification of project eligibility if funded with state dollars
- Clear relationship to other ecosystem markets (e.g., nutrients)

On the Horizon

- Comprehensive Conservation Finance Act (Maryland - SB 737)
- Growing Climate Solutions Act of 2021 (Federal - S. 1251)
- RGGI program review (2021/2022)
- Innovative forest carbon offset protocol (UMD leadership)
- Increased engagement in MD by other market players (e.g., Nori, Family Forest Carbon Program, City Forest Credits, etc.)
- Increasing focus on implementation with equity/EJ/CJ

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