



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Chesapeake Bay Program Office



The Watershed Agreement and the Phase 3 WIPs

How is the 2014 Agreement Set Up

❖ Goals (10)

- Outcomes (31 Total)

- Management Strategies (27)

- Biennial Workplans (27)

- Management Approaches (141)

- Key Actions (741)

- Performance Targets (1,350)

❖ Strategy Review System

Bay Program Action Team

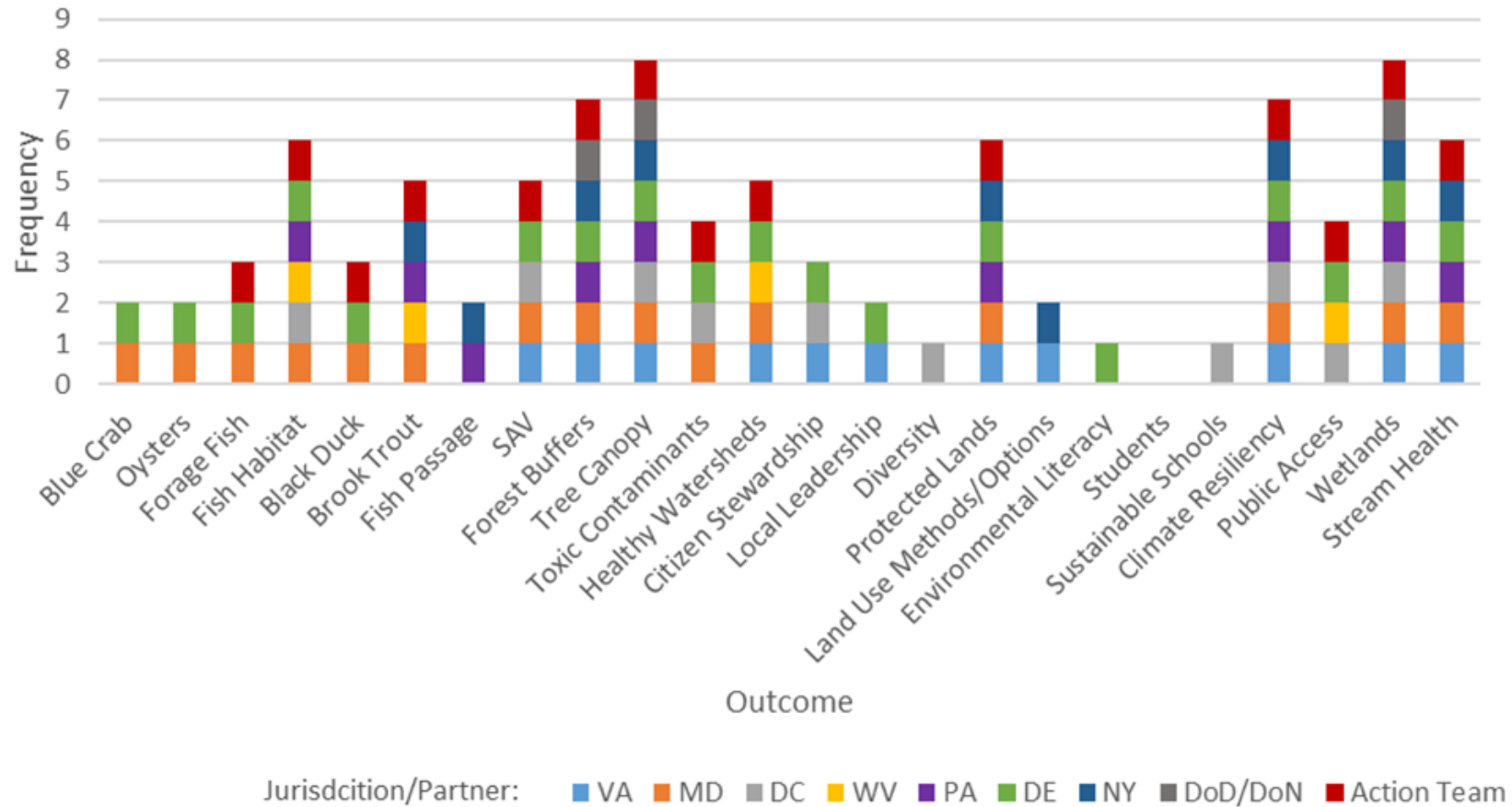
- Consideration of the Agreement Outcomes is identified in the EPA Expectations Document
- Elements in the Workplans that support the Phase 3 WIP
 - Action Items with Measurable Outputs and Performance Measures
 - Factor in targeting and prioritization of resources
- Outcomes that can help with messaging and local engagement
 - Why is participation in implementation important to me?
 - Local priorities of:
 - Public Health and Safety
 - Economic Development
 - Infrastructure Improvement



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*Which outcomes would your
jurisdiction be interested in
incorporating into their
Phase III WIP **development and/or
implementation?***

Phase III WIP Development and/or Implementation

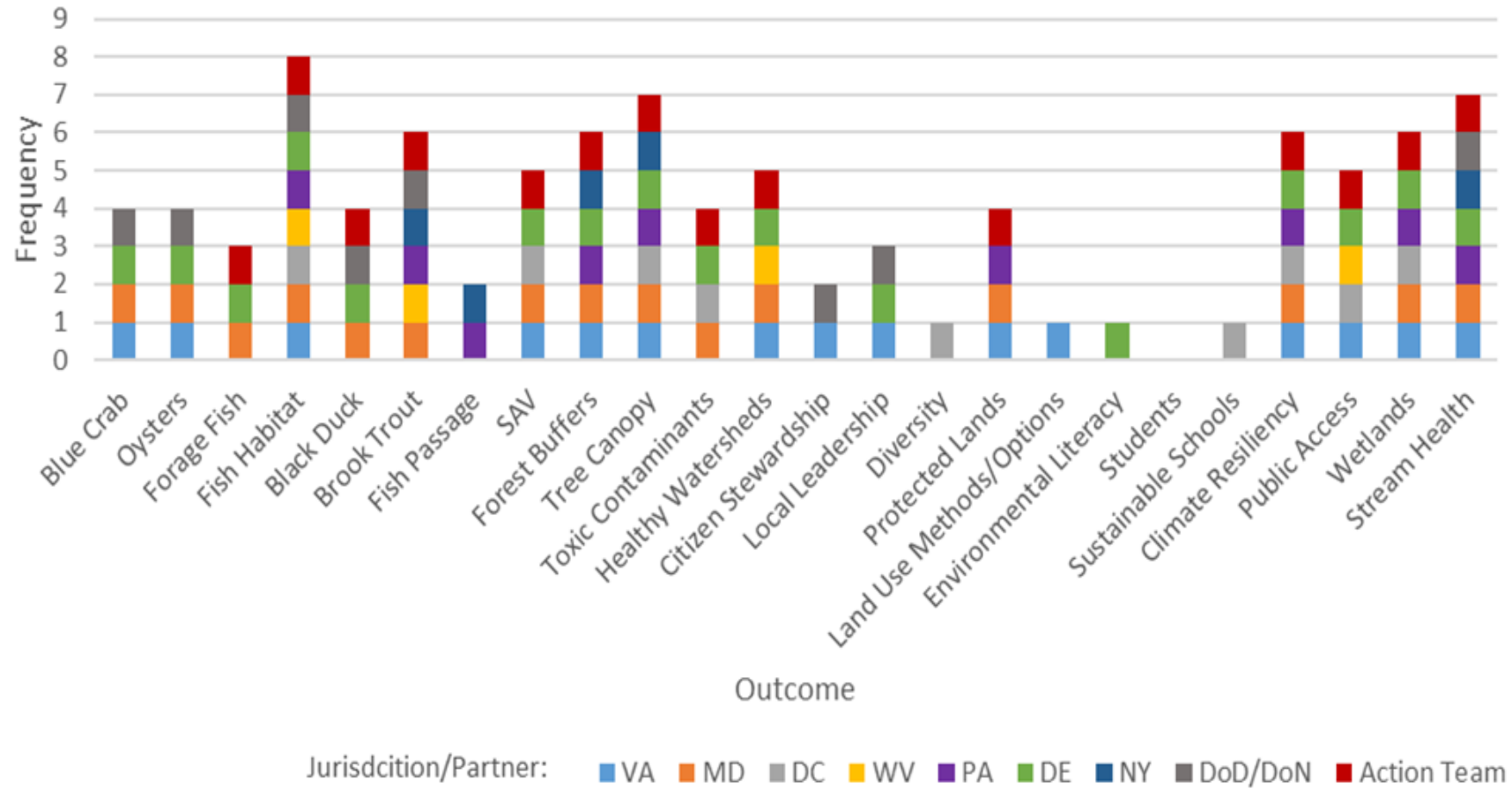




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*Which outcomes would your
jurisdiction be interested in
incorporating into their
Phase III WIP **outreach and
communication materials?***

Phase III WIP Outreach and Communication Materials



Bay Program “Stacking” Efforts

- Brook Trout
- Climate Resiliency
- Fish Habitat
- Forest Buffers
- Healthy Watersheds
- Protected Lands
- Public Access
- Stream Health
- Submerged Aquatic Vegetation
- Toxic Contaminants
- Tree Canopy
- Wetlands

Templates

Forest Buffers:

Principles for Phase III Watershed Implementation Plans

Planting buffers for human health, economic development, and infrastructure

Restoring riparian forest buffers is tantamount to a healthy watershed. Buffers are a cost-effective, common-sense water quality practice—every dollar spent on this practice reduces the need for more costly urban practices and less effective agricultural practices. Funding is available to restore riparian forest buffers. Through the federal-state Conservation Reserve Program, almost all costs for this practice can be met. Each year, there is more funding than is used in this program.

Buffers are effective at cleaning water—they reduce bacteria, other microorganisms, micro plastic fibers, harmful algal blooms, and an unknown number of emerging contaminants that are easily found in surface waters. Buffers also keep stream temperatures down which can reduce the occurrence of algal blooms and bacteria, making the water in our streams more swimmable and drinkable. Cows also benefit directly-- herd health improved once cows are fenced out of the stream, allowing a buffer to establish.

Buffers help municipalities by treating stormwater and dissipating flood energy and erosion potential of streams, rivers, and tides. Floodplain buffers are particularly important for treating flood water. Buffers improve recreational services such as fishing, boating, swimming, hiking, biking, and wildlife viewing. Quality-of-life is perceived higher around trees. Streams and buffer restoration offer a great opportunity for economic revitalization.

Best Management Practices with Forest Buffers in Mind

Of the many best management practices (BMPs) used to improve quality of Chesapeake Bay waterways, the restoration of forest buffers might be the best. Forest buffers provide critical barriers between polluting landscapes and receiving waterways, reducing the adverse effect of excessive nitrogen, phosphorus, and suspended sediment inputs using relatively little land. In addition to their well-recognized role in improving water quality, riparian forests fulfill important habitat needs for a host of aquatic and terrestrial species. See the table below for forest buffer BMPs with other co-benefits*

Best Management Practice	Forest Buffers	Additional Co-Benefits					
		Habitat Biodiversity	Brook Trout	Stream Health	Fish Habitat	Healthy Watersheds	Tree Canopy
Agricultural Forest Buffer	5	4	4.5	4	4.5	4	4.5
Forest Conservation	3.5	5	4	4	4	5	5
Forest Harvesting Practices	3.5	2	2	4	3	3	2
Narrow Forest Buffer	5	2.5	3.5	2	3.5	2	5
Streamside Forest Buffers	5	4	4.5	3	4.5	3	5
Urban Forest Buffers	5	5	5	4	4	3.5	4.5

*Values were taken from the [Quantification of BMP Impact on the Chesapeake Bay Program Management Strategies](#) study by Tetra Tech. [Appendix E](#) Final Impact Scores evaluates BMP effects on outcomes on a scale of +5 (very beneficial) to -5 (very harmful). This table shows BMPs that scored a 3.5 or higher and -3.5 or lower for the Forest Buffer Outcome.

-5 -4.5 -4 -3.5 -3 -2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5

Guiding Principles for Incorporating Outcome

WIP Development

- Calculate benefit of establishing buffers by using CAST.
- Identify areas where more buffers are needed.
- Staff-up for establishing buffers on agricultural and developed land.
- Insist on buffering all streams on conserved agricultural land.
- Improve internal and external education around the importance of buffers.

WIP Implementation

- Engage over buffer restoration at every opportunity: whenever there is landowner contact- whether for a different restoration practice or conservation easements.
- Educate landowners and increase incentives to them for establishing a buffer.

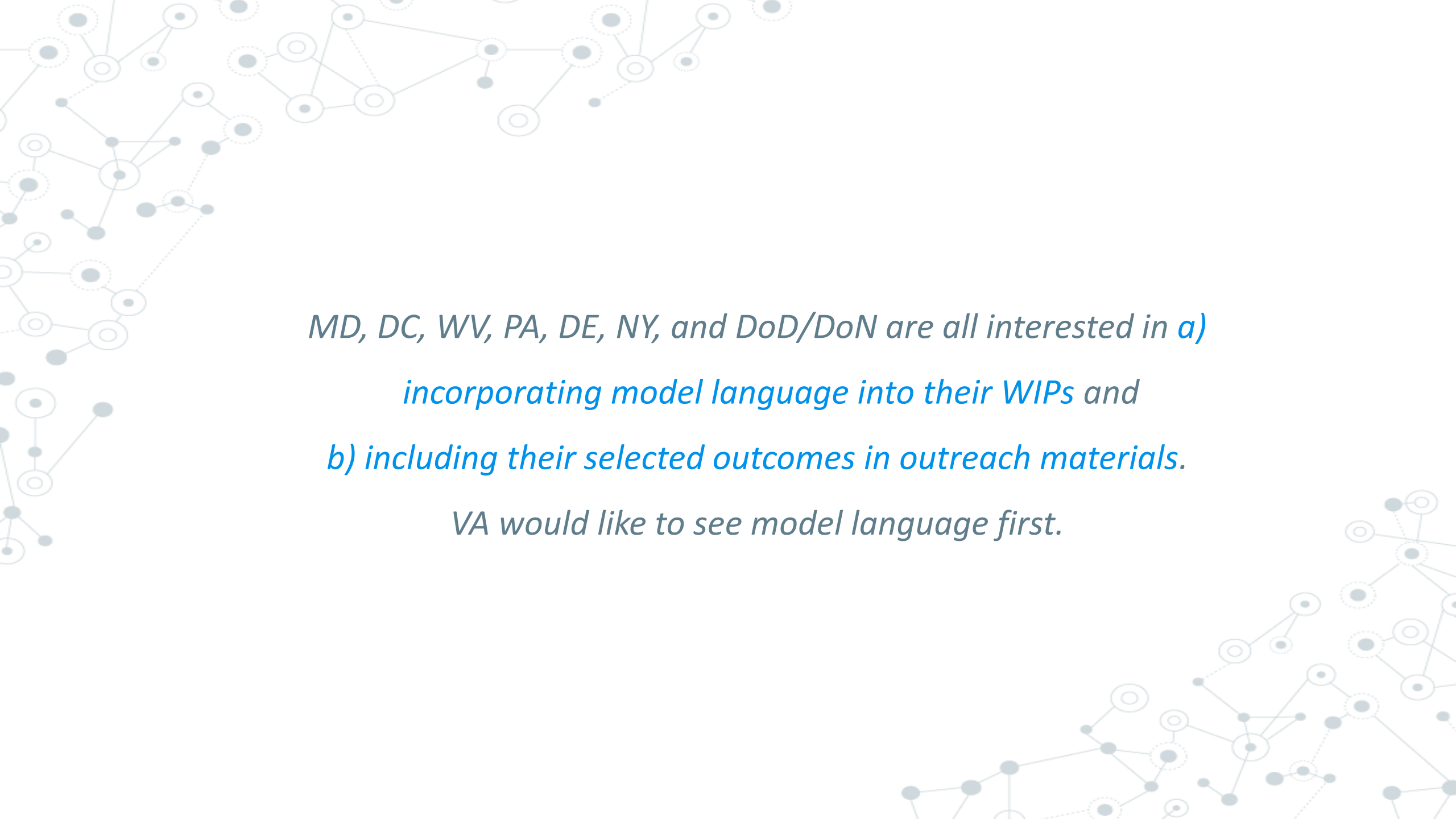
Tools and Resources

- [A Guide for Forestry Practices for Phase III WIPs](#)
Packet of information on all forestry practices
- [Healthy Watersheds Forestry TMDL Forest Retention Study](#)
(http://www.chesapeakebay.net/channel_files/25322/healthy_waters_forest_retention_-_final_report.pdf)
This report includes a toolbox of recommendations and incentives for stimulating forestland retention
- [Chesapeake Riparian Forest Buffer Network](#) (<http://chesapeakeforestbuffers.net/>)
Website with information, resources, and success stories related to riparian forest buffers
- More can be found on the Forestry Workgroup page
https://www.chesapeakebay.net/who/group/forestry_workgroup

Contacts for More Information on Forest Buffers in your Jurisdiction

Jurisdiction	Website	Lead	Email
Delaware	Delaware Forest Service	Marcia Fox	marcia.fox@state.de.us
D.C.	DOEE – Trees in the District	Luke Cole	luke.cole@dc.gov
Maryland	MD Forest Service Buffer Initiative	Anne Hairston-Strang	astrang@dnr.state.md.us
New York	NYDEC Riparian Buffers	Lauren Townley	lauren.townley@dec.ny.gov
Pennsylvania	PA DCNR Riparian Buffers	Matt Keefer	makeefer@pa.gov
Virginia	VA DOF Riparian Forest Buffers	Greg Evans	gregory.evans@dof.virginia.gov
West Virginia	WV Chesapeake Bay Forestry	Herb Peddicord	herb.f.peddicord@wv.gov
CBP Contact	CBP Forestry Workgroup	Sally Claggett	sclaggett@fs.fed.us

- **Fact sheets are good for practitioners** (MD, PA)
 - Local government fact sheet (WV, PA)
- **Info sheets and PSAs** (DE, VA, WV, PA)
- **More info on co-benefits (more detail in tables)**
- **Quantitative data** on co-benefits and cost savings (DC)
 - Data that can be integrated into CAST (DC)
 - Strawman CAST scenarios (WV)
 - Economic growth associated with cleaning up a fishery (WV)
 - Webinar trainings for CAST, MAST (WV)
- **Case studies** (DC, VA)
- Technical, funding sources (DC)
- Assistance/tools/materials to help farmers understand the benefits and cost-effectiveness of buffers (DE)
- **Summary of actions across watershed** to demonstrate partner involvement (VA, PA)
- **Concise summary of multi-benefit BMPs and policy approaches** (WV, NY, DoD/DoN, PA)
 - Focus on local stream health and flood protection (NY)
- Website of searchable BMPs (WV)
- **Weighting practices** relative to their benefits -simple summary of Tetrattech Project (PA)
- Supplement BMP Compendium now being done with Benefits and Outcome Info (PA)



*MD, DC, WV, PA, DE, NY, and DoD/DoN are all interested in **a)**
incorporating model language into their WIPs and
b) including their selected outcomes in outreach materials.
VA would like to see model language first.*

Next Steps

- Finalize Templates for the 12 Outcomes – January
 - Send Comments to me, Kristin Saunders, Laurel Abowd
 - Deadline: January 26 ???
- Develop Powerpoint Presentation – March
 - Overview of Outcomes
 - Program Staff Available to Present
 - Local Engagement
- Standard Language for Incorporation in the WIP – March
 - Separate Section
 - Appendix
 - Incorporation of Action Items into the Milestones



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Chesapeake Bay Program Office

Contact Information:

Veronica Kasi

vbkasi@pa.gov

717-772-4053

DEP Chesapeake Bay Program Website:

<http://www.dep.pa.gov/ChesapeakeBay>

Phase 3 WIP Website:

www.dep.pa.gov/chesapeakebay/phase3