

2022 Restoring Wetlands of the Chesapeake Bay Watershed Workshop – DAY 1, SESSION 1

Photo by Matt Rath/Chesapeake Bay
Program

Plenary sessions will be recorded for note taking purposes only. Breakout sessions will not be recorded.

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are scheduled to present

Virtual Meeting
August 2, 2022
10am – 3:30 pm





2025 Wetlands Outcome & Status

Chris Guy, USFWS

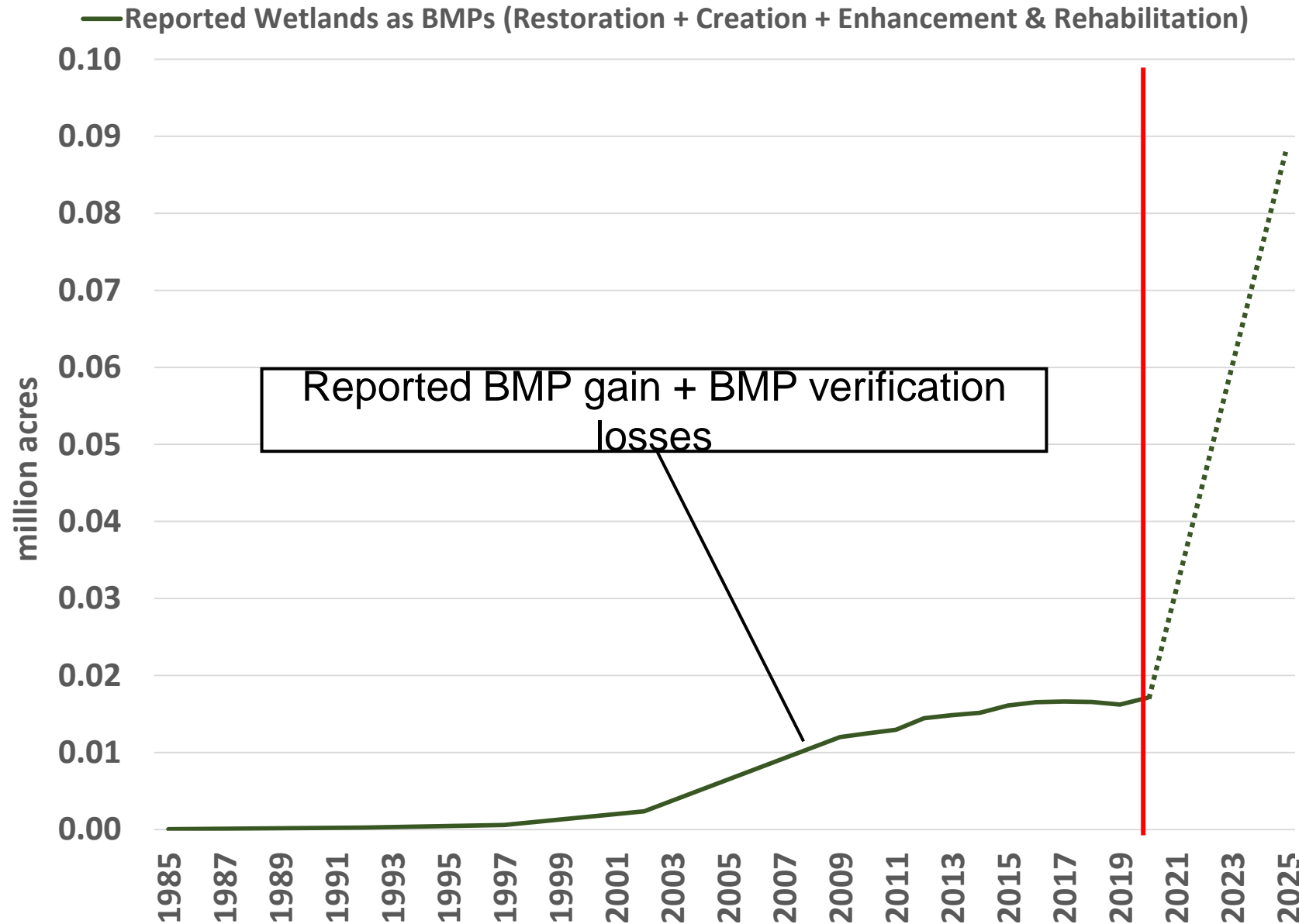
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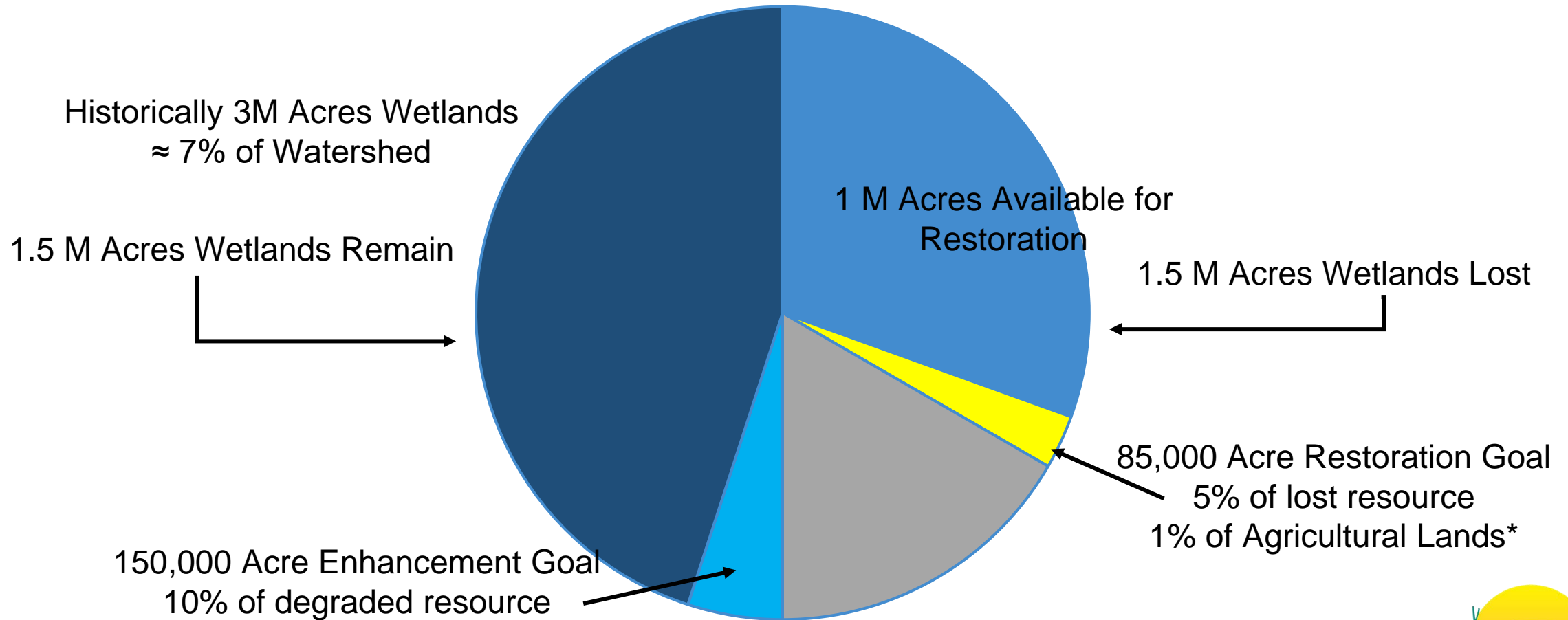
Wetland BMP Changes (1985–2020 + 2025)



Vital Habitats Goal – Wetlands Outcome:
Continually increase the capacity of wetlands to provide water quality and habitat benefits throughout the watershed. Create or reestablish 85,000 acres of tidal and non-tidal wetlands and enhance function of an additional 150,000 acres of degraded wetlands by 2025.

Watershed Implementation Plan Wetland Commitments by Jurisdictions				
State	Wetland Restoration (acres)	Wetlands Creation (acres)	Wetlands Enhancement (acres)	Other Restoration (acres) (ORA)
DC	0	0	0	164
DE	14,174	1,125	39,298	13,765
MD	13,620	0	0	87,473
NY	6,289	0	0	89,905
PA	4,400	0	0	88,035
VA	3,666	376	522	385,029
WV	0	0	0	8,217
Total Acreage	42,149	1,501	39,820	672,589
Outcome	85,000		150,000	
Remaining Acreage (= Total Acreage - Outcome)	-41,350		-110,180	
Surplus Acreage (= ORA - Outcome)				437,589
Red color indicates BMPs in the jurisdictional WIP that may or may not be wetlands but have been identified in another category. E.g., stream restoration or living shoreline, forest buffer.				
WIP restorations that were identified by feet were converted to acreage by using the formula Acres = Restoration feet/(209*4)				

Chesapeake Bay Wetlands



* Calculated based on 83,000 ac. Of goal on agricultural lands, 8,320,297 ac agricultural lands based on CAST data 2020
Slide: Courtesy of Amy Jacobs, TNC





Tidal Wetlands

Pam Mason, VIMS



Photo by Matt Rath/Chesapeake Bay Program

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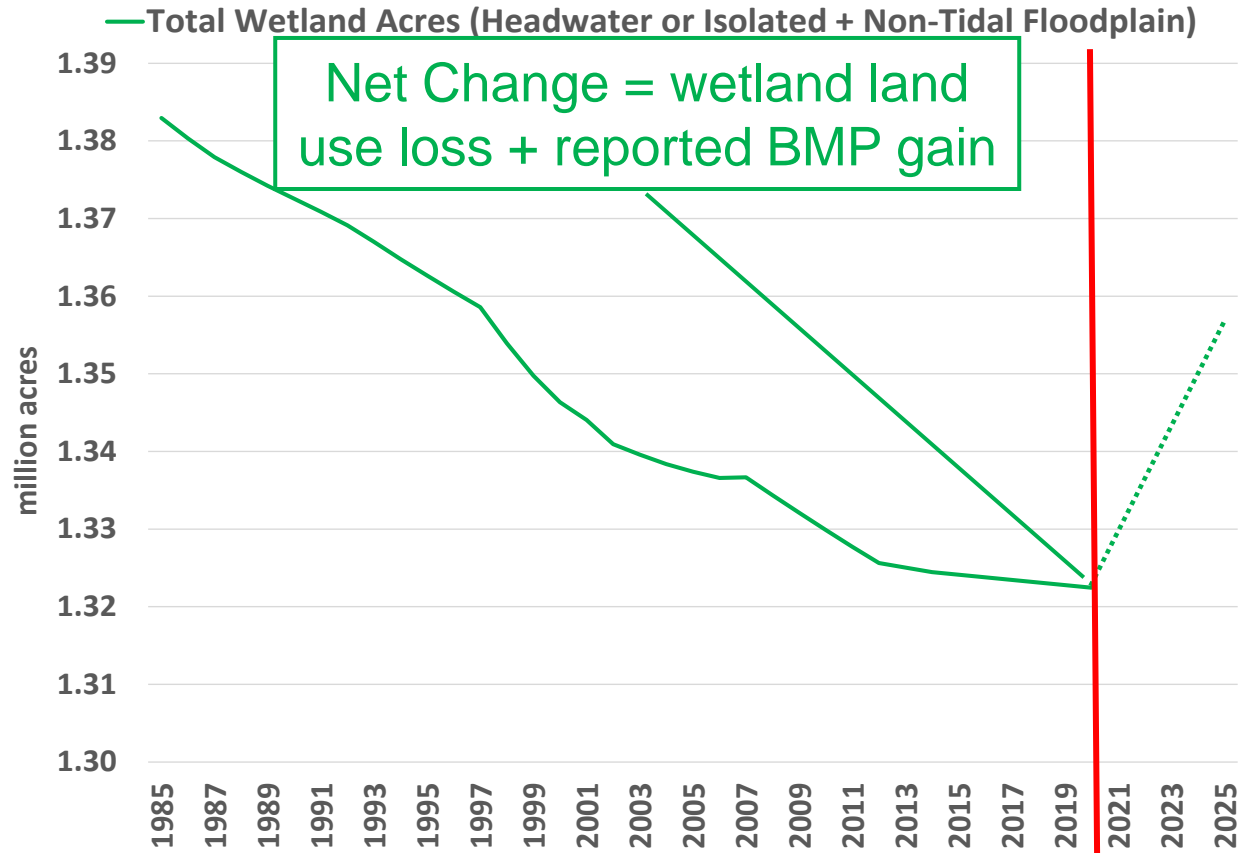
Chesapeake Bay Program

Wetlands Goal: Tidal Wetlands
Past to Future





CBW Wetland Acre Changes (1985–2020 + 2025)



Tidal Wetlands

Historic Loss

- Development
Dredge, Drain, Fill

Current/ Future Loss

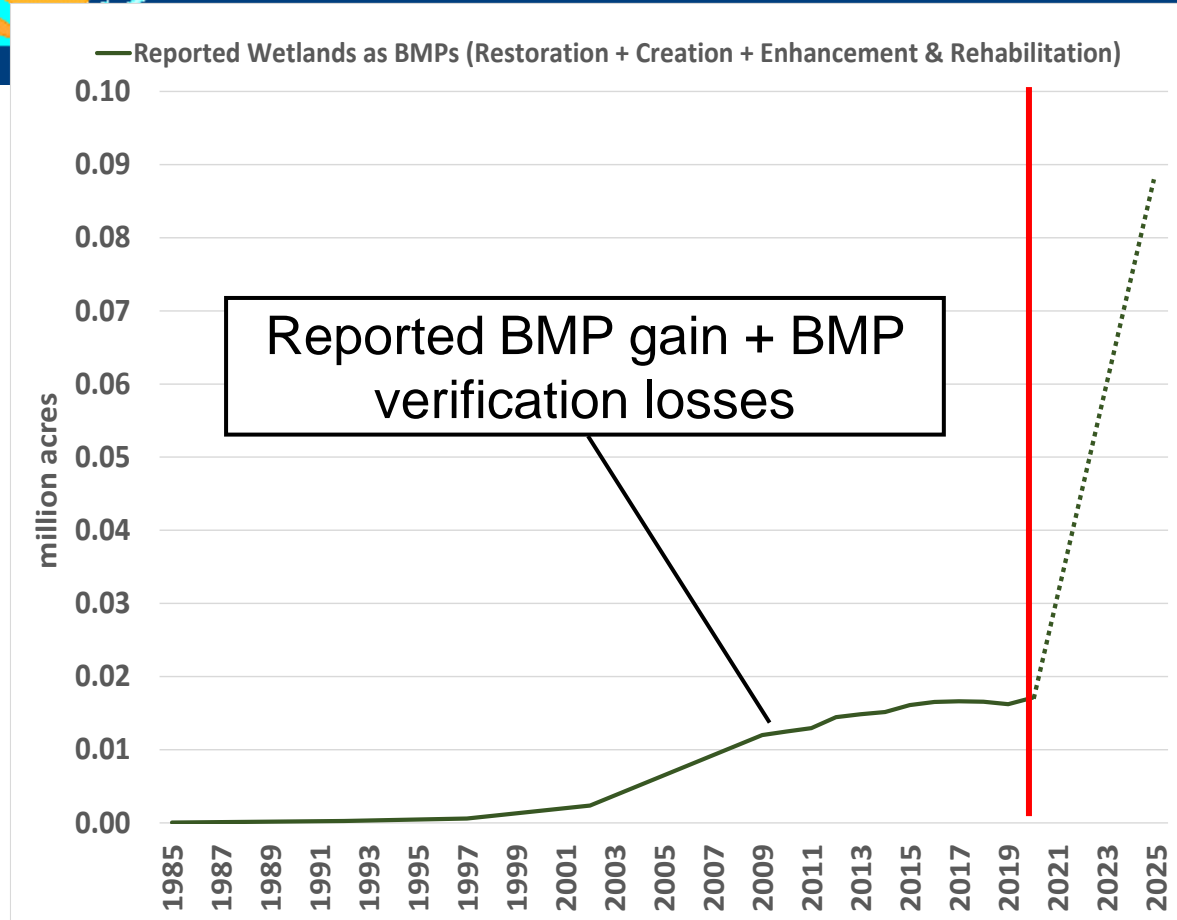
- Sea Level Rise
 1. Migration limits
 2. Sediment supply
- Development impingement
 - Many small losses cumulate
 - Prevents migration

VA Coastal Resilience Master Plan
projects 86% loss by 2080



Wetland BMP Changes (1985–2020 + 2025)

Tidal Wetlands Restoration



Now:

- Sparse funding
- Small Projects- mostly LS
- Priority on non-tidal
- Little State/ Fed/ Local Government Involvement- Mostly NGO

Moving Forward:

- Significant funding: Focus on Tidal Marsh not all Nature-Based Solutions
- Greater Priority
- Greater Government Leadership

Needs

- Equitable funding for tidal wetland
- Governance leadership and collaboration
- Capacity (restoration practitioners, tech advisers, grant officers, outreach)





Watershed (Non-Tidal) Wetlands

Bill Jenkins, EPA



Photo by Matt Rath/Chesapeake Bay Program

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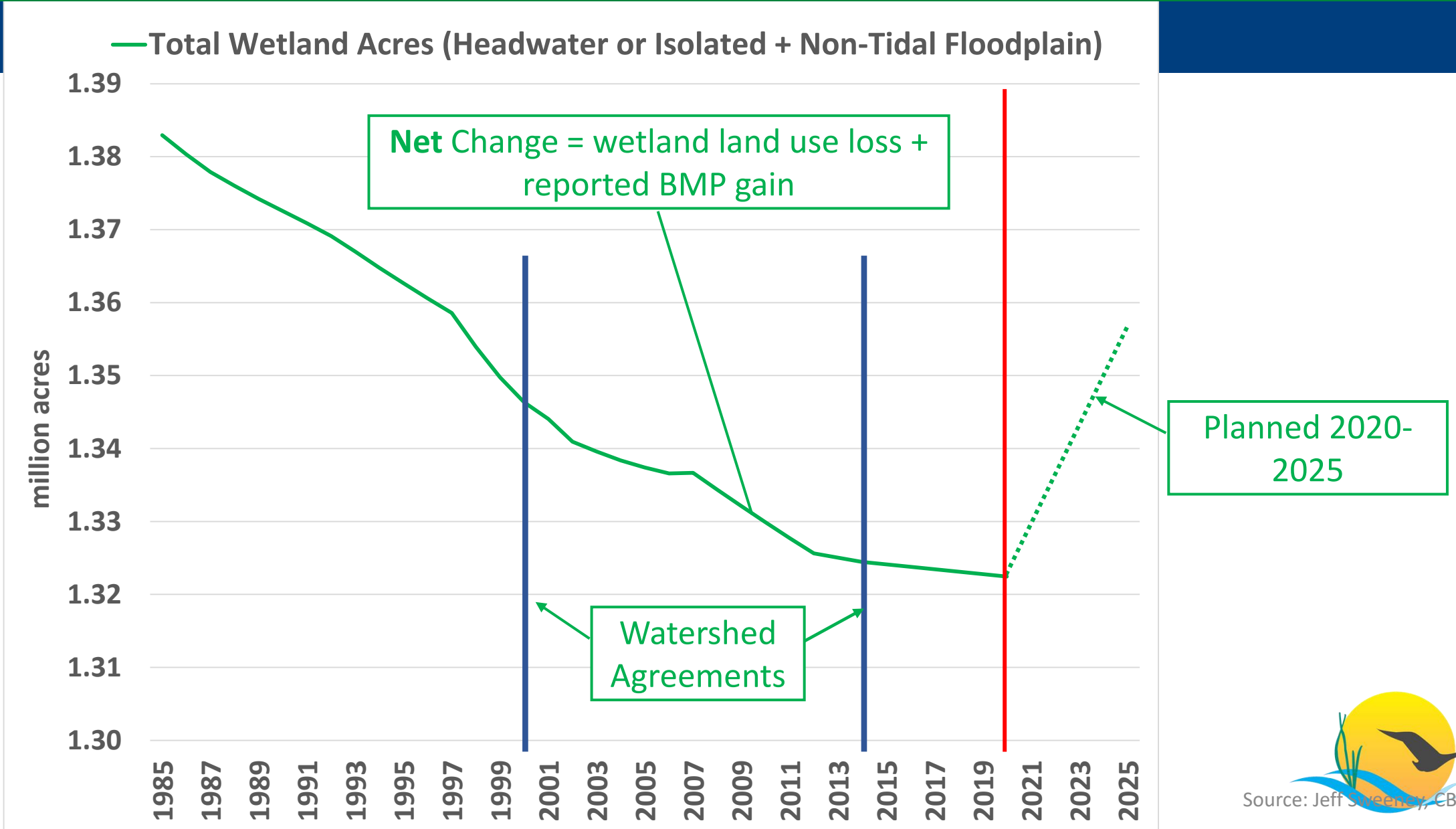
Chesapeake Bay Program

Wetlands Goal: Non-tidal Wetlands
Past to Future





CBW Wetland Acre Changes (1985–2020 + 2025)



Wetlands

Continually increase the capacity of wetlands to provide water quality and habitat benefits throughout the watershed. Create or reestablish 85,000 acres of tidal and non-tidal wetlands and enhance function of an additional 150,000 acres of degraded wetlands by 2025. These activities may occur in any land use (including urban), but primarily occur in agricultural or natural landscapes.

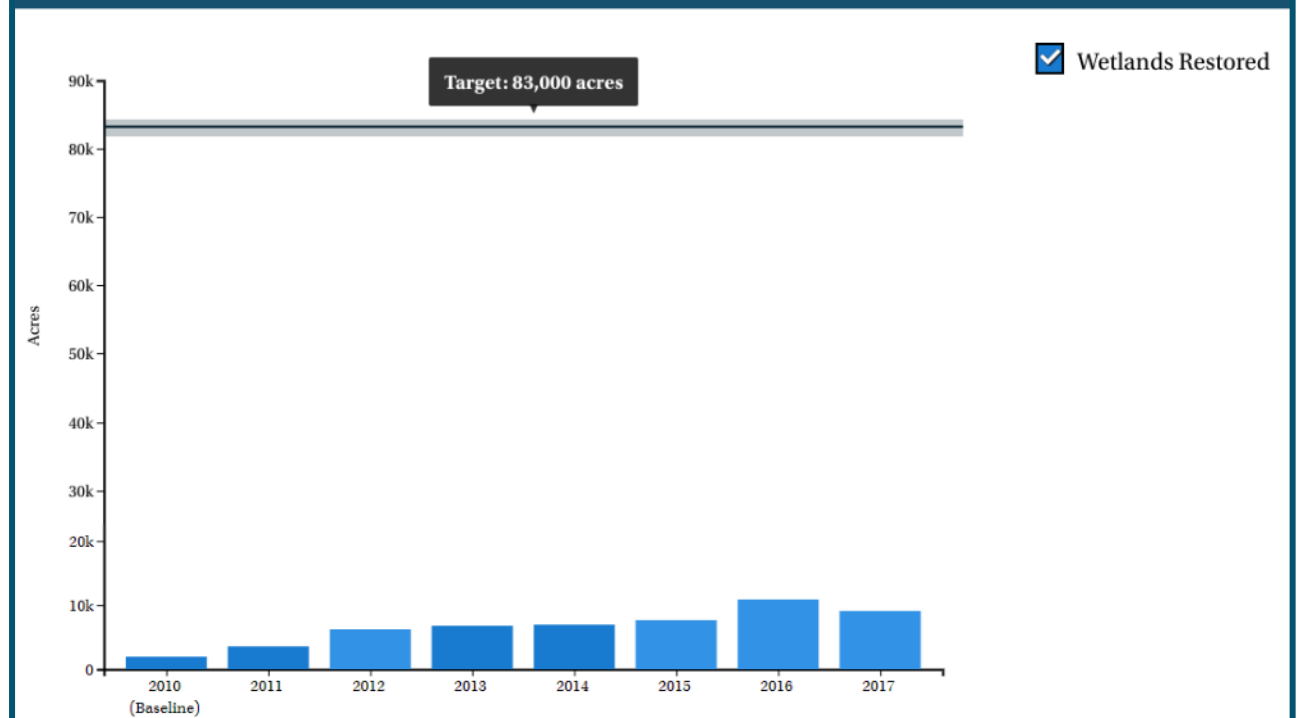
Current Progress

Between 2010 and 2017, 9,103 acres of wetlands were established, rehabilitated or reestablished on agricultural lands. While this outcome includes a target to restore 85,000 acres of tidal and non-tidal wetlands in the watershed, 83,000 of these restored acres should take place on agricultural lands. The wetlands restored on agricultural lands between 2010 and 2017 mark an 11% achievement of the 83,000-acre goal.

Outcome Achievement Uncertain ? !

Wetland acreage data are inconsistently reported and inaccurate for assessing progress toward this outcome. Work is underway to identify a consistent means for collecting data by maximizing existing data reporting processes.

Wetlands Restored on Agricultural Lands (Cumulative) (2010-2017)





Opportunities and Challenges

Opportunity: Increased funding for creation, restoration and enhancement

Challenge: Adequate public and private-sector workforce “capacity” to do on-the-ground implementation

- Need capacity for:
 - ❖ Outreach
 - ❖ Accessing and managing funds
 - ❖ Project management
 - ❖ Project design and implementation
 - ❖ Monitoring





History of Funding Efforts to Date

Stephanie Dalke, Environmental Finance Center



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Wetland Restoration Incentives in the Chesapeake Bay

August 2, 2022

Stephanie P. Dalke

spdalke@umd.edu



ENVIRONMENTAL
FINANCE CENTER

Overview

- Methods
- Gaps and limitations
- Quantitative data
- Key findings



Key Themes

- Wetlands vs overall Chesapeake Bay investments
- States' investments and ability to leverage federal funding
- Opportunities to “unlock” more existing funding



Methods and Boundaries

- Time frame: FY2016 – FY2020 (mostly)
- Geography: Chesapeake Bay portion of Delaware, Maryland, New York, Pennsylvania, Virginia
 - excluded West Virginia and District of Columbia
- Primary focus: Incentive programs for wetland and floodplain restoration on private land
 - Funding obligated, acreage restored, number of projects, etc.
- Data collection: Mostly direct communications; some program reports and databases
 - NRCS online Data Viewer -- statewide or national data only
 - Direct requests could be narrowed by county and sometimes HUC (watershed)

Primary focus: Incentive programs of interest

Federal

- Farm Bill / U.S. Dept. of Agriculture
 - NRCS – EQIP, ACEP-WRE
 - FSA – CRP and CREP
- USFWS Partners for Fish and Wildlife
- EPA via NFWF – INSR & SWG

State

- Match for CREP
- Grant programs

USDA – U.S. Department of Agriculture
NRCS – Natural Resources Conservation Service
FSA – Farm Services Agency
USFWS – U.S. Fish and Wildlife Service
EPA – Environmental Protection Agency
NFWF – National Fish and Wildlife Foundation
EQIP – Environmental Quality Incentives Program
ACEP-WRE – Agricultural Conservation Easement Program –
Wetland Reserve Easements
CRP, CREP – Conservation Reserve (Enhancement) Program
INSR - Innovative Nutrient and Sediment Reduction
SWG – Small Watershed Grants

Farm Bill: Practices of interest

NRCS – included:

Wetlands Practices:

- ✓ Wetland Creation [658]
- ✓ Wetland Enhancement [659]
- ✓ Wetland Restoration [657]

Fish & Wildlife Habitat Practices:

- ✓ Wetland Wildlife Habitat Management [644]

Other obvious wetland-related practices (e.g. black duck):

- ✓ Shallow Water Development and Management [646]

NRCS – excluded:

- Riparian forest buffer
- Riparian herbaceous buffer
- Dike or levee
- Channel stabilization
- Streambank and shoreline protection

FSA CRP/CREP – included:

- ✓ Wetland restoration on floodplains [CP23/CP23A]

Gaps and Limitations

Gaps in data:

- NY / Upper Susquehanna
- DE - state match for CREP

Other factors influencing participation (especially incentive programs)

- Commodity prices
- **Ease of participation**
- **Our ability to keep things going through all steps in process**

Messy details of projects

- Year awarded/obligated vs year completed
- Acreage enrolled vs restored
- Practice count vs project count
- Wetlands as part of larger projects

Not being tracked closely (Farm Bill)

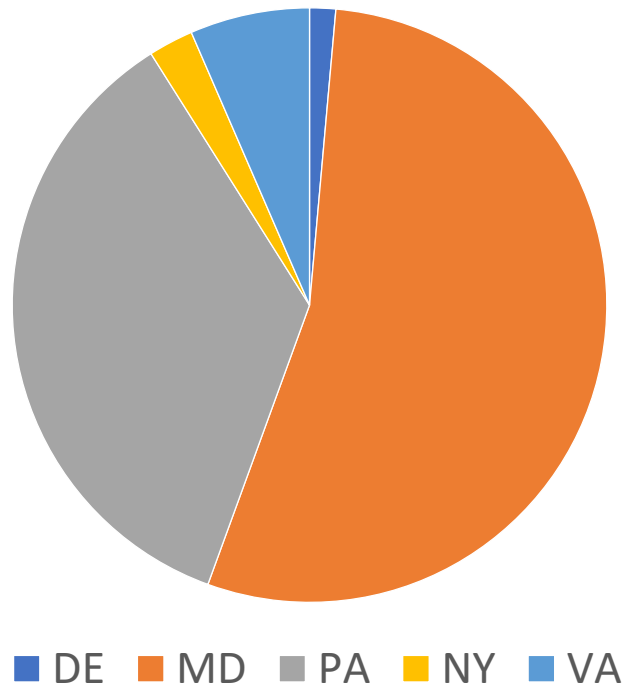
- # inquiries or applications
- Contracts not completed

Federal Incentive Programs 2016-2020

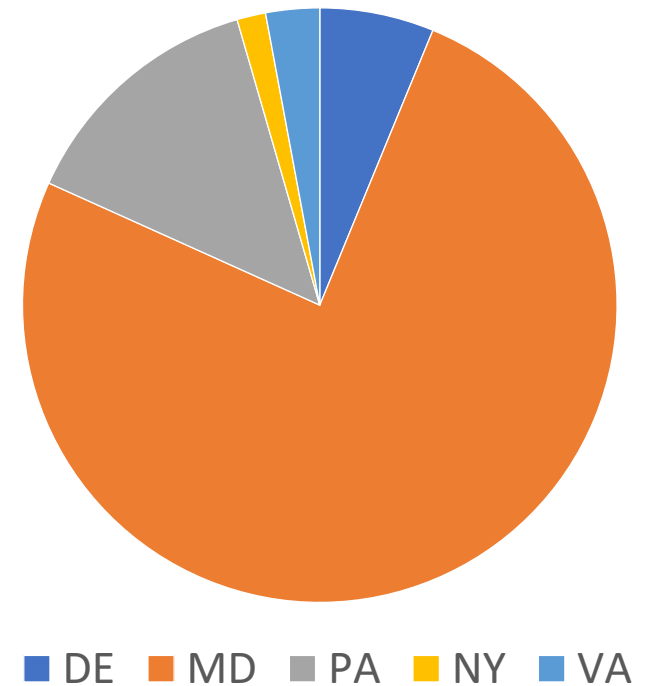
All of Bay	TOTAL
Funding obligated or spent	\$12,067,103
Acres enrolled or restored	9,284.4
# projects enrolled or completed	75

- NRCS
- FSA
- USFWS Partners
- *No EPA or NFWF*

Federal funding for wetlands 2016-2020



Acres enrolled or restored 2016-2020



Federal Programs 2016-2020

Includes:

- **EPA INSR & SWG via NFWF**
 - Funds obligated to projects with wetlands components
 - Full project costs

NFWF (EPA funds)	TOTAL
INSR	\$33,500,000
SWG	\$34,600,000
TOTAL NFWF INSR + SWG	\$68,100,000
For projects w/ wetland outcomes	\$13,322,000
Percent of INSR + SWG to wetlands	~20%

EPA – Environmental Protection Agency
NFWF – National Fish and Wildlife Foundation
INSR - Innovative Nutrient and Sediment Reduction
SWG – Small Watershed Grants

Federal Incentive Programs + NFWF 2016-2020

Includes:

- NRCS
- FSA
- USFWS Partners
- EPA via NFWF
 - INSR + SWG w/ wetlands

All of Bay	TOTAL
Funding obligated or spent	\$12,067,103
Acres enrolled or restored	9,284.4
# projects enrolled or completed	75

All of Bay	TOTAL
Funding obligated or spent w/ NFWF	\$25,389,103
Acres enrolled or restored	9,284.4
# projects enrolled or completed	75

CRP and CREP

2016-January 2022

New and re-enrollments

	TOTAL CRP ACRES	ANNUAL RENTAL PAYMENTS	COST-SHARE + PIP	SIP PAYMENTS	TOTAL FUNDING
All	1,971.6	\$ 564,801	\$ 740,913	\$ 57,283	\$ 1,362,997

FSA funds only

Acreage:

81% CP23

19% CP23A

SIP – Sign-up Incentive Payment

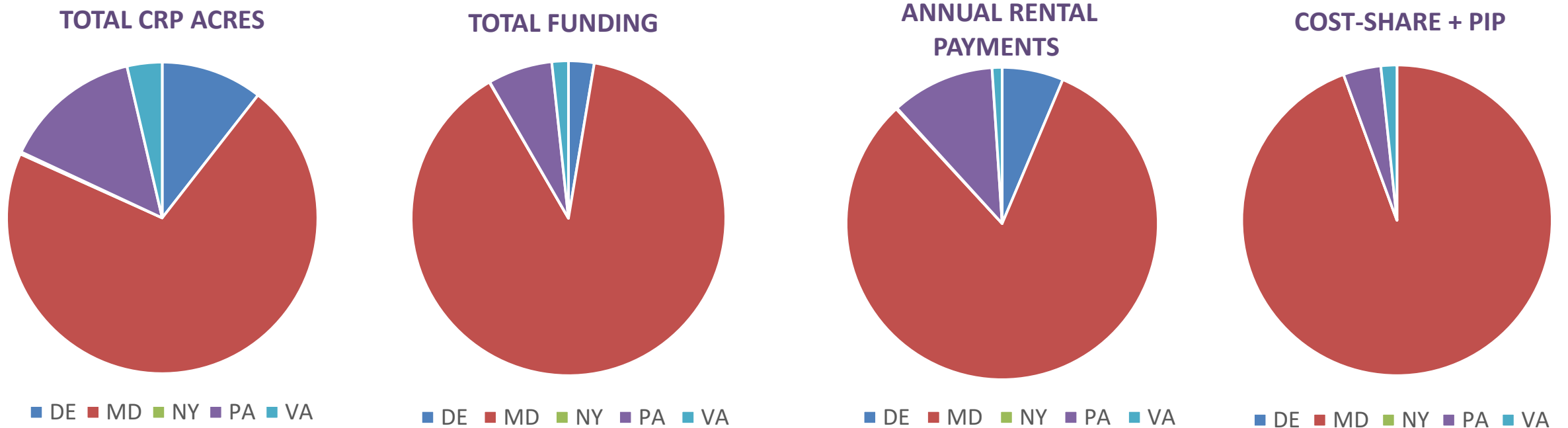
PIP – Practice Incentive Payment

CP23/CP23A – Conservation Practice for wetland restoration on floodplains

CP23 – within 100-year/1% floodplain

CP23A – outside 100-year/1% floodplain

CRP and CREP



2016-January 2022
New and re-enrollments
FSA funds only!

CRP and CREP

2016-January 2022

New and re-enrollments

FSA funds only

	TOTAL CRP ACRES	TOTAL ANNUAL RENTAL PAYMENTS	AVERAGE RENTAL PER ACRE
DE	208.1	\$ 35,896	\$ 172
MD	1,403.2	\$ 461,812	\$ 329
NY	4.5	\$ 640	\$ 142
PA	284.0	\$ 60,584	\$ 213
VA	71.8	\$ 5,868	\$ 82
All	1,971.6	\$ 564,801	\$ 286

Comparison with Some Federal Bay Spending

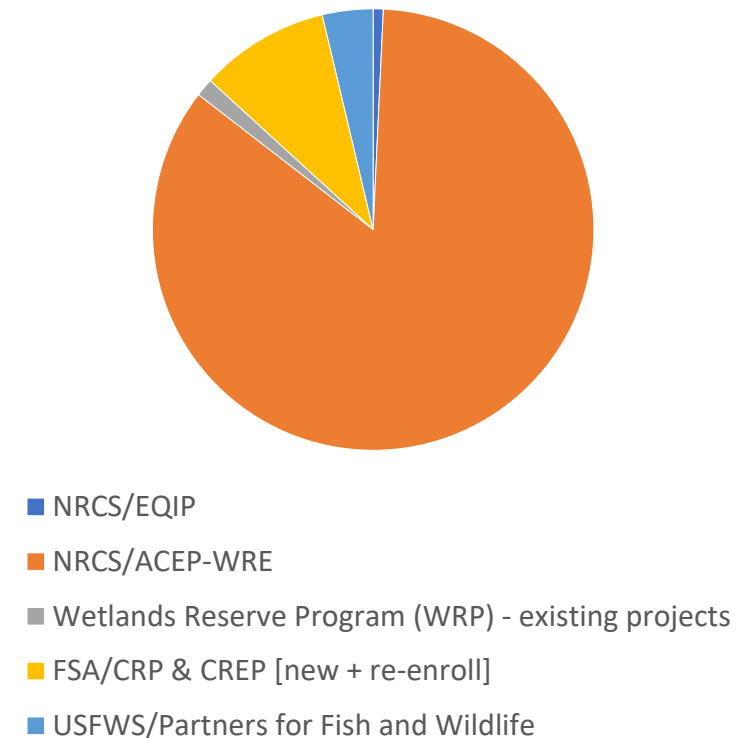
	FY2016	FY2017	FY2018	FY2019	FY2020	TOTAL
U.S. Department of Agriculture (USDA)^[1]						
Farm Service Agency (FSA)	\$43,000,000	\$33,400,000	\$33,700,000	\$33,700,000	\$33,700,000	\$177,500,000
Natural Resources Conservation Service (NRCS)	\$94,800,000	\$95,000,000	\$97,600,000	\$110,500,000	\$101,000,000	\$498,900,000
U.S. Department of the Interior (DOI) ^[1]						
U.S. Fish and Wildlife Service (FWS)	\$18,300,000	\$17,300,000	\$16,200,000	\$16,200,000	\$15,200,000	\$83,200,000
Total, USDA + FWS Funds	\$156,100,000	\$145,700,000	\$147,500,000	\$160,400,000	\$149,900,000	\$759,600,000
Estimated federal funding obligated for wetlands	\$4,141,671	\$3,037,737	\$2,122,080	\$1,177,007	\$1,588,607	\$12,067,103
Percent of total USDA + FWS funds	2.7%	2.1%	1.4%	0.7%	1.1%	1.6%

[1] Source: Chesapeake Bay Restoration Spending Crosscut: Federal Data

Federal Wetlands Investments by Program

PROGRAM	FUNDING OBLIGATED / SPENT	ACRES ENROLLED / RESTORED	# PROJECTS ENROLLED / COMPLETED
NRCS/EQIP	\$89,274	79.6	13
NRCS/ACEP-WRE*	\$10,224,383	3,056.7	58
Wetlands Reserve Program (WRP) - existing projects	\$159,656	131.5	4
FSA/CRP & CREP [new + re-enrollments]	\$1,146,684	1,646.8	N/A
USFWS/Partners for Fish and Wildlife	\$447,107	4,369.8	0
Total	\$12,067,103	9,284.4	75

Obligations by Program
(with easement closings)

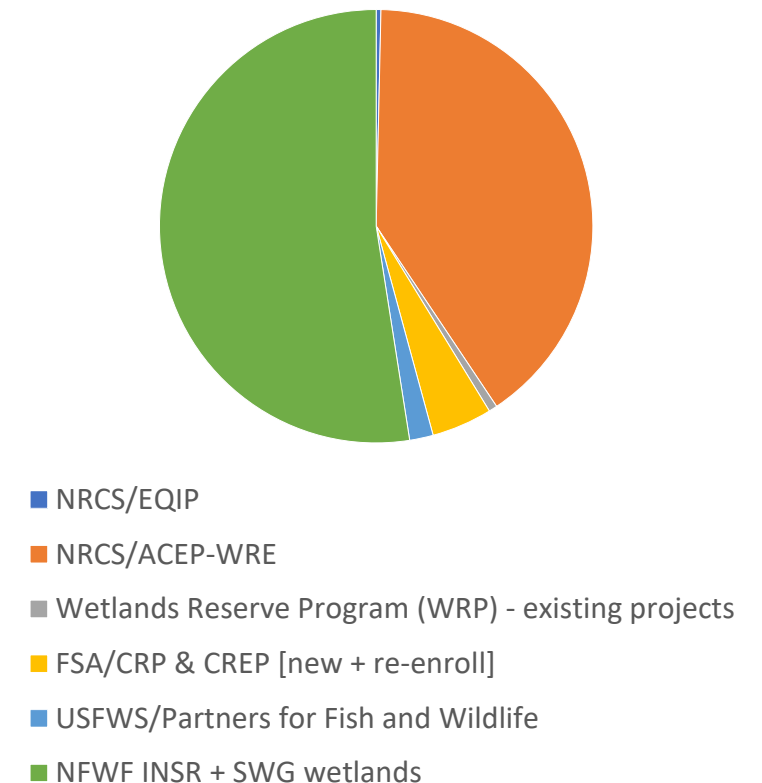


*Including obligated easement costs and closings of older easements in PA

Federal Wetlands Investments by Program + NFWF

PROGRAM	FUNDING OBLIGATED / SPENT	ACRES ENROLLED / RESTORED	# PROJECTS ENROLLED / COMPLETED
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Obligations by Program
(with easement closings)



*Including obligated easement costs and closings of older easements in PA

State Programs (2016-2020)

Maryland

- MACS – match for CREP
- Trust Fund

Pennsylvania

- REAP
- Growing Greener

Virginia

- DCR

Delaware

- DNREC – 319 and federal \$
- CREP match (no data acquired)

New York

- DEC or Dept of Ag - unclear what they offer

Key Findings

Capacity

- **Relationships with landowners are key to voluntary habitat restoration**
- Not enough technical assistance providers to get projects on ground
- Fewer federal agency staff than a decade ago; state staffing challenges also
- Partnerships can help fill gaps, but still, capacity requires sustained funding wherever it is housed
- Sustained capacity = easier to direct how money is spent

Targeted audiences and property types

- Too reliant on producer/landowner interest? They have to be very motivated to go through all the steps (regardless of program and partners)
- A lot of voluntary private wetlands restoration is linked to NRCS ACEP-WRE, but easement requirement will filter out some landowners

Key Findings

Practices and project types emphasized for Bay restoration

- Much focus, energy, capacity, & funding on agricultural BMPs
 - Easier “sell” than taking land out of production for wetlands
- Riparian buffers – more attention lately
 - Simpler than wetland creation / restoration?
- Build more wetlands into stream / floodplain restoration projects?
 - More of this happening via grant programs (vs Farm Bill) now
 - More beneficiaries if include flood hazard reduction objectives?
 - More emphasis on biodiversity and wildlife instead of just water quality?

Reality check

- **We’ve lost a lot of wetlands, so putting them back is not easy!**
 - However—the land is there, the money is there, the interest is there...

Thank you!

Stephanie P. Dalke

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Wetland Restoration: Barriers & Opportunities in the Chesapeake Bay

Amy Jacobs, The Nature Conservancy

Photo by Matt Rath/Chesapeake Bay Program

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Wetland Restoration Barriers & Opportunities in the Chesapeake Bay

Chesapeake Bay Wetland Workshop
August 2, 2022

Amy Jacobs
Chesapeake Bay Agriculture Program Director

Agricultural Landowner Surveys



August 2015
409 Agricultural Landowners
MD and PA
Parcels >40ac.

Caroline, MD
Dorchester, MD
Juniata, PA
Kent, MD
Lancaster, PA
Somerset, MD
Wicomico, MD
Worcester, MD
York, PA
Talbot, MD

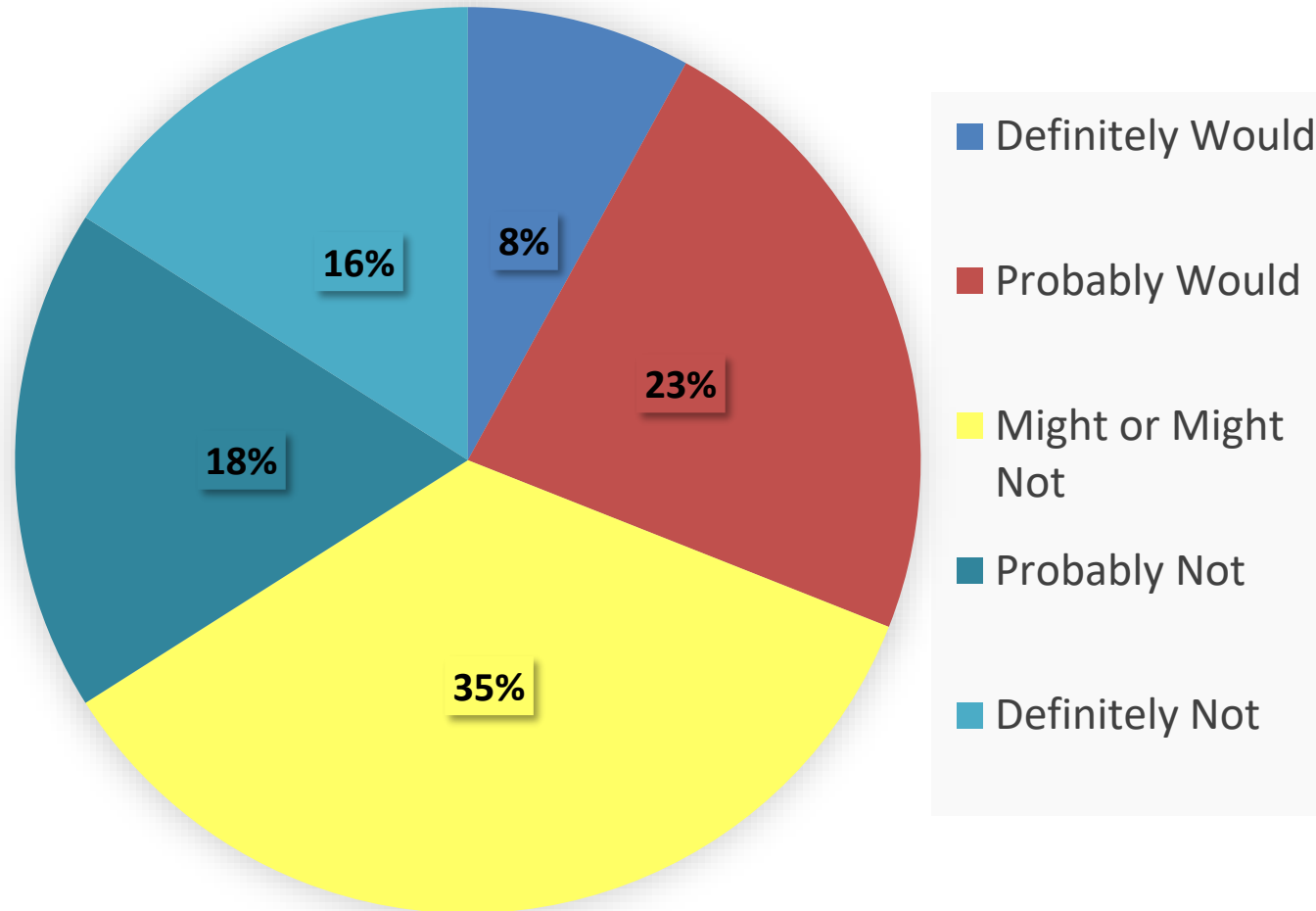
Winter 2022
377 Priority Delmarva
Agricultural Landowners
Parcels >25ac.

Caroline, MD
Dorchester, MD
Kent, MD
Queen Anne, MD
Somerset, MD
Wicomico, MD
Worcester, MD
Talbot, MD
Cecil, MD
Sussex, DE
Kent, DE



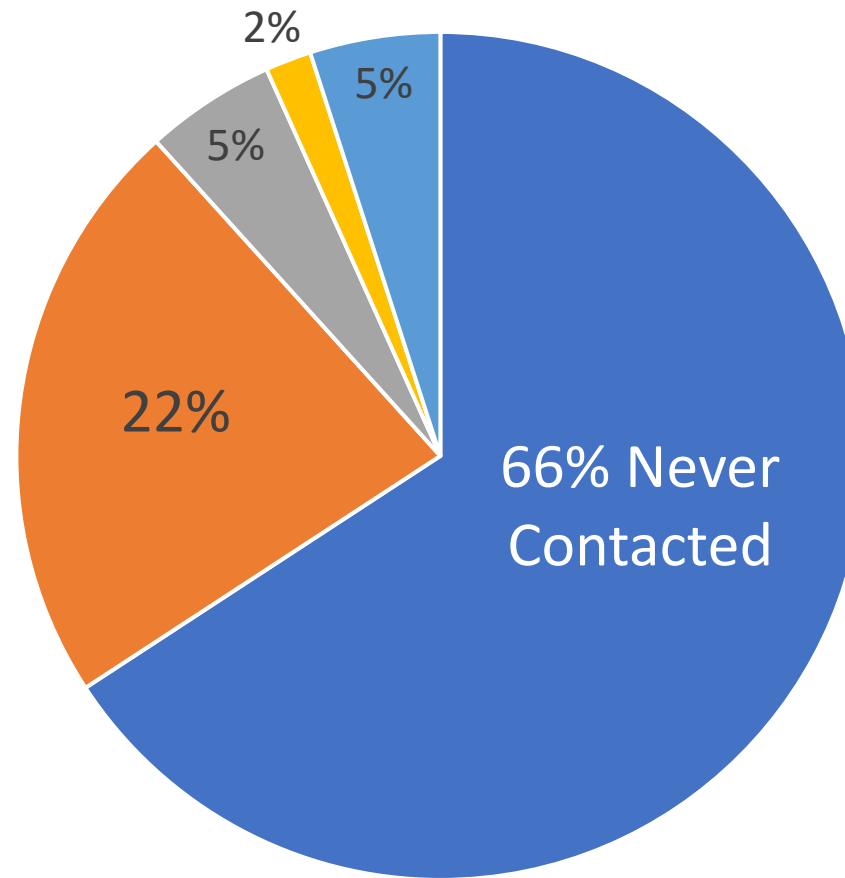
Landowners are ~~not~~ interested in restoring wetlands

Would You Consider Restoring a Wetland on Your Property?



Landowners are ~~not~~ interested in restoring wetlands

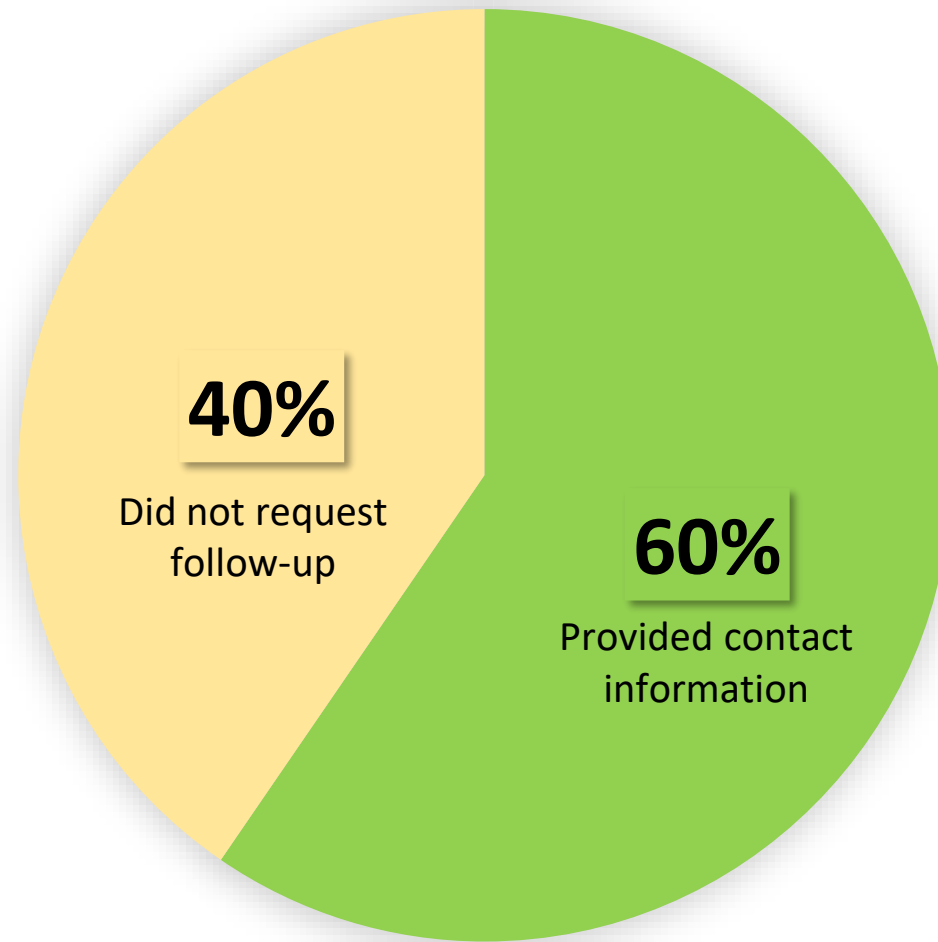
Most Landowners
Never Contacted
about Restoration
Opportunities



40% landowners
not aware of
restoration
programs

Landowners are ~~not~~ interested in restoring wetlands

Most
respondents
offered contact
information to
further discuss
restoration on
their property

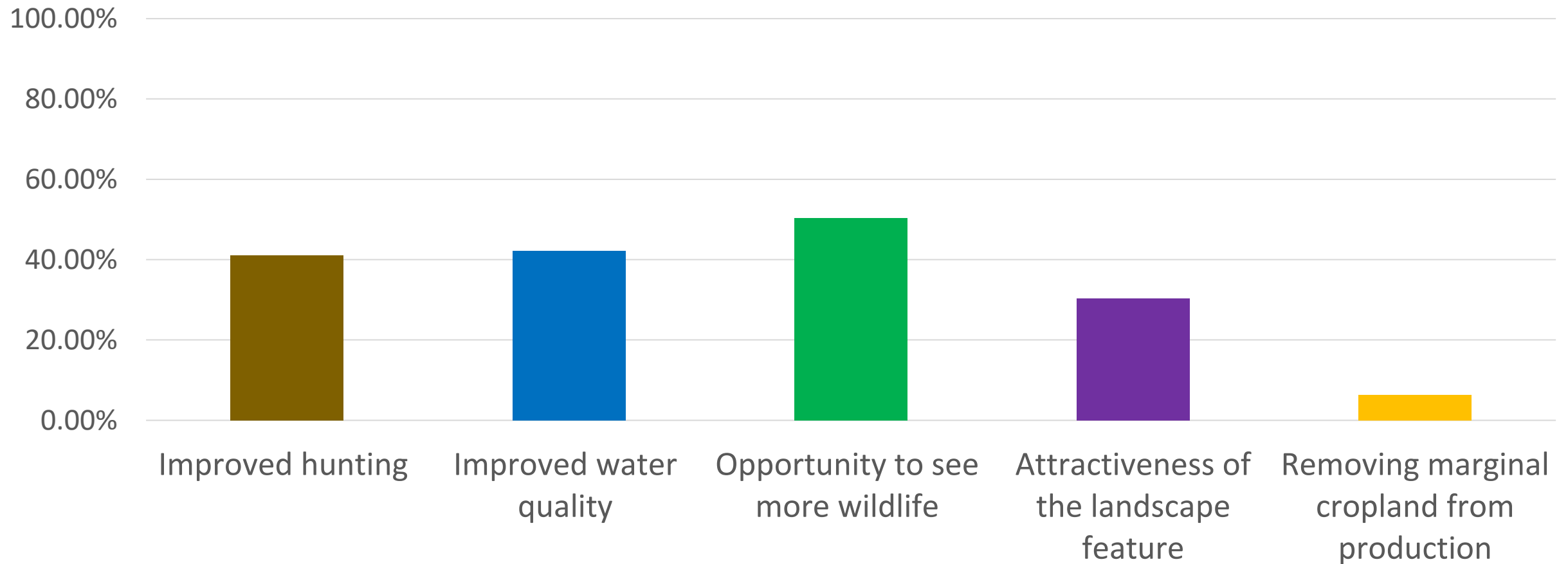


377 Priority Delmarva
Agricultural Landowners

* 28% of respondents said they were very interested in future restoration on their property

Landowners are ~~not~~ interested in restoring wetlands

Motivation for Restoration



Barriers and Solutions



Interviewed >70
stakeholders involved in
wetland restoration in
VA, PA, MD, DE
2015

Asked about barriers to increasing
wetland restoration and how to
overcome barriers

1. Limited funding
2. Outreach is limited/ not coordinated
3. Programmatic or Institutional
4. Permitting
5. Limited Approaches to Restoring Wetlands

Barriers and Solutions

BIENNIAL STRATEGY REVIEW SYSTEM Chesapeake Bay Program



Chesapeake Bay Program
Science. Restoration. Partnership.

Wetland Workgroup

1. Funding and Incentives
2. Communication with Landowners
3. Communication with Decision Makers
4. Communication with Practitioners
5. Data and Reporting
6. Leadership Commitment

Barriers and Solutions

BIENNIAL STRATEGY
REVIEW SYSTEM
Chesapeake Bay
Program



Chesapeake Bay Program
Science, Restoration, Partnership.

Wetland Workgroup

1. Funding

2. Capacity

3. Leadership Commitment

1. Funding and Incentives

2. Communication with
Landowners

3. Communication with
Decision Makers

4. Communication with
Practitioners

5. Data and Reporting

6. Leadership Commitment

Wetland Stakeholder Survey

Obstacle: Funding Limitations

Suggested Solutions

- Focus funding to priority areas
- Secure sustained funding for all phases of restoration (Landowner engagement, design, permitting, project management)
 - Advocate for increased program funding
- Develop program with local conservation groups to offer private restoration options

Solution: Focusing Funding to Priority Areas

CBP Wetland Expert Panel

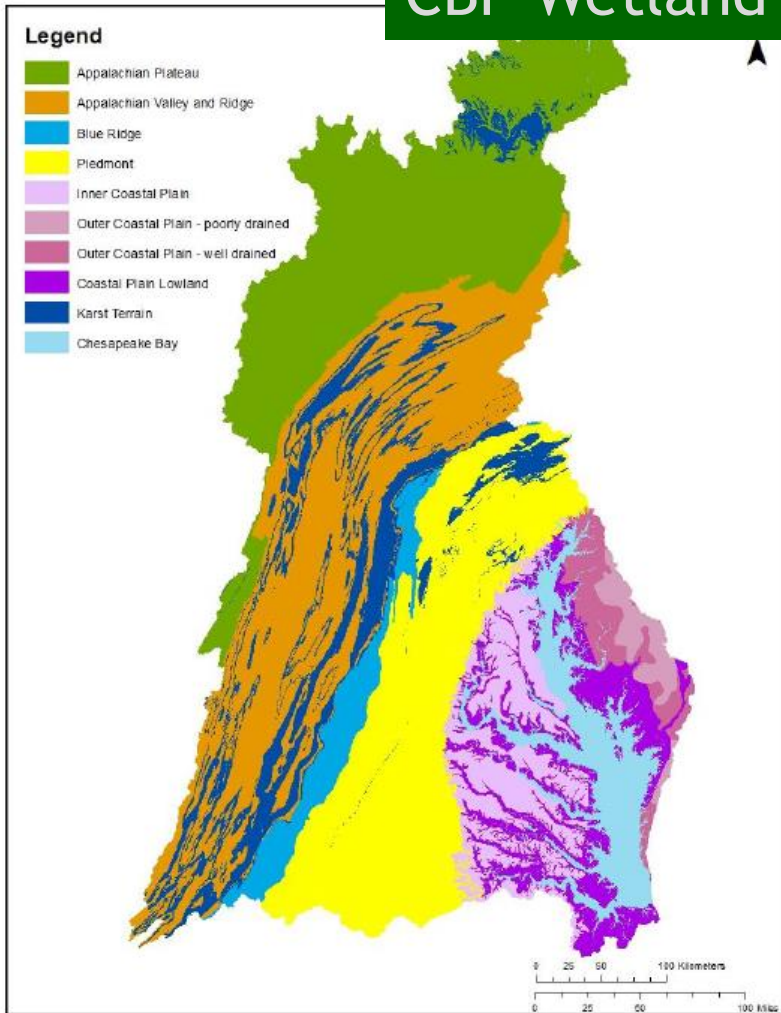


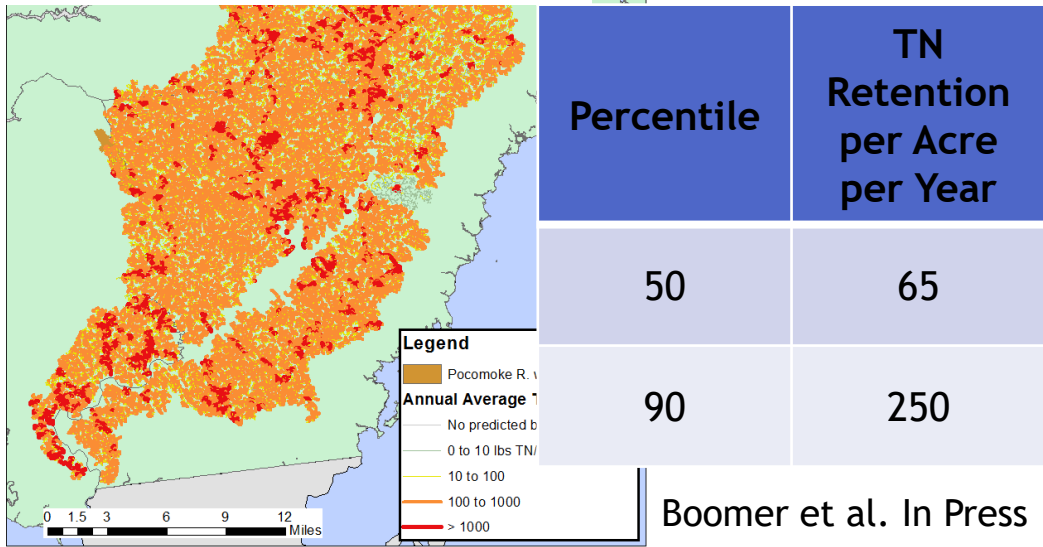
Figure 2. Physiographic settings in the Chesapeake Bay Watershed.
Map generated by Quentin Stubbs, USGS. Modified from Brakebill and Kelley (2000).

and retention efficiencies and upland acres treated by each acre of wetland by wetland type and physiographic subregion.

Physiographic Subregion	Retention Efficiency			Upland Acres Treated	
	TN	TP	TSS	Other Wetlands	Floodplain Wetlands
Appalachian Plateau	42	40	31	1	2
Appalachian Ridge and Valley	42	40	31	1	2
Blue Ridge	42	40	31	2	3
Piedmont	42	40	31	2	3
Inner Coastal Plain	42	40	31	4	6
Outer Coastal Plain- Poorly Drained	42	40	31	1	2
Outer Coastal Plain- Well Drained	42	40	31	2	3
Coastal Plain Lowland	42	40	31	2	
Karst Terrain	42	40	31	2	

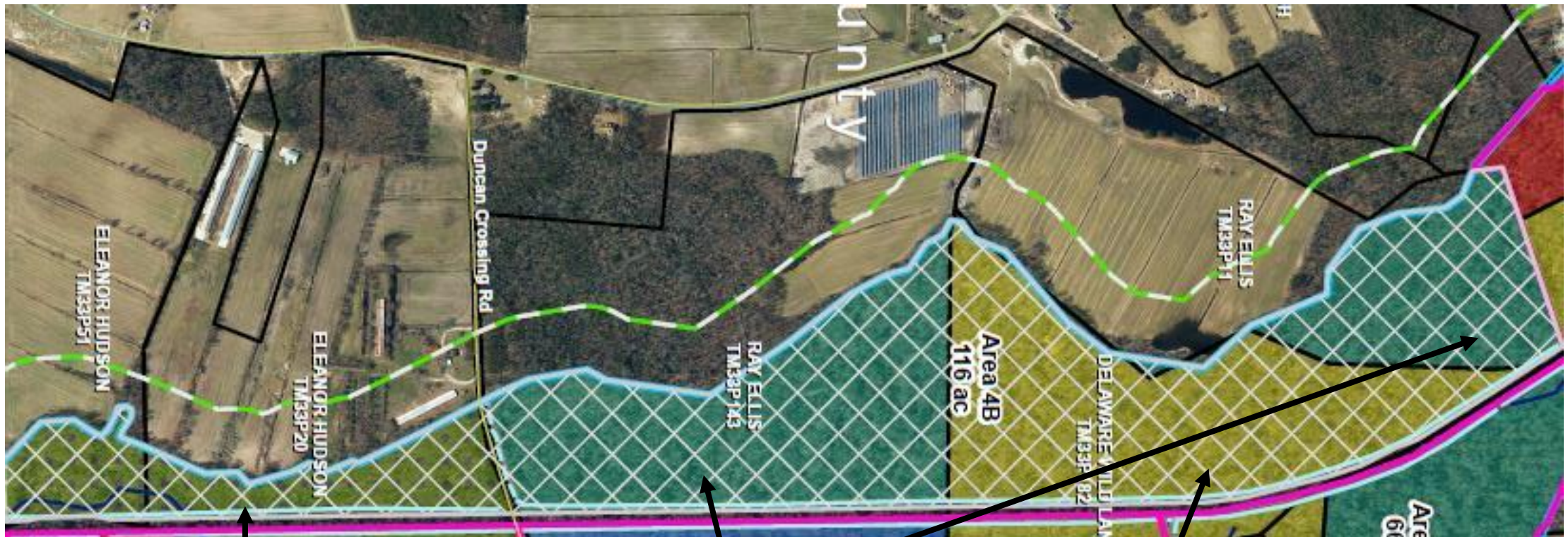
Field scale Targeting

WWG Management Approach 4.2:
Identify areas where wetland restoration would greatly benefit water quality, other complementary living resource commitments, and habitat.



Boomer et al. In Press

Solution: Private Restoration Options/ Maximize Opportunities



NRCS - WRE

Private Agreement - TNC

Conservation Owner

Wetland Stakeholder Survey

Obstacle: Capacity/Outreach is limited, not coordinated

Suggested Solutions

- Designate a local leader for outreach and coordination
 - Host cross-training for wetland practitioners
 - Develop better marketing strategies
- Invest in market research to evaluate the need to change incentive values

Solution: Marketing Materials

Wetlands Work Website for Chesapeake Bay

A website to help private landowners in the Chesapeake Bay Watershed independently access information on wetland programs and providers

wetlandswork.org



Web Team

Wetland Workgroup



Wetlands Work

Wetlands Work is a resource for agricultural landowners in the Chesapeake Bay watershed. It was developed by the Chesapeake Bay Program's [Wetland Workgroup](#) to connect landowners with the people and programs that can support wetland restoration on their land.

Need Help?

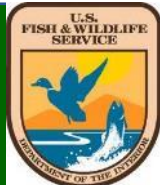
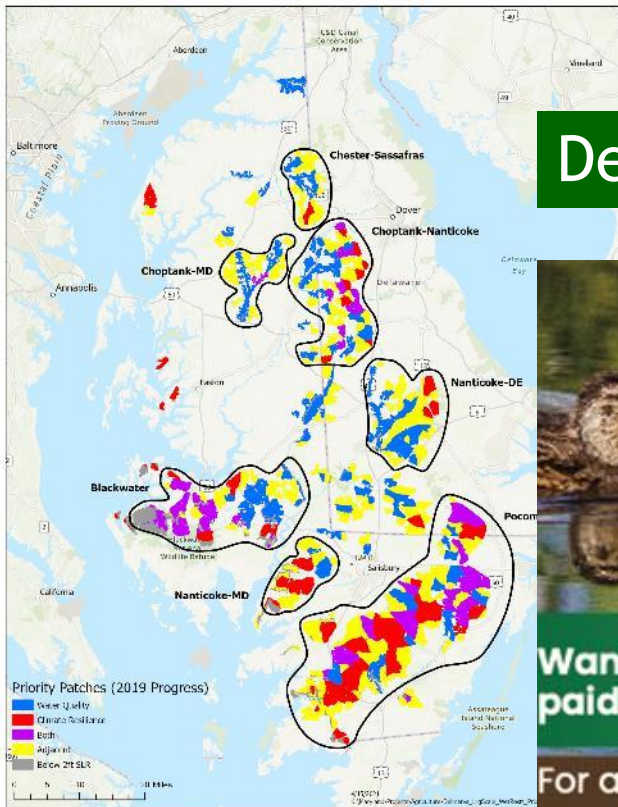
Find funding programs and planners near you.

State	Select a state	County	Select a county	SEARCH
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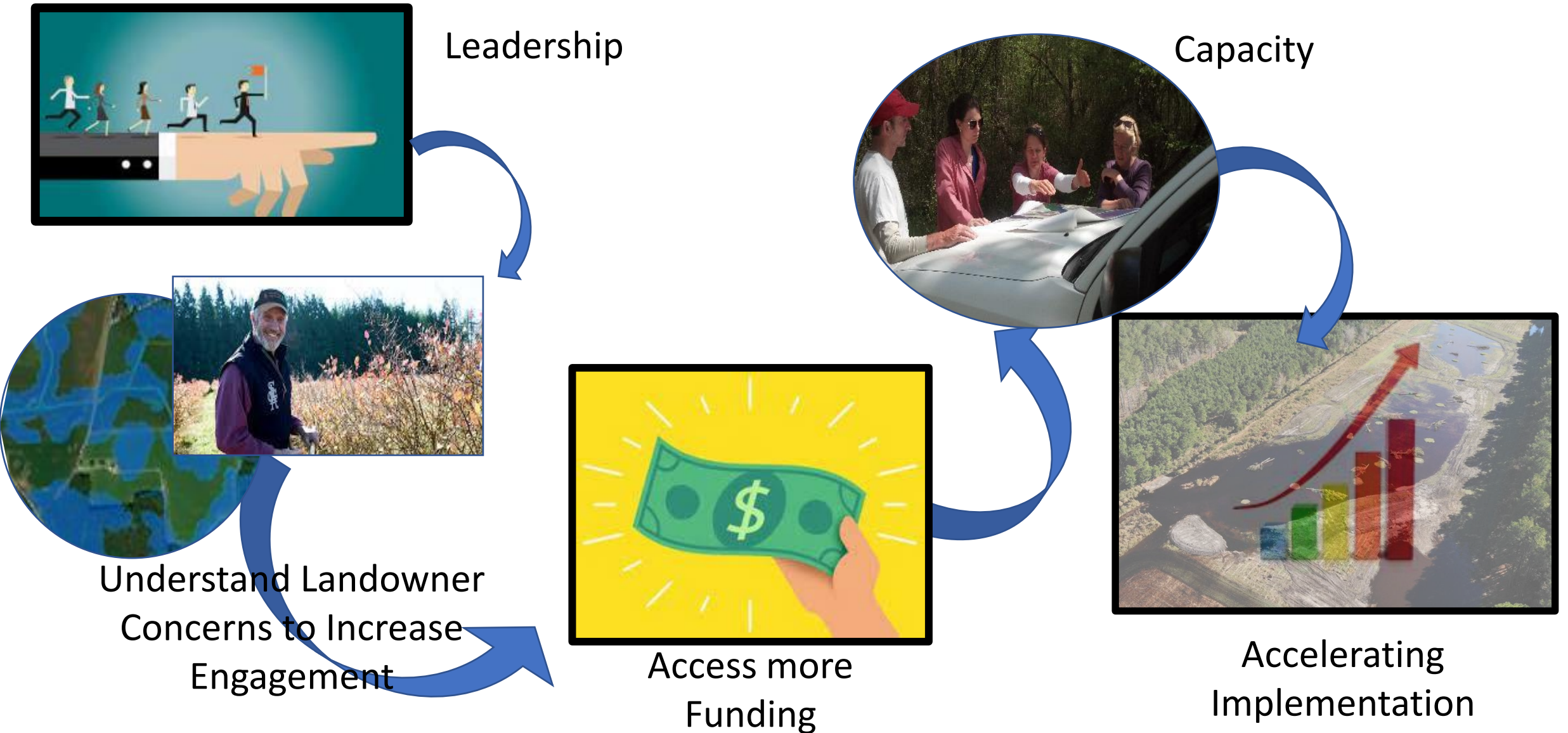
Solution: Outreach Coordination and Marketing Strategies and Research

Delmarva Wetland Partnership

1. Postcard delivered to 1/3 of landowners using generic message/design
2. Survey delivered to all landowners
3. Postcards redesigned to reflect survey results, target specific landowners/regions, send out to remaining landowners
4. Track assess landowner engagement via Survey 123
5. Evaluate overall project success, barriers and failure.



Theory of Change







END OF SESSION 1

Photo by Matt Rath/Chesapeake Bay Program

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