



ALLIANCE
for the Chesapeake Bay



Dairy Stewardship

Christian Anderson -Senior Agricultural Project Manager

Photo by Chesapeake Bay Program



AGENDA

Who is the Alliance for the Chesapeake Bay?

How have we supported Dairy Stewardship across the Bay Watershed?

Examples of Stewardship Across Virginia

About The Alliance For the Chesapeake

Who we are : 5013(c) environmental non profit located across the Bay watershed

- **Mission** : The Alliance brings together communities, companies, and conservationists to improve our lands and waters.
- **Four Program Teams** : Agriculture, Forest, GI, and Stewardship and Engagement
- **Vision** : Clean streams and rivers flowing through resilient landscapes, cared for by the people who live, work, and play in the Chesapeake Bay watershed.

- ★ **Annapolis, MD**
- ★ **Lancaster, PA**
- ★ **Richmond, VA**
- ★ **Washington, DC**



Current Role IN the Chesapeake Bay

- Non -profit with long lasting success serving as a liaison between corporations/food companies (Moala Milk, DFA, Organic Valley), farmers, government agencies and funding sources to achieve on the ground implementation of conservation practices **to increase farm production, resiliency, and sustainability.**



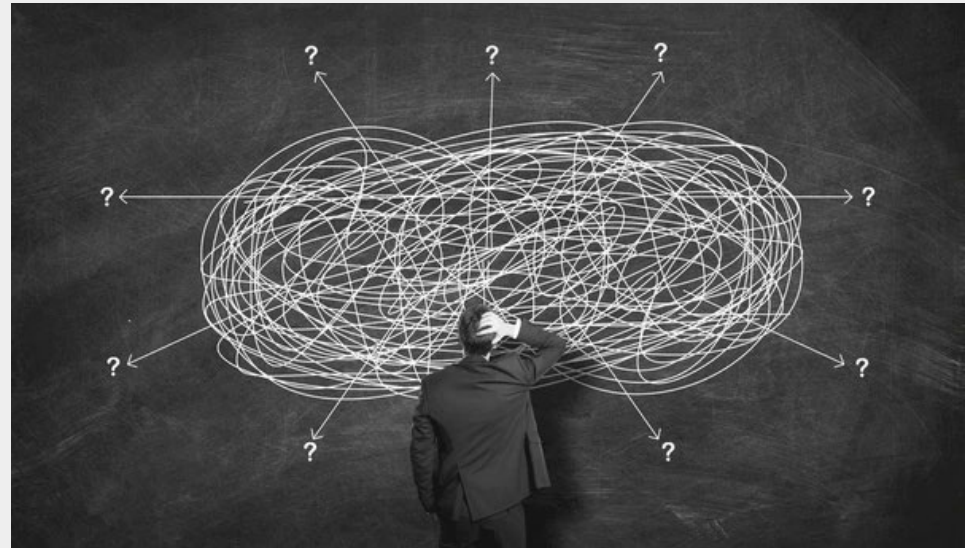
Strategy Pillar #1 : Create solutions that make sense for farmers

We prioritize filling gaps and supporting farmers are not engaged by conventional programs. We focus on **trust, simplicity, and minimizing farmer costs and effort**



PRactical PRactices: What MAkes

- Every farm is different and has its own quirks - there's no one size fits all conservation plan
- Farmers are the experts with what is happening on their farm
 - Our role is fitting conservation to help create sustainable solutions that make sense



How ACB Determines What is a PRACTICE

- What conservation practices are farmers interested in? For each BMP...
 - What are the impacts on water quality, on biodiversity, and on GHG?
 - What is the cost effectiveness (e.g., \$/lbs N, \$/T CO₂e)?
 - What size farm can adopt this? Does it impact farmers' workflow and dairy productivity?
 - Are some practices good for water, but not for climate (and vice versa)?

2. Solutions are built into the agricultural supply chain



Maryland & Virginia
Milk Producers Cooperative Association



Why focus on goals at the beginning of partnership development?

Co-creation is key!



Foundation of Programming

Understand each partner's needs to discover synergies and anticipate compromise.



Partnership Strength

Build collective leadership and maintain a healthy balance of power across stakeholders.

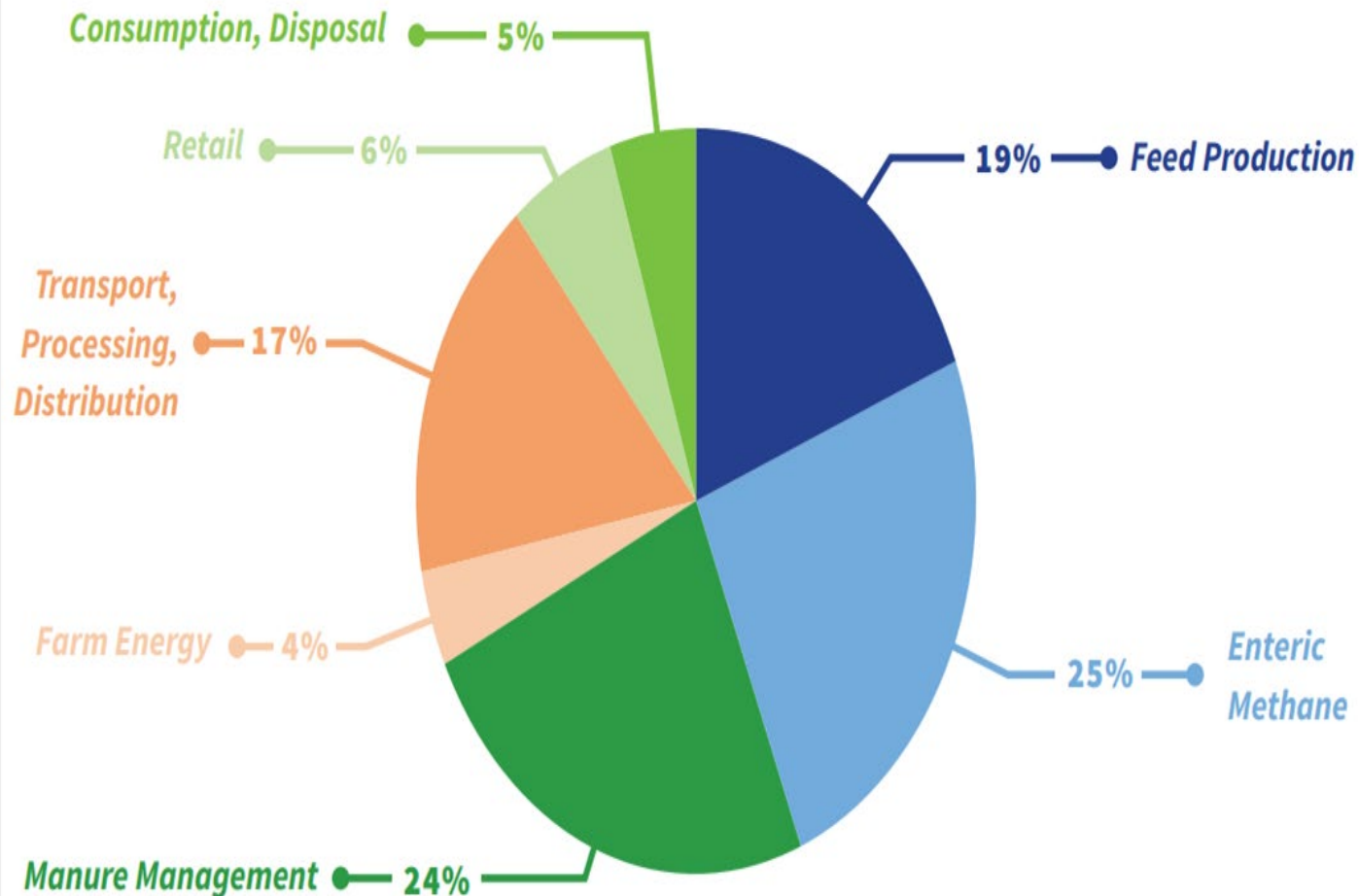


Holistic Conservation

Effectively balance critical water quality, greenhouse gas (GHG) reductions, and farmer needs.

Setting Research -Based Priorities

FIGURE 2: SUPPLY CHAIN CONTRIBUTIONS TO THE CARBON FOOTPRINT OF MILK



Derived from Thoma et al.²

Mitigating Dairy's Environmental Footprint

Estimated GHG contribution of each "print" to the total*:

Feed (26%) **Enteric (35%)** **Manure (33%)** **– Energy (6%)**

FEED 26%

- No/low-till farming
- Cover crops
- Nutrient management
- Precision agriculture
- Water use efficiency

MANURE 33%

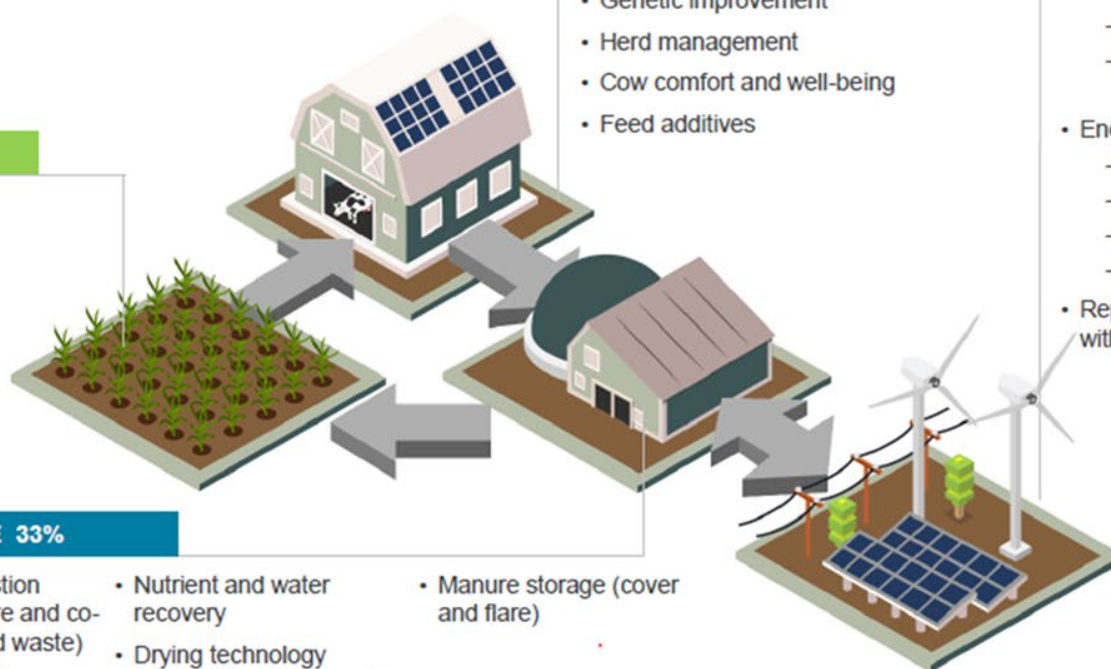
- Anaerobic digestion (includes manure and co-digestion of food waste)
- Renewable fertilizers
- Nutrient and water recovery
- Drying technology (elimination of lagoons)
- Manure storage (cover and flare)

ENTERIC METHANE 35%

- Diet management
- Genetic improvement
- Herd management
- Cow comfort and well-being
- Feed additives

ENERGY 6%

- Renewable energy:
 - Renewable electricity
 - Renewable natural gas
 - Renewable energy from wind and solar sources
- Energy efficiency:
 - LED lighting
 - Variable speed pumps
 - Milk pre-cooling technology
 - Soft start motors
- Replacement of fossil-fueled engines with electric motors



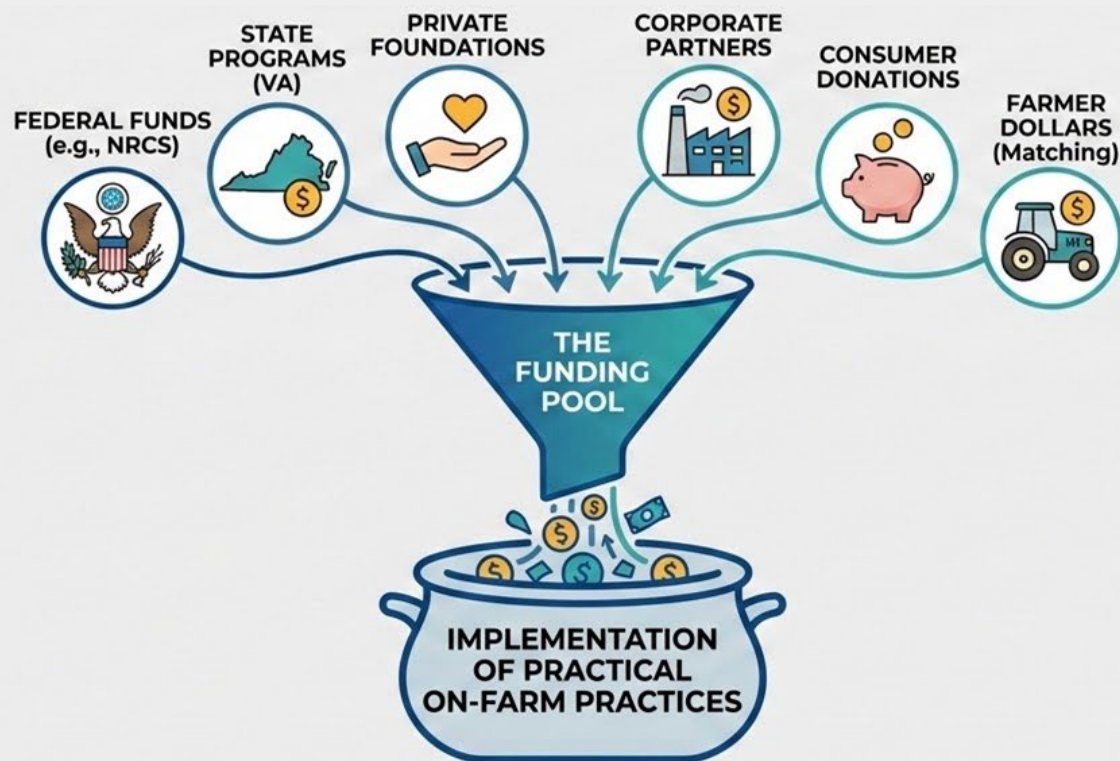
Visuals do not represent all possible practices, technologies or benefits. Each farm can voluntarily contribute to net zero efforts based on their individual operation.

* Adapted from Thoma 2013, Regional Analysis of greenhouse gas emissions from USA dairy farms. A cradle to farm-gate assessment of the American dairy industry, circa 2008

U.S. DAIRY NET ZERO INITIATIVE

Goal #3 : Leverage grants with public and private dollars to maximize funding support

We match federal, state, private foundation, corporate investment, consumer donations, and farmer dollars together to **maximize everyone's impact**



HoW our Partnerships Work

Cooperative/ Integrator	Alliance for the Chesapeake Bay	Customer	EPA/NRCS/other funding sources
Communicate with farm members about opportunities available through the partnership.	Leverage Customer's contributions with public funding for on the ground implementation. Manage disbursement of dollars for sustainability practice implementation.	Lead high level goals and strategy	Provide additional funding to incentivize corporate matching dollars
Supply customer with sustainable dairy products	Strategically identify farmers to implement conservation practices according to critical need, manage project for farmer	Provide financial support to incentivize implementation of sustainable dairy practices	Elevate significance of partnership and potential for impact
Work with farmers to identify and prioritize their sustainability needs.	Report progress to Customer for inclusion in sustainability reporting		Advise and collaborate on outcomes and priorities through leadership

SO How Successful is the Corporate PArt

To answer that Question - We will need to
go back in time...

To where it all began...

In 2017, the Turkey Hill Clean Water Partnership was born

- Started with 60 farms in PA
- Wrote 20 -25 conservation plans
- Secured initial 2 million dollars



+

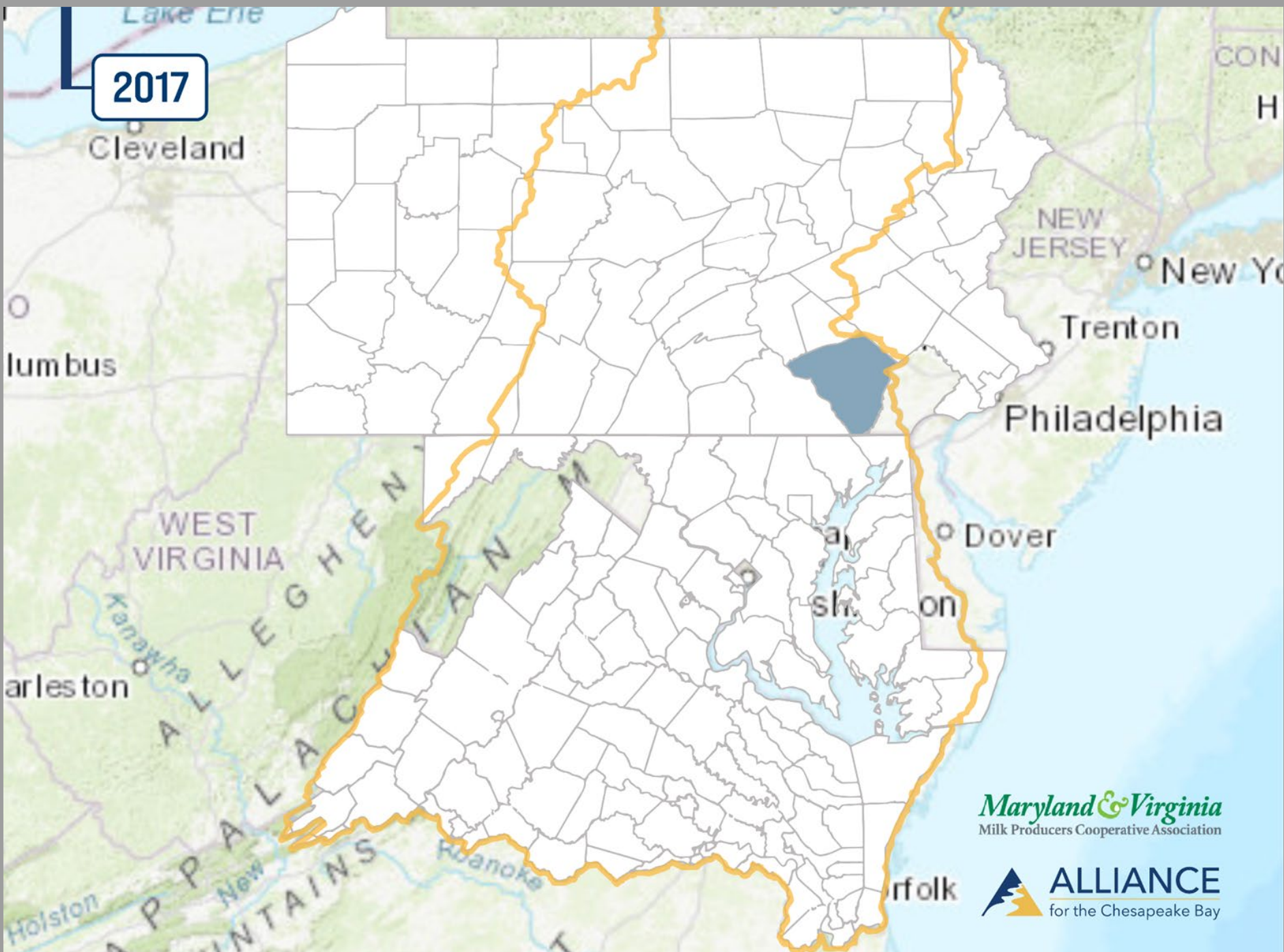


+

Maryland & Virginia
Milk Producers Cooperative Association

CLEAN WATER
PARTNERSHIP

2017



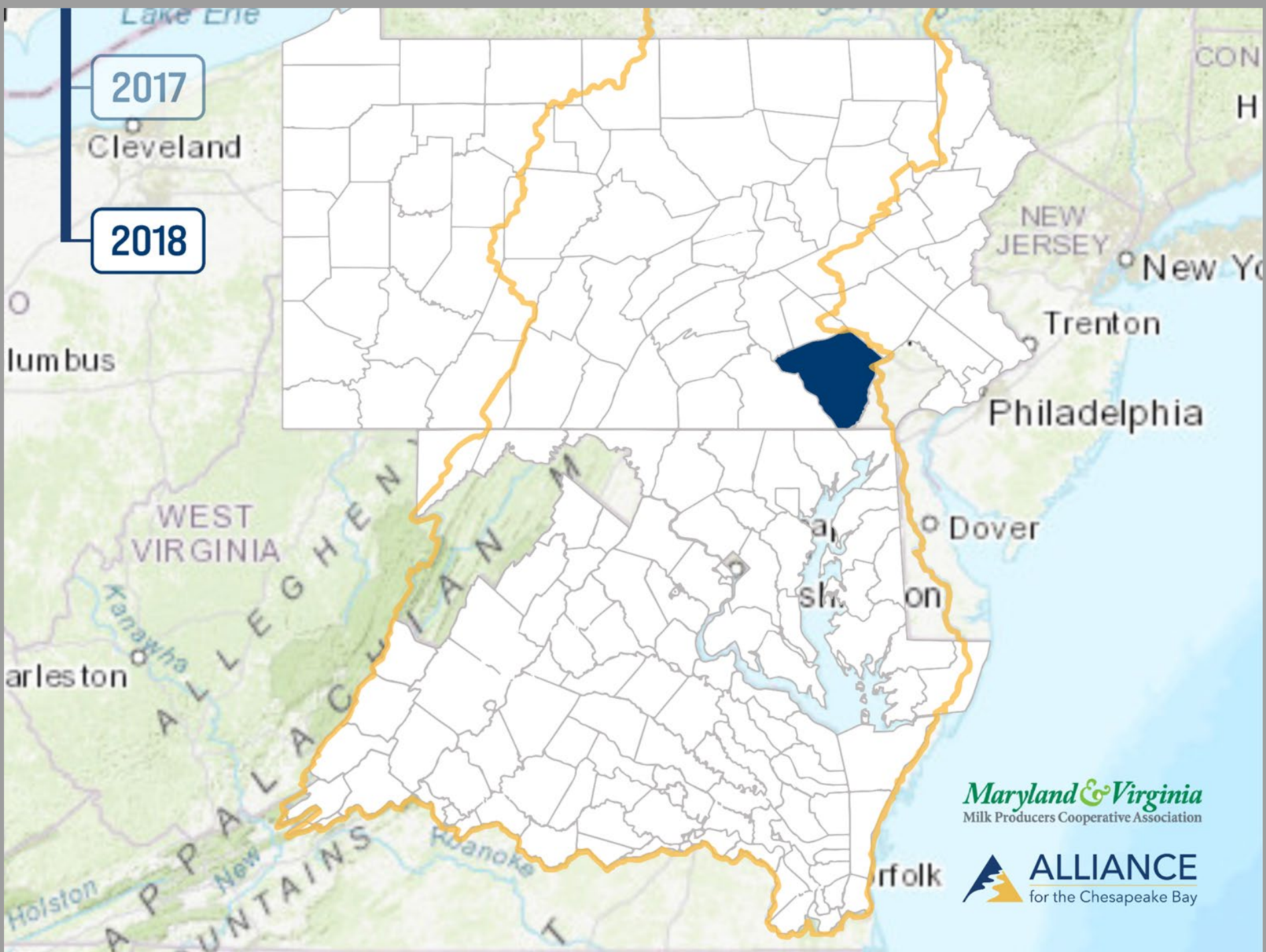
Maryland & Virginia
Milk Producers Cooperative Association

 **ALLIANCE**
for the Chesapeake Bay

2017

Cleveland

2018



Maryland & Virginia
Milk Producers Cooperative Association

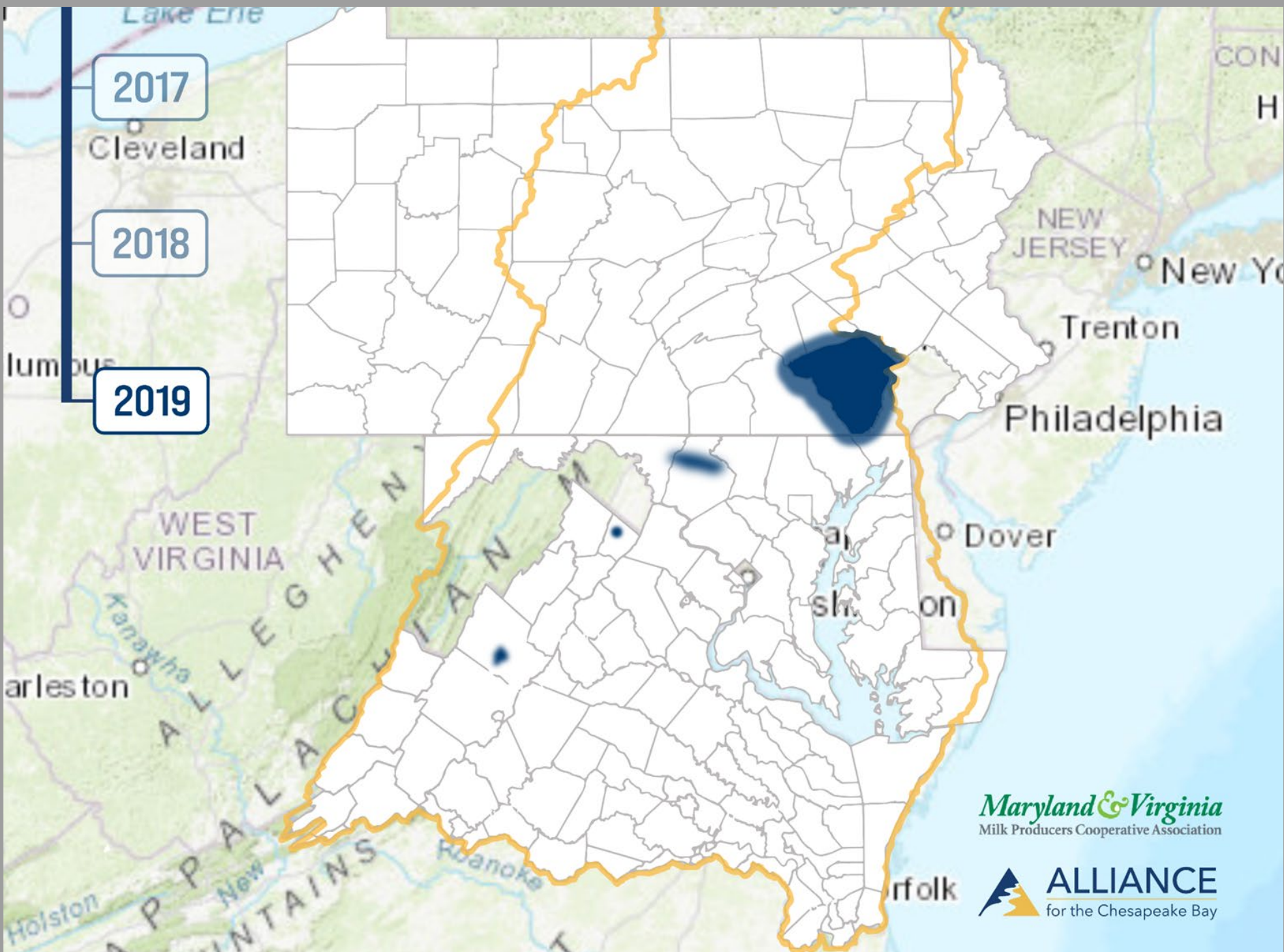
 **ALLIANCE**
for the Chesapeake Bay

2017

Cleveland

2018

2019



Maryland & Virginia
Milk Producers Cooperative Association

 **ALLIANCE**
for the Chesapeake Bay

2017

Cleveland

2018

2019

2020

Maryland & Virginia
Milk Producers Cooperative Association

 **ALLIANCE**
for the Chesapeake Bay

2017

Cleveland

2018

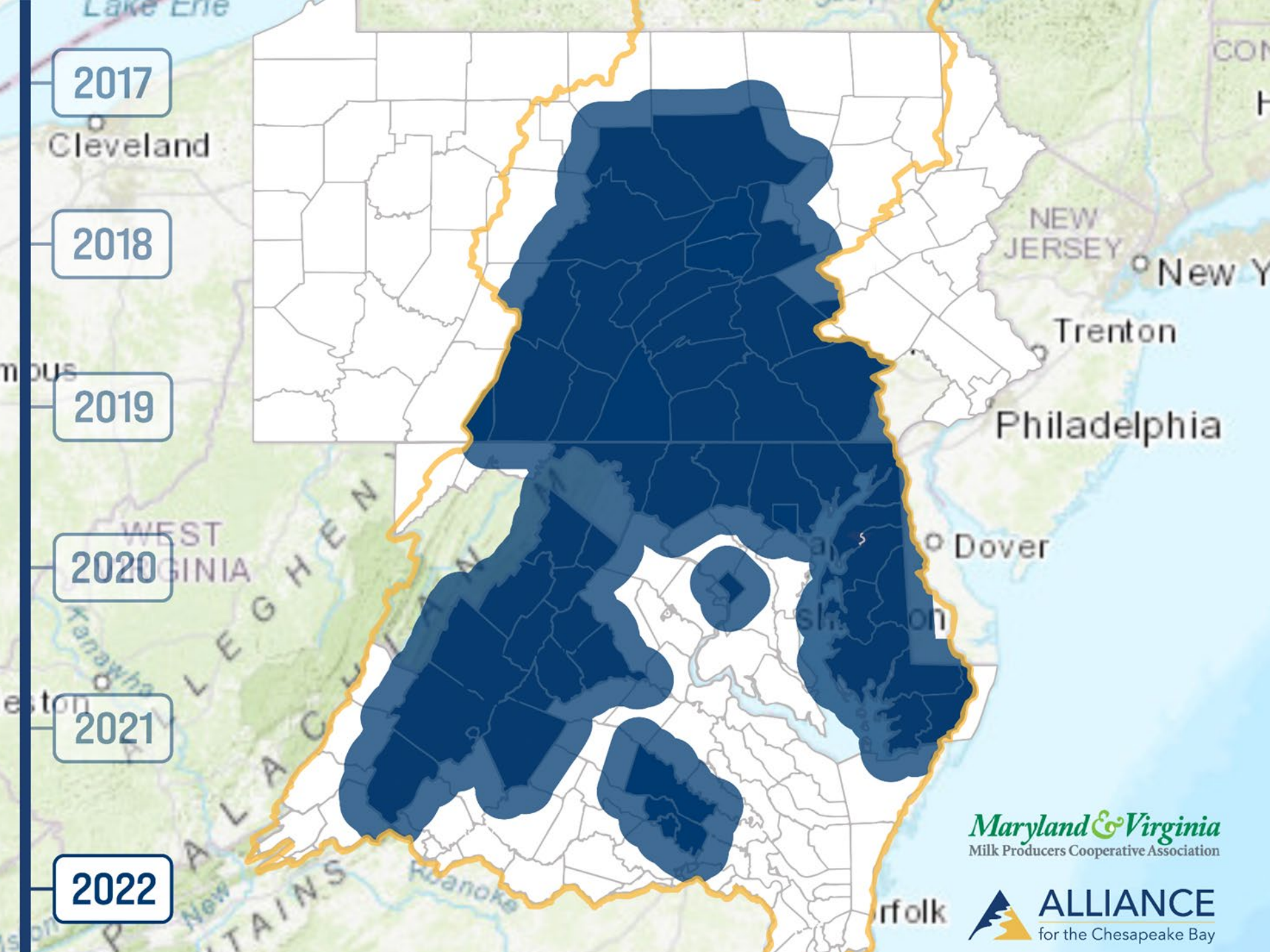
2019

2020

2021

Maryland & Virginia
Milk Producers Cooperative Association

 **ALLIANCE**
for the Chesapeake Bay



DAiry PROducers We Work With

- Small –medium multigenerational family owned and operated farms
- Underserved Producers in Bay Watershed :
 - Producers not eligible to receive cost share funds
 - Producers uninterested in working with government
- Producers interested pursuing changes to farming techniques through NRCS/SWCD after seeing or hearing of success from neighboring farms



CURRENT SUPPORT OF Industry PA

\$ 1M+

Grant dollars allocated

49% of VA producers reached (19)

100+

Acres of Pasture Improved

Grazing Management Plan

4,100+

Acres Injected

22

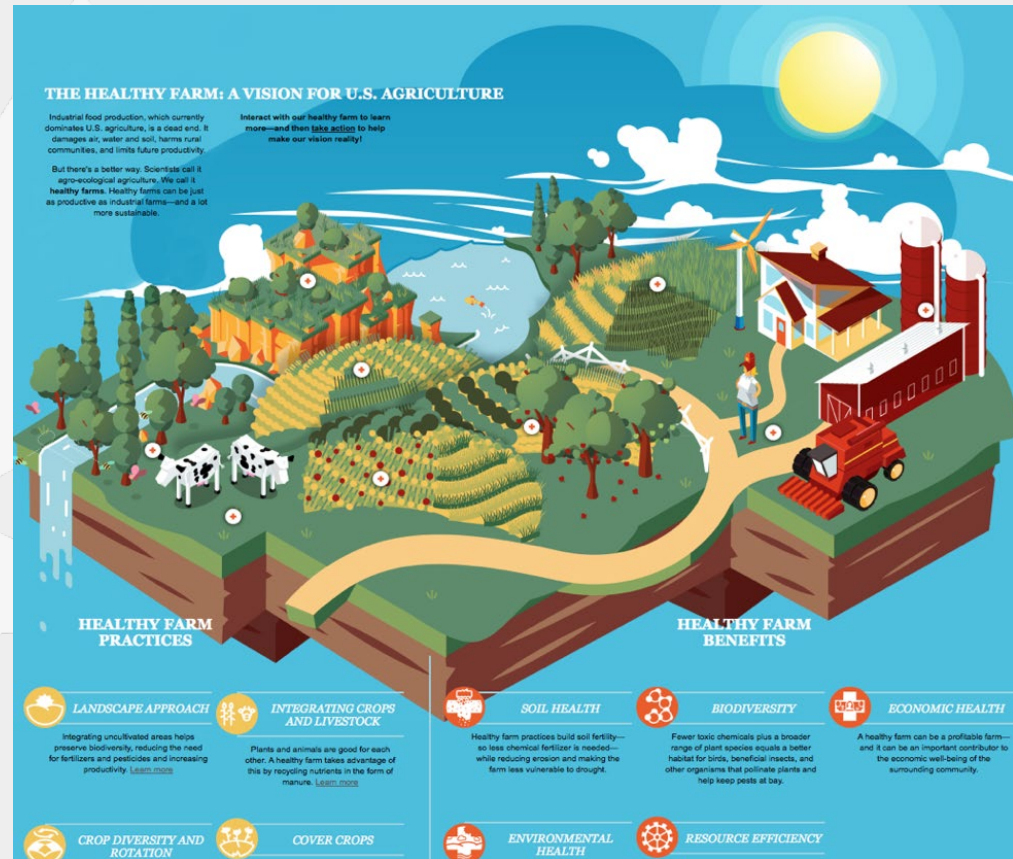
Hardened BMPs Supported

21

**Acres of Riparian Buffer
Installed**

FULL Farm Conservation Strategy

- What is Full Farm Conservation?
- 1. Think of a farm itself as a living entity instead of separate random problems
 - What happens on one piece of farm directly influences the next
- Building BMPs to compliment one another rather than just cause it's needed



PC:UCS USA

Dairy Conservation Practices Benefits Overview

WATER QUALITY BENEFITS

- Heavy Use Area Protection
- Stormwater Runoff Protection & Control

DUAL BENEFITS (W Q & GHG)

- Conservation Planning
- Riparian Forest Buffers
- Cover Crops
- Conservation Tillage
- Advanced Crop Field Soil Health
- Advanced Pasture Soil Health
- Solid Manure Storage

GHG REDUCTION BENEFITS

- Manure Lagoon Covers & Flare
- Manure Solid -Liquid Separators
- Anaerobic Digesters — Small Scale

Farm Project Example in Augusta C



Farm Project Example in Augusta C



Farm Project Example in FAuqui



Farm Project Example in FAuqui



Farm Project Example in Orange



Farm Project Example in Orange



Thank You!

Christian Anderson
Senior Ag Projects Manager
canderson@allianceforthebay.org
540-290-6723



@Allianceforthebay



@AllianceForBay



@allianceforthebay

FOR OUR FORESTS. FOR OUR STREAMS. FOR OUR FUTURE.

