

Agricultural BMP Technical Advisory Committee
Programmatic Subcommittee Meeting Minutes
Location: Monacan School Building, Goochland, Virginia.
June 5th, 2019
9:30 AM-12:00 PM

Voting members present:

Darryl Glover, DCR
Dana Gochenor, Lord Fairfax SWCD
Matt Kowalksi, Chesapeake Bay Foundation
Willie Woode, Northern Virginia SWCD
Greg Wichelns, Culpeper SWCD
Joseph Stepp, Hanover –Caroline SWCD
Beck Stanley, Virginia Agribusiness Council
Carrie Swanson, VCE
Anne Coates, Thomas Jefferson SWCD
Adrienne Kotula, Chesapeake Bay Commission
Ricky Rash, Piedmont SWCD
Brandon Dillistin, Northern Neck SWCD
Sarah Vogelsong,
Ben Rowe, Virginia Farm Bureau
Steven Meeks, Virginia Association of Conservation Districts
Charles Newton, Shenandoah Valley SWCD

Other members present:

Sharon Conner, Hanover-Caroline SWCD
Roland Owens, DCR
Christine Watlington, DC R

Others present:

Lisa Hyatt, Thomas Jefferson SWCD
Lauren Fishbein, DCR
David Bryan, DCR
Karl Huber, DCR
Denney Turner, DCR

Meeting Opens (9:30 AM)

- I. Welcome and Agenda Review, **Darryl Glover**
 - o Introduction of David Bryan, Agricultural Incentives Program Manager
 - o Introduction of Karl Huber, Geoinformatics Consultant
 - o Overview of Meeting Agenda
- II. CEF and HUC rankings, **Karl Huber**

- See Appendix 1 for full presentation notes
- Conservation Efficiency Factors (CEFs) are values that reflect the effectiveness of a particular instance of a NPS BMP in meeting water quality goals
- CEFs are consistent and comparable with instance of NPS BMPs across all years
- A CEF score is calculated by adding points scored for all of the components associated with a practice. Components are not equally important and are currently weighted as followed (possible issue for further committee discussion) :

Component	Weight
Installation Cost Efficiency	20%
Priority Practice	17%
Ag Priority HU	17%
Sediment Reduction Cost Efficiency	13%
Practice Contract Period	7%
NPS impaired Areas (Ag N, Ag B, Septic)	3 × 5%
Biological priority HU	5%
Chesapeake Bay program efficiency	4%

- Discussion on how this impacts different regions within Virginia, does this consider inflation/deflation rates?
Agency: No, but there is no predicted impact based on regional inflation rates
- Discussion on new HUC weighting (possible issue for further committee discussion):

Hydrologic Unit Code	% of units within code	% of cost-share funding allocated to code
High	20%	50%
Medium	30%	30%
Low	50%	20%

- Discussion on priority and secondary considerations, should CEF ranking decide the priority of practices opposed to districts establishing their own priorities?
Agency wants to provide flexibility for districts. For instance, some districts want to prioritize impaired waters, which is not highly considered in CEF. Will consider this option, but we need to have more education on CEF to loop in districts.

III. Equine Pilot Project Update, **Darryl Glover**

- DCR has hired an intern to focus on equine research. Her assigned duties include: finding data on equine funding; researching other state's equine program; reviewing local zoning ordinances, and researching conservation practices and

programs that relate to horse owners. A presentation of the information will be made to the full TAC at the July meeting.

- The Secretary of Natural Resources is requesting that any equine pilot project be undertaken in a county that has an appropriate stocking rate. A pilot project could be located in 1-2 counties.

IV. Programmatic Subcommittee “To Do” List, **David Bryan**

The below items must be addressed by the BMP Technical Advisory Committee during this TAC cycle.

- **1P:** Participant caps. Revisit the raising of participant caps (going to 100K in FY2020) or outright elimination of participant caps altogether.
 - Data Suggestion: if committee is interested in revisiting caps, it would be ideal to prioritize this conversation to allow proper time to present to the Board and to make any database enhancements. Increasing caps will require a substantial rewrite.

Suggestion to essentially split **1P** into three discussions for future meetings:

1. Eliminate practice caps entirely (5 or 6 practices);
2. Keep the 100k participant caps to see if the cap needs to be adjusted; and
3. Expanding the variance process for all structural practices.

NO VOTES

- **2P:** What should be the primary factor for ranking instances for the cost-share program: CEF or HU values?
 - HUs are “archaic”.
 - CEFs are more scientific when comparing similar practices and encompasses many detailed weighted parameters.
 - CEFs will make the funding conversation with producers easier and will help explain why some applications do not receive funding.

NO VOTES

- **3P:** VACS regional program. Supportive of any region specific cost-share program and/or implementation. Do we want to organize cost-share program to appeal to the specific needs of regions? Do we want to organize ranks by structural funding and then crop funding?
 - There was discussion of NRCS' cost-share price list.

NO VOTES

- **4P:** Clarify policy on CREP/RCPP cancellations, when USDA cancels a CREP contract (upon death/ move of the participant), but the practices have already been installed, paid for, and are functioning properly. Why lose the data credit in the Bay Model if the practice is still functioning properly? Likewise, if a BMP is abandoned (I.E property sold) but still functioning, is prorated cost-share reimbursement necessary?

NO VOTES

- **5P:** Develop method for dealing with small farms. Do we want a percentage of funding going to small farms specifically? How do we determine what is classified as a small farm?

NO VOTES

- **6P:** Consider paying flat rate for unit installed (e.g. \$X/foot of fence, \$Y/trough, \$Z/sq. feet of waste storage, etc.) similar to NRCS.
 - While this could be advantageous, it could also create additional administrative work for districts.
 - DCR could use available NRCS cost lists but the federal fiscal year is different from the state fiscal year, which could complicate the process.
 - Straying far from NRCS pricing could be a difficult and expensive task (I.E bringing an accountant into DCR's staff), but once accomplished it would be fairly simple to keep updated and functioning

NO VOTES

- **7P:** Soil and Water Conservation Districts establish annual "Average Cost Lists" before approving BMP contracts in the new program year. It is not clearly stated in the manual that cost lists should not be amended in the middle of a program year. VACS manual should clarify the requirement of annual cost lists.
 - Discussion: How do we keep this fair for smaller/remote districts?
 - Does establishing concrete cost lists handicap districts?

**7P HAS BEEN MOVED TO 'TABLE' BY CARRIE SWANSON AND
SECONDED BY MATT KOWALSKI**

Unanimous.

- **8P:** Conservation Easements, where the manual states that livestock exclusion is required, the manual is clear that participants are eligible for cost-share. Should this continue? Additionally, once the BMP is out of lifespan, should the producer be

eligible for CCI maintenance practice after the exclusion BMP is out of lifespan? This should be clarified in the VACS manual.

NO VOTES

- **9P:** According to Payment section II-27 and II-28 of the 2019 Manual, cost-share may include the costs of cultural resource reviews, threatened and endangered species surveys etc. However, many specs specifically state that ‘all permits or approvals necessary are the responsibility of the applicant’. Cost-share participants are seeing ballooning permit costs for erosion and sediment control permits. Should we consider including permit costs as an eligible cost for cost-share?

NO VOTES

- **10 P:** Clarify tax credit language for Cover Crop and Nutrient Management specs. When signing up for cost -share, a participant certifies that they "will not claim the tax credit". Later in the same paragraph it says "any cost-share funds received must be returned should I claim the tax credit." There are no exceptions written in here for participants whose applications are not funded.

Clarify the following:

1. If participants are self-certifying they are not claiming tax credit as the form says, they should not claim tax credit regardless of cost-share funding)
2. If program applicants should be eligible for tax credit if they aren't funded, this should clearly be stated on the form, essentially as an either-or.

NO VOTES

In an effort to have a most streamlined TAC process, issues will be presented to the TAC twice; the first time will be to explain the issue. At the next full TAC meeting, the issue will be brought for a vote.

This comprehensive list represents issues that need to be solved before December. However, if additional suggestions arise, they can be sent to David Bryan.

V. Schedule Programmatic Meetings, **Darryl Glover**

- July 24th Meeting
- August 26th Meeting
- October 24th Meeting
- Tentative: November 12th Meeting

VI. Public Comment, no public comment.

Meeting Adjourned: 11:45 PM

What is CEF ?

The Conservation Efficiency Factor is a value that:

- Reflects the expected effectiveness of a particular instance of a NPS BMP in meeting our water quality goals.
- Is comparable between authorized instances of NPS BMPs across all years.

CEF History

There has been some form of proposed BMP effectiveness calculated since the start of the ag cost share tracking program in the mid 1980s. It was called the CEFACITOR.

The current CEF measure process began in 2008. There are changes made to the process every year but major changes have rarely occurred since its inception.

CEF Value Conformity

Proposed BMP instances are assigned a CEF value equal to the sum of CEF component values times the percentage of possible values available for that BMP.

Consistent with how CEFACTOR scores were used prior to CEF, lower scores are preferred.

CEF Components

There are three main categories of CEF components:

- **Geographic location of instance (5)**
- **BMP qualities (4)**
- **BMP instance efficiencies (2)**

Geographic Components

For some CEF equation components the optimal component value is assigned when the BMP instance is in an area of concern.

- **Assessed NPS ag priority HUs**
- Assessed NPS biological priority HUs
- Ag nutrient impairment areas
- Ag bacteria impairment areas
- Septic impairment areas

Agricultural NPS Load Factors

- **Type of ag land**
- **Soil characteristics**
- **Slope angle and length**
- **Runoff curves / hydrology**
- **Number and type of farm animals**
- **Rainfall and evaporation rates**
- **Applied manure type and amount**
- **NPS BMPs installed and practiced**
- **Groundwater conditions**
- **Others**








Agricultural Land Use Sources Used in 2018 NPSA to Model 2016 Conditions

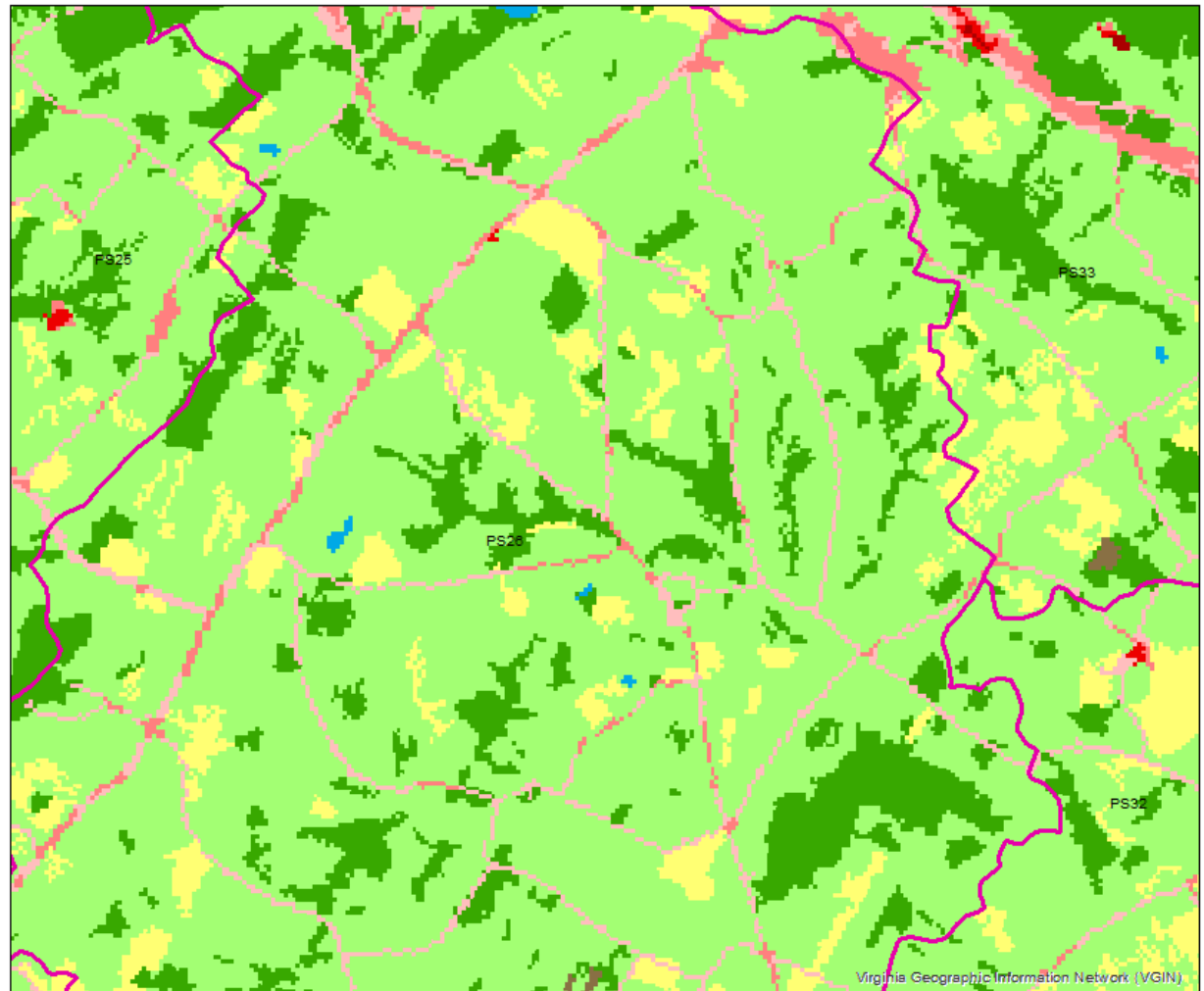
- **Classified imagery (2016)**
 - CDL [900 sqm pixel]**
 - VLCD [1 sqm pixel]**
- **USDA NASS [jurisdiction]**
- **Virginia AFO database [site]**
- **2015/16 VA Residue Survey [survey unit]**
- **DCR staff**

Southern Rockingham County - PS28

NLCD - 2011

Land Cover

-  11 - Hydro
-  41 - Forest
-  42 - Tree
-  61 - Harvested/Disturbed
-  71 - TurfGrass
-  81 - Pasture
-  82 - Cropland



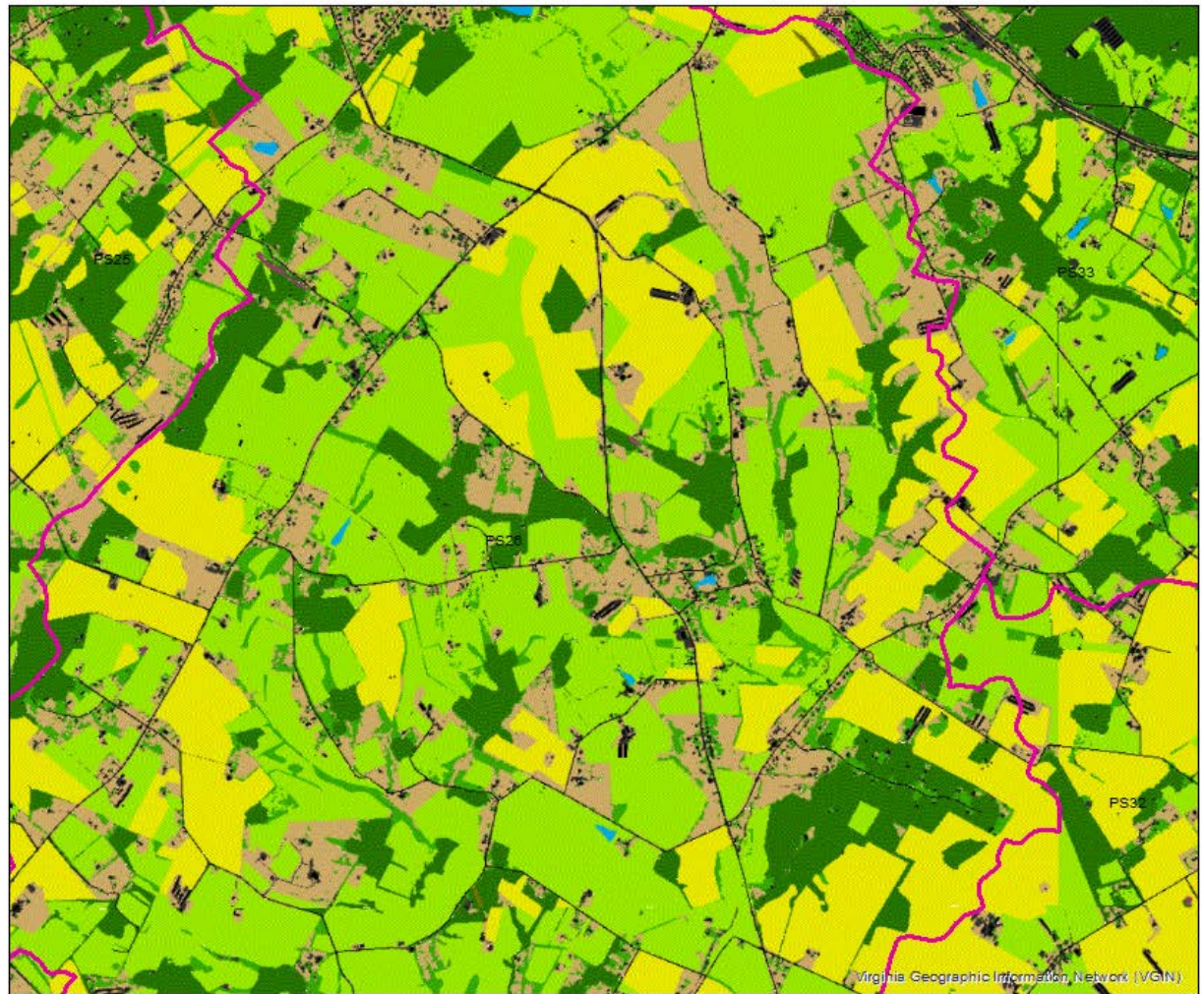
Southern Rockingham County - PS28

Virginia Land Cover Dataset - 2016

Land Cover

-  11 - Hydro
-  41 - Forest
-  42 - Tree
-  61 - Harvested/Disturbed
-  71 - TurfGrass
-  81 - Pasture
-  82 - Cropland

More Turf Grass
and Trees



Agricultural Land Use

Components:

HIT – conventional tilled cropland

LOT – conservation tilled cropland

HAY

PCG – pasture on which cattle graze

PPL – pasture on which cattle graze and litter is applied

PAS – unimproved pasture

MAN – manure acres (concentrated confined animals)

Animals Per HU Used in Model

Confined & unconfined beef and milk cattle:

- Beef & milk cows that have calved
- Replacement beef heifers
- Milk and other heifers
- Steer
- Bulls
- Beef and milk calves

Poultry:

- Turkey
- Chickens as broilers, layers, or pullets

Swine

Horses

Model Output Loads Per HU

Use Category	Nitrogen	Phosphorous	Sediment
Agriculture	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Forest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urban	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

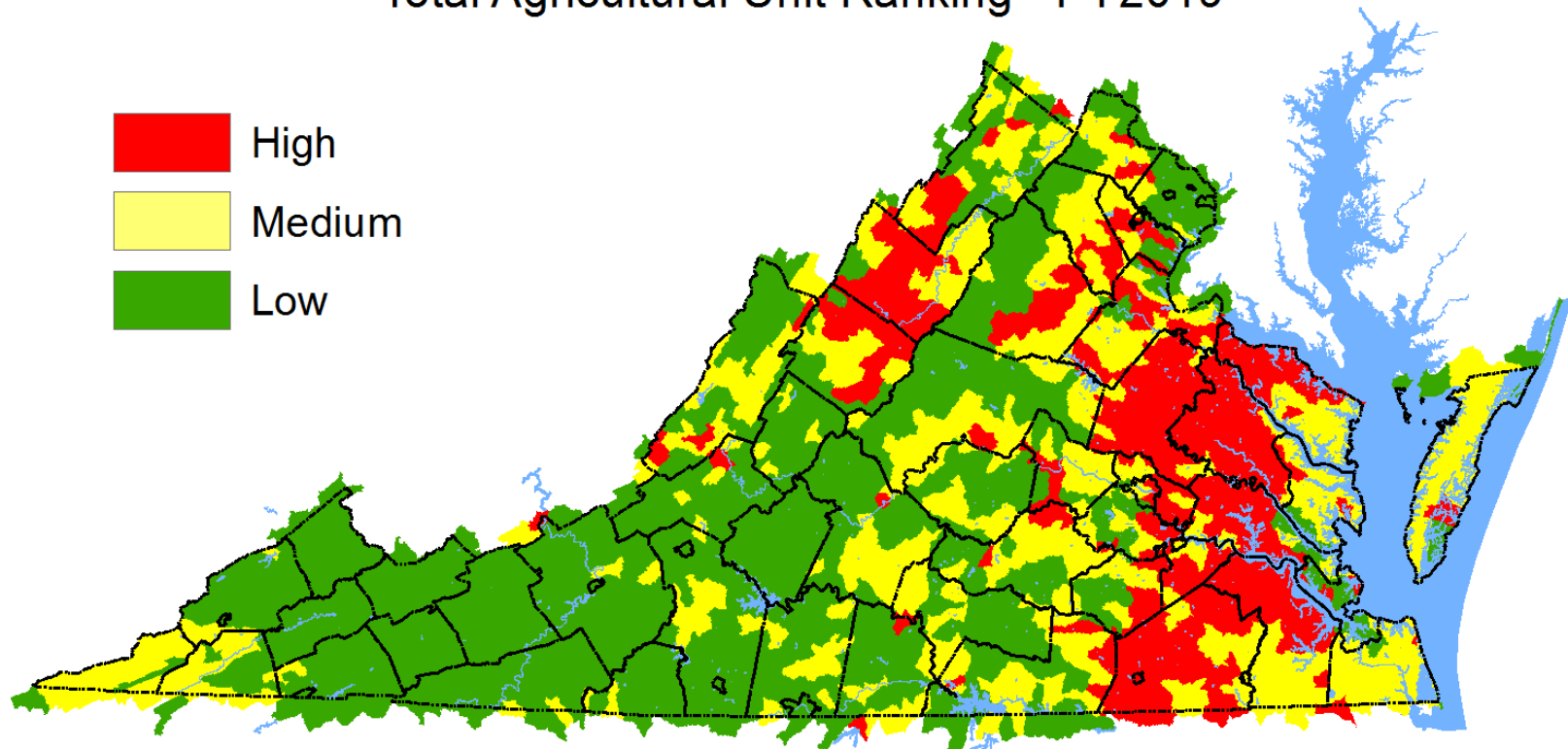
Total loads are more than the sum of ag, forest, and urban.
Only agricultural loads are used in determining ag priority HUs.

Priority Ag HU Calculation

- Each ag NPS load per HU is divided by the total ag acres of that HU creating a unit area load (UAL).
- UALs for all HUs are sorted/ranked.
- The three UAL ranks per HU are summed.
- The summed UALs for all HUs are sorted/ranked.
- The largest 20% of summed UALs are ranked “High”, the next 30% “Medium”, the rest “Low”.

2018 Ag Priority Units

Virginia's Agricultural BMP Cost-Share Funding Priorities
Total Agricultural Unit Ranking - PY2019

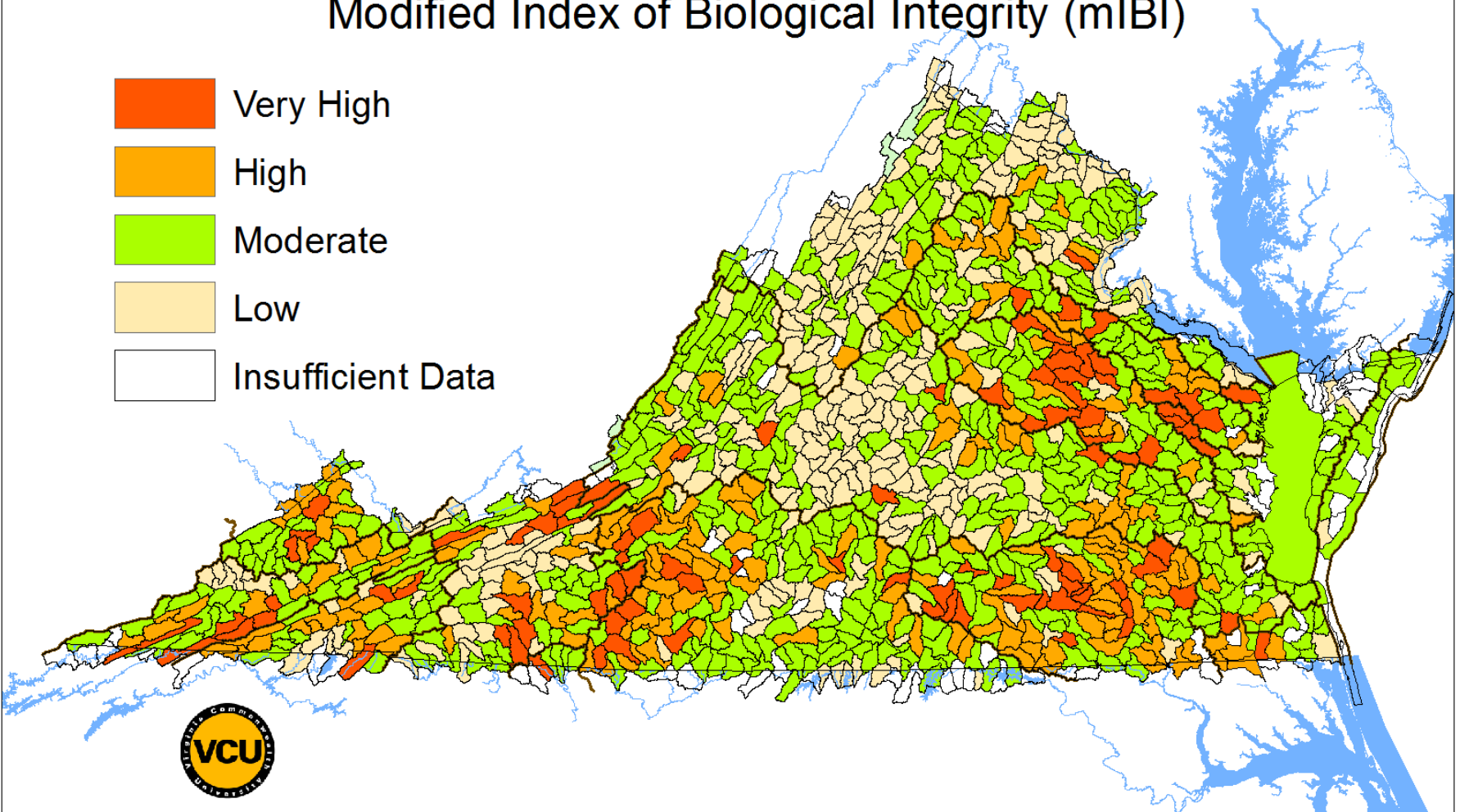
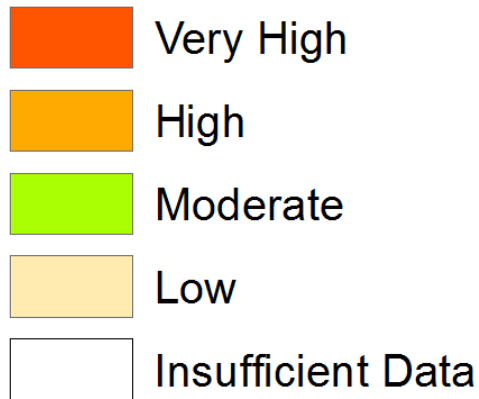


Geographic Components

- Assessed NPS ag priority HUs
- **Assessed NPS biological priority HUs**
- Ag nutrient impairment areas
- Ag bacteria impairment areas
- Septic impairment areas

2018 NPS Biological Priorities

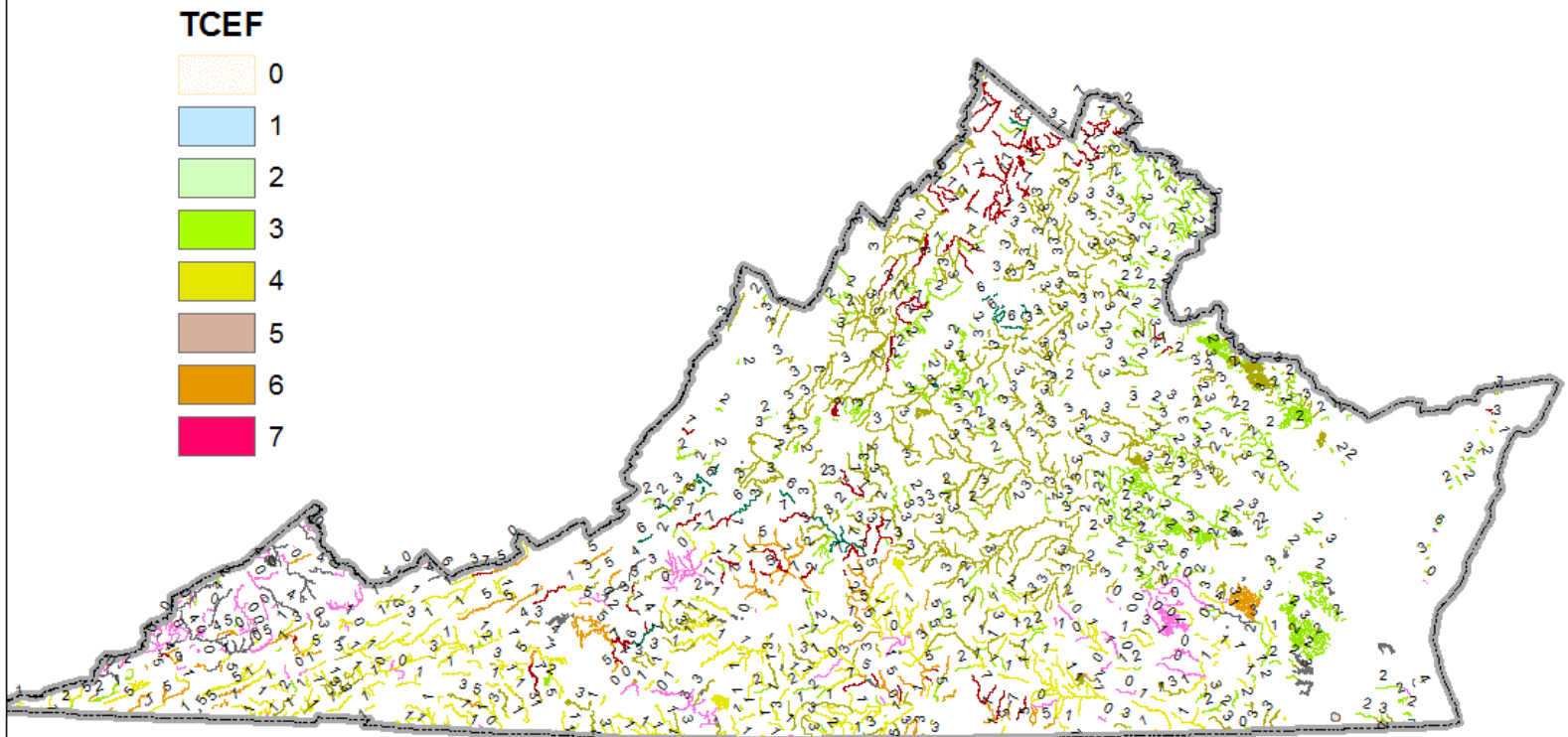
Modified Index of Biological Integrity (mIBI)



Geographic Components

- Assessed NPS ag priority HUs
- Assessed NPS biological priority HUs
- Ag nutrient impairment areas
- Ag bacteria impairment areas
- Septic impairment areas

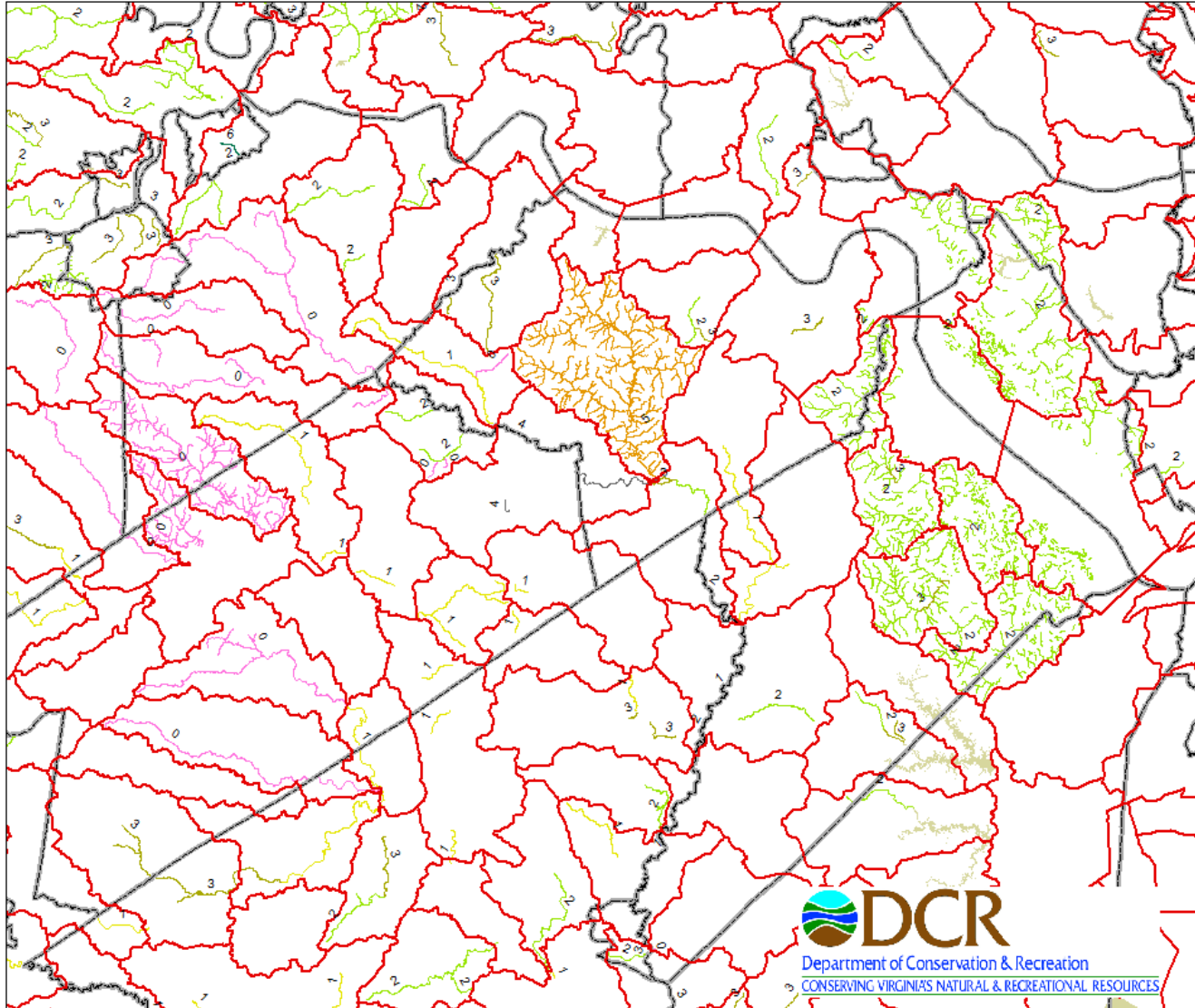
Determination of NPS Impaired Streams and Reservoirs











TCEF values reflect a combination of ag nutrient, ag bacteria, and septic NPS impairments.

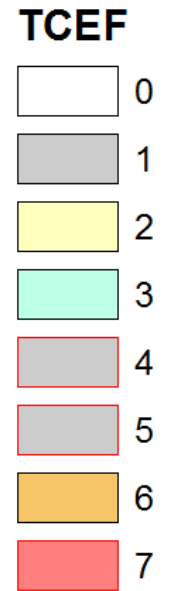
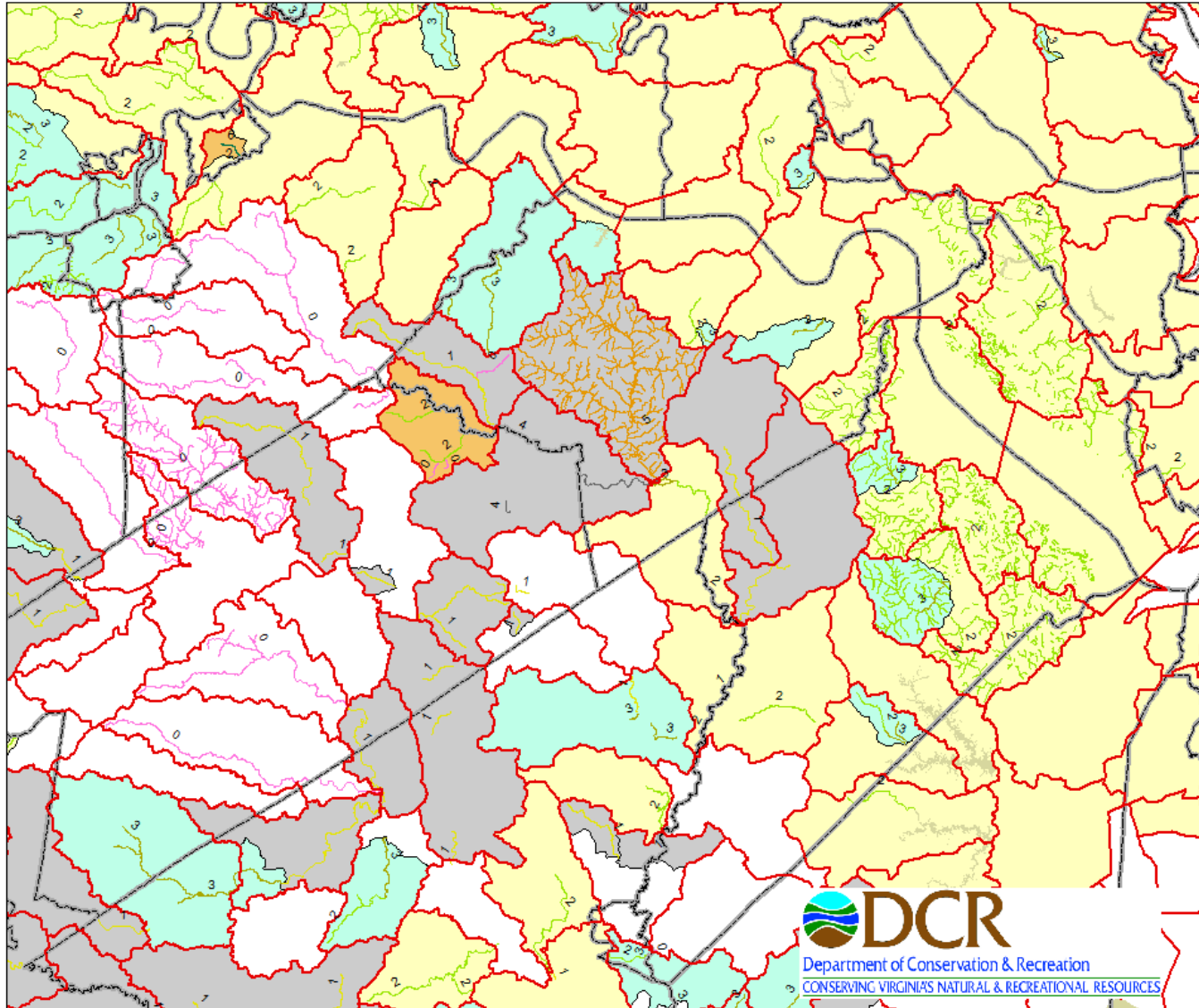
TCEF Values

TCEF	Ag Nutrient Impaired	Ag Bacteria Impaired	Septic Impaired
0	False	False	False
1	False	True	False
2	True	False	False
3	True	True	False
4	False	False	True
5	False	True	True
6	True	False	True
7	True	True	True

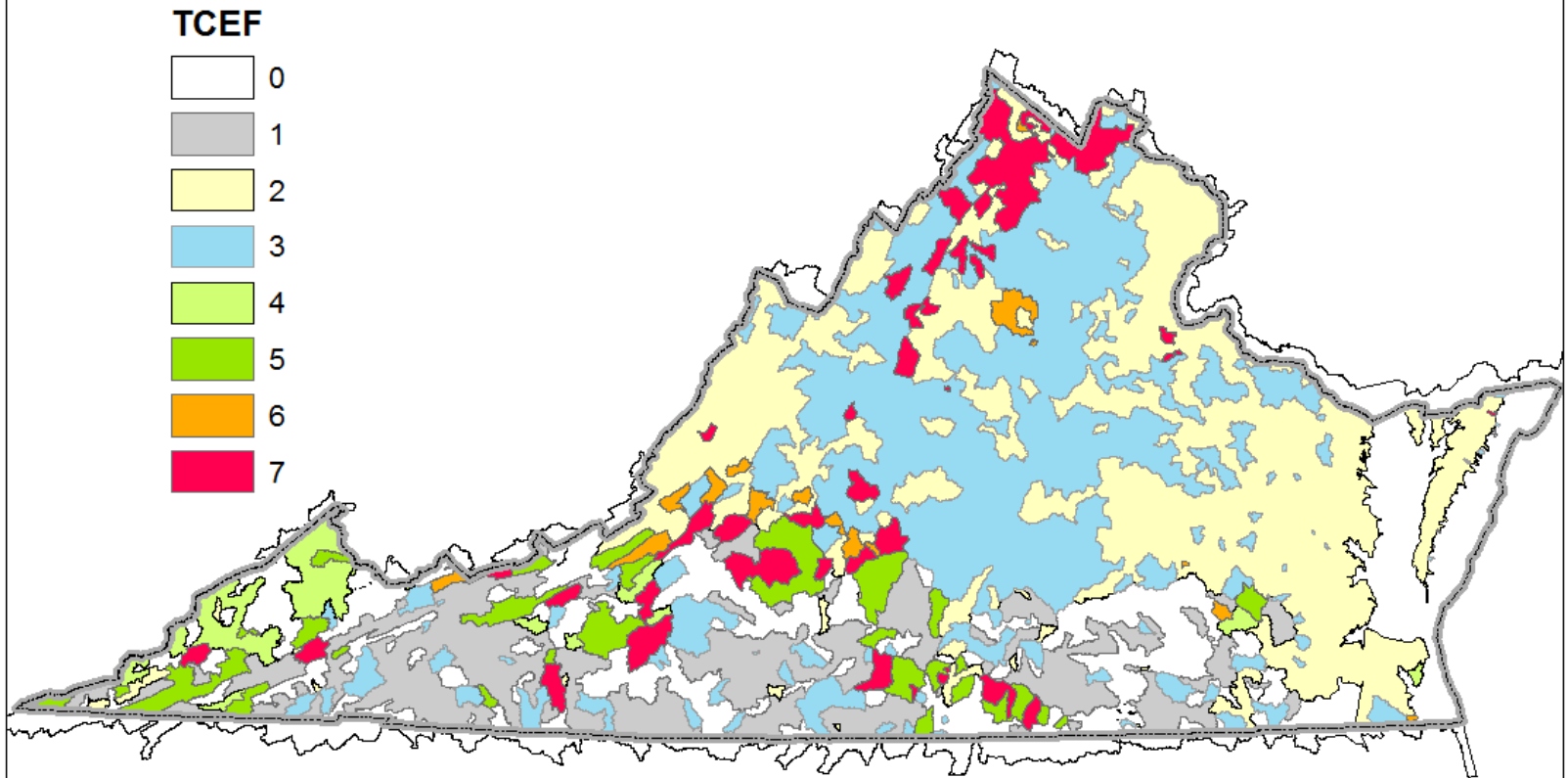


TCEF

-  0
-  1
-  2
-  3
-  4
-  5
-  6
-  7



Dissolved Impairment Type Areas



Includes the Chesapeake Bay nutrient TMDL area.

CEF Components

There are three main categories of CEF components:

- Geographic location of instance (5)
- **BMP qualities** (4)
- BMP instance efficiencies (2)

Practice Qualities Components

Other component values reflect attributes of each BMP or instance of that BMP.

- Priority practices
- Practice contract lengths
- Chesapeake Bay Program BMP efficiencies
- Environmental preferences

CEF Components

There are three main categories of CEF components:

- Geographic location of instance (5)
- BMP qualities (4)
- **BMP instance efficiencies (2)**

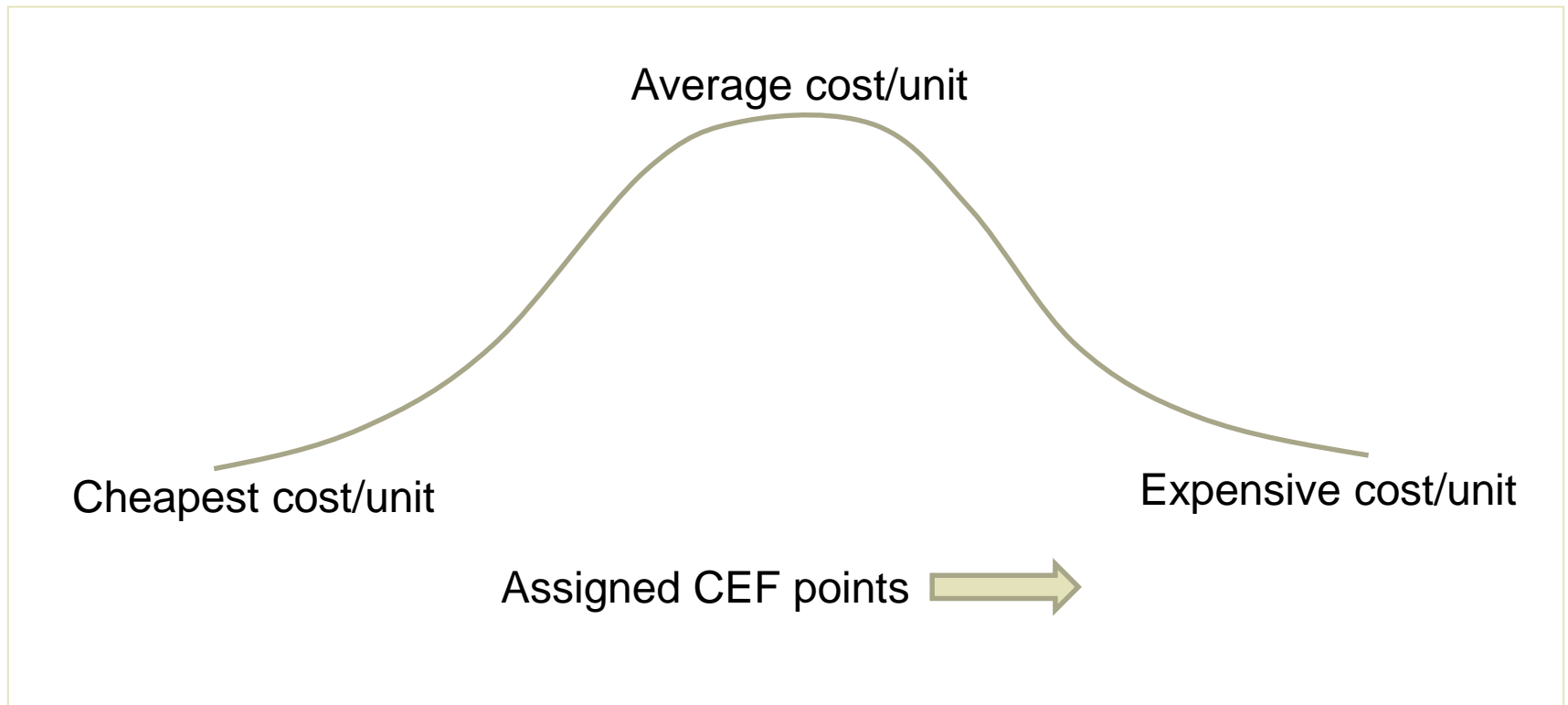
Efficiencies Components

Cost efficiency components use common base year dollars and compare where the cost per unit falls in a common range of unit costs for all BMPs. Units could be feet, acres, or structures.

- BMP installation unit costs
- Delivered sediment reduction unit costs

Use of Curves

Curves built from 5+ years of a practice's installations.
Points assigned by where proposed cost/unit falls on that curve.
Curves are built for installed cost/unit and cost/reduction unit.



Issue With Generalizing Input Data For Deliverable Sediment Reduction Cost Efficiency

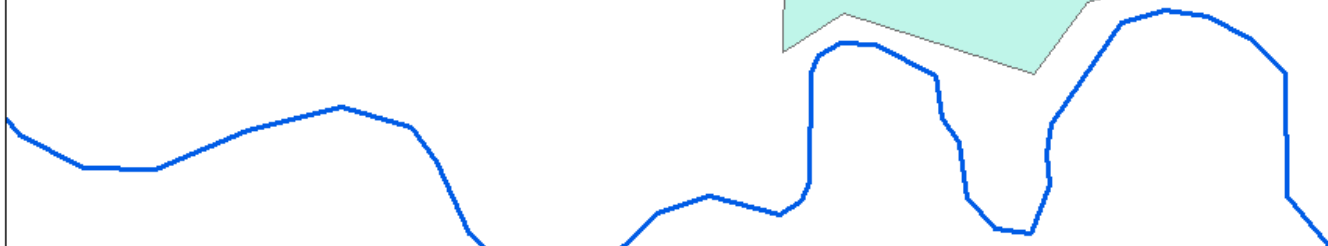
As all one field:

EROS & GROS = 0.7
Area = 43 ac
DR = 0.7
EstCost = \$2800
Points = 4

EROS & GROS = 0.7
Area = 15 ac
DR = 0.65
EstCost = \$900
Points = 3.7

EROS & GROS = 0.5
Area = 20 ac
DR = 0.5
EstCost = \$1300
Points = 8

EROS & GROS = 1
Area = 8 ac
DR = 0.8
EstCost = \$600
Points = 1.5



Calculating CEF

- A CEF score is calculated by adding the points scored for all of the components associated with a practice.
- Results are inflated to make all practices appear to use all components.
- Components are not equally important.

CEF Component Ranks

- 20% - Installation cost efficiency
- 17% - Priority practice
- 17% - Ag priority HU
- 13% - Sediment reduction cost efficiency
- 7% - Practice contract period
- 3*5% - NPS impaired areas (ag N, ag B, septic)
- 5% - Biological priority HU
- 4% - Chesapeake Bay program efficiency

CEF Application Numbers

CEF is calculated for 60 of the 89 current practices (no CREP, tax-only, or loan).

An installation cost efficiency **could** be calculated for all 60 practices, but 17 lack a curve at this time.

A sediment reduction cost efficiency **could** be calculated for 33 of those 60 practices, but 9 lack a curve at this time.

Of the impairment area components, ag nutrient applies for all 60 practices, ag bacteria for 23 and septic for just 7.